AN INVESTIGATION OF THE INFORMATION-SEEKING PREFERENCES OF SECONDARY SCHOOL TEACHERS

A thesis submitted to Charles Sturt University for the degree of

Doctor of Philosophy

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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>AIS</td>
<td>Association of Independent Schools</td>
</tr>
<tr>
<td>ALA</td>
<td>American Library Association</td>
</tr>
<tr>
<td>ALIA</td>
<td>Australian Library and Information Association</td>
</tr>
<tr>
<td>ASLA</td>
<td>Australian School Library Association</td>
</tr>
<tr>
<td>AV</td>
<td>Audio-visual</td>
</tr>
<tr>
<td>BOS</td>
<td>Board of Studies</td>
</tr>
<tr>
<td>BOSTES</td>
<td>Board of Studies, Teaching and Educational Standards</td>
</tr>
<tr>
<td>CD</td>
<td>Compact disc</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>Compact disc – Read-only memory</td>
</tr>
<tr>
<td>DVD</td>
<td>Digital video disc</td>
</tr>
<tr>
<td>e-books</td>
<td>Books in digital formats</td>
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<tr>
<td>ETA</td>
<td>English Teachers’ Association</td>
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<tr>
<td>HIB</td>
<td>Human information behaviour</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communication technologies</td>
</tr>
<tr>
<td>ISP</td>
<td>Information search process</td>
</tr>
<tr>
<td>IT</td>
<td>Information technology</td>
</tr>
<tr>
<td>LIS</td>
<td>Library and information studies</td>
</tr>
<tr>
<td>LOTE</td>
<td>Languages other than English</td>
</tr>
<tr>
<td>NAPLAN</td>
<td>National Assessment Program – Literacy and Numeracy</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>OCLC</td>
<td>Online Computer Library Center</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PDHPE</td>
<td>Personal Development, Health and Physical Education</td>
</tr>
<tr>
<td>SLMC</td>
<td>School library media center</td>
</tr>
<tr>
<td>SLMS</td>
<td>School library media specialist</td>
</tr>
<tr>
<td>TL</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>TLC</td>
<td>Teacher/librarian collaboration</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
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<tr>
<td>US</td>
<td>United States of America</td>
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</table>
Certificate of Authorship

I hereby declare that this submission is my own work and to the best of my knowledge and belief, understand that it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged. I agree that this thesis be accessible for the purpose of study and research in accordance with normal conditions established by the Executive Director, Library Services, Charles Sturt University or nominee, for the care, loan and reproduction of thesis, subject to confidentiality provisions as approved by the University.

Name: Julia Daphne Bale
Date: October 14, 2014
Signature:
Acknowledgements

This thesis is the product of three decades of observation of the information-seeking preferences and practices of teachers, librarians and other work colleagues. Completing the thesis itself consumed sixteen years of investigation, research, surveying, interviewing, data analysis, typing and editing, interwoven with job changes, child rearing and full-time work as a teacher-librarian and classroom teacher.

My heartfelt gratitude goes to my two supervisors at Charles Sturt University: Dr. Kirsty Williamson and Dr. Joy McGregor. Both devoted countless hours to reading, critiquing and suggesting improvements for my opus, sacrificing vacation time and deferring their retirement to accommodate my extended deadlines. My respect and admiration for these brilliant, enthusiastic and totally committed professionals is only matched with that I reserve for my colleagues and professional companions over the past two decades – the teachers and teacher-librarians who selflessly dedicate their energies to fostering, nurturing and supporting a love of learning within the hearts and minds of their students. Thanks for sharing your information secrets, valuable time and providing unflagging encouragement. Thanks to you, I have become a more effective teacher and librarian.

Above all, my thanks go to my long-suffering family, especially my husband Stephen. Without your love, companionship and support, this thesis would never have come to fruition.
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Intellectual Property Rights

If there is material in the thesis that could or does have implications for the intellectual property rights of the candidate, the University, a sponsor of the research or some other person or body, those implications shall be stated.

Ethics Approval

The proposal to do this research was approved by the Charles Sturt University’s Ethics in Human Research Committee as protocol number 99/029. The approved form is to be found in Appendix B2.

Professional Transcription Services

The interviews with secondary school teachers were recorded on audiotape and converted into rich-text format by professional transcriber, Melisa de Luca. Guidelines for transcription that were established with the transcriber can be found in Appendix C2.

Professional Editorial Assistance

Professional copy editing of the thesis was carried out immediately prior to its submission for examination. The work was carried out by Penelope Whitten and involved checking formatting, grammar and APA referencing requirements.
Publications Arising from the Present Study

During the course of this investigation, this researcher presented two refereed conference papers relating to her study. These were published, as follows:

• Bale, J. (2000). Why won’t they use our library? Implications of a pilot study investigating the information seeking preferences of secondary school teachers. In D. Booker (Ed.), Concept, challenge, conundrum: From library skills to information literacy: Proceedings of the fourth national information literacy conference conducted by the University of South Australia Library and the Australian Library and Information Association Information Literacy Special Interest Group, 3–5 December, 1999, University of South Australia Library, Adelaide (pp. 48-56).

Abstract

In secondary schools, one of the standard methods of assessment is the student research task. Despite the wealth of information detailing the information-seeking preferences of high school students, there is little published to shed light on the preferences of the very people who set these tasks – the classroom teachers themselves. There is even less detail regarding which factors motivate or deter these teachers from choosing or rejecting specific information resources or favouring particular locations from which to obtain resources for their own research needs. This study of the information-seeking preferences of secondary school teachers, carried out within three Sydney (New South Wales, Australia) schools during the years 2001–2005, provides a set of ‘snapshots in time’. Another possible description could be that it is a ‘point-in-time’, cross-sectional study of three schools that fills many of the gaps in our knowledge.

The study employed mixed paradigms and methods, with an initial survey followed by in-depth interviews with 27 teachers from the three schools. An understanding of the findings was enhanced by insight from the major theoretical strands that underpinned the study: constructivism, which emphasised the multiple perspectives of the teachers themselves, the role of power and control in the exercise of information preferences, the nature of collaboration between teachers and librarians, and, overarching all, the impact of continuity and change on teachers’ information-seeking preferences in the school workplace of the 21st century.

The study revealed that teachers were, on the whole, open to using a range of information resources from a variety of locations, with preferences accommodating traditional print and digital resources, the latter increasingly obtained via the Internet. Preferences and priorities were motivated by factors including teachers’ perceptions of time saved when certain resources were located and used, the accessibility of some resources over others and, in some instances, the aesthetic qualities of preferred resources. The role played by the personality traits of teachers, and their perceptions of power and control over the information-seeking process, emerged from the findings as exerting a strong influence not only on the choice of information resources and
locations, but also on the likelihood of engagement with the school library and its staff. Collaboration between teachers and teacher-librarians emerged as a complex issue, with suggestions that higher levels of collaboration could develop over time, if based on mutual interest, trust and common goals for student learning.

This study contributes insight into ways in which teacher-librarians can respond to the challenges of maintaining a strong ‘library brand’ and a viable school library service, in the face of the technological challenges and economic constraints of the 21st century. These include a focus on developing the role of the teacher-librarian as ‘research mentor’ to younger teachers, and as ‘heritage collection development mentors’ to support teachers within their respective departments. One key recommendation is for pre-service teachers and teacher-librarians to commence collaboration on student research tasks, by sharing a school-based practicum experience that would inculcate the benefits of collegiate partnerships based on mutual trust and professional respect.
Chapter 1 – Introduction

When secondary school teachers set research-based assessment tasks for their students, it is in the expectation that some will achieve academic outcomes that reflect a high standard of research, analysis and presentation. Although studies have been undertaken on the research practices of students (see below), there has been little or no focus on those individuals who assign these tasks: the classroom teachers themselves. At some point in time, every teacher will need to prepare a research-based assessment task for their students in a topic area with which they are personally unfamiliar. A key question is: what resources do teachers use and from where do they obtain them? Although teacher-librarians (TLs) might prefer that teachers utilise the resources or facilities of the school library, thus providing role models for their students in research skills and practices, it is unclear to what extent this actually happens.

Although the literature of library and information science (LIS) and teacher-librarianship has dealt, over time, with a number of issues relating to the information-seeking practices of various groups, few have focused on secondary school teachers. Until recently, the needs, preferences and practices of this group have been overlooked in comparison with those of students, academics and business users, requiring researchers to seek guidance from assumptions extrapolated from these areas. Despite the publication of a small number of studies involving practising teachers and student-teachers (e.g., Tanni, Sormunen, & Syvänen, 2008; Diekema & Olsen, 2011; Tanni, 2012), gaps in the literature are still extensive. This study seeks to investigate the information-seeking behaviour of secondary school teachers, with a view to understanding why they express preferences for particular information resources and locations, rather than for alternative options that might appear (to others) to be more accessible or desirable.

1 This study was conducted in Australia. The thesis therefore uses ‘Australian English’ spelling and stylistic conventions for the main text. American spelling was retained whenever it appeared in quotations and references.
The study was undertaken in three Sydney schools between 2001 and 2005, at a time when schools were transitioning between traditional information resources such as printed books, and digital resources increasingly available via the Internet. The major goals of the study were to develop a knowledge of teachers’ preferences for specific types of information resources and locations, discover what factors motivated (or deterred) their expression of preference, and to explore, in depth, the nature of their relationships with the school library and its staff.

The last two decades have witnessed unprecedented technological change affecting teachers in Australian schools. This coincides with pressures imposed by major curriculum changes, the most recent being the implementation of an Australian National Curriculum (Australian Curriculum, Assessment and Reporting Authority, 2013). At the same time, teaching has been identified as an ageing profession by the Australian Council for Educational Research (ACER) (McKenzie, Rowley, Weldon, & Murphy, 2011), with the average age of secondary teachers increasing, over the past decade, in all geographical areas of Australia. There have been reports of low retention rates for younger graduates (McKenzie et al., 2011) and a growing tendency by principals to deal with staff shortages by asking teachers “to teach outside their field of expertise” or to “recruit less qualified teachers” (p. xxi). Despite these mounting pressures, teachers still have a daily responsibility to assess students and set research tasks.

For the above reasons, it is surprising to note that there has been little in the literature exploring ways in which secondary school teachers may have responded by adapting their information-seeking behaviour, or whether their relationships with TL colleagues have changed over time, due to the advent of digital technologies which promise access to a world of information at the click of a mouse.

The fact that numbers of TLs are currently seen to be in decline (Commonwealth of Australia, House of Representatives Standing Committee on Education and Training, 2011) does not seem to be an issue worrying many secondary school principals: 71% of principals surveyed in the ACER Report into the staffing of Australian schools (McKenzie et al.,
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2011) considered their new graduates to be ‘well’ or ‘very well’ prepared in “accessing and using teaching materials and resources effectively” (p. xxi). However, it is unclear from which location these teachers are accessing their information, and whether they are using the resources of the school library. A recent Queensland study (Hughes, 2013), receiving responses from 97 school principals, stated that over one quarter (26%) perceived the school library to have ‘little’ or ‘no’ influence. With the push to transform traditional libraries from ‘buildings with books’ (De Rosa et al., 2005, 2010) to virtual spaces that encourage independent exploration of the vast array of digital resources to be found via the Internet (Sargeant & Collins, 2007; Hay, 2010a, 2010b; Hay & Todd, 2010), it is important to ascertain how teachers might respond to such changes by looking at past evidence, and to consider ways in which TLs might use this knowledge to better meet the research needs of their teacher-clientele. Although a ‘point-in-time’ study, and focusing only on specific participants, this research sought to fill some of the gaps in our knowledge of which information resources, formats and locations teachers might prefer to use, when planning for a research task with which they were previously unfamiliar.

This chapter introduces the background issues that inform this study. They include an explanation of my professional background and interest in this area, definitions and clarification of key terms used, and an outline of the four major themes that came to underpin the thesis.

1.1 Genesis of the study

This study focuses on secondary school teachers who were working at three Sydney schools in which I worked as a TL, during the period 2001–2005. However, my fascination with this topic area had been sharpened over many years of observing patterns of information seeking and use by colleagues from both the business world, where I worked as a database manager before returning to the school environment, and the world of the secondary school classroom teacher, where my career began. The similarities between these ostensibly disparate groups provoked my initial interest in conducting research to investigate what motivated information seekers to steadfastly pursue their preferred pathways to knowledge, irrespective of alternatives that were, in my opinion, often worthier
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of attention and closer to hand.

As a trained and experienced classroom teacher with a specialisation and deep interest in history and historiography, I had considered myself one of the best exponents of the research process – until I undertook my second post-graduate diploma, this time in the field of library science. The discovery that there might be more effective structures for approaching information retrieval for research purposes amounted to an intellectual epiphany, boosted by an awareness of the constructivist approach to the information search process (ISP) of school students, evident in the work of Carol Kuhlthau (1993). The subsequent realisation came that, despite previous good intentions and ‘streetwise’ expertise in finding and locating resources, as a classroom teacher, I must have been inadvertently overlooking vast amounts of relevant information when I was, for example, preparing to set a research task for my students.

For the next decade, I practised these information retrieval skills within the newly emerging Australian business database industry, working for AAP-Reuters as a database developer and later a marketing manager of news database services. From 1993 until 1998, and concurrently with my last two years at AAP, I had the heady experience of editing and writing for Online Currents, the pre-eminent journal specialising in the Australasian database and information industry, for a readership that was weighted towards ‘library and information professionals’ employed either in libraries or freelancing as ‘information specialists’.

In 1994, I returned to the secondary school environment as a qualified TL, employed as a technology librarian specialising in the area of information and communications technologies (ICTs). Given that this decade saw the advent of computers and the Internet as agents of technological change, I witnessed, at first hand, the impact on the workplace practices and daily lives of teachers and librarians who were my colleagues and friends. I was fortunate to be employed in a school that boasted an enviable school library, endowed with a wealth of quality information resources, serviced by ample numbers of trained library staff, and located in the air-conditioned comfort of an award-winning library environment. However, it did not take long for me to notice a disturbing anomaly that
resonated with my experiences with database clients in the business world. In both workplace situations, relatively few clients had regarded the role of the ‘library’ or the ‘librarian’ in the same positive light as my colleagues from the library profession. Although many of the classroom teachers made prolific use of the school library, working with the library staff to enhance the academic outcomes of their students who regularly produced exceptional results, others never seemed to bring their classes into the library for research purposes, or even to set foot within the library confines, unless to select a video for classroom viewing. Nevertheless, their students appeared equally able to produce impressive results. Whatever information-seeking practices these teachers were employing and modelling to their students, the academic outcomes consistently produced by the latter seemed to reinforce the teachers’ conviction that they were definitely on the right path.

My perception was that not all teachers viewed the role and function of the school library in the same way, with relatively few perceived to proactively collaborate with TLs in preparation for the ubiquitous, research-based student assessment tasks.

Over time, questions arose regarding the ways in which teachers might rate the resources and services available via their school library, versus alternative, ‘non-library’ resources. Were there patterns of preference that could be detected, amongst individual teachers or faculty groups, for particular types of information resources or locations? Were factors such as age, gender, the subject area taught, or prior expertise using computers instrumental in informing such choices? Were teachers at the first school considered (a single-sex school, to be called ‘Alpha’ in the subsequent study) atypical and idiosyncratic in their information-seeking preferences, or did they share characteristics of information use common to people who worked outside the teaching profession, like my former colleagues and clients from the business world? It was in the hope that I could provide answers to some of these questions, both to satisfy my professional curiosity and to provide some insight that could be productively shared with my TL colleagues, that I began the long journey that resulted in the production of this thesis. During this journey, I subsequently accepted employment at two other independent, co-educational schools (dubbed ‘Beta’ and ‘Gamma’, respectively), allowing me to further extend the scope of the sample.
1.1.1 Balancing the role/s of ‘insider/outsider’ in the study

In undertaking this thesis, one of the biggest challenges was juggling the responsibilities of my multiple roles as researcher, interviewer and workplace colleague, a position that could be accommodated under the label of ‘insider/outsider’ (Sherry, 2008). I was a TL employed within each of the three schools, although the interviews for Alpha and Beta were conducted after I changed employment, to work at Gamma. Whether the teachers regarded me as an ‘insider’ (i.e., a fellow teacher), or an ‘outsider’ (i.e., one of ‘those library people’) could not be judged. Although the degrees of acquaintance and collegiality varied, I knew the participants individually, and had worked with all of them in my capacity as TL, at some time. Although it must also be recognised as a limitation, a degree of familiarity between interviewer and interviewee could alternatively be considered as an asset with which to facilitate the identification and exploration of the teachers’ information needs. This point is made by Kimmel (2012), who acknowledged, of her own interpretive study, that “a clear limitation of the study was the dual role I played: I also was the school librarian in this study. Yet one could argue that this dual role also was a potential strength”.

This approach clearly had both advantages and disadvantages. Ethnographic researchers Yakushko, Badiee, Malory, and Wang (2011) espoused the view that the advantages of being a researcher who was both an ‘insider’ and an ‘outsider’ transcended the disadvantages inherent in this challenging and often contentious role. They pointed out that researchers who were working within communities where they were interviewing strangers, with whom they shared no personal connection, frequently had to ‘prove’ their legitimate right to ‘share’ experiences with the interviewees. In contrast, advantages for the researcher as ‘insider/outsider’ included the mutual bond of shared experiences, an awareness of “the nuances of language and culture” (p. 280), and the ability to become involved in a manner that respected the norms and values specific to the ‘community of practice’ being studied.

Alternatively, disadvantages of the ‘insider/outsider’ approach presented challenges to the researcher. As Yakushko et al. (2011) cautioned, tensions could arise between the researcher and the communities under study, resulting from conflicting perceptions of the
goals and priorities of the research, or due to the consequences of working within the sensitive area of power dynamics that are a part of every workplace. As a “result of these power differences, at minimum, tensions and misunderstandings can arise” (p. 281), particularly when the researcher has moved to another professional area within the workplace community, a situation that might even lead to the researcher being rejected as a confidant. The degree to which any of this occurred cannot be measured.

It became clear that an ‘insider/outsider’ approach to research was not without its contentions and complexities, as the question naturally arose as to whether my familiarity with these teachers would bias my data gathering or unduly influence my interpretation of the evidence. Would it be my voice that was dominant, rather than the multiple voices of my participants? In defence of this dual role, Kimmel (2012), also a librarian-participant in an interpretive study involving her and three second-grade teachers who were collaboratively planning for a student research project, argued that her dual role was a “potential strength” of her study, in that it enabled her to better interpret the ‘voices’ of her teachers.

There was no question of avoiding an element of bias, as bias is prevalent in all aspects of social behaviour, as Denzin (1989) noted, claiming: "interpretive research begins and ends with the biography and self of the researcher" (p. 12). Scheurich (1994) observed that personal factors such as one’s background, class and status (which may or may not include changes over the course of a lifetime), race, gender or religion, all interact to influence, limit and constrain the production of knowledge. Brown (1996) made the point that:

> People and their interactions are more than a collection of objective, measurable facts; they are seen and interpreted through the researcher's frame- that is, how she or he organizes the details of an interaction, attributes meaning to them, and decides (consciously or unconsciously) what is important and what is of secondary importance or irrelevant. (p. 16)

As Mehra (2002) opined, “qualitative research walks the thin line between maintaining value-neutrality and making sense of subjective worldviews”. Kvale (2002) cautioned that, if not skilfully managed, this could result in the qualitative research interview containing “an asymmetrical power relation … It is a one-way dialogue, it is an indirect and an instrumental conversation, and the interviewer upholds a monopoly of interpretation” (p.
12). However, it could be equally argued that an interviewer who is familiar with the context and circumstances of the participants’ workplace environment, being perhaps also a member of the same workplace community, would be in a better position to accurately collate and communicate the views of the participants than an external interviewer, a critical stranger ‘parachuted in’ from the outside world.

Accepting that escaping every aspect of interviewer bias was challenging, I made every attempt to avoid intruding on the teachers’ expression of individual preferences, and throughout the interviews, was acutely conscious of preventing my own views from dominating the multiple voices of the interviewees. This precaution was also necessary during the data analysis stage, to prevent researcher bias. I needed to be constantly vigilant that my personal views as a TL were not colouring my interpretation of the conversations. Re-reading of the teachers’ remarks, and critical reflection of their individual perspectives was especially important, at this stage.

Believing that there were positive benefits to be gained from being a workmate of the participants interviewed, I concluded that there was an opportunity to gain fresh insight from this research situation. As Finlay (2002) suggested:

> We recognize that research is co-constituted, a joint product of the participants, researcher and their relationship. We understand that meanings are negotiated within particular social contexts so that another researcher will unfold a different story. We no longer seek to eradicate the researcher’s presence – instead subjectivity in research is transformed from a problem to an opportunity. (p. 212)

With hindsight, I can agree with the view of Yakushko et al. (2011) that choosing to conduct this research as an ‘insider/outsider’ within these three school communities has not only been a tremendous privilege but has contributed insights that could not have been otherwise gained.

### 1.2 Terminology used in the study

The study was set within three independent, non-Catholic secondary schools, located in different areas of Sydney, New South Wales (NSW). Within the workplace settings, various individuals interacted on a daily basis to carry out their main purpose: to educate students according to the goals and ethos of each school, under the jurisdiction of the NSW Board of
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Studies (BOS). The titles, roles and responsibilities of these individuals varied according to their qualifications, training, the terms of their appointment, and (in some cases) how these roles were perceived by the principal and other staff. The terminology applied to teachers and library staff within this study is clarified below, followed by definitions of terms used to describe the various information components, such as ‘resources’ and ‘locations’.

1.2.1 Teaching staff

The term ‘secondary school teachers’ applies to teachers of classes 7–12, within the NSW education system in which the study is set. Students in classes 7–12 are generally aged between 12 and 18 years, with tertiary training differentiated for teachers of primary (K–6) and secondary school students. In the context of this study, the term ‘classroom teachers’ refers to appropriately qualified secondary school teachers who have been assigned classes that they teach on a regular basis, as opposed to qualified teachers who are not allocated classes. The latter may include, for example, TLs, deputies or principals, depending on individual circumstances. In the majority of independent schools, the Principal/Head of Senior School will be a former teacher, as was the case in the three schools studied.

1.2.2 Library staff

While the terminology used to describe ‘teachers’ is relatively straightforward, choosing terms to describe the TLs and other library staff proved to be more difficult, with more dissonance than consensus on the most appropriate term to use for the person who ‘managed’ the school library. Issues concerning functional accuracy, acceptability within the international school library context, and intelligibility to readers of this thesis left no universal term that would conveniently solve the problem. For example, in Australia (the setting for the present study), the term ‘teacher librarian’ (or the hyphenated version) is commonly used when referring to the person who runs the school library, although the right to use this term by those who do not possess dual qualifications in both teaching and librarianship is hotly debated within the profession. In Canada, the hyphenated version, ‘teacher-librarian’, is the preferred term. In the United States (US), the phrase ‘school library media specialist’ (SLMS; with the school library being known as the ‘school library
INFORMATION-SEEKING PREFERENCES: TEACHERS

media center’, or SLMC) dominated the latter part of the 20th century, with the term ‘school librarian’ emerging as a popular term during the early years of 21st century, while in the United Kingdom (UK), the terms ‘specialist librarian’ or ‘school librarian’ are commonly encountered in the literature. It is evident that there is no internationally agreed title or role description for the person who manages the school library.

Within Australia, establishing a unanimously agreed profile of a school library staff member was equally challenging. Appropriate titles appeared to be open to debate, apparently depending on the audience for whom the literature was intended. To assist in clarifying such ambiguities, joint standards relating to school library facilities, resources and staff were produced by the Australian School Library Association (ASLA) and the Australian Library and Information Association (ALIA), which accepted the definition of a ‘teacher librarian’ as somebody dually trained and qualified in both teaching and librarianship (Australian School Library Association & Australian Library & Information Association, 2001).

With regard to others working in school libraries, complexity stems from the different state regulations operating concurrently within Australia, with the result that some individuals working as in school libraries might hold only one or other of the abovementioned qualifications, while others might possess neither, presumably being employed in the capacity of ‘clerical’ or ‘ancillary’ assistant within the school administration. Trained library technicians also tend to fall within this category, as they are not employed under a teachers’ award. Although the terms ‘teacher librarian’ and ‘teacher-librarian’ are used interchangeably in the Australian setting, the latter has been employed in this thesis, to avoid an implicit separation of roles in the mind of the reader. The abbreviation ‘TL’ is used for convenience.

The library staff mentioned by teachers in this study possessed a range of qualifications. One school library employed a teacher without library qualifications and a librarian without teaching qualifications. During the time of the study, no library staff member was scheduled for classroom teaching, with all solely occupied with school library duties. Some had previous experience as classroom teachers; others had none. Teachers typically referred to anyone who worked in a school library as a ‘librarian’ or ‘school librarian’, irrespective
INFORMATION-SEEKING PREFERENCES: TEACHERS

of qualifications and training. Such details were apparently irrelevant to the majority of these teachers.

In this thesis, the term ‘school librarian’ was used in the questionnaire. The terms ‘librarian’, ‘school library staff’ or TL are used in quoting from the interviews, according to the terminology of the teacher quoted. When quoting from the literature, the terminology used is that of the author/s.

1.2.3 Other staff

People who work in secondary schools and are not qualified teachers are commonly designated as support/ancillary staff, which is more reflective of their non-teaching status under the relevant employment award, than implying the presence or absence of skills or credentials. For example, ‘support staff’ may encompass information technology (IT) professionals with tertiary qualifications, trained clerical and administrative staff, or individuals trained as teachers’ aides, but not possessing formal teaching qualifications. In some schools, IT staff may fall under the authority of the library, but not in the three schools studied. In this study, the support staff who were specifically mentioned by teachers are ‘library assistants’ and ‘IT support staff’.

In NSW, all students must be appropriately supervised, with a legal responsibility of Duty of Care falling on the ‘appropriate’ adult supervisor. In a classroom setting where teaching activities take place (or with larger groups of students in a non-classroom setting), the ‘appropriate’ adult must be a qualified teacher, regardless of any other adults present. However, as noted above, qualifications for employment in the school library are a different matter.

1.2.4 Information resources

‘Information resources’ is a term encompassing information to be found in a wide range of media types. These include interpersonal resources, such as people considered knowledgeable about a specific topic (e.g., friends, colleagues, mentors or information
specialists including librarians). They also include tangible artifacts, such as books, magazines, paper printouts, audio-visual (AV) materials and Internet sites. Within these sub-categories exist a range of media types/formats, some of which were relatively new at the time of the study, such as digital video discs (DVDs). Others are now largely redundant, including video tapes and printed indexes. The compact disc – read-only memory (CD-ROM) format mentioned in the study has a role now largely limited to the storage of music and smaller files. ‘Books’ (including textbooks, fiction and non-fiction titles) were only available as printed publications or audiobooks at the time of the study, but are today increasingly popular in digital formats, frequently accessed via the Internet.

1.2.5 Information locations

‘Information locations’ refers to physical/geographical or virtual ‘places’ such as libraries, personal collections or the Internet. This term encompasses any space or place where information seekers might go to acquire their preferred information resources.

1.3 Key study themes

As indicated above, the study set out to investigate the information-seeking preferences of secondary school teachers when they were planning a specific research activity. As also indicated previously, there is a paucity of research that focuses specifically on the information-seeking behaviour of teachers, leaving a number of questions unanswered. Of these, one area emerges as a key theme: what factors motivate or deter teachers from choosing one information resource or location, rather than another? Among the most significant omissions from the literature are details of the reasons why teachers might make such choices, even when some alternatives might appear to be more ‘modern’, ‘accessible’ or ‘desirable’, to onlookers such as TJs who have a keen interest in supporting the information needs of their colleagues.

The literature revealed a range of factors that influence the expression of preference for using particular resources, formats or locations for information. The most frequently noted in studies involving teachers is a lack of time (e.g., Holmes, 1992; Tallman & van Deusen,
INFORMATION-SEEKING PREFERENCES: TEACHERS

1994; Haycock, 1998; Bishop & Larimer, 1999; Callison, 1999; McCracken, 2000; Montiel-Overall, 2005b; Mardis & Hoffman, 2007; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). Other factors noted in studies (including some involving non-teachers) are ease of access to resources (Nicholas & Williams 1999; van de Wijngaert, 1999; Gorman, Yao & Seshadri, 2004), personality traits (Montgomery, 1991; Oreg, 2003; McKay-Lowndes, 2004; Kwon & Song, 2011; Heinström, 2013), the influence of power and control (Tuominen, 1997; Julien, 1999), and the role of affect (Kuhlthau, 1991, 1993, 2004; Miwa, 2000; Mills, 2003; Kuhlthau, Heinström & Todd, 2008).

All of these factors influenced preferences for resources in the present study. However, a number of major themes emerged, which were considered significant enough to be designated as theoretical strands. These are the role of power and control, the impact of technological change, and teachers’ perspectives on collaboration. The multiple perspectives that emerged from the interviews was another theme that underpins this thesis. The theme of ‘power and control’ was an original focus of the study, while ‘multiple perspectives’ (of constructivist theory) formed part of the methodological framework. The remaining two themes came to prominence as a result of the interviews. The theories underlying these themes, and insights obtained from their use, are discussed in Chapter 2.

1.3.1 Power and control

The influence of power and control (Tuominen, 1997; Julien, 1999), and the role of affect in the ISP (Kuhlthau, 1991, 1993, 2004; Miwa, 2000; Mills, 2003; Kuhlthau, Heinström & Todd, 2008) are discussed in the literature as factors with the potential to influence the choice of particular information resources (including library staff), formats (particularly relating to choices of either the ‘book’ or the Internet) and locations (including libraries). Consequently, perceptions of power and control (which, in a workplace context, intertwines with the concept of affect) emerged from the literature as a pervasive factor that provided another of the major theoretical strands underpinning the thesis.
1.3.2 The impact of technological change

The present study was undertaken between 2001 and 2005, at a time of significant technological change in workplace practices, worldwide. Such changes affected teachers and non-teachers alike, impacting on the use of libraries as traditional locations for information, and challenging the position of the printed book as the authoritative source of knowledge (Herring, 2005; De Rosa, et al., 2005, 2010; Haigh, 2006). While not an initial focus, understanding the interplay of the forces of ‘continuity and change’ on people’s information-seeking behaviour emerged as one of the major themes during the early stages of this study. Aspects of continuity and change in information behaviour (e.g., a preference for retaining existing information-seeking practices, or a readiness to adapt to technological change) are phenomena that were followed through in more recent literature, to gain a broader perspective of the significance of this study within its historical context of the early years of the 21st century.

1.3.3 Perspectives on collaboration

Although the major emphasis of the study was the teachers’ own information-seeking preferences and practices, particularly when it came to preparing for a student research task, the literature suggested that a ‘collaborative’ type of relationship would prove to be the most beneficial. According to Montiel-Overall (2005b), collaboration has become “a twenty-first-century trend” in education, reflecting “a shifting philosophical view about the importance of working together to improve learning”. Despite positive support for collaboration, there is a concern that it is far from mainstream in schools, either in North America (e.g., Kenney, 2006), or Australia (Gibson-Langford, 2007).

It was not originally intended to make collaboration a major theme of the research. However, when viewed in the context of the wealth of literature indicating the benefits of collaboration between teachers and TLs, the data emerging from the findings suggested that there were multiple perspectives on this issue that made it a useful theme to explore.
1.3.4 Multiple perspectives

As noted above, at the time of the present study, there were limited numbers of studies detailing teachers’ preferences for information resources or locations, despite the key role they fulfilled in shaping the research proclivities of their students. This situation does not appear to have changed substantially. For example, Bitso and Fourie (2012) also discovered that there is “limited research literature on information behaviour studies with regard to teachers”, when they conducted research in 2010 into the information-seeking preferences and behaviour of Geography teachers in Lesotho. It is also unclear how the factors motivating or deterring a teacher’s preference for utilising the services of their TL might impact on the likelihood of collaboration between the two. Montiel-Overall (2005a) had noted that “noticeably absent from the literature in education are discussions involving collaboration between teachers and librarians” (p. 25), an area that is of growing interest to the teacher-librarian community, as demonstrated by more recent studies by e.g., Mardis & Hoffman (2007) and Williamson, Archibald and McGregor (2010). A study that specifically invites teachers to share their multiple perspectives on issues relating to their information-seeking preferences is long overdue.

1.4 Significance of the study

The present study was set in the early years of the 21st century, at a time when technological change was embedding the Internet as a key information resource in secondary schools, challenging the traditional role of the school library as the ‘preferred location’ for student research. The last two decades have also witnessed the impact of technological change on established teaching practices and information behaviour of many teachers who had long been accustomed to resources that were primarily print-based, frequently located on a bookshelf at home, in the staff room, or in the school library. Although these traditional formats had, since the 1970s, been increasingly supplemented by audiovisual resources (in the form of film, slides or videos) CD-ROMs only became widely available in Australian schools from the early 1990s, and Internet resources (in their more accessible form, via the World Wide Web) were unavailable to most schools before the mid 1990s (Bale, 1995a,
INFORMATION-SEEKING PREFERENCES: TEACHERS

1995b, 1995c).

Traditional formats like books required much less expertise to manipulate in the classroom than the proliferation of Internet resources, which progressively populated every classroom and introduced an unavoidable confrontation with the challenges of ICTs. The pressure on teachers to perform to capacity in their workplace increased, in areas that were initially alien to the schoolroom experiences of older teachers. New skills, new teaching and learning paradigms and new support structures were mandated, altering existing power dynamics within the school community and the degree of control that teachers with traditional skills had previously exercised within the classroom.

Although many teachers enthusiastically embraced changing technologies, as did library staff, there are gaps in the literature relating to the types of resources teachers prefer to use themselves when preparing for a research task, as opposed to resources to which they might direct their students, in the course of that research task. The reasons why teachers prefer particular information resources, or choose specific locations in which to look for information, in preference to others, provide some of the most significant omissions in the literature. Even the most obvious questions: ‘How do teachers rate the contribution of the school library to the success of their own (or their students’) academic endeavours?’, ‘How do teachers view their relationship with the TL?’, or, ‘What are the prospects for teacher/TL collaboration?’, cannot be adequately investigated without access to detailed evidence, drawn from the multiple perspectives of the individual teachers.

The present study makes its contribution on two levels: on the one hand, it provides a ‘point-in-time’, cross-sectional study (Tanner, 2013, p. 154) that can be used to compare with more recent research findings, e.g., by Tanni et al., (2008), Diekema and Olsen (2011), and Tanni (2012). On the other hand, it provides insight into the motivation behind such choices that has contemporary relevance. The relative age of teachers a decade ago has not significantly changed, and demands on teachers of rapidly changing technology are still increasing, with the adoption into the school environment of mobile personal computing

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2 The national average age of secondary teachers in 2006/2007 was 44 years (McKenzie, Kos, Walker & Hon, 2008), compared to 44.5 years in the latest ACER report (McKenzie et al., 2011).
INFORMATION-SEEKING PREFERENCES: TEACHERS

devices such as iPads and tablets, Web 2.0 and 3.0 technologies and the concept of the ‘virtual library’ (Australian School Library Association, 2013). For teachers and librarians of the second decade of the 21st century, the challenge of adapting to new technologies continues. A study that explores earlier stages of this process will make a contribution to our overall understanding of the roles of continuity of practice and technological change in the information-seeking behaviour of secondary school teachers.

1.5 Research questions

Two research questions were addressed, both with specific, associated sub-questions. These were:

1. What were the information-seeking preferences of secondary school teachers in the three schools studied?
   Specifically,
   o What information resources and locations were most or least preferred by these teachers, when they were, for example, planning for a student research task on a topic with which they were unfamiliar?
   o How did these teachers view the role and contribution of the school library and its staff?

   It should be noted that the original sub-question of the first research question included information formats, along with resources and locations. As subsequent analysis of the findings of both questionnaire and interviews revealed a considerable overlap in participants’ perceptions of resources and formats, such a fine distinction appeared less relevant. Sub-question 1 was thus rephrased to reflect the revised position.

2. What factors motivated or deterred the exercise of preference for the information resources and locations specified above?
   In particular,
   o What was the influence of power and control?
   o What was the impact of technological change?
INFORMATION-SEEKING PREFERENCES: TEACHERS

- What factors appeared to encourage or inhibit collaboration between teachers and the school librarians who were a potential information resource?

The broader aspect of Question 2 was formulated first, with the sub-questions evolving as a result of the new themes that emerged from the findings. As Cecez-Kecmanovic and Kennan (2013) explained:

Researchers seeking discovery cannot formulate their research question/s in advance, as they cannot specify what they are going to discover … It is only at the point when a research report … has to articulate specific research questions, for which the research provides answers, that the questions need to be finally framed. (p. 130)

The flexibility offered by the qualitative research approach chosen for the study allowed the research questions to develop progressively, along with my own understanding, during the course of this research journey.

1.6 Outline of thesis chapters

The conceptual framework of this study is presented in the two following chapters. Chapter 2 examines the literature, including relevant research findings and theoretical strands. Chapter 3 discusses research philosophies considered and adopted, the design and setting of the study, and methods and techniques employed to gather and analyse the data. Chapter 4 contains the results of the survey component of the study, while Chapter 5 presents the results of the interviews. Chapter 6 discusses the results of the study in the context of the theoretical perspectives that inform a greater understanding of the issues under investigation, drawing out implications both for professional practice and future research.
Chapter 2 – Review of the Literature

The focus area of the present study lies within the secondary school environment, with an interest in the information-seeking preferences of teachers, and the nature of their relationship with librarians. As teachers are free to choose from a range of resources and locations from which to satisfy their information needs, it can be assumed that some choices will involve the school library and its staff, while others will privilege different options. From the perspective of a TL, it was of critical interest to explore all the options that might compete for a teacher’s attention, with a view to understanding the rationale behind the information-seeking preferences of the teachers within the three schools studied.

The first priority was to review the literature relating to secondary school teachers’ information-seeking preferences for various information resources and locations, seeking to identify any factors appearing to influence such choices. As one of the aims was to provide a ‘snapshot’ of school communities in the process of managing the challenges of technological change in the workplace, it was important to explore the literature surrounding the context of the present study, as well as relevant studies that have emerged in subsequent years. It soon became evident that the information-seeking behaviour of secondary school teachers had been less studied, compared to that of other professional groups, thus revealing substantial gaps in the literature. The decision was therefore made to expand the literature review to include relevant studies of other information users from similar timeframes (including people whose professions were not specifically identified), with the view that investigating the information preferences of a wider range of users might broaden an understanding of the phenomena.

This chapter follows three main areas of investigation: firstly, a study of what the literature reveals about information seekers’ preferences for resources and locations; secondly, the
INFORMATION-SEEKING PREFERENCES: TEACHERS

factors that appear to influence the expression of such preferences, and the theories that elucidate our understanding of them; and thirdly, an investigation into the secondary school environment as a ‘community of practice’ (Wenger, 1998) in which these teachers and librarians might (or might not) engage in collaborative practices. As part of this investigation, the ways in which teachers viewed their relationship with the school library and its staff were of paramount interest.

2.1 Seeking information: preferences for resources and locations

Technological change has made a significant impact on information-seeking behaviour over the past two decades. In schools, the introduction of technology for teaching and learning has radically altered the range and accessibility of information resources available to teachers and might reasonably be expected to have influenced their information-seeking preferences over time.

Before the 1990s, teachers were obliged to rely on print resources or audio-visual materials in the form of film, slides or videos, with CD-ROMs becoming more widely available in Australian schools only from the early 1990s and Internet resources (in their more accessible form, via the World Wide Web) only from the mid-1990s (Quinn, 1993; Bale, 1995a, 1995b, 1995c, 1996, 1998, 2000). Because of the dynamic nature of modern information resources, more recent literature was also explored. This expanded the investigation to include the impact of technological change on teachers’ information-seeking preferences, within a 21st century school environment.

2.1.1 Preferences of specific user groups

This section begins firstly with an examination of the literature relating to the information-seeking preferences of secondary school teachers, and secondly, of information users from the broader community, whose professions were not specifically identified. The latter extends our knowledge of relevant information seeking, given the limited research available that is specific to secondary teachers.
2.1.1.1 Secondary school teachers

Despite the wealth of research (e.g., Kuhlthau, Turock, George, & Belvin, 1990; Kuhlthau, 1991, 1993, 1995, 2004; Julien, 1997, 1999; Lance & Loertscher, 2001; Case, 2002; Todd & Kuhlthau, 2005) into secondary school students’ experiences with the ISP, there is less evidence available regarding the information-seeking preferences of the very people who set these assignments, namely, the secondary school teachers themselves. Fortunately, the limited number of studies has increased over the past two decades. These include a study by Holmes (1992), conducted in 1987 with science teachers from selected secondary schools in Florida; Perrault’s (2007) study of 72 biology teachers in New York state; a pilot study investigating trainee teachers in Finland (Tanni, Sormunen & Syvänen, 2008) which was followed by a more comprehensive investigation involving a further 23 trainee teachers (Tanni, 2012); and a study by Diekema & Olsen (2011) of the personal information management practices of five teachers from one secondary school in Utah. Other studies include Mardis’s (2005) examination of the relationship between school library media programs and science achievement by middle school students, which looked at resources used by science teachers and the perspectives of their school library media specialists (SLMSs), and Montiel-Overall's (2007, 2008) studies of collaborative practices within selected K-8 schools in the US. As the nature of collaboration forms one of the theoretical strands underpinning the present study, the contribution of Montiel-Overall is discussed in more detail, in Section 2.3.4.1.

Although earlier than the timeframe of the present study (2001–2004) and restricted to a study of science teachers, Holmes’s (1992) findings nevertheless provided a useful basis from which to commence the investigation of teachers’ information preferences. As Holmes's study, conducted in 1987, preceded the widespread availability of the Internet (to the Australian public, from 1993 onwards), it is not surprising that the preferred resources were revealed to be print, especially textbooks, while personal collections of resources were preferred over information borrowed from libraries. A strong negative reaction to advice from ‘experts’ from outside the school area was evident, with a difference in gender noted: 58% of female teachers indicating that they “never” used experts from outside the district,
INFORMATION-SEEKING PREFERENCES: TEACHERS

compared to 21% of male teachers (p. 144). The most significant problem mentioned with regard to information seeking was a “lack of time”, while the characteristics of an ideal information system included “convenience, accessibility, currency, relevancy, computer technologies, appropriate staff and timeliness” (p. iii). Over a decade later, a case study of eight middle and high school science teachers (Recker, Dorward & Nelson, 2004), focusing solely on digital resources, revealed how teachers located and utilised online resources, suggesting the need for further study to “better understand the impact and adoption of emerging digital learning technologies and tools in educational contexts” (p. 103).

Two decades after Holmes’s study, Perrault (2007) conducted a study in which ‘teacher planning’ was defined as the decisions, activities, and processes that occur before the teacher enters the classroom. Perrault noted that, prior to the advent of the Internet, teachers’ short- and long-term planning activities typically relied on a range of print-rich sources, including previous lesson notes, resource files, selected audiovisual materials and ideas drawn from their colleagues’ work, a trend noted earlier, both in Holmes’s study (1992) and in work by Sardo-Brown (1993). Perrault’s exploratory study specifically focused on the online information-seeking practices of 70 biology teachers from New York state, including the ways in which they perceived these practices influencing their instructional planning. A combination of interview and survey techniques was conducted online, but was limited to the use of online resources. Perrault noted that these were understandably more common than in earlier studies, but that “teacher planning has typically been influenced by the current curriculum and the materials and resources in the immediate vicinity” (Perrault, 2007). She concluded that while the impact of the Internet had been studied in detail, the “consequences of teachers’ online information-seeking practices on their professional practice is an area in need of further understanding and research”, observing that a quick search using Google (the most popular search engine) would not “always locate educational, age-appropriate, and credible resources”. This viewpoint was still prevalent amongst teachers five years later, as noted by Tanni (2012).

While the findings of related studies (e.g., Mardis, 2005; Mardis & Hoffman, 2007) confirmed the perception that books were less utilised for science research in school libraries than online resources, it was suggested that the presence of other types of current,
INFORMATION-SEEKING PREFERENCES: TEACHERS

dynamic or visually rich media supplemented any perceived deficiencies in the science print collections. SLMSs participating in Mardis’s (2005) focus group confirmed that video delivered via a variety of media was still a very important aspect of their library service to science teachers, while those responding to Mardis and Hoffman’s (2007) survey revealed that periodicals, databases, CD-ROMs, and videos were still popular components in their library science collections.

The information-seeking behaviour of 14 trainee ‘prospective history teachers’ (both males and females) was investigated in 2007, in a pilot study conducted in Finland by Tanni et al., (2008). The aim of the study was to interview the trainees to obtain their recollections about seeking and utilising information that was used to plan lessons, objectives similar to those of the present study. Information locations mentioned included the Internet, university and college libraries (accessed online or in person) and interpersonal resources such as mentors and colleagues. Although personal collections (e.g., the home bookshelf) and the school library were nominated as information locations, these seemed to be limited to obtaining useful textbooks that appeared to be preferred as a guide to the subject area being targeted, closely followed by access to the Internet (preferentially via Google), followed by Wikipedia. Two shortcomings were identified by the authors of this pilot study, the first of which related to the ‘abstractions’ included in the phrasing of the interview questions, given that the understanding of these by interviewers and interviewees apparently differed. As a result, the questions had to be reinterpreted *ad hoc*, resulting in “less formal[ity] than initially planned” (Tanni et al., 2008). The second problem area was the relative confusion of some participants regarding specific details of information practices utilised for planning lessons, due to the fact that the interviews took place some weeks after the trainees’ practicum, rather than closer to the actual event.

In this Finnish study, the preferred information resources were found to be documents (both print and electronic formats), textbooks, books, magazines, newspapers, CDs, web sites, Adobe Acrobat files, images and videos. The criteria for selecting particular resources were topicality, authority and perceived impartiality, with some criticism of the barrage of information retrieved via a ‘Googled’ search, due to perceived time wasted. Only one trainee appeared to reflect on the need to teach his students how to search for information,
INFORMATION-SEEKING PREFERENCES: TEACHERS

in order to maximise their retrieval of useful and relevant information in the classroom.

This pilot study was comprehensively followed up in 2007–2008, when Tanni (2012) investigated the information-seeking ‘channels’ and ‘sources’ used by a larger group of trainee teachers when they were planning a lesson. Retrospective, semi-structured interviews were supplemented by a number of classroom observations. Participants recruited for this larger study included 23 teacher trainees majoring in history, social sciences, psychology and philosophy. Here, Tanni observed which information sources each trainee presented to the class, then conducted semi-structured interviews based on this lesson. If direct observation was not feasible, trainees were asked to recall a recent lesson and describe information sources and channels utilised. Interviews averaged around 20 minutes and transcripts were thematically analysed, with codes being developed directly from the data. Tanni chose to exclude as eligible ‘sources’ “websites, online library catalogues or people acting as intermediaries offering referential information … under the criterion that an information source should directly support the lesson planning task” (2012). Web sites that produced specific (rather than referential) information were permitted. It is unclear why Tanni chose such a very narrow definition of what resources provided ‘direct support’, as other studies involving different types of users in educational contexts (e.g., Kuhlthau, 1991; Julien, 1997; Johnston, 1999) did not exclude library catalogues or information intermediaries as potential sources.

Tanni’s (2012) focus presumed the concept of a ‘time horizon’ extending beyond the present or immediate need, predating a ‘just in case’ mode of information collection, and referencing Sonnenwald’s (1999) ‘information horizons’ as the context in which information would be sought. According to Sonnenwald, each person’s ‘information horizon’ is uniquely “determined socially and individually for situations and contexts” (p. 185) which, over time, could transform into an information culture that was a product of the social networks to which the individuals belonged and contributed. Tanni posited that information would be sought from familiar ‘sources’ and ‘channels’ (i.e., locations), supplemented by ‘serendipitously’ or ‘accidentally’ acquired information such as described by Erdelez (1997, 2005). Tanni additionally challenged existing models of information seeking based on Kuhlthau’s (1993, 2004) ISP, on the grounds that they tended to be focused on a pattern or process of task-specific information acquisition.
Tanni’s (2012) findings corroborated those of the pilot study (Tanni et al., 2008), suggesting that the information-seeking goals of trainee teachers varied substantially according to their prior knowledge of the topic and their familiarity with sources. The most popular mode of acquisition was ‘Googling’ on the Internet, or browsing the library catalogue to locate specific items of which the participant was already aware (18 information encounters, or 78%). Tips from mentors accounted for five encounters (22%), while information ‘accidently’ or ‘serendipitously’ acquired accounted for three (13%). It should be noted that participants could nominate more than one encounter.

The most preferred ‘information channels’ included ‘personal collections’ and the ‘Web’, which were utilised equally by 21 of the 23 participants (91%), with ‘interpersonal resources’ and ‘libraries’ being utilised by 10 participants each (43%). ‘Exhibitions’ and ‘unknown’ (which appeared to be largely non-fiction and fiction books that did not come from personal collections) contributed a further 9% each, being used equally by two participants. The people consulted most frequently as interpersonal sources were information mediators such as the trainees’ mentoring teachers, most commonly from their university or designated secondary school. Although physical visits to the school library were mentioned as specific information channels, no mention was made of school library staff as direct, indirect or potential information sources or mentors. Possibly they might have fallen under the excluded category of ‘information intermediaries’.

In another relevant study, Diekema and Olsen (2011) explored the personal information management practices of five teachers from one secondary school in Utah, all with classroom experience ranging from two to 16 years. Although the initial focus was on digital information resources and how these were organised by the teachers, this small group of participants contributed information on a wider range of preferred resources largely located in personal collections, including books, textbooks, course notes and lesson plans. Interpersonal information sources such as teaching colleagues were highly regarded, but the interview detail did not appear to elicit the reasons for expressing such preferences. Diekema and Olsen observed that an ‘information heritage’ of resources, passed on from previous staff members or mentors and retained as a personal/professional collection, appeared to strongly influence the information practices of teachers. These resources could be either print or digital, the latter being stored on computer hard drives or even printed and
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stored in filing cabinets or on bookshelves. For their digital information needs, teachers preferred searching on the Internet using Google, expressing an awareness of, but little use for, digital libraries. As with earlier studies, these teachers reported that the greatest constraints on information seeking were the lack of time and money, the latter particularly due to budget cuts.

2.1.1.2 Users from the ‘wider’ community: the OCLC surveys

As mentioned above, due to the paucity of detail available on the information-seeking preferences of teachers during the early stages of this study, the preferences and resource use of people other than teachers were also explored, based on the premise that teachers were also members of the wider community. The expectation of demonstrating a link between the information preferences of two different groups of people was tenuous, with Kuhlthau (2004) noting that relevance varied “not only from person to person but also from time to time for the same person” (p. 4). However, it was reasonable to hope that a scrutiny of the broader picture of information use would assist in identifying patterns of preference that might provide a useful background to the present study. Consequently, findings from studies relating to what fitted under the broad umbrella of the ‘educational sector’ were explored, supplemented by selected studies from outside this sector that appeared to describe factors that motivated or deterred people from choosing specific information resources or locations. School students’ information preferences and practices were thus included, as they routinely interact with classroom teachers and librarians for the purposes of conducting research projects and are exposed to similar information resources as those available to teachers. Similarly, studies of university students and academics were considered relevant, as they also seek and use information resources either for research or for ‘teaching purposes’.

As one area of research interest was the attitude of teachers towards school libraries, the Online Computer Library Center’s (OCLC’s) commissioned surveys of users of online library services (De Rosa et al., 2005, 2010) are included in this literature review. Although these surveys included members of the broader community and did not ask respondents to nominate their profession, it is reasonable to assume that the range of participants might
have included secondary school teachers. As these two multi-country studies were restricted to online responses from existing library users aged 14 years and over, potential respondents who lacked online access were excluded. Regardless, the results of the two surveys were of interest due to the scope and details, which provide a ‘snapshot’ of trends in library use, over a timeframe relevant to that of the present study.

The first survey (De Rosa et al., 2005) elicited responses from 3,348 library users from countries including Australia, Canada, India, Singapore, the UK and the US, with the majority of users under the age of 18 coming from the US. Although respondents were asked to choose a specific library and frame their answers accordingly, it was not always clear which type of library was being discussed, or in which country the respondents were located. The topics explored in the survey included:

- The perceptions and preferences of information consumers; users’ relationship with and use of libraries, including usage of and familiarity with electronic information resources; awareness of libraries and resources offered; the ‘library’ brand and its ubiquity and universality; trust of libraries and their resources; and people’s perceptions of the library’s purpose / mission. (p. viii)

The second study was conducted in 2010, this time eliciting online responses from 2,229 library users from Canada, the UK and the US. Its aims were to provide “hard data about the current perceptions of the library, Internet and information, and the ties among the three” (De Rosa et al., 2010, p. 2). As with the 2005 survey, focus areas included the facilities and services provided by physical and online libraries, searching, search engines and Internet privacy, the relative ‘trustworthiness’ of information sources and the concept of ‘library value’. Changes in technology influenced an additional focus on areas such as the impact of social networking, and the impact on library funding of the harsher economic climate.

The results of these surveys must be viewed in context in order to understand their significance within the wider library sphere. Firstly, the respondents were presumably familiar with online access to libraries, as this was the method of elicitation. Consequently, library users who were negative towards technology were unlikely to have been among the respondents. Secondly, the respondents were asked for their perceptions, thoughts and opinions on library use in a written questionnaire, rather than in an interview (where
INFORMATION-SEEKING PREFERENCES: TEACHERS

questions could be clarified), creating opportunities for misunderstandings of questions and possibly doubtful data. Thirdly, the second survey did not include as many countries as the first (e.g., Australia was omitted). Notwithstanding these limitations, the OCLC findings provided valuable insights into the expressed preferences of over 3,000 users of library services in the first study, and over 2,000 users in the second. One common feature was that all respondents had access to both traditional and online resources, providing insight into preferences for information resources and library services similar to those available to teachers in the present study.

Results of the 2005 study (De Rosa et al., 2005) affirmed that libraries were perceived as useful in providing access to information resources (according to 51% of responses to the question: “What do you feel is the main purpose of the library?”), but were used primarily for borrowing books (31%), followed by access to research materials (14%). Despite the survey being conducted electronically and originally pitched towards the use of online services, the results clearly indicated that respondents largely viewed libraries in their traditional role as a repository for books (i.e., ‘books’ attracted 69% of responses to the question: “What is the main thing you think of when you think of a library?” compared to 12% for ‘information’ and 5% for ‘research’). Although 11% of all respondents in the 2005 study expressed a preference for visiting the physical library, this only represented 6% for the group consisting of Australia, Singapore and India. Although interesting, this result cannot be considered to reflect Australian preferences.

The 2005 report emphasised that books were, at this stage, clearly “the library brand. There is no runner-up” (De Rosa et al., 2005, p. 6-3), and borrowing printed books was the library service used by 26% of respondents on a monthly basis, compared to 13% who chose their library for access to computers or the Internet. Comments from some respondents revealed strong attachments to libraries as information locations, but many of these positive associations appeared to be nostalgic or emotional and focused on positive memories of encounters with books. As one respondent from the US commented: “As a child, I loved to go downstairs to the children’s section [of the library] and read books there and take them out. I loved the smell of old books” (p. 6-6). This sentimental attachment to the traditional nature and purpose of libraries was perceived as an asset that all libraries potentially shared.
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However, the researchers were unsure not only of the extent of this attachment, but whether it transferred to electronic resources. Furthermore, while 11% of respondents expressed a preference for visiting the physical library, most seemed unaware of the full range of resources potentially available online and made relatively little use of online magazines, databases or reference assistance.

The 2010 OCLC survey reported that Google was still the most popular search engine, with an 84% increase in use over 2005 survey figures. The use of library web sites held steady (33% in 2010, versus 31% in 2005), as did that of online databases, at around 16% in both 2005 and 2010 (De Rosa et al., 2010). To cater for the needs of their clients, libraries had increased the range of services (including mobile access) available since 2005, with 82% of public libraries offering wireless access to the Internet in 2009. However, the use of social networking sites had considerably changed the face of online interactivity since 2005, with Facebook, YouTube, MySpace, LinkedIn and Twitter being variously favoured by over 60% of US users in the study. The 2010 survey also reported that library use, via both physical and online access, had increased since 2005, especially amongst those who described themselves as ‘economically impacted’ by the recession. The main reasons cited were to save money by borrowing resources rather than purchasing them (75%), because their children enjoyed visiting the library (27%), due to the demands of school/homework tasks (25%), or that they had more time available (25%). Other users reported that their library use had decreased due to factors that included less time available (33%), no perceived need since they had finished their education (28%), inaccessibility due to disability or being housebound (20%), a preference for buying their own resources rather than borrowing from the library (16%) and the perception that the library’s collection was dated (13%).

Also noted was a decline in the use of the library for research purposes, compared to 2005, with authors deducing that fewer Americans are asking for assistance with research at the library” (De Rosa et al., 2010, p. 35). Use of reference books had dropped to 38% (down 21% from 2005), while only 28% of US library users asked for assistance from library staff, compared to 39% reported in 2005. Nevertheless, the report noted that users “see and appreciate the value of librarians. The vast majority (83%) of Americans who have used a
librarians agree librarians add value to the search process, even more so than in 2005 (76%)” (p. 42).

Although respondents’ main recommendations for libraries centred on extending hours of service and adding to their collections, the strongest message to emerge from the 2010 OCLC survey was that the percentage of American respondents who believed that ‘books’ were integral to the library brand had noticeably increased (from 69% in 2005, to 75% in 2010). As De Rosa et al. (2010) noted, “The library brand is ‘books’. ‘Libraries = books’ is even stronger than it was five years ago. As new consumer devices and online services have captured the information consumer’s time and mindshare, his perception of libraries as books has solidified” (p. 38).

The authors of the report concluded: “Young adults have taken their information-seeking habits with them as they aged, using these familiar tools at even greater rates” (De Rosa et al., 2010, p. 64). The major recommendation by the OCLC team was to redefine the role of the library, in the light of reduced access to services due to cuts in library budgets. Specific recommendations included adopting new approaches to opening hours by using online technologies to address the growing demand for library services, as well as repositioning the role of librarians as “personal information trainers rather than information literacy instructors” (p. 98). Despite the negative financial environment, the OCLC saw considerable potential in capitalising on the high value of the ‘library brand’, as perceived by 31% of US respondents.

While the 2005 report provides a point of reference for the preferences of users contemporaneous with the teachers in this study, the 2010 report highlights ways in which school libraries on struggling budgets might also seek to address the needs of teachers in the 21st century. These issues are explored more comprehensively in Chapter 6.

2.1.2 Patterns of preference: information resources and locations

Two strong trends of information seeking and use in recent years have been the increased popularity and affordability of Internet resources and the increasing independence of users
from ‘traditional’ information resources and locations, including printed formats, librarians as information mediators, and physical libraries as resource locations. However, it is evident from the literature that there is neither a homogeneous, generic profile for any single group of information seekers, nor universal ‘first choice’ of resource, media-type or location. As evidenced from the OCLC studies, the idea of using books, the Internet or libraries might generate an affective response ranging from affectionately nostalgic to negatively dismissive. As Mills (2003) observed in his study of the information-seeking behaviour of university academics, existing patterns of preference may influence choice, but do not necessarily exclude experimentation with new sources or the adoption of new methods of seeking information, “although the tendency is for continuation of prior habits of information seeking and hence use of the same sources” (p. 163). Mills suggested that, if new sources were selected, “the pattern of searching remains the same … [being] … incorporated into existing patterns rather than exchanged for the established methods of information seeking” (p. 163), a trend noted above in the 2010 OCLC study.

As mentioned earlier, due to the paucity of literature on the information-seeking preferences of teachers at the time when this study commenced, the literature relating to a wider range of information users was examined, to illuminate the preferences of the teachers in the present study. The following section discusses the various types of resources in relation to these studies.

2.1.2.1 Interpersonal resources

The term ‘interpersonal resources’ has been used to encompass all people with whom the information seeker chooses to consult, or from whom information is obtained. By this definition, the person might be used as either an information ‘resource’ or ‘channel’ (Tanni, 2012). The value accorded to interpersonal resources (especially peer-to-peer, or from recognised ‘experts’) varied, being of high importance to some but less important to others. In their study of battered women, Harris and Dewdney (1994) developed six principles of information-seeking behaviour, of which the fourth stated that individuals first sought help from interpersonal sources, especially other people like themselves. When seeking information, the fifth principle stated they looked for emotional support
Some information seekers preferred to call upon human expertise that was deemed to be closer to hand, additionally confirming Harris and Dewdney’s (1994) third principle, namely, that people seek information that is most accessible. For example, van de Wijngaert’s (1999) university students preferred to use human expertise that was in close proximity, as did 24% of the English adolescents in Rolinson’s (1998) study. Julien’s (1997) study of 399 Canadian secondary school students clarified the reasons why another person might be considered “superior to any other type of source”, as the information seeker “can ask questions of a person, get an idea of her or his personal feelings, and get feedback” (p. 376). Fidel et al. (1999) found that searching for information was “both a social and an academic event” for their eight 11th and 12th grade students (p. 28), who provided each other with mutual assistance as well as actively seeking help from the classroom teacher and SLMS. Williamson’s (1997, 1998) research focusing on information seeking by older adults, Mills’ (2003) study of university academics and Heinström’s (2002, 2005) survey of Finnish Masters’ students indicated that this preference for personal sources of information was represented across diverse groups of people.

Sonnenwald (1999) applied social network theory to the field of information, whereby, according to this theory, a person’s social networks “may help determine the information resources available to satisfy the need” (p. 182). In this context, McKenzie’s (2010) investigations into the role of ‘small talk’ between Canadian midwives and their patients reinforced the view that networks which facilitated informal social discourse, conducted within a particular workplace context, can perform a valuable role in bonding participants and informing common understanding. Olsson (2009) reported similar findings from his studies of theatre professionals and journalists, noting the relative lack of importance participants attached to purposive information seeking. Instead, the events that participants described as having the greatest influence on their sense-making were ‘social’ interactions: informal conversations with their colleagues or mentors. (p. 29)

As information specialists, Tls and other library staff are potentially high-value resources for teachers in earlier stages of technology adoption. However, outside the context of specific school library studies and instances of positive praise collated in the OCLC surveys, references in the literature to positive interactions with librarians appear to be
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limited, with most frequent instances occurring in the context of groups of students, both secondary (e.g., Julien, 1997) and tertiary (e.g., Johnston, 1999), seeking information for research assignments. In a study of the information-seeking practices of MBA students, Johnston’s (1999) participants demonstrated the paradox that “however heavily used the library resources may be, the library itself is viewed with trepidation” (p. 425). With regard to the role of the librarian, Johnston commented: “while the students may see the library staff as possessing useful knowledge, they do not perceive them to be useful resources … [and are] reluctant to seek guidance on the use or value of specific resources” (p. 425).

Julien’s (1997) study of 399 Canadian high school students indicated that, although respondents described both formal and informal sources of interpersonal assistance such as guidance counsellors, teachers, parents and friends as ‘particularly helpful’, interactions with librarians attracted mainly negative comments. For example, one student castigated the library staff by stating: “I don’t think they like anybody … they kick people out of the library for standing around looking for information … they don’t help you … they just ignore you” (p. 375). Another boy commented that this lack of assistance meant: “I try to find [information in the library] myself, but if I can’t find it, I’m not going to ask them. I’m not going to have them ruin my day” (p. 375). It must be noted that Julien’s study (using a questionnaire and 30 semi-structured interviews) was limited to students from three secondary schools, seeking career information. Negative responses of this nature may arguably be the result of localised factors or personality clashes. As Wenger (1998) observed: “Most situations that involve sustained interpersonal engagement generate their fair share of tensions and conflicts” (p. 77).

Kuhlthau’s studies of students who used libraries during their ISP revealed the limited use of librarians as formal mediators, whether at academic, high school or public libraries. These findings were based on a series of five studies conducted during the 1980s by Kuhlthau, investigating the ISPs of students from a range of senior secondary schools, colleges and universities. The findings are summarised in Kuhlthau (1993, 2004). Overall, the students’ perception of the roles accorded to librarians during the ISP was limited to that of organisers and occasional locators of resources, the person of ‘last resort’, only to be approached when one is ‘stuck’, a viewpoint also shared by one of the eight lawyers in
another study by Kuhlthau and Tama (2001). Students indicated that they preferred assistance from people they perceived would help them to organise their own thoughts more clearly, especially informal mediators such as parents, siblings and friends. When they progressed to college, they reported that librarians provided only a superficial level of service and were not proactive in meeting the needs of students. As Kuhlthau (2004) noted: “All were dissatisfied with librarians as mediators, to some degree, and expressed the need for increased participation and a more proactive role for librarians” (p. 80), concluding that “seeking assistance from the librarian was seen as taking the ‘easy way out’ and not as a legitimate approach to researching a topic or as an integral part of the search process” (p. 108). Kuhlthau observed that high school students in her earlier studies had similarly recorded little contribution from school librarians, apparently “under the perception that librarians had little of no role in their search process” (Kuhlthau, 2004, p. 109).

As with Julien’s (1997) high school students, a number of Kuhlthau’s student-participants expressed the view that too much assistance might in some way spoil the project by making it less than their own work, but valued encouragement from formal and informal mediators during the research process: “Although the students were seeking guidance in formulation … [of the task strategies], they wanted the important decisions about the project to remain with them” (Kuhlthau, 2004, p. 109). These results contrast with those from Todd and Kuhlthau’s Ohio research study, involving over 13,000 students (Todd, Kuhlthau, & OELMA, 2004; Todd & Kuhlthau, 2005), which found that over 99% of the participating students identified value in the contribution of the school library and its staff.

Librarians did not feature as preferred information resources in the majority of studies discussed above. It is a different story with studies that have emerged from the school environment since the turn of this century, specifically those which, like the abovementioned Ohio study, investigated the benefits to students of involvement with the resources of the school library. This area is worthy of separate attention and is explored in Section 2.3.4.
2.1.2.2 Print resources

Since the advent of access to digital resources via the Internet, there has been much debate about the relative merits of books versus the Internet as information resources competing for the attention of teachers and students. In an online article originally published in 1995, Jamie McKenzie, a former deputy principal turned information consultant, provided logical, lucid and persuasive reasons why there was a valid place for both the book and the Internet (McKenzie, 2000). According to McKenzie, the strengths of books as media types lay in their relative authority, portability, reliability and ease of navigation, while resources from the Internet were preferable if currency of context, remote access and dynamic links to related information were the priorities.

The literature suggests that print resources, such as books, textbooks or printed notes, were formats preferred by a wide range of users in the 1990s and early 2000s, some of whom appeared to strongly favour print, even when online resources were freely accessible. As alternatives, Internet resources were often perceived to be relatively unreliable. As Savolainen (1999) noted at the time of many of these studies, “the information seeker may never be totally convinced of the reliability of Internet sources because their quality control was seen as insufficient” (p. 367). Explanations for preferences ranged from the perception, gained over time, of the user-friendliness of books, ease of physical use, and confidence in the integrity and reliability of print. References to books as physical, tactile and sensually pleasing objects also emerged as motivators for use (e.g., Kuhlthau, 2004; De Rosa et al., 2005). A detailed explanation was provided by one of eight lawyers interviewed in a study by Kuhlthau (2004):

I like the book. I’m a little old fashioned that way. I like to see the hard book. I find that computer services aren’t as user friendly. I can just look in one … [supplement] and a short little blurb and the screen doesn’t do that for me. I can’t get an overview … whereas, when I take the books out (albeit I can make a huge mess of the library), I can kind of see where I am and how I got there. (pp. 180-181)

While not of secondary school teachers, Kuhlthau’s studies were useful because of the wealth of detail relating to the reasons behind the expression of particular information preferences.
2.1.2.3 Online resources

Just as some users expressed a strong preference for books, so others, such as van de Wijngaert’s (1999) students, indicated a preference for online resources (increasingly from the Internet), rather than print. The emergence, over the subsequent decade, of social networking options such as Facebook and Twitter (e.g., De Rosa et al., 2010) indicates an information horizon that has changed considerably since the time of these earlier studies. The impact of technological change on workplace practices is reflected in the increased use of the Internet and the popularity of Google as the preferred Internet search engine. For secondary school students, Google was the preferred means of searching for information on the Internet, according to studies by Herring (2005) and Haigh (2006), the latter describing the rise in Google’s popularity as “meteoric”. The use of Internet search engines was also perceived, by respondents to the OCLC’s 2005 and 2010 online surveys, to fit the information consumer’s lifestyle better than visiting physical or online libraries, the majority of US respondents in the 2005 study naming search engines as a “perfect fit” (De Rosa et al. 2005, p. 6-3). Satisfaction with the overall search experience was found to have a strong correlation with the quality and quantity of information retrieved via the search process. These were the highest determinants of a satisfactory search, with search engines rating higher than librarians as information facilitators, both in the 2005 and 2010 studies (De Rosa et al., 2005, 2010). The OCLC surveys indicated that some users consistently preferred one type of information resource, even when there were other media types available, with online access via the Internet challenging the earlier dominance of print formats traditionally associated with libraries. Although enthusiasm for adopting digital resources is not confined to science teachers (as seen in studies by Tanni, et al., 2008; Diekema & Olsen, 2011; Tanni, 2012), science teachers have been particularly enthusiastic adopting digital resources (Mardis & Hoffman, 2007; Mardis & Perrault, 2007), including creating modules for online learning for their classes using digital library resources (Recker, 2006). Research directions involving digital technologies, particularly for science and maths teachers over the first decade of the 21st century have been collated by Mardis, ElBasri, Norton & Newsum (2012).
2.1.2.4 Information locations

With regard to preferences for specific information locations, the literature revealed a small number of references to traditional types of libraries as preferred information locations, although ‘personal collections’ of information resources were by far the more popular choice. A preference for these was evident amongst teachers in studies encompassing the past two decades (e.g., Holmes, 1992; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012), although it is evident that personal collections increasingly included digital resources.

The OCLC studies (De Rosa et al., 2005, 2010) indicated that there was a growing trend towards use of the Internet, and the physical library was no longer the preferred location for many information seekers. As one 33 year-old respondent from the US remarked in the 2005 report, regardless of the fact that her mother loved the library, she did not think of it and felt that libraries needed to bridge the generation gap (p. viii). However, changes in the patterns of preference for information seeking cannot simply be explained by generational change. As Burnett and Jaegar (2011) point out, “information behavior, even of the most localized kind, is a product of multiple contextual variables and can be fully understood only as a function of its relationship to these multiple contexts and ‘information worlds’” (p. 173). Searches undertaken in any location are constrained not only by the searcher’s information needs, but also by a range of other social, political and economic factors including the characteristics and context of the individual location. Factors that might influence the expression of preferences are explored in the following section.

2.2 Making choices: theories and factors influencing the expression of preference

This section investigates literature relating to information practices of workgroups contemporary with the present study, to identify factors that may influence the expression of preference. As Harris and Dewdney (1994) stated in their first and second principles of information-seeking behaviour, information needs arise from the help-seeker’s situation, and the decision to seek help or not seek help is affected by many factors.
As discussed below, the key factors which emerged from the literature as influencing choice of resources were: age and gender, the availability of time, ease of access, personality, perceptions of power and control, and affect. The availability of theory that sheds light on the competing forces of ‘continuity and change’ meant that this became a major theoretical strand within the thesis. Similarly, theories elucidating perceptions of power and control were included, forming another of the four theoretical strands. The role of these factors is addressed in the following sections.

2.2.1 Age and gender

Despite two decades of research into what Bawden and Robinson (2011) described as ‘information styles’, the results have been inconclusive regarding patterns of preference, with the only ‘fairly consistent’ finding being some links between aspects of information behaviour and characteristics such as age, gender and subject discipline. However, studies into patterns of information use by different age and gender groups have not produced consistent results about the likelihood of adoption (or rejection) of digital formats, as can be seen below. In Nicholas and Williams’s (1999) investigation of journalists’ use of the Internet in the workplace, surprise was expressed at the absence of patterns of use based on age and gender: “Far from being the stereotypical young and male, most [Internet users] are well practised journalists into their thirties/forties, which, of course, runs counter to all that we have been led to believe” (p. 451), namely, that ‘typical’ Internet adopters would be predominantly young males, rather than females or older users. Similarly, no gender bias was detected amongst the younger users, which demonstrated equal numbers of males and females, ease of access proving to be the more reliable predictor for Internet use by journalists. Similarly, van de Wijngaert’s (1999) study of Dutch university students found that gender differences did not significantly impact on the choice of specific media formats, with ‘frequency of use’ the most common predictor for influencing preference.

Back in the 1980s, feminist writers such as Turkle (1988) linked any gender differentiation in the perceived use of computers by females to the popular image of female ‘reluctance’ to
INFORMATION-SEEKING PREFERENCES: TEACHERS

use computers: “Girls grow up defining their identity through social interaction; boys, through separation” (p. 50). Wilson (1999) suggested that gender-based preferences for information-seeking strategies might be found in research that indicated the possibility of a ‘significant link’ between gender and cognitive styles. Investigating this link, Heimrath and Goulding (2001) conducted a study in 1999, looking at any gender differences in the use of the Internet by students from Loughborough University and members of the public at libraries in Loughborough and Slough (UK). Respondents contributed both negative and positive comments about the Internet as an information resource, often focusing on the large amount of irrelevant information resulting from searches. A large proportion of the women surveyed used the Internet for work and leisure purposes. Although their overall attitude to the Internet in the workplace was positive, it was less so than with male respondents. The researchers suggested that the impersonal nature of Internet communication might pose a problem for women, since both genders appeared to agree about the positive aspects of online communication, including: “accessibility, speed and convenience” (Heimrath & Goulding, 2001, pp. 127-128). Although limited to the perceptions of the respondents, the results indicated that female use, interest and confidence in using the Internet was high, but females had not taken to the Internet as rapidly as male respondents, a factor which the researchers believe might be partially attributed to “social stereotyping and conditioning” (p. 131). It should be noted that although these findings are relevant to the time of data collection for the present study, they might well prove different today.

Although a study by Jackson, Ervin, Gardner and Schmitt (2001) found that female participants searching on the Internet reported more computer anxiety and less computer self-efficacy in comparison to males, earlier research by Armstrong, Phillips and Saling (2000) had indicated that self-esteem was a stronger predictor of successful engagement with the Internet than mere age or gender. No unusual or unexpected patterns of preference were linked to age or gender in the findings of the OCLC studies (De Rosa et al., 2005, 2010), which were ‘fairly consistent’ across the geographic regions surveyed and across US age groups, providing no evidence to support the view that information preferences and practices were dependent on age or gender.
A study of the literature would therefore suggest that the popular stereotypes of age and gender are not reliable guidelines for predicting the preferences of different groups of users for specific information resources or locations.

2.2.2 Time

The perception of sufficient (or insufficient) time available to seek information was noted as a major influence in the exercise of preference for a variety of user groups, including journalists (Fabritius, 1998; Nicholas & Williams, 1999), lawyers (Kuhlthau & Tama, 2001), and university students (van de Wijngaert, 1999). Studies specifically involving members of the school community (including teachers and TLs) also reported ‘lack of time’ as a major factor restricting their effective use of the school library. For example, McCracken’s (2000) study of over 500 SLMSs in the US indicated that the majority believed that they were unable to fully implement their roles due to barriers such as lack of time (including planning time with teachers), as well as a lack of adequate resources, interest and support from the classroom teachers. Other studies in which insufficient time was noted as a negative influence on information choices include Holmes (1992), Tallman and van Deusen (1994), Haycock (1998), Bishop and Larimer (1999), Callison (1999), Montiel-Overall (2005b), Mardis and Hoffman (2007), Tanni et al., (2008), Diekema and Olsen (2011) and Tanni (2012).

The availability of sufficient (or insufficient) time in the school day, either for teachers to seek out library staff with whom to consult as preferred information resources, or for library staff to be available at the same time as teachers had ‘free time’, also impacted on the practicability of collaborative planning between teachers and librarians. It stands to reason that TLs who are away from the library teaching an English class, or are taking a roll in a classroom, are not as accessible to teachers who decide to ‘pop into the library’ to initiate collaborative discussion, as those on less restrictive schedules. Tallman and van Deusen (1994) recorded a study in which library staff with flexible schedules developed four and a half times as many integrated units of study as did those on fixed schedules, as well as teaching more information skills lessons integrated with classroom instruction. Similarly, Haycock (1998) observed that TLs on a fixed schedule tended to only spend up to five
minutes planning with a teacher, while others on a flexible schedule could spend more than 30 minutes. As Straessle (2000) and Slygh (2000) had reported in separate studies, the perception of the academic value of library staff increased according to the amount of instructional collaboration that they performed. It can thus be argued that restrictions on the librarian’s time, due to reduced flexibility of schedules (frequently due to an increasing teaching load in times of economic constraint), would have an equivalent, negative impact on their perceived value within the school community. It must be noted that these views are based on the participants’ understanding of the concept of instructional collaboration, which may have differed from that of Straessle (2000) and Slygh (2000).

It has also been argued that the *perception* of sufficient or insufficient time is a cognitive construct that may have more to do with personality traits than either ‘feelings’ (Kuhlthau, 1993) or the actual situation. As Heinström (2003) stated, “the lack of time can be a reality but people may also vary according to how strongly they perceive time pressure and how they act upon it”. The role of personality traits on information seeking and preferential use is discussed in Section 2.2.4.

2.2.3 Access

Harris and Dewdney’s (1994) third principle stated that people tended to seek information from sources that were the most ‘accessible’. ‘Accessibility’ encompasses several features that act as enablers or inhibitors of access, depending on the circumstances and perceptions of the user, and their familiarity with the product or service. These include relative ease of access (both physical and digital), speed of access and the cost/benefit involved (including time).

Familiarity with resources appeared to be a factor that enhanced positive perceptions of access. Harris and Dewdney’s (1994) sixth principle stated that people tend to follow habitual patterns when seeking information, an observation born out in evidence from various studies (e.g., O’Connell & Henri, 1997; Mills, 2003; De Rosa, et al., 2005; Tanni et al., 2008; Tanni, 2012). Savolainen (1999) suggested that information-seeking preferences within a workplace community could become shaped by habituation, noting: “When the use
of media … is established, the media choices become routine and their use may incorporate ritualistic elements” (p. 360). Heinström (2003) expressed the view that: “information sources … tend to be chosen on the basis of familiarity rather than potential usefulness. This also applies to information professionals like librarians”.

Ease of access to specific resources was considered an important consideration in a number of studies of information seeking and use, irrespective of whether the resource was interpersonal, print or digital (e.g., Rolinson, 1998; Nicholas & Williams, 1999; van de Wijngaert, 1999; Gorman, Yao & Seshadri, 2004). Heimrath and Goulding’s (2001) study indicated that “accessibility, speed and convenience” (pp. 127-128) were important factors when choosing online services, while respondents to De Rosa et al.’s (2005) study of online users of library services prioritised access to information resources (such as research materials, computers and the Internet) as a key factor in their use of libraries.

In a more recent study of online investors, Williamson and Kingsford Smith (2010) determined that overall ‘ease of access’ (particularly when associated with familiarity with the source of the information) was a highly important consideration for users accessing investment information on the Internet. Specific factors affecting access were identified as important to different investors, including speed of access: one described a slow Internet speed as “a pain in the butt” (p. 55).

In the teaching sphere, Holmes’s (1992) study recorded ‘accessibility’ amongst the key factors influencing teachers’ preferences for particular resources, while Tallman and van Deusen (1994) and Haycock (1998) suggested a link between the production of collaboratively produced student research tasks with the level of access of teachers to teacher-librarians. Similarly, accessibility was a factor included by Montiel-Overall (2008) as essential to the success of collaboration between teachers and librarians.

As Gorman et al. (2004) observed: “accessibility means more than physical distance, and includes elements of familiarity and usability … The proximity of a resource … or its absence … is not by itself sufficient to predict use” (p. 1135). Heinström (2003) noted: “The decision to seek information is dependent on motivation which may have a cognitive
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origin or be emotionally based as in the need to reinforce previous values”, suggesting that
the motivation or deterrent may be more complex. Other potential influences are explored
in the following section.

2.2.4 Personality

Personality traits of individuals are another potential influence on human information
behaviour (HIB). Within this context, Phares (1991) defined personality traits as “a pattern
of characteristic thoughts, feelings and attitudes that distinguishes one person from another
and that persists over time and situation” (p. 4). There is no single set of agreed traits that
cCHARacterise this area of HIB, although Bawden and Robinson (2011) noted the difficulty in
generalizing information styles from studies where “subjective judgments are made by the
analyst” (p. 134).

Over the last two decades, a number of studies have explored the role of personality on
information seeking. For example, Montgomery (1991) found that TLs who exhibited
personal characteristics related to positive social interactions were found to engage more
frequently in collaborative efforts with teachers, regardless of time and resource limitations.
They were characterised by their interest in people, their use of others as a source of
reinforcement, a focus on socially oriented subject matter and a preference for working with
others. More recently, Kwon and Song (2011) conducted a study of the self-estimated
information competence of 185 Malaysian college students, finding that personality traits,
such as conscientiousness, were associated with an increase in self-confidence in searching
for and evaluating information. Other studies produced evidence that personality traits, such
as resistance to change (Oreg, 2003), could be linked to specific features of information
behaviour.

In recognition of the importance placed on the role played by personality types in workplace
social interactions that might involve TLs, some training institutions, such as the
Queensland University of Technology, have included awareness of components such as the
Myers Briggs Type Indicators (MBTI) (Myers, 1980) within their Graduate Diploma in
Education (Teacher-librarianship) program. McKay-Lowndes (2004) described a study in
which two graduate students underwent in-service in which their MBTIs were examined. They were found to have very dissimilar personalities, which provided one possible explanation for why their approaches to teacher-librarianship were so different. McKay-Lowndes (2004) concluded that while: “the library environments created by these personalities may be as different as pine plantations and apple orchards ... each personality type will produce worthwhile fruits of its harvest ... [Ultimately,] there are many correct ways to manage a school library” (pp. 25-26).

Although traditionally outside the area covered by the literature of teacher-librarianship, theories based on an understanding of personality types have gained traction in workplace situations where successful social interaction and group dynamics, such as employment training and team-building (including within the school setting), are considered important to the success of the enterprise, particularly as such workplace situations will routinely involve the sharing of information resources. This does not mean that the personality types of people working successfully together will always be a ‘perfect match’. On the contrary, Wenger (1998) observed that personality traits were as likely to generate disharmony as homogeneity in the workplace, stating that: “connotations of peaceful coexistence, mutual support, or interpersonal allegiance are not assumed ... Most situations that involve sustained interpersonal engagement generate their fair share of tensions and conflicts” (p. 77). In the school workplace, Groundwater-Smith, Ewing and Le Cornu (2007) offered a possible explanation for such tension and conflict, stating that “some teachers find it difficult to cope with less than positive interactions” (p. 215).

Heinström (2013) concluded that the expression of personality traits was dependent on factors including demographics, gender, context and the given situation, thus rendering personality traits as poor predictors of information-seeking behaviour. It could nevertheless be assumed that TLs who acknowledge that a range of personality types will be encountered within the school workplace will arguably be better prepared to attract the positive attention of teaching colleagues with whom they want to collaborate, whether on student research projects or other relevant activities.
2.2.5 Power and control

The concept of ‘power and control’ forms one of the theoretical strands that underpin the analysis of findings reported in this thesis. It emerged in the 1980s from the study of social theory as an attractive explanation for the behaviour of social actors in a variety of settings. As these would include groups of teachers seeking information as part of their workplace practices, an understanding of relevant theories relating to the exercise of power and control is relevant to the context of the present study.

This theoretical strand owes much to Foucault’s (1986) theories of power and control over the discourse prevalent within different social groups. In the workplace setting, such groups were later described by Wenger (1998) as ‘communities of practice’, in which the pervasive influences of various artifacts of power and control were emphasised. In the context of the present study (a school setting), such artifacts would include features associated with the school library. Habermas’s (1984, 1987) concept of ‘lifeworlds’ and their ‘colonisation’ by social structures (including discursive practices) was further developed by Giddens (1979), who emphasised the transformative capacity of discourse within social groups. Radford (1992; Radford and Radford, 1997) contributed additional understanding to the operation of power and control, when examined specifically from the perspective of library users. Relevant theoretical components are outlined in Box 2.1, and then developed further through an examination of related research.

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<th>Box 2.1: Theories of power and control</th>
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<td>Structures of power and control, prevalent in the works of Foucault (1986), Habermas (1984, 1987) and Giddens (1979) were recognised as factors shaping both technology and society. Semiotic power structures (i.e., the interrelationship between discourse and power that emerged as a defining characteristic of Foucault’s philosophies) invariably accompanied what Bijker (1995) described as ‘sociotechnical change’: the “development of a new order constituted by a particular combination of technology and society” (p. 272). Foucault’s contributions to the theoretical strands that underpin the present study</td>
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45
are worthy of special attention in the context of LIS, as, according to Radford (1992), Foucault’s work challenges, “at the most fundamental level, aspects of contemporary thought and behaviour that are commonly perceived as self-evident, natural and unproblematic” (p. 416), but had tended to be left “largely unexamined” within the area of LIS. Foucault’s perspectives can considered as a useful lens through which to view HIB, especially with regard to the perceptions of libraries and librarians, key components of the present study.

Giddens (1979) expressed a keen awareness of the power relationships inherent within the discourse of social groups. He defined such power as: “interaction where transformative capacity is harnessed to actors’ attempts to get others to comply with their wants … Structures of domination involve asymmetries of resources employed in the sustaining of power relations” (p. 93). Giddens described the: “dialectic of control … [as] an intrinsic relation between agency and power” (p. 6), although he saw no automatic link between power and conflict except for the “substantive relations that often exist between power, conflict and interests”. For Giddens, “power and conflict, like power and the realization of interests, are frequently, but nevertheless contingently, associated with one another” (p. 94).

Using Giddens’ definition of power as a ‘transformative capacity’, Bijker (1995) emphasised that “power is also ubiquitous and present in all relations and interactions” (p. 262). In instances of technological change, meanings initially attributed to a particular artifact transform and become fixed into new meanings. When a product is completed and utilised by a dominant group of social actors, “this fixity of meaning represents power” (p. 264) and could influence a redistribution of power within a social group. Such a situation would be applicable to teachers and TLs facing the challenges wrought by the introduction, into a school research environment formerly dominated by the library and books, of information technologies such as the Internet. Bijker concluded that, “in a competition between powerful, equally dominant social groups with respective [and possibly conflicting] technological frames … no one wins a total victory” (p. 279).
While investigating the phenomenon of ‘library anxiety’, Radford (1992) employed a powerful metaphor, derived from Foucault’s articulation of ostensibly innocuous artifacts as agents of power and control, describing the library as: “a labyrinth of texts that contains the possibilities for new arrangements” (p. 419). Within the school library environment, artifacts of power and control might include the language and formalised ritual of the ‘library catalogue’. As Radford and Radford (1997) commented, systems such as library catalogues have been: “designed with the goal of facilitating access to texts … [but] it may also be the case that such systems can be perceived as barriers that serve to deny that same access” (p. 258). Library users unfamiliar with the intricacies of the library catalogue might perceive this to be an instance of the librarian ‘controlling’ the library domains, demonstrating ‘her’ power to grant or deny access to information resources.

There are close associations between the theories of power and control and those of technological change, discussed in more detail in Section 2.4.1.

Another sensitive aspect of the relationship between adult library users and librarians was described by Tuominen (1997), who used the physician-patient and adult-child analogy to illustrate the problems inherent in a relationship in which power could be perceived as unequally shared. As he stated: “When the user is often a healthy adult, why should she accept the subject position of a patient or a child when searching for information in a library environment?” (p. 364). Tuominen reflected that such discourse, seen from the user’s perspective, might suggest a relationship that placed the librarian in a position of power over users. Nadler (1990) had observed that even “being helped can be a self-threatening experience because of the implied inferiority, dependency, and inadequacy that are inherent in this culture in the role of being a recipient”, with the consequence that people “often refrain from seeking needed help and react negatively to its receipt” (p.129). As Julien (1999) emphasised:
We construct ourselves as the experts who have the solutions and can help ‘users’ to use our solutions. When we construct our positions as experts and our clients’ positions as novices who require help, we set up an unequal power relationship. In Western societies, accepting help has connotations for the recipient of the implied inferiority, dependency, and inadequacy ... However, we rarely ask ourselves or information seekers whether ‘our’ solutions are what is needed. (p. 586)

Empirical research by Mills (2003) confirmed these views. In his study of the information-seeking behaviour of academics, he noted that, with regard to self-perception of their library navigational skills, “at least one third of academics interviewed indicated that they were concerned that they might appear to library staff as being unable to use, or having difficulty in using, the library”. While some academics “avoided library staff so as not to appear out-of-date” or ignorant of library protocols, others demonstrated “avoidance behaviour”, such as “browsing on the shelves [which] was seen as non-threatening and potentially rewarding, and was employed in preference to seeking advice from librarians about using the catalogues, especially if changes to the interface had occurred since the last time it was used” (p. 168).

As Introna (1999) averred, “resistance is integral to power” (p. 4) and there are plenty of online alternatives increasingly available to computer-literate, information-seeking teachers, who, according to the literature of the teaching profession, are themselves not immune from the contest for power and control within the school community. Referring to school communities contemporaneous with Holmes’s (1992) study, Hodge (1993) reflected: “Issues of power and control are part of every act of communication by teachers and are taught every minute by every class” (p. 24). Fifteen years’ later, teacher-educators Groundwater-Smith, et al. (2007) similarly cautioned:

While there is a trend towards new ways of working and communicating, it would be unrealistic to expect that schools are exempt from the influence of power and status. They are organisational systems; relationships and roles are imbedded in that context. Moreover, within any school community, there is an array of roles, personalities and group dynamics that result in myriad different interactions and relationships. These are not always positive. (p. 214)

In the literature, there are many ways in which expressions of power and control can be expressed or challenged. One might be in manifestations of ‘territoriality’ by either teachers or library staff, whether associated with a physical location or control over
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particular resources; another in the ways teachers respond to manifestations of change in their workplace practices. Hall and Hord (1987) explored the notion of teachers’ acceptance or resistance to change as part of their Concerns-Based Adoption Model. This focused on the progressive mindset of the teacher as critical agent in change-management, positing that questions asked by individuals affected by change would initially emerge from self-interest (i.e., ‘What’s in it for me?’), graduate to a focus on task-efficacy (e.g., ‘Is this method a measurable improvement on what I did before?’), and finally move to an assessment of the educational impact (‘Has this change led to improved learning outcomes?’). Hall and Hord suggested that the stages in the model could be related to different phases in a teacher’s career, with the implication that early-career teachers might be more open to change than later-career teachers, who had presumably gained confidence in their repertoire of practice. As Mardis (2013) noted: “[the Concerns-Based Adoption Model] is deceptively uncomplicated. Teacher development is influenced by a range of personal and environmental factors that influence not only the pace at which educators develop, but also their decisions to stay in the profession and their local schools”.

It can be argued that such complexities would be evidenced in teacher/TL relationships, with a possible impact on the information-seeking preferences of teachers. Until this gap in the literature can be filled, it can only be speculated whether there is such an impact, and what the consequences might be for the relationship between teachers and TLs.

2.2.6 Affect

The role of affect, both positive and negative, has been identified as significant in the determination of information-seeking preferences, especially in studies of adolescents. With regard to the search process, Nahl and Tenopir (1996) identified affect as:

the domain [that] pulls together into one powerful category the entire motivational and emotional involvement of searchers, [channelling] the continuous motivational energy provided by one’s intent, goal, purpose, use, as well as the emotional dynamic features that determine the quality of the search process, (e.g., frustration, hope, disappointment, excitement, disbelief, etc.). (p. 277)
Kuhlthau (1991) identified affect as an issue emerging from her research into the ISP of school students, stating: “affective aspects, such as attitude, stance, and motivation, may influence specificity, capability and relevance judgments as much as cognitive aspects, such as personal knowledge, and information content” (p. 3). She explained that: “users experience anxiety and frustration as they encounter information from many different perspectives, much of which is not compatible with their own constructs” (Kuhlthau, 2004, p. 95), especially during the ‘exploration’ period that preceded ‘formulation’ in the ISP.

Kuhlthau’s studies established that affect, particularly feelings of anxiety, was an integral function of the ISP and that it was natural that information seekers would look to others for help in overcoming their uncertainties, a conclusion supported by her subsequent evaluation (Kuhlthau, Heinström & Todd, 2008). According to Kuhlthau (2004), anxiety could be caused by “a lack of ability to find needed information or being overwhelmed by the quantity of information” (p. 112), a situation increasingly common in a research environment dominated by the vast resources of the Internet. Kuhlthau averred that “advances in information technology that open access to a vast assortment of sources have not helped the user’s dilemma and in many cases have intensified the sense of confusion and uncertainty” (p. 205). However, in many cases, anxiety acted positively as a trigger to flag a ‘zone of intervention’, during which information seekers were more responsive to assistance from a mediator.

The influence of affect on information-seeking behaviour was substantiated by other studies, including Miwa’s (2000) study of the degree to which human intermediation was employed by online users during the course of searches conducted on the AskERIC database service. During this study, Miwa mapped the respondents’ affective state, using terminology based on Kuhlthau’s (1993, 1995) constructivist approach to the ISP. The influence of affect also a feature of Mills’ (2003) study of the information-seeking practices of university academics.

Manifestations of affect, such as anxiety, have also been linked to the concept of ‘power and control’, in the context of their impact on information seeking behaviour. Various types have been identified in studies of information-seeking behaviour, including those described as ‘pathologies of information’ by Bawden and Robinson (2009). These include
‘information anxiety’ (Wurman, 2001), ‘computer anxiety’ (Fakun, 2009) and ‘library anxiety’ (Mellon, 1986; Onwuegbuzie & Jiao, 1998; Bostick, Jiao & Onwuegbuzie, 2004). Suggestions have been made that anxiety can have a negative effect on cognitive processes (Kwon, 2008) and induce elements of ‘resistance to change’ (Oreg, 2003), associated with perceptions of ease (or difficulties) of use in a digital library. All are relevant to the timeframe and context of the present study, as potential influences on a teacher’s expression of information preferences.

One of the most controversial of these ‘pathologies’ of information is ‘library anxiety’. Coined by Constance Mellon (1986) following her seminal work relating to the information-seeking behaviour of undergraduate students, the term ‘library anxiety’ was originally used to describe the levels of anxiety felt by library patrons who experienced negative affect when obliged to engage with libraries. ‘Library anxiety’ could encompass aspects of the library environment relating to the size and layout, the nature and/or location of resources, services and staff, specific search facilities and procedures. A feeling of being “lost” (p. 162) was reported, as well as embarrassment and shame at perceived user inadequacies. Bostick et al. (2004) identified five components within the multi-dimensional phenomenon of ‘library anxiety’, including barriers with staff, affective barriers, lack of comfort with and knowledge of the library, and mechanical barriers to access. According to Bostick, ‘barriers with staff’ referred to the perception of the graduate student that librarians were too busy or aloof to be interested in assisting them.

Radford and Radford (1997) raised the issue of tensions arising from the conflicting agendas of librarians and library users, where librarians were perceived as demonstrating an “overarching concern with order”, and users were seen as having the “capacity to disrupt and ultimately prevent the ideal of the complete library” (p. 257). Radford and Radford (1997) described the negative impact on the self-perception of information seekers, who were thus reluctant to approach the librarian, as: “the fear of feeling stupid” (p. 258), positing that: “this fear … may be grounded in the awareness [by users] that their knowledge of the intricacies of navigating the library is limited” (p. 258).
Another area of potential anxiety for information users has resulted from the exponential growth of resources sometimes described as ‘information overload’. Originally coined by Alvin Toffler (1970) in his book, *Future Shock*, this phrase was appropriated by Reuters Business Information (1996) to describe the negative impact of the mass of information flooding the business community, due to the growing popularity of the Internet for storing and accessing information following the inception of the World Wide Web in 1995 (Bale, 1995a, 1995b, 1995c, 1996). As noted in the report commissioned by Reuters, “information overload generates stress in a number of ways, [including] not knowing whether crucial information exists or if it exists, of not being sure of where or how to locate it ... or how to access it” (Reuters Business Information, 1996, p. 2). The stress is exacerbated by the challenges of managing the sheer quantities under pressure of lack of time. This stressful situation is compounded by the inexorable drive to manage information more effectively, for “the more we have to read and understand, the greater the demands on the hours available ... The more information that there is, the less effectively we are likely to take it in” (p. 2). It is understandable that users engaged in research have found that this stress has been exacerbated during the subsequent two decades (e.g., De Rosa et al., 2005, 2010; Herring, 2005), due to the plethora of resources freely accessible via the Internet.

Despite its potential to influence decision-making, Kuhlthau (2004) noted that “affective experience continues to be overlooked in the literature, with a few notable exceptions”, observing that there had been “little acknowledgement that the feelings expressed by users may have some import in the study and understanding of information-seeking behaviour” (p. 6). Research by Olsson (2009) into the complex relationships between people, information and their social context, concluded that “affect … has a much more complex influence on people’s individual and collective sense-making than information researchers have acknowledged” (p. 31), including some instances of negative affect that appeared to result in positive, rather than predictably negative, outcomes. Olsson (2013) concluded that affect should be seen “not in individual or acultural terms but as a social construct like language, both a product and a generator of power/knowledge”. As such, the impact of affect on teachers’ expression of information preferences invites further investigation.
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2.3 Relationship between teachers and librarians in the school workplace environment

The secondary school workplace is a dynamic environment in which all personnel are engaged in enhancing the educational outcomes of students. This includes classroom teachers who are directly involved in day-to-day activities with students, and those who support these endeavours either directly or indirectly, such as librarians and other staff. The relationship between teachers and librarians is not clearly delineated. In some schools, established practices include scheduled class visits to the library, or mandated procedures involving student research processes; in others, an *ad hoc* relationship prevails. One imperative overarches the individual perspectives of staff members: the relentless pressure, by schools and the wider community, to produce increasingly impressive academic results.

Nearly two decades ago, Malcolm (1996) remarked upon the increase in the workload of teachers, observing that they were: “busier than they have ever been, operating in increasingly complex environments with decreasing resources” (p. 3). Since then, the revolution in technology has increased the demand for schools to produce students who are skilled in ICTs, as well as achieving standards of proficiency in literacy, numeracy and information literacy (Lonsdale, 2003). During the timeframe of the present study (2001–2004), major changes in the NSW school curriculum have resulted in the introduction of new areas of content. Such initiatives as the introduction of outcomes-based assessments (e.g., Board of Studies NSW, 2002a, 2002b, 2004a, 2004b) and strategies to prevent plagiarism (Board of Studies NSW, 2007) mandated student and teacher access to a wider range of information resources and skills, all of which impacted on the capability of schools to service the increasingly complex and sophisticated needs of their clientele. The current implementation of a new National Curriculum has only served to exacerbate this trend.

It therefore comes as no surprise that the main problems in the teaching profession were identified by Ewing, Lowrie and Higgs (2010) as low morale, inadequate resourcing and funding of mentoring support, the intensification of teachers’ workloads, and increasing demands placed on newly graduating teachers to meet accreditation deadlines. Teacher accreditation is overseen by the NSW Institute of Teachers, a body that merged in 2014 with the NSW Board of Studies, to create a New South Wales Board of Studies, Teaching & Educational Standards (BOSTES) that has jurisdiction over all teachers in the state.
However, it should be noted that teachers in the present study were all accredited prior to this time and were not under the same accreditation and reporting pressures as teachers today. Ewing et al. (2010) noticed that the decreasing status of teachers, and the consequent drop in morale over the past three decades in Australia, was replicated across much of the US and UK.

2.3.1 Respective roles and responsibilities of teachers and teacher-librarians

Discovering how teachers perceive the respective roles of themselves and their library colleagues was pivotal to understanding the ways that they might interact professionally, particularly during a student research task. Consequently, it was important to clarify the roles of the teachers and TLs who might collaborate in this enterprise. This presented a challenge, as the roles of both have changed dramatically in Australia over the past two decades. As mentioned in Chapter 1, there is considerable confusion evident in the literature when specifically referring to TLs and other non-teaching library staff who fill the various roles and functions in the school library, as their job descriptions appear to be more open to subjective interpretation by the school hierarchy than those of classroom teachers. The advent of technological change in schools has only served to compound these complexities, as well as to increase the workload of all members of the school community.

In NSW, it was far easier to obtain a definition of a classroom teacher than of TLs at the time of the present study, as the former were mentioned in reports containing demographic profiles constructed from national survey data, such as those collated by the Australian Council for Educational Research and encompassing staff from both primary and secondary state and independent schools. Statistics referenced in the present study were collected in 2006–2007 (McKenzie et al., 2008; Owen, Kos & McKenzie, 2008) and 2010 (McKenzie et al., 2011). Although these reports are useful for an overview of the status of teaching staff in Australian schools at this point in time (such as the relative age of teachers, reported in Chapter 1), they are of little value in defining the position of TLs in Australia, as ‘population definitions’ only require the school principal to supply a list of staff members who were: “qualified and employed as a teacher, including in non-classroom teaching roles” (Owen, et al., 2008, p. 6), with no indication of what was required of those who were
INFORMATION-SEEKING PREFERENCES: TEACHERS

nominated as library staff (a distinction that only appears, for secondary schools, in the McKenzie et al. (2011) report).

It is understandable that different members of the school community might hold varying perceptions of the role and potential contribution of the TL to teaching and learning. This disparity had been highlighted internationally by van Deusen's (1996) findings, which revealed that the SLMS (the US equivalent of the Australian TL) appeared to be “juggling the role of insider/outside on the teaching team”, a viewpoint supported by Hartzell (2002). Van Deusen’s conclusions were subsequently supported by studies by Oberg, Hay and Henri (2000) and Asselin (2005), implying that the various school stakeholders lacked a clear understanding of the role of the TL.

There continues to be strong debate over the issue of whether the dual roles of teacher and librarian should be perceived as separate-but-complementary or homogeneously merged. This argument is particularly relevant in those cases in which the individual running the library possesses only one or other of these qualifications and has occasioned sporadic debate from within the school library community, most recently on the OZTL-NET discussion list (e.g., Chisholm, 2012; McDonough, 2012; Osborne, 2012). Controversy still clusters around the ‘right’ of non-teacher-trained librarians to call themselves ‘teacher-librarians’, whether only dual-qualified staff should be employed in school libraries, or whether it actually matters to anyone outside the TL community.

Ways in which the school library and its staff have contributed to the academic outcomes of students are discussed in the following section.

2.3.2 The contribution of the school library and its staff

The literature on teacher-librarianship overwhelmingly supports the view that the contribution of the school library and the TL are critical to successful outcomes for students, not only relating to academic results, but also within the broader context of ‘lifelong learning’. In addition, studies undertaken in the US, UK and Australia during the past two decades have positively reinforced different aspects of this relationship, ranging
from instances of effective collaboration between teachers and TLs, to measurement of the students’ own perceptions of satisfactory research outcomes.

In the US, partnerships that facilitated the integration of ‘library skills’ into all levels of the curriculum were a prime focus of the Library Power program implemented within school libraries in the US in the 1990s. Research conducted into the relative value of the Library Power program in 400 schools revealed reported increases both in the numbers of teachers involved and the percentage of schools reporting teachers and librarians collaboratively planning instruction and developing the library collection (Webb & Doll, 1999; Kuhlthau, 1999b). Similarly, studies collated by Russell (2002) indicated that teachers with experience in collaborative planning and teaching tended to view the role of the SLMS more positively, and welcomed continued collaboration.

The contribution of the school library to student achievement has also been reinforced by extensive studies from the US (e.g., Lance & Loertscher, 2001; Lance, Rodney & Hamilton-Pennell, 2000, 2002; Callison, 2005) which sought to demonstrate the value of the school library as a contributor to student academic achievement, based on improvements in, e.g., the test reading scores of seventh graders in the Michigan Educational Assessment Program (Rodney, Lance & Hamilton-Pennell, 2003). Based on these studies, Zmuda (2006) calculated that a powerful library program could positively impact on student achievement scores by as much as 10–20%, although it could be argued that these improvements might have been due to an accumulation of factors, of which involvement with the school library was only one. Todd and Kuhlthau’s ‘Ohio study’ (Todd, et al., 2004; Todd & Kuhlthau, 2005) cited a survey of over 13,000 students, in which 99.44 % of respondents indicated that school library services (particularly those involving support from the librarian) had assisted their learning in some way. Studies into the relationship between SLMC programs and middle school students’ achievement in science (Mardis, 2005; Mardis and Hoffman, 2007) further demonstrated that, in those schools where collaboration between the SLMS and science teachers was frequent, student achievement in science tended to be proportionately higher. However, Mardis and Hoffman noted that the number of computer science, technology, applied sciences and life sciences reference books in library collections also demonstrated correlations with achievement in
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science, as did schools with library collections reporting a variety of visually-rich periodicals, databases, CD-ROMs, and videos in their collections. It remains unclear how specific components might have variously contributed to these positive outcomes.

In the Australian context, the Lonsdale Report (Lonsdale, 2003) had earlier noted the positive contribution of the school library and its staff, after reviewing the professional literature. However, Lonsdale commented that more research was needed from an Australian school library perspective, a point earlier emphasised by Todd (2001). Action research conducted within individual schools and shared with library colleagues (e.g., Ryan, 2004; Sheerman, 2009) has added weight to the argument that school libraries not only add value to the information literacy outcomes of students but also comprehensively assist in the information-seeking and curriculum-planning activities of their teachers.

This positive viewpoint has been subsequently reinforced by research into the status of Australian school libraries (e.g., Combes, 2008a, 2008b), and surveys conducted since 2010 by Softlink, a school library software company. In particular, the Softlink survey of 2012 highlighted the continuing, beneficial relationship between student literacy levels and school libraries which had sufficient resources, budgets and staffing to meet school needs across all areas of the curriculum. In this survey of 637 librarians (drawn from a mixture of government and independent primary and secondary schools), student literacy outcomes were deemed to be greater in those schools that “invest in their libraries” (p. 13), a trend consistent with results from Softlink’s 2010–2011 surveys (Softlink, 2012). Other influential factors, such as the demographics of each school community and the fact that the librarian-respondents had a vested interest in promoting their role, must also be taken into consideration when interpreting these results.

A recent small-scale pilot study was conducted by the School Library Association of Queensland, which provided “further evidence of the positive impacts that school libraries and teacher librarians can make to school communities and students’ learning and well being” (Hughes, 2013, p. 4). This study was conducted in 2012 in response to the recent parliamentary inquiry into School libraries and teacher librarians in Australian schools (Commonwealth of Australia, House of Representatives Standing Committee on Education
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and Training, 2011), which called for more research into this area of debate. It involved 27
Gold Coast schools (including five secondary schools and one secondary college) whose
principals responded to the surveys and telephone interviews. With regard to student
achievement, the study found that National Assessment Program – Literacy and Numeracy
(NAPLAN) scores for reading and writing were generally higher when student-to-library-
staff rations were lower, and the school employed a TL, findings consistent with those from
the US (Hughes, 2013, p. 5). However, as Hughes admitted, this study did not test any
“hypothesised relationships between learning outcomes and school libraries”, nor could it
“rule out other explanations for association between school librarian, teacher librarians and
NAPLAN scores” (p. 4). Hughes noted that Australian research on the impact of school
libraries and TLs on student achievement was “still quite limited” (p. 5).

The weight of evidence supporting the view that programs involving the school library and
classroom teachers contribute to student academic achievement does not explain the high
results also achieved by schools in countries where school libraries are less common that in
the US and Australia. For example, the Organisation for Economic Co-operation and
Development (OECD)’s Programme for International Student Assessment (Australian
Bureau of Statistics, 2012, Table 12.36), which tests for and collates school achievement
scores in reading, mathematics and science, ranks Finland as a country whose schools are
capable of producing strong test scores. Nevertheless, school libraries are relatively
uncommon here, as Oberg (2011) observed:

There are very few school libraries in Finland despite successful school library projects
in two urban municipalities … This paradox raises some interesting questions about the
reasons for the impact of school libraries on student learning found in the Anglo-
American context. Is it related, in some way that we do not yet understand, to the nature
of the school cultures in which school libraries flourish? Or is it related to changes in
school cultures that are influenced by the collaborative initiatives of the school library
program?

The relative impact of school libraries and their TLs on student achievement is clearly an
area that warrants further investigation. However, one factor that has been noted as common
in the abovementioned schools (both Anglo-American and Finnish) is a culture of
workplace collaboration (Oberg, 2011). However, there is no guarantee that this will
involve any member of the library staff.
2.3.3 Multiple perspectives on areas of common interest

Common goals and agreed understanding of relevant terminology is assumed, amongst teachers and their TL colleagues working in a school community, but this should not be an automatic assumption. Groundwater-Smith, et al. (2007), who are themselves involved in the tertiary training of teachers, opined that: “two of the most common causes of breakdown in communication are assuming that everyone knows what we are talking about and assuming that we know what others are talking about” (p. 217). One solution to the problem of variable perceptions of the roles of classroom teacher and TL would arguably lie in improving communication between the two groups by leveraging their professional commitment to areas of common interest in the pedagogical process. Three areas relevant to present context are ‘information literacy’, the ‘student research process’ and the practice of ‘collaboration’. As collaboration is deemed to be critical to effective partnerships between teachers and Tls, it is examined separately in Section 2.3.4.

2.3.3.1 Information literacy

‘Information literacy’ is a term frequently found in the literature of teaching and LIS, but even within the ‘library world’, differences in emphasis are evident. The American Library Association (ALA) defined information literate persons as those who have ‘learned how to learn’ and are prepared for ‘lifelong learning’ (American Library Association, Association of College & Research Libraries, 2000), while the Australian and New Zealand Information Literacy Framework (Bundy, 2004) defined information literacy as “an understanding and set of abilities enabling individuals to recognize when information is needed and have the ability to define, locate, evaluate and use effectively the needed information” (p. 3). Bruce (2004) emphasised that “successful information literacy programs do not only focus on teaching information skills, they focus on designing learning experiences that require the use of information skills”. She acknowledged the role of technological change in advancing the information literacy ‘agenda’, but noted that “in practice … [it] may be advanced as a consequence of new information technologies, or in the absence of an appropriate IT infrastructure”.

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In the sphere of teacher-librarianship, researchers such as Doyle (1994), Callison and Lamb (2006) and Callison and Tilly (2006) emphasised the importance of information literacy skills involving the ability to access, evaluate, and use information from multiple sources. The importance of possessing information literacy skills extends to teachers, as well as to their students. Perrault (2007) highlighted that mastery of advanced information literacy skills by the biology teachers within her study was considered imperative for them to be able to plan for, and teach, technology-aware students and foster meaningful inquiry-based learning environments. In the UK, Merchant and Hepworth (2002) undertook a study of the information literacy practices of teachers and students in two government-run, single-sex, selective (based on academic ability) secondary schools. The research methods used included observation of 10 teachers and 40 pupils in the classroom, complemented by observation of pupils’ behaviour in the school library and computing facilities, interviews with individual teachers and group interviews with pupils from different year groups. The findings indicated that the majority of the teachers appeared to be ‘information literate’, although this seemed due more to the result of personal interest in information and the role it played in their teaching, than to any attempts made by the schools to train for, or encourage, information literacy. Later research by Williams and Wavell (2007) examined secondary school teachers’ conceptions of information literacy and the implications for the development of information-literate students. Teachers’ descriptions of the students’ information literacy were in terms of a variety of skills and processes that appeared to evolve during the study, strongly influenced by teachers’ personal experiences and curriculum priorities. Information literacy was understood by teachers to operate in isolation from the subject curriculum and did not appear to be providing a pathway to lifelong learning (Williams and Wavell, 2007).

The question remains whether teachers and TLs see information literacy in the same light. The prospect that TLs may harbour a different understanding of ‘information literacy’, compared to classroom teachers, was a situation encountered by Montiel-Overall (2007, 2008) in her study of collaborating teachers and librarians. Within the broad literature of teaching, it is not uncommon to find the phrase ‘information literacy’ used interchangeably with ‘information technology’ and ‘information and communication technology’, or even
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merged within the broader concept of ‘curriculum literacy’ (e.g., Hipwell, 2006). There is a ‘metalanguage’ evident, but there seems to be little common agreement on relevant definitions within the wider school community.

2.3.3.2 The student research process

Another term that is open to multiple interpretations is the ‘student research process’. Teachers are required by the syllabus to set and administer a number of student research tasks. If these tasks lie in a topic area with which teachers are initially unfamiliar, they will need to seek information in order to set the task, just as their students will need to seek information with which to complete the task. A number of constructivist models of information seeking have been developed over time, typically with a focus on how individuals seek to ‘construct meaning’ with a view to making sense of the world around them, or by seeking to solve a ‘problem’. Prominent influences include personal constructivist theorists such as Kelly (1963) and social constructivist theorists such as Berger and Luckmann (1967) and Schwandt (1998). These theories are discussed in more detail in Chapter 3. Other theories focus on ways in which students might approach learning. One pioneer of educational psychology was Bloom (1956), who developed his Taxonomy of Educational Objectives based on hierarchical principles of cognitive complexity. Three decades later, Eisenberg and Berkowitz (1988, 1990) launched their ‘Big6™’ skills continuum, designed around both the information problem-solving process and Bloom’s taxonomy. At the same time, practising educators such as Stripling and Pitts (1988) were developing similar strategies to assist their students to tackle the challenges of the research process.

Kuhlthau (1991) drew the attention of the TL community to the concept of a constructivist approach to the students’ ISP, although the question of whether such a system is appropriate to adults seeking information in their everyday lives has been subsequently raised (e.g., Julien, 1999; Olsson, 2009). Kuhlthau credited the influence of Kelly (1963), Belkin (1984) and Taylor (1986) in the formulation of her theory, with Taylor contributing to the area of information needs and cognitive processes in adding value to the information obtained, Belkin with the specific nature of problem-definition, and Kelly with defining constructivist
theory from a psychological perspective, in which people personally constructed reality and were constantly involved in making sense of (or interpreting) their world. Kuhlthau’s seminal research into the ISP of secondary school students resonated with contemporary models, illuminating the rationale behind the students’ decision-making during the research process, as they moved through six progressive stages of *initiation, selection, exploration, formulation, collection* and *presentation* (Kuhlthau, 1991). As Kuhlthau (2004) explained, “the objective of library and information services is to increase access to sources, information and ideas” (p. xv).

With the publication of a *Guided Inquiry* (Kuhlthau, Maniotes & Caspari, 2007) approach to the ISP, Kuhlthau introduced a seventh stage involving *collaborative reflection* between the student, teacher and/or librarian. The relevance of this model of the ISP to the student research task was re-examined by Kuhlthau et al. (2008) in the light of the changes that have occurred within the school research environment since her work was first published, concluding that “the stages of affective, cognitive and physical experience of users continued to be found in this study”. More recently, a practical framework for immediate application of these principles was published (Kuhlthau, Maniotes, & Caspari, 2012), to assist teachers and/or librarians to work collaboratively and effectively student on research tasks. In those schools where this model is being put into practice, evidence is emerging about its effectiveness as a tool for collaborative learning (e.g., FitzGerald, 2012).

For student research tasks, it is not uncommon for the teachers to bring their classes to the school library. How this is undertaken, and who is responsible for guiding the students on their research journey, remains ambiguous. From the perspective of the TLs, Kuhlthau’s (1993) contribution to an understanding of the students’ ISPs, and her *Guided Inquiry* (Kuhlthau et al., 2007, 2012) approach, has been influential in shaping how TLs view their role in the ISP in relation to that of the teachers. Whether the latter share this ‘world view’ is open to debate, as is discussed in Section 2.3.4.3.

Increasingly, in the 21st century, areas in which TLs and the school library might fruitfully be involved have expanded to include skills in ICTs, as well as the research process, information management, information literacy, and the awareness and avoidance of
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plagiarism (McGregor & Streitenberger, 1998; Williamson & McGregor, 2006, 2011; Williamson, McGregor, Archibald, & Sullivan, 2007). However, it appears that although there may be common pedagogical goals for teachers and TLs, there is less agreement on common terminology or methods for working effectively towards their implementation.

The idea of multiple perspectives forms a theoretical strand in this study. However, because it is based on the concepts of constructivism, the theoretical elements are considered in Chapter 3, where constructivism is discussed as a methodological approach.

2.3.4 Collaboration between teachers and teacher-librarians

Another term commonly used in the literature of teaching and LIS is ‘collaboration’. Collaboration as an educational concept has become: “a twenty-first-century trend”, according to Montiel-Overall (2005b), reflecting: “a shifting philosophical view about the importance of working together to improve learning”. As noted earlier, the Guided Inquiry model (Kuhlthau et al., 2007, 2012) provides ample scope for teachers and TLs to collaborate during all stages of a student research task. To discover more about the nature and likelihood of such collaboration, it is first necessary to define the term in the context of teachers and TLs working together, to investigate the theories related to collaboration, and to explore the factors enhancing or inhibiting collaborative practices.

2.3.4.1 Theories of collaboration

A major contributor to the theories on collaboration is Patricia Montiel-Overall, who investigated the nature of collaboration between teachers and librarians during the course of a student research task. Montiel-Overall’s mixed methods study of teacher/librarian collaboration (TLC) was initially based on two surveys (conducted in the 2005–2006 school year), followed by a qualitative component focussing on factors that inhibited or facilitated successful collaboration (Montiel-Overall, 2006, 2007, 2008). In the first phase of her study, 78 participants (comprising 64 teachers, seven librarians, six principals and one vice-principal) from a large, urban school district located in south-western US were purposely selected to take part in two written surveys. One survey included statements from
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Loertscher’s (2000) taxonomies and the other (known as the TLC survey) was based on a definition of collaboration (see Box 2.2, below) derived from the taxonomies refined as a result of her earlier investigations.

Box 2.2: Montiel-Overall’s theory of teacher/librarian collaboration (TLC)

Montiel-Overall’s TLC model evolved from her research, providing the nascent theory and the definition of collaboration that underpins the present study.

Montiel-Overall (2005b) defined collaboration as.

- a trusting, working relationship between two or more equal participants involved in shared thinking, shared planning and shared creation of integrated instruction.
- Through a shared vision and shared objectives, student learning opportunities are created that integrate subject content and information literacy by co-planning, co-implementing, and co-evaluating students’ progress throughout the instructional process in order to improve student learning in all areas of the curriculum.

The TLC model encompasses a gamut of ‘low end’ to ‘high end’ interactions between teachers and librarians, centring on four facets based on findings in the literature, Loertscher’s Taxonomy (2000), and Montiel-Overall’s earlier (2005b) model. Types of interaction between teachers and librarians were categorised hierarchically as: Facet A: Coordination; Facet B: Cooperation; Facet C: Integrated instruction; and Facet D: Integrated curriculum (Montiel-Overall, 2008, p. 146). These four facets are set out below in Table 1.

<table>
<thead>
<tr>
<th>Facet A: Coordination</th>
<th>Facet B: Cooperation</th>
<th>Facet C: Integrated instruction</th>
<th>Facet D: Integrated curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Highest</td>
</tr>
<tr>
<td>Working together to arrange schedules, manage time efficiently, and avoid overlap</td>
<td>Responsibilities are divided among participants to create a whole project</td>
<td>Jointly planned, implemented, and evaluated instruction integrates library curriculum and content curriculum in a lesson or unit</td>
<td>Integrated instruction found in Facet C occurs across a school or school district</td>
</tr>
</tbody>
</table>

Table 1: Montiel-Overall’s TLC model of collaboration

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‘Low-end’ collaboration focuses on coordination and cooperation, covering ‘traditional’ library activities such as “running the library” [and] “supporting the teacher” (Montiel-Overall, 2007, p. 286). ‘Medium’ levels include teachers providing advance notice to librarians when they need library materials for a specific project, or want to book classes into the library for student research purposes. ‘High’ level collaborative projects (Facet C) are those where teachers and librarians operate in partnership “fully engaged in jointly creating, teaching, and evaluating … [student research] activities” (p. 280), incorporating “shared thinking, shared planning, and shared creation of something new” (Montiel-Overall, 2008, p. 150). The Guided Enquiry model (mentioned earlier) would fit within this facet, when adopted by specific teachers and TLs. Facet D (Integrated curriculum) is the relevant label used when such a model is embraced throughout the whole school/school district, a situation that would only be likely to occur with the support of the school principal/s.

The concept of collaboration forms one of the theoretical strands underpinning this thesis.

Montiel-Overall established that a positive relationship existed between the teachers and librarians in her studies, with the concept of: “high-end or ‘true collaboration’ involving greater interaction and shared thinking, planning, and creation of innovative instruction … [that was] well understood among the study participants” (Montiel-Overall, 2007, p. 288). Lower-end collaborative practices, encompassing traditional library activities such as helping teachers to find resources, appeared to be less common in the findings of the study.

To amplify these findings and to examine the practices of librarians identified as highly collaborative, a follow-up qualitative component (using interviews, observations and a focused group workshop) was undertaken, using 18 participants from three schools (Montiel-Overall, 2008). The purpose was to provide a deeper understanding of the collaborative process and to identify features within school cultures that facilitated the flourishing of high-end collaborative engagements, specifically those: “collaborative practices between teachers and librarians in which library curriculum, specifically
instruction in information literacy, and subject content are fully integrated” (p. 145). In this qualitative component, the role of the school librarian emerged as a “catalyst for collaboration” (p. 153) in what was described as an iterative process that started with small successes and developed over time.

Montiel-Overall (2009) subsequently applied her TLC model to elementary schools. Although many instances of ‘low-end’ collaboration were documented here, Montiel-Overall cautioned that: “engaging in activities at the low end of the continuum … does not in itself imply that higher level collaborative practices are not also occurring” (p. 189). She recommended: “every effort should be made to shift from traditional practices between teachers and librarians to high-end collaboration, which incorporates joint planning, teaching and evaluation of students” (p. 189), a scenario that fits well with the Guided Inquiry model (Kuhlthau et al., 2007, 2012).

Although the literature of teacher-librarianship provides “professional guidelines … [to] … encourage librarians to engage in collaboration with teachers to create a student-centred learning environment” (Montiel-Overall, 2005a, pp. 24-25), there is no evidence in the textbooks of teacher education (e.g., Groundwater-Smith et al., 2007) to suggest that this encouragement is reciprocal. As Montiel-Overall (2005a) had observed while conducting her research: “noticeably absent from the literature in education are discussions involving collaboration between teachers and librarians” (p. 25). Furthermore: "the nature of this collaboration, including the process of collaboration, and the extent to which teachers and librarians working together improve teaching and learning, have yet to be fully explored" (Montiel-Overall, 2008, p. 145). Although her studies (2007, 2008, 2009) contributed new perspectives to this area, there are still noticeable gaps in our knowledge of how teachers view the idea of collaboration with TLs, or utilise the resources of the school library, for their own research purposes.

Research conducted by Meyers, Nathan & Saxton (2006) within six Canadian high school libraries, utilising the framework of Kuhlthau’s model of intermediation, revealed ‘inconsistencies’ between the TLs’ self-perception of their role and their daily interactions with students, a concern that had been earlier noted by Julien (1997, 1999). Problems
identified included “constraining forces within high school libraries that form unique barriers inconsistent with the basic principles of information seeking” (Meyers et al., 2006). Such revelations led the researchers “to question whether Kuhlthau’s portrait of the teacher-librarian as the creator of an information-seeking and learning environment was being adequately realized” (Meyers et al., 2006) within the secondary school environment studied. Information seeking by students might be variously impeded by a lack of collaboration between teachers and teacher-librarians, the students’ lack of autonomy, limited access to resources, devaluation of interpersonal sharing for academic purposes, lack of affective support, and/or failure to validate students’ previous experiences in seeking information. It was concluded that if teachers or students did not perceive the research experience as rewarding, the likelihood of future research interactions involving the school library would be reduced.

2.3.4.2 Factors influencing collaboration

The literature indicates that collaborative engagements between teachers and TLs are motivated or impeded by different factors including professional status and image issues, time and access to meet with library staff for planning and development of teaching modules, and support - especially from the school principal. These factors are examined below. Less evident in the literature is the extent to which these factors might influence the decision by the teacher to approach the TL, or use the resources of the school library, when planning a research task.

Research, conducted in the US by Brown (2004) into instances of successful collaboration by teachers and SLMSs, emphasised that three important attributes were always present: trust, mutual respect and commitment to a common goal. Brown noted that when people had confidence in their ability to contribute to a shared vision, success was more likely to occur and common goals to be achieved. The importance of a ‘shared vision’ in the success of collaboration between teachers and TLs was also noted in a study into information use by high school students, conducted by Williamson, Archibald and McGregor (2010).
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With reference to building relationships, Russell (2002) stressed the importance of the personality of the key players and the need to develop the relationship over time, while noting that the qualities of the TL most often mentioned in discussions of successful collaboration were initiative, confidence, communication skills, effective social skills, leadership qualities, and, above all, the willingness to take risks. The formation of trust was a key ingredient identified in the literature as critical to successful team building. As Kinicki (2008) emphasised, trust “needs to be earned; it cannot be demanded” (p. 94). Studies by Olsson (2009) also identified “the importance of the trust and mutual understanding typically developed over a long working relationship” (p. 30).

Montiel-Overall (2005a) suggested that it was helpful to the success of collaboration if the teacher and librarian shared the same “world view” (p. 26), which was not necessarily dependent on similar personalities or behavioural characteristics:

Sometimes world views are not clearly delineated, and occasionally individuals shift perspectives ... Differences of opinion are an essential part of collaborative experiences ... The importance of this in collaborative relationships between teachers and librarians is that it is not possible for them to select partners based on their world view. (p. 27)

Haycock (1999) and Russell (2002) noted that collaborative program planning and team teaching were complex, evolutionary changes that required time to reach effective levels. As Haycock indicated, in the case of collaborative interaction, the transition has been slow.

It could thus be argued that the nature of interpersonal relationships between staff members matters as much as personalities and performance in the workplace. Commenting on examples of collaborative endeavours between teachers and TLs, noted during the course of her own research within a secondary school environment, Gibson-Langford (2007) observed that “ironically, it seemed that collaboration was more like war, like a series of skirmishes that wore down the spirit of collaboration” (p. 23), imagery that resonates with Foucault’s (1986) adversarial metaphors of ‘power’ and ‘control’. Gibson-Langford (2007) concluded that collaboration should not be defined merely as teachers working in close proximity with each other, even if the school culture mandated this process, stating:

Collaboration is not a given because teachers work together ... It takes a deep understanding of the barriers that thwart the establishing of a collaborative culture ... because relationships matter in collaborative cultures ... We need to focus on the
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quality of our social interactions and to be sensitive to the collaborative moment. (p. 24)

Regarding the factors that appeared to encourage ‘high-end’ collaboration, Montiel-Overall (2008) concluded:

High-end teacher and librarian collaboration is supported in school cultures where (1) at least one individual is deeply committed to the power of working with others and becomes a catalyst of collaboration; (2) multiple facets of collaboration occur within collaborative endeavors; (3) worthwhile goals such as improving teaching and learning become the primary purpose of high-end collaborators; (4) collaboration is an iterative process that builds on early successes; and (5) barriers such as lack of time can be overcome. (p. 152)

Other factors that appear to influence the likelihood of collaboration include the recognition of equality between all partners in the collaborative venture and the challenges surrounding the implementation of cultural change within an established community of practice. Specific aspects are discussed in detail below.

➢ Perceptions of professional status and image of library staff

One of the attributes of a successful working partnership has been found to be the mutual recognition of each other’s skills and professional contribution. Montiel-Overall (2006) opined that collaboration involved equal participation and shared responsibilities, stressing that in high-end collaboration, there was no ‘leader’, and that teachers were more receptive and inclined to participate in equal partnerships where the expertise of each member was valued.

In other studies, the question of the relative status of the TL also emerged as a potential impediment to collaboration, as perception of unequal status arguably prohibits acceptance as a peer. Lloyd and Bannister (2001) stressed the importance of role versus image within educational institutions, stating that the “educational role of the librarian is misunderstood, undervalued and unacknowledged” (p. 8). The view was that contemporary stereotypes of the librarians’ role restricted them from becoming stakeholders in future educational initiatives, as the perceptions of many administrators and colleagues did not match the reality of what librarians actually did. Nearly a decade later, this perception was echoed in
The 2010 government inquiry into school libraries and teacher-librarians in Australian schools. The main findings of the report demonstrated “indisputable” evidence “that the value of teacher-librarians’ work has been eroded over the years and undervalued by many in the community” (Commonwealth of Australia, House of Representatives Standing Committee on Education and Training, 2011, p. 117). As the official Committee Hansard version stated, “there is an almost universal lack of appreciation of what a teacher librarian is, what a teacher librarian does and what a teacher librarian can provide” (Commonwealth of Australia, House of Representatives Standing Committee on Education and Training, 2010, p. 8).

The perception of school librarians as “different from teachers”, was suggested by Hartzell (2002) to be a significant barrier to their promotion within the school hierarchy. This view was confirmed by ASLA consultant O’Connor (2007), who concluded that “as few [librarians] occupy formal school leadership positions, it appears that they may face extra barriers”, including, in the eyes of their colleagues, fitting “the stereotype of a little lady with her hair in a bun, working in a SILENCE PLEASE environment” (pp. 5-6).

During the course of her investigation into the relationship between school library programs and middle school students’ achievement in science, Mardis (2005; Mardis & Hoffman, 2007) gained insight into the perception of the image of librarians, including the perspective (volunteered by several SLMSs) that the image of librarians, as non-teaching staff, resulted in their being denied professional development opportunities in science, thus imposing a barrier to SLMSs working more collaboratively with science teachers. Not only were the participants apparently refused permission to attend professional development events because they were not considered ‘teachers’, but they were also not encouraged to participate on curriculum committees or permitted to engage in tasks that might leave the library un-staffed. One librarian stated: “My principal does not see the value of collaboration. He wants me in the library to check out books” (Mardis & Hoffman (2007). Mardis and Hoffman emphasised that successful collaboration must involve all potential stakeholders changing their attitudes towards, and expectations of, the role of the SLMS. These results were similar to those reported in earlier studies (e.g., Bishop & Larimer, 1999; Scheirer, 2000). According to Bishop and Larimer, librarians were often viewed as
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storytellers and providers of resources, rather than as fellow-teachers with whom teachers shared common pedagogical goals.

The literature sheds little light on the degree to which a teacher’s reactions to collaborative overtures by the TL might be influenced by their perceptions of the training, qualifications or classroom teaching experience of the TL. In the field study conducted by Immroth and Lukenbill (2007) that emphasised the impact of various personality types on the likelihood of collaboration between classroom teachers and TLs, the authors noted that, on the whole, little interest was shown by teachers in collaborating with the trainee TLs involved in the study. ‘Lack of time’ was the most frequently cited impediment. Immroth and Lukenbill concluded that the apprenticeship status of the trainee TLs had a negative impact on the willingness of some (but not all) teachers to recognise them as collaborative peers and that a marked sense of ‘territoriality’ was evident. Immroth and Lukenbill (2007) acknowledged that any predictive behaviour of teachers toward collaboration was invariably: “tied to their available time and the responsibilities that they have as teachers”. Although the personal style of the teachers was deemed to be a strong factor in determining the amount of authority they were willing to allow their respective trainee TL during the collaborative process, Immroth and Lukenbill suggested that perceived status appeared to be the greater influence:

Teachers are not really accustomed to collaboration in the complete sense, of seeing it as a process between equals … [whereas] collaboration is enhanced when the school librarian is a full member of the teaching staff and recognized as such and is included in curriculum planning.

As with the studies of Mattessich and Monsey (1992) and Montiel-Overall (2007, 2008, 2009), Immroth and Lukenbill found that mutual respect and understanding, as well as a willingness to cooperate, were observed in all examples of positive collaboration. Prior experiences with other librarians might also be influential in determining a teacher’s predisposition towards collaboration. Immroth and Lukenbill (2007) concluded that “teachers are more likely to enter into collaboration if they have confidence in the librarians and if they have had good experiences with librarians in the past”, emphasising the critical nature of customer satisfaction and the need for a professional customer-service orientation within the school library.
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➢ *Time and access*

As mentioned above, time and access both emerge from the literature as factors that impact on the likelihood of collaboration between teachers and librarians. They are intrinsically interlinked: access is severely inhibited if insufficient time is not made available for both parties to meet for specific instructional planning (e.g., as noted by Holmes, 1992; Tallman & van Deusen, 1994; Haycock, 1998; Callison, 1999; Montiel-Overall, 2005b; Immroth & Lukenbill, 2007). Sufficient time and access are also necessary to build up the type of relationship based on trust and the mutual sharing of ‘world views’ (Russell, 2002; Brown, 2004; Montiel-Overall, 2005a; Kinicki, 2008; Olsson, 2009; Williamson, Archibald & McGregor, 2010) that characterises such collaboration.

➢ *Role of the school principal*

One factor that emerged from the literature as enhancing the likelihood of collaboration between teachers and TLs is the attitude of the school principal, whose support was deemed to be critically important to its success. Early studies by Edwards (1989) suggested the principal was the senior staff member most responsible for setting goals and outlining the school’s ‘world view’. As Webb and Doll (1999) later observed, the endorsement of the school principal appeared to be a factor in the success of the ‘Library Power’ information literacy program that achieved success within cooperating schools. Oberg (2009, 2011) also emphasised the importance of the support of the school principal to the success of library programs, particularly those that involve collaboration with other staff members: “Teacher librarians need to know, and to promote with others, the principal’s view of school goals if they expect the principal’s support for school library program goals” (Oberg, 2011).

The literature does not provide a conclusive answer to the question of how aware the school principal may be of the TL’s role, function and potential to ‘add value’ to student achievement and learning outcomes. Edwards (1989) proposed that school principals start developing their perceptions of TLs when they themselves are students, a viewpoint that is worth considering when investigating reasons for their apparent lack of support for the work of the TL. According to Edwards, school principals refine their initial perceptions of librarians as a result of personal experiences, gleaned firstly as teachers and subsequently as
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school administrators. Edwards opined that “good or bad, these experiences colour their
perceptions and influence their expectation” (p. 31), a view largely shared by Lloyd and
Bannister (2001). Hartzell (2002) suggested that, if the principal was not familiar with the
research detailing the benefits of collaboration between teachers and TLs, thought of the
librarian in stereotypical terms (if at all), failed to see the library’s potential for enhancing
the research outcomes of students and regarded it as an expense, rather than an investment,
then “the opportunities aren’t going to flow and chances to do great things may well be
missed” (Hartzell, 2002).

Reasons why the work of school librarians appeared to be ‘invisible’ to principals and
administrators were suggested by Hartzell (1997) who noted that “most teachers view
librarians more as support resources than as colleagues, let alone as partners” (Hartzell,
2002, p. 2), adding that, although there may be “those who have learned their value ... the
research shows that real librarian/teacher partnerships are not widespread” (p. 3). Hartzell
suggested that one of the main reasons that administrators and teachers did not appear to
recognise or appreciate the value of the contribution made by TLs was due to the nature of
the very work carried out by these information professionals, in which credit for the fully-
integrated, completed work was generally claimed by the teacher.

Hughes’s (2013) previously mentioned study into the impact on student academic outcomes
of a well-resourced school library, also provided valuable insights into the perceptions of
the 97 Queensland school principals who responded to the survey and telephone interviews.
The results were largely positive, with 67% of principals indicating that the library had
either a ‘very great’ or ‘great’ influence on the literacy development of students in their
school, and only 26% deeming it to have ‘little or no’ influence. Only one principal
considered the school library to have no influence at all, while two principals from
government schools held the school library to be ‘unnecessary’. As the vast majority of
school principals commence their careers as classroom teachers, it is important to fill the
gap in the literature relating to the perceptions by classroom teachers of the contribution of
the TL and the school library, an omission that this present study seeks to fill.
Another way to change the perception of the TL within the school community is to carry a proactive message to a wider range of stakeholders than just the school principal. As the American Association of School Librarians (2013) recently commented, “As librarians, we need to plan ahead and focus our efforts on building support from stakeholder groups. Ideally, you want students, parents, teachers and other stakeholders to carry the message that school libraries make a difference to students”.

Such advocacy was at the heart of four focus group meetings, initiated as part of the Pennsylvania School Library Project, in response to concern by members of the school library profession at the trend towards the erosion of qualified library staff at schools in the US (Everhart & Mardis, 2014). As Everhart and Mardis observed, “Lack of knowledge and concern for the impact of a school librarian is critical because this lack has led to disappearance of jobs and denied students’ access to the skills that school librarians bring to 21st-century learners” (p. 2). The findings of this project supported the view that promoting such knowledge about the vital contribution of the school librarian produced a wider range of stakeholders willing “to become library ‘champions’ who will take actions to support school libraries” (p. 11). As one participant stated: “If you have a good librarian it creates a snowball effect that grows into a love of learning in everything.” (p. 5), while another observed the “need to get teachers thinking, ‘How did I live without library collaboration?’” (p. 6).

With regard to the possible acceptance or rejection of the notion of collaboration at any level, Webb and Doll (1999) observed that “advancing collaboration among staff in a school is an attempt to change the school culture” (p. 37). Haycock (1999) posited that the TL could help to facilitate positive cultural change by acting as the ‘change agent’, innovator, opinion leader and/or monitor. As noted above (Everhart & Mardis, 2014), TLs can also be effective when lobbying, as a group, to raise the awareness of a wider range of stakeholders in the school community to the benefits of collaboration between teachers and librarians. Nonetheless, when seeking to introduce collaborative practices, TLs face significant challenges apart from those inherent in implementing cultural change within an established school community.
It can be seen that factors identified as perceptibly influencing collaborative practices include adequate time and access for TLs and classroom teachers to meet, clarification of roles and the design of research tasks (Kuhlthau, 2004), mutual understanding of the benefits and consequences of collaboration, and the attitude of major stakeholders including the school principal. Nonetheless, the twin perceptions of ‘lack of time’ and ‘restricted access’ to resources emerged as the most commonly articulated barriers to successful collaboration. On a positive note, Montiel-Overall (2008) observed that if at least one individual exhibits this deep commitment to worthwhile pedagogical goals and regarded collaboration as an iterative process, positive perceptions based on individual successes could develop over time and overcome perceived deterrents such as lack of time or a paucity of resources.

2.3.4.3 To what extent does collaboration occur?

Although collaboration between teachers and TLs is clearly desirable, the literature does not reveal whether it is commonplace or the extent to which the various facets of collaboration (particularly the beneficial ‘high end’ activities) occur. Research conducted by O’Connell and Henri (1997) revealed that teachers who were likely to discuss a research topic with others as a way of developing focus and pursuing their research, were “less interested in seeking mediation from a librarian“ (p. 132). Todd’s (2005) study of 154 school libraries in Delaware suggested that levels of collaboration between teachers and librarians were actually low, challenging “the assumption that teacher-librarians actually do collaborate with classroom teachers”, since “emerging research provides some evidence that this role of collaboration remains predominantly rhetoric, rather than mainstream reality” (p. 35). Todd concluded:

Overall, available data show that the concept of collaboration is more espoused than practised by teacher-librarians [and that] little research has explored one of the fundamental assumptions underpinning teacher and teacher-librarian collaborations, that is, that classroom teachers actually want to collaborate with teacher-librarians, and actually endorse the mutual planning, design, implementation and evaluation of instructional interventions. (p. 36)
As Todd stated in a subsequent interview (Kenney, 2006):

Let’s be fair on the school librarians. Nobody has ever asked teachers if they want to collaborate. We’ve always said of school librarians, you must collaborate, but nobody has ever said, is this really part of the teaching agenda? Do teachers want to do it?

The mere arrival of a research class in the school library should not automatically indicate that a ‘collaborative relationship’ exists between teacher and librarian. For example, Williams (2007) commented in a professional publication that one TL noticed that teachers came to the library with research assignments for their students but most spent little time teaching them how to research or use resources other than the Internet. When these teachers were approached and asked if they would like some help or if it was suggested that we plan together, the answer was always the same – ‘I’m alright’. (p. 10)

Williams and Wavell (2006) suggested that the variation in the skills level of individual TLs might be a factor in the willingness of teachers to collaborate:

In practice, teachers will encounter school librarians with a wide range of skills and expertise, knowledge and interests and teachers will also be influenced by their past and very mixed encounters with school, public and university librarians. It is not surprising then that teachers may not automatically engage in collaborative work with the school librarian to support student use of information. (p. 55)

As long as prescribed academic outcomes are met, the actual student research process tends to be left to the professional discretion of teaching staff and departments, with no specific requirement to utilise the resources of school library or its staff. This most commonly results in more ‘lower-level’ than ‘higher-level’ collaborative-type use of the school library and its staff. For example, Mardis and Hoffman (2007) observed that SLMSs in their US studies were more frequently involved in the ‘less complex’ levels of instructional planning, rather than in teaching critical information skills to individual classes, a trend previously noted by Slygh (2000), Straessle (2000) and Michie and Chaney (2000). In particular, the findings of Michie and Chaney indicated that the overall percentage of school library personnel who either collaboratively developed, taught or evaluated curriculum units with teachers ranged from a mere 2–21%, depending on the subjects taught. The greatest amount of collaboration was with reading or with English teachers, an area often perceived as falling under the traditional purview of a SLMS (a characteristic also noted in Mardis & Hoffman, 2007). Conversely, only 9% of science teachers nationwide reported collaborating with SLMSs on choosing materials or delivering instruction.
As mentioned previously, studies in the literature that investigate the information-seeking preferences of teachers are not common, and even fewer venture to challenge the belief that teachers are well positioned to train their students in information skills. One such study, by O’Connell and Henri (1997), investigated ways in which teachers’ personal experiences of seeking information predicated their teaching of research strategies to students. As such, it is still relevant to the present study. O’Connell and Henri found that over half (55.6%) of their teacher respondents preferred to stay with the sources with which they were comfortable, generally confining their searches to the same types of information resources, reflecting a so-called “naïve approach to sequence” (p. 131) apparently based on familiarity rather than structure. As Henri and Bonanno (1999) and Turner and Riedling (2003) later noted, a situation can arise in which the teachers, who are responsible for empowering students to become lifelong learners, present the appearance of not understanding the research process well enough to model effective strategies to their students.

While students can be compelled by their teachers to come to the library for a ‘research lesson’, teachers cannot be similarly compelled by the TL to bring their classes to the library. Consequently, it is vital to ask the teachers themselves how they view the roles and services offered by the TL and the school library, when it comes to seeking information for their own research needs. Only by filling this gap in the literature can we discover the kind of school culture and context in which such positive practices can flourish in the schools of the 21st century.

2.4 Continuity and change in the 21st century workplace

The present study was conducted during a period of significant technological change in the school workplace environment, resulting in a marked influence on the expression of preference for seeking and utilising information resources. Consequently, the theories of continuity and change provide another theoretical strand that underpins this thesis. The study of continuity and change is not confined to the field of information studies, but is of relevance when investigating aspects of HIB within the context of rapid technological change in workplace practices. Theorists whose ideas provide insight into the impact of

2.4.1 Theories of continuity and change in an ‘age of technology’

Theories of continuity and change relevant to the context of the present study, and offering insight into the possible reactions of teachers to the challenges of technological change, are summarised in Box 2.3.

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<tr>
<th>Box 2.3: Theories of continuity and change in an ‘age of technology’</th>
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<td>Social theories enhance our understanding of the forces that influence information decision-making in the workplace, whether reinforcing continuity or shaping change in workplace practices. Those relevant to the present study include Wiebe Bijker’s (1995) theory of sociotechnical change, and theories of the social construction of technology that leverage on the work of Jurgen Habermas (1984, 1987) and Anthony Giddens (1979), relating to the influence of continuity and change on individuals within society.</td>
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<td>Habermas’s theory of communicative action (1984, 1987) emphasised the importance of communication within societies, which he felt had become severely disabled and disenfranchised. To Habermas, the ‘lifeworld’, or shared understandings, epistemes and common values of individuals within society, had become ‘colonised’ by ‘systems’ pursuing their own agendas. Habermas opined that, as a result of these changes and the incremental pressures they exerted, elements of the ‘lifeworld’ had to be continually reaffirmed via ‘communicative action’ by the stakeholders, in order to reassert influence and value-commitments and to ‘take ownership’ of the ‘systems’ that exercised control over society.</td>
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<td>The contribution of Giddens (1979) to social theory leveraged on Habermas’s proposition that a power relationship exists between language and the context of its use. Giddens proposed the theory of structuration, emphasising the “duality of structure, which relates to the fundamentally recursive character of social life,</td>
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and expresses the mutual dependence of structure and agency … Structure is both enabling and constraining” (p. 69). This recursive character shapes the concept of reflexivity, where lessons learned within the ‘lifeworld’ of individuals within societies feed into, shape and influence their response to future events.

The effort of managing the balance between continuity and change reinforces “the essential importance of tradition and routinisation in social life”, which provides a thread of continuity. However, “the sedimentation of institutional forms in long-term processes of social development is an inescapable feature of all types of society, however rapid the change they may undergo” (Giddens, 1979, p. 7). Developments within societies act as ‘change agents’, generating both intentional and unintentional consequences for the ‘social actors’. This highlights that elements of continuity, as well as change, are part of the process of ‘reflexivity’.

Bijker (1995) utilised the platform constructed by theorists such as Goffman (1967), Habermas (1984, 1987) and Giddens (1979) to develop his own theory of sociotechnical change, which adopted a social construction of technology to investigate “wider political issues … partly by making sense of the hardness and obduracy of technology” (Bijker, 1995, p. 262). He interrelated the concepts of continuity and change in the context of change as a social process, in which an analysis of the ‘actor-orientated aspects’ was interwoven with existing social structures in a ‘seamless web’ of social, political, economic, scientific and technical factors.

Technological change was thus seen as a social process, incorporating concepts of ‘relevant social groups’ and ‘interpretive flexibility’, the idea of a ‘technological frame’, and a concept of ‘power’ that would fit a constructivist analysis of technology and society (Bijker, 1995). Bijker was careful to distinguish between the ‘artifacts’ of technology and the ‘relative flexibility’ of the various social meanings attributed to these artifacts by the members of the social groups that interacted with them, over time. The accepted interpretation of
(and subsequent attitude towards) an artifact developed as a gradual construction “in the social interactions between and within relevant social groups” (p. 270).

At a certain point, ‘closure’ was achieved, when “one artifact – that is, one meaning as attributed by one social group – becom[es] dominant across all relevant social groups” (p. 271).

Rogers’s (2010) theory of the diffusion of innovations examined the rate at which technological change and innovation might be adopted into a social community. First posited in 1962, this theory described: “the process by which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). The five elements involved are relative advantage, compatibility, complexity, triability and observability. Rogers (2010) suggested five categories of adopters of innovations: innovators, early adopters, early majority, later majority and laggards. ‘Laggards’ were described as most likely to be advanced in age and having an aversion to change, while ‘opinion leaders’ would tend to be found in the forefront of leading change.

The theories summarised above assist in an understanding of the features of continuity and change that emerged from the findings of the present study, which explored the impact of changing technology on the information-seeking preferences of teachers in the early years of the 21st century. They can be seen to overarch, but are coloured by the multiple perspectives of the teachers, and interwoven with theories of ‘power and control’ and collaboration within the ‘communities of practice’ (Wenger, 1998) which are facets of the contemporary school workplace. The insights from these theories, and the way they elucidate the study findings, will be discussed in Chapter 6.

2.4.2 Technological change and its impact on workplace practices

Integral to this study of the information-seeking preferences of teachers was an examination of the challenges facing school libraries and their staff in the 21st century. One of the most
important of these is the impact of technological change, including the relevance of print resources in a world increasingly dominated by digital technologies.

2.4.2.1 Embracing change in the 21st century school library

The profession of teacher-librarianship is already rising to the challenges of marrying the concepts of personalised customer service with emerging technologies. The concept of a ‘virtual school library’ for 21st century schools was described by Lamb and Callison (2005) as a “well-organized, readily available virtual library”, without which: “online students will resort to poor quality materials often found by using search engines on the Internet” (p. 32).

In this model, teacher librarians would become “instructional consultants matching resources to learning needs” (p. 33), with collaboration with teachers essential in order to plan online courses, ensure the availability of essential resources, and provide information skills for students.

To provide a notional location for the digital school community of the 21st century, Hay (2010b) posited the concept of an iCentre: “a high-end multimedia production facility which acts as the information-technology-learning hub for a school” (p. 6), with form and function transcending that of more ‘traditional’ school libraries based on a ‘building with books’.

Another model of the ‘senior high school of the future’ opened in 2007 in Coburg, Victoria. The ‘Coburg experiment’ (Sargeant & Collins, 2007) was designed to deliver a purpose-built, technology-rich school without an information space called a ‘library’, instead, offering “recreational spaces” with a focus on interactive multimedia resources, a “rich fiction collection” and a study space that “has now become a focus for study skills and exam preparation” (p. 11). Reasoning that “if students need information they hit the ‘Net’” (p. 11), Sargeant and Collins wanted to develop a school library that complemented this vision by breaking away from ‘traditional’ learning environments, predicting that essential aspects of the role of the future TL would centre on ICTs and support with technology, rather than books. In this library model, the TL would fill the role of “the expert in residence with a presence through, around and in the learning” (p. 13), similar to conclusions reached elsewhere (Hay & Foley, 2009; Hay, 2010b; Lee & Twomey, 2011).
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The ASLA paper entitled *Future learning and school libraries* (Australian School Library Association, 2013) outlines a positive future for well-trained and qualified TLs, given that they are the professionals whose area of responsibility spans “all areas from literacy to inquiry” (Todd, 2011) and encompasses all faculties. The report nevertheless emphasises that more funding is needed to capitalise on these assets.

Although this model of the ‘school library of the future’ might resonate with many ICT-adept TLs, there is no evidence of how this concept would be received by teachers. Research into teachers’ motivation for preferences for particular information resources, formats and locations is necessary to determine whether they would want to ‘visit’ such a future library, or engage collaboratively with such ICT-savvy TLs.

2.4.2.2 Print versus digital

There is no doubt that 21st century schools have been transformed by the impact of technological change. This impact is not confined to the historical context of the present study, but is continuing to influence information use as reflected in the OCLC surveys (De Rosa et al., 2005; 2010). The concept of continuity of workplace practice in a world of changing technology is as relevant, in the current political climate, as it was in the time of the present study. In Australian schools, the library’s metamorphosis from a print-based to a digital, networked learning environment has been witnessed and (largely) welcomed by teachers and TLs alike (Hay, 2010a, 2010b; Hay & Todd, 2010), with recent evidence from Brisbane schools suggesting that the role of the TL can be one of leadership in informing positive change (Lee & Twomey, 2011). Innovations in technology over the last two decades present a possible solution, as well as a challenge, to school stakeholders who want the best possible outcomes for their students, reaching far beyond the simplistic question of whether to invest in ‘the book or the Internet’.

One area in which information seeking and use has changed radically over the past two decades is that of formats, where digital options are challenging the print media that formerly dominated the collections of libraries. Despite the evidence of public perception which emphasised the continuity of the image of a ‘library brand’ connoting a ‘building with books’ (De Rosa et al., 2005, 2010), it is clear that digital publishing is making
significant inroads both in the US and Australia. It remains to be seen whether this digital phenomenon represents a passing trend or signifies a permanent move away from print resources in secondary education; what the impact might be on the traditional model of the school library as a ‘building with books’, serviced by an incumbent librarian, and how this is reflected in the information-seeking preferences of teachers.

In the US, the trend towards an increase in digital formats was confirmed by findings from two recent surveys of the e-book reading habits of people in the US, conducted by the Pew Internet Project (Rainie, Zickuhr, Purcell, Madden, & Brenner, 2012) and the Overdrive-ALA study (Lovett, 2012). The Pew Internet Project survey, conducted in December 2011, confirmed that printed books still dominated the world of book readers, despite the growing popularity of e-books. Those respondents who owned e-book readers and tablets were, in fact, found to be avid readers of books in all formats. Attachment to their public library was still strong, with 12% of readers of e-books having borrowed an e-book from their public library in the previous three months (Rainie et al., 2012). The Overdrive-ALA study, which surveyed over 75,000 users of public libraries in the US, produced similar results with over 57% of respondents stating that the public library was still their primary source of book discovery. Library borrowing encouraged, rather than inhibited, consequent purchases of print and digital books, with 35% of respondents having purchased a book after borrowing that title from their local library, with a further 53% mentioning visiting the physical library as well as downloading e-books from it (Lovett, 2012).

Australian trends can be illustrated by reports such as those prepared for Meanjin’s online magazine (Fisher, 2010) and the Book Industry Strategy Group (Lee, 2010). Reporting on the status of the Australian and international publishing industries, Fisher observed that e-books have already replaced print versions in some areas, but in other were available both in print and online formats (as with 26 of CSIRO’s scientific journals). As Fisher concluded: “e-book sales are booming”. At the same time, reference publishing (e.g., encyclopaedias) had stepped away from the expensive print model. Educational publishing was now offering customised textbook services to schools, based on a blend of “digital production and print-on-demand technologies”. Nevertheless, in the face of this digital onslaught,
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the printed book is showing no signs even of a death rattle. Book sales in the trade market have not decreased appreciably in the face of digital competition – in fact they have increased [and] the number of books being published is increasing … It is now easy for almost anyone to produce economically viable small print runs … Readers may well have more, not less, choice. (Fisher, 2010)

Recent statistics from the Australian Booksellers Association indicate a strong resurgence in the popularity of the printed books, despite the fact that Australian booksellers estimate that e-books now account for about 20% of the market (Carroll & Morris, 2013). According to bookseller Jon Page, sales of printed books are back to 2009 levels, with Robert Berkelouw (co-owner, Berkelouw Books) providing an explanation of such popularity:

There is something enduring about turning a page which you can’t do with an e-book … There is too much technology. It has overtaken people’s lives. Two years ago we thought e-books would be the end of our business. But if anything, it’s forced us to do our job better. (Carroll & Morris, 2013)

Despite the increase in popularity of e-readers and their employment in both public and school libraries, it was evident that many users continue to express affection for the ‘traditional library brand’, and demonstrate a preference for reading ‘books’, although these now include an increasing number of e-books, many borrowed online by library card-holders (Lee, 2010). For the information seekers of the 21st century, it would appear that borrowing from libraries, while concurrently building up personal collections of resources, continues to be as popular as ever. However, one of the major consequences of technological change is that the ‘artifacts’ now include an increasing number of digital products, facilitated by online access using personal mobile devices, preferred by people who are apparently undeterred by the thought of ‘too much technology’.

The impact that these changes have made, over time, on the information-seeking preferences of teachers has not been specifically identified, leaving further gaps in the literature that need to be filled. Achieving a balance between continuity of established user preferences and technological change presents exciting challenges for the TL of the 21st century.
2.5 Summary of insights from the literature and theory

The literature revealed insights into the information-seeking preferences of groups of individuals, some of who were qualified or trainee teachers. From the few studies focusing on teachers that have been undertaken over the past two decades (e.g., Holmes, 1992; Tanni et al., 2008, Diekema & Olsen, 2011; Tanni, 2012), it can be seen that continuity is expressed in preferences for personal collections based on favourite textbooks and the use (where evidenced) of departmental collections that were ‘inherited’ from previous teachers or mentors. Technological change over this period is typified by the enthusiastic adoption of Internet resources that were easily accessible to teachers, while libraries received less frequent mention. Nevertheless, references to ‘books’ remain as a tantalising reminder that, according to the OCLC surveys of online users of libraries, books are still valued for their reliability and authenticity and the library is still viewed, by many, as a ‘building with books’ (De Rosa et al., 2005, 2010).

Four inter-related theoretical strands emerged from the literature and influenced the development of this thesis. The first is constructivism (discussed in Chapter 3), an approach that facilitates the exploration of the wide range of individual perspectives relating to information-seeking resources, formats and locations. The second and third strands relate respectively to the influence of power and control (i.e., ‘ownership’ of the information-seeking agenda), and the nature of collaboration between teachers and school library staff. An overarching theme is the pervasive and frequently dissonant influences of continuity and change in the technology-aware school workplace of the 21st century.

In the following chapter, the methodology chosen to investigate these areas of interest is explained in depth, together with a discussion of the challenges faced, and decisions made, while conducting the study.
Chapter 3 – Methodology

This chapter outlines the research philosophy and the mixed methods chosen to conduct the present study. Topics will include the research approaches initially considered and those finally selected or rejected as a consequence of learning about appropriate methodologies as the study progressed. Also included are details of the school settings in which this study was undertaken, the selection of the samples for the quantitative and qualitative components, collection of the data, and the analysis of the results.

3.1 Choice of research philosophy

Since the research became a ‘mixed methods’ study, the research philosophy needed to be in keeping with this. The study was originally to involve a survey, to be administered in the school (subsequently known as ‘Alpha’) in which I was first employed as a TL. Over the next few years, I relocated to a second, and then to a third school (described as ‘Beta’ and ‘Gamma’, respectively). Thus the opportunity arose to extend the scope and depth of the study, and I decided to add in-depth interviews to gain greater insight into the motivation for teachers’ decision-making. This significantly added to the length of time taken to administer, collate and interpret the data from the two components (i.e., a survey, followed by in-depth interviews) of the study. Nevertheless, the outcome has been a stimulating learning experience that has resulted in the contribution of fresh insight into the information-seeking preferences of secondary school teachers, during a time of technological change.

The paradigms considered in order to provide a philosophical framework for the present study are outlined below. Their degree of appropriateness is discussed at a later point.
3.1.1 Positivism and post-positivism

Surveys, if carried out according to certain rules, can be considered to be within the positivist paradigm. Positivism, mostly associated with quantitative research methods, attempts to apply the research methods of the natural sciences to the social sciences. Positivism was described by Williamson (2013b) as one of the two major research traditions in the social sciences, the other being interpretivism. Positivists are concerned with measurement and usually develop hypotheses to inform the direction of inquiry, quantifying observations to make sense of the social phenomenon under study (Mellon 1990; Williamson 2013b). They avoid rich descriptions that do not permit generalisations to be made (Denzin & Lincoln, 2005), relying instead on the identification of cause and effect, the emergence of generalisations (where possible), and the relationship between different variables (Glesne, 1999; Denzin & Lincoln, 2005). As Williamson (2013b) noted, “positivist researchers seek to link cause and effect … and consider that knowledge can only be based on what can be observed and experienced (empiricism)” (p. 7).

After scrutinising the survey results from Alpha, it seemed that a more appropriate paradigm for the research method might be post-positivism rather than positivism, since by this stage of the study, there were clearly two components to the survey: one principally quantitative (i.e., the questionnaire) and the other qualitative (i.e., the free-form comments section). According to Williamson (2013b), post-positivists, like positivists, accept that there is a ‘reality’, but unlike positivists, believe that this is not easy to discover. Thus ‘reality’ must be subjected to rigorous examination, using emic (i.e., insider) rather than etic (i.e., outsider) perspectives (Williamson, 2013b, p. 8). Post-positivism thus favours the inclusion of qualitative data.

Unfortunately, as a philosophical framework, neither positivism nor post-positivism comfortably accommodated the way the survey component was undertaken. On the one hand, the degree of measurement facilitated by the survey fitted a positivist paradigm, and the addition of the qualitative element (the free-form comments) resonated with post-positivist models such as those described by Denzin and Lincoln (2005, 2011). On the other
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hand, random sampling in such a closed group was impossible, and the low response rate delivered a small number of responses. Consequently, the inability to generalise suited neither approach and did not deliver the ‘observable reality’ required both by positivism and post-positivism.

Although the survey results provided a suitable beginning and an informative overview of the key topic areas, the question arose as to whether more was being concealed behind the constraints of the survey design than was revealed through an analysis of the comments. Areas demanding further investigation included factors that might influence the exercise of preference or the role collaboration between teachers and library staff might play in this exercise. Thus an alternative research approach was sought that would enable in-depth interviews and a comprehensive exploration of the meanings communicated by participants. An interview component was therefore added.

At the same time, I changed employers (to Beta school), opening up the possibility of extending the study to a second group of teachers. The questionnaire was no sooner administered to respondents at Beta, when new employment (initially part-time) was found as TL at Gamma school, which presented an irresistible opportunity to include a third set of teachers in the study. Time was scheduled to conduct in-depth interviews with participants from all three schools, on the days I was not working at Gamma.

3.1.2 Interpretivism and constructivism

Given that there was now a second stage to the study (in-depth interviews), a further investigation of the literature was necessary, to determine an appropriate philosophical framework for this component. I considered the idea that this might be interpretivism, one paradigm of which is constructivism. As it permits the exploration of deeper meaning via participant interviews, an interpretivist/constructivist paradigm was chosen as the philosophical approach that underpins the second part of the study.

According to Williamson (2013b), interpretivism is an “umbrella term” (p. 9), encompassing a number of paradigms including naturalistic inquiry, constructivism and
phenomenology, where the researcher explores the multiple meanings of participants, using an inductive approach to build the findings of the study (Guba & Lincoln, 1998; Williamson, 2013b). Interpretivism is mostly associated with qualitative research methods and is not concerned with determining applicable rules and laws, seeking rather to produce descriptive analysis that emphasises deep, interpretive understanding of the meanings within the social phenomenon being studied (Glesne, 1999; Williamson, 2013b).

Interpretivists believe that the social world is interpreted or constructed by people, and therefore differs from the physical world. In contrast to positivist research, interpretivist research is non-linear and iterative. Williamson (2013b) noted that interpretivists “embrace an inductive style of reasoning, emphasise qualitative data and are aware of the impact of context” (p. 9). For such researchers, the interpretation of phenomena is regarded as relative, being more concerned with the meanings people bring to them than seeking ‘absolute truths’ (Denzin & Lincoln, 2005; Williamson, 2013b). According to Williamson, Schauder, Wright & Stockfeld (2002):

The central tenet of interpretivism is that people are constantly involved in interpreting their ever changing world. They develop meanings for their activities together, i.e., they socially construct reality, as analysed in the famous book, *The Social Construction of Reality* (Berger & Luckman, 1967). They also make sense of their world on an individual basis, i.e., they develop their own meanings, which often differ from one person to another. (p. 9)

Guba and Lincoln (1981) used the analogy of the layers of an onion, nesting within and complementing each other, as “each layer provides a different perspective of reality, and none can be considered more ‘true’ than any other” (p. 57).

According to Glesne and Peshkin (1992), interpretivist researchers seek to understand how the participants in a particular social setting construct the world around them, record these perspectives as accurately as possible and recognise the problems inherent in the fact that their participants’ perspectives may be very different from their own. In addressing these challenges, Glesne and Peshkin (1992) noted that “the researcher becomes the main research instrument as he or she observes, asks questions and interacts with research participants … The concern with researcher objectivity is replaced by a focus on the impact of subjectivity on the research process” (pp. 6, 10). As the researcher exists as an entity within the topic of study, rather than as an external, neutral observer, he/she has to take personal bias into account, when interpreting and making sense of the individual
perspectives of the participants. As Sutton (1993) emphasised, “one can understand something observed only through the tinted lens of one’s own experience” (p. 423), arguing that the researcher “has a point of view as a strength, as a source of insight and understanding, so long as there is an awareness of it (p. 425). Another characteristic of interpretivist (qualitative) research is the replacement of “the usual positivist criteria of internal and external validity, reliability, and objectivity” with terms like “credibility, transferability, dependability, and confirmability” (Denzin & Lincoln 2005, p. 13). This is a set of interpretivist constructs originally posited by Guba and Lincoln (1981) to reinforce the ‘trustworthiness’ of the research.

Constructivism, a paradigm comfortably sheltering under the interpretivist umbrella, seemed to be particularly appropriate to the second stage of the study. This was because the free-form comments that were added to some of the survey responses awakened me to the multiple perspectives that teachers held on a range of issues pertinent to the study.

Denzin & Lincoln (2005) argued that ‘constructivism’ encompasses a relativist ontology (in that it embraces multiple realities), a subjectivist epistemology (in that investigator and respondent co-create understandings), and a naturalistic set of methodological procedures (in that they are located in the natural world of the subjects under study). Constructivist research and naturalistic inquiry could thus be construed as emergent, evolving, elastic, iterative and adaptable (Marshall & Rossman, 1995; Williamson, 2013b).

The aspects of constructivist theory that underpinned the approach to the present study are outlined in Box 3.1, following.
Box 3.1: Constructivist perspectives influencing the approach to the present study

The constructivist perspectives that were most influential for the present study were those contributed by *personal constructivist* theorists such as Kelly (1963), and *social constructivist* theorists such as Berger and Luckmann (1967) and Talja, Tuominen and Savolainen (2005).

**Personal construct theory:**

George Kelly (1963) was a clinical psychologist who proposed a theory called the “psychology of *personal constructs*”, developed from a “philosophical position called *constructive alternativism*” (Kelly, 1991, p. 3). According to Kelly, “the notion that there are many workable alternative ways for one to construe one’s world” (p. 3) led him to postulate that there were, in fact, ‘multiple realities’, in that different individuals were constantly in the process of personally constructing reality and constantly involved in making sense of (or interpreting) their world. As a consequence of their interactions within society, individuals would encounter situations that were difficult for them to comprehend within their personal construction of ‘reality’, suggesting to Kelly that they might suffer ‘anxiety’ when their personal construction was perceived as failing them (p. 4).

Personal construct theorists believe that although events, persons and objects may remain as tangible entities, the meanings derived in order to make sense of, or to organise them, are subject to personal interpretation and must be viewed as individually ‘constructed’ realities (Lincoln & Guba, 1985, p. 84). This is in contrast to the positivists’ notion that an objective, empirical ‘truth’ is achievable. The personal constructivist approach therefore privileges and contextualises a participant’s personal account, or understanding, of a situation (Reynolds, 2013). Personal construct theory became a significant contributor to theoretical perspectives within the world of information studies from the 1990s, being utilised by Kuhlthau (1991, 1993) within the field of library science (teacher-librarianship), where she mapped the ISPs of school students.
Social construct theory:

Social construct theory has its roots in theories of social development, one of the key influences being the social phenomenological approach of Alfred Schütz (1962). Schütz addressed the problems of how people construct reality, while being influenced by the norms of the ‘life world’ they inhabit. His former students, Berger and Luckman (1967), developed this concept further to explain how people construct personal meaning in their lives as a result of shared social interactions, history, culture and language. Social constructionism shares aspects of personal construct theory, in that it holds that individuals construct meaning from the world around them, but emphasises that these constructions are formed as a result of the individuals’ involvement in, and interaction with, society. Garrick (2000) opined that ‘meaning’ was “best understood from the standpoint of the social world of that individual” (p. 209). According to Talja, Tuominen and Savolainen (2005), “individual development derives from social interactions within which cultural meanings are shared by a group and eventually internalised by the individual … In the process both the individual and the environment are changed” (p. 85).

As Williamson (2013b) explained, “shared meanings are seen to be developed through social processes involving people, language and religion” (p. 12). Like Giddens (1979), Foucault (1986), and Habermas (1984, 1987), social constructionists place a primary emphasis on discourse for articulating views about the self and the world. Schwandt (1998) held that an individual’s construction of ‘reality’ was a “complex world of lived experience from the point of view of those who live it” (p. 221), shaped by his/her subjective response to a range of discursive practices.

Constructivist theory (both personal and social) provided a useful explanation underpinning the second stage of the present study, by facilitating expression of the ‘multiple realities’ expressed by the participants.
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Given the mixed methods approach to data collection, both positivist/post-positivist and interpretivist/constructivist philosophies seemed possible options as philosophical frameworks, the former for the first stage, and the latter for the second. On the one hand, the positivist approach encouraged the collection of survey data about teachers’ information-seeking preferences, enabling a broad picture to be revealed. On the other, the in-depth interviews, underpinned by interpretivist/constructivist philosophy, facilitated the exploration of participants’ preferences from their own perspectives. The influence of this dual-strand philosophical approach thus supported the selection of mixed methods.

It was only after the fieldwork was completed and analysis was at a stage to permit a broad overview of the combined results that it became apparent that, although all the abovementioned paradigms had something to offer, the research did not neatly fit into either. According to Williamson and Johanson (2013), positivist research “adheres to the scientific mode of enquiry and emphasises deductive reasoning, measurement, quantitative data and nomothetic knowledge claims” (p. 508). However, due to the small, non-random sample, the inability to generalise from the survey results made it difficult to use the ‘positivist’ label for the first stage. Alternatively, post-positivism is defined by Williamson and Johanson as the “belief that reality must be subjected to the widest possible critical examination and that qualitative methods are important in achieving this goal” (p. 508). Thus the post-positivist label seemed more appropriate, although not enabling the emphasis on individual/social meanings, as does the interpretivist approach.

Problems were also apparent with the allocation of the ‘interpretivist/constructivist’ label to accurately describe the research paradigm underlying the second stage. On the one hand, the choice of this paradigm, to underpin the in-depth interviews, had satisfied a desire to explore the decision-making of these teachers from their own perspectives. On the other, the ability to generate unconstrained views from participants was limited, to some degree, by the fact that the interviews were commenced using semi-structured focus questions, some of which originated from the thrust of the questionnaire and had thus been previously considered by a number of the interview participants. Nevertheless, the quite diverse views emerging from the findings appear to confirm that participants were indeed constructing and recounting their own perspectives of ‘reality’.
One solution to this quandary was suggested by Denzin and Lincoln (2005), who coined the label ‘qualitative research’ to describe the type of mixed research philosophies and methods which ultimately directed the course of the present study.

3.1.3 Qualitative research

According to Denzin and Lincoln (2005), qualitative research “is a set of complex, interpretive practices” spanning the range of human “disciplines, fields, and subject matters” (p. 3). Qualitative research must be considered as a research field “in its own right” (p. 3), despite being acknowledged as having “no theory or paradigm that is distinctly its own” (p. 9). Historically, qualitative research has been surrounded by:

A complex, interconnected family of terms, concepts, and assumptions … [including] the traditions associated with foundationalism, positivism, postpositivism, poststructuralism, and the many qualitative research perspectives, and/or methods, connected to cultural and interpretive studies. (Denzin & Lincoln, 2005, p. 3)

Adopting such a multi-strand philosophical approach to this research supported the decision to use mixed methods. Ford (1987) recommended the use of either or both quantitative and qualitative approaches (as relevant to the research problems under consideration) in the belief that the integration of such approaches encouraged a more comprehensive understanding of research topics. In describing the range of interconnected, interpretive practices adopted by ‘qualitative’ researchers, Denzin and Lincoln (2011) emphasised that each method must “make the world visible in a different way” (p. 4). One such practice is described as bricolage, a term originally used to describe the process of quilt making, but utilised by qualitative researchers such as Denzin (1994) to describe “the multiple methodologies of qualitative research” (p. 16), where the researcher is the “bricoleur … a kind of do-it-yourself person … [who] produces a bricolage; that is, a pieced-together, finely-knit set of practices that provides solutions to a problem in a concrete situation” (p. 17). As Denzin noted, “the choice of which tools to use, which research practices to employ, is not set in advance” (p. 17). Tidline (2005) stated that:

The concept of bricolage enables researchers to blend an array of strategies ideal for deciphering the complexities of information behavior … [permitting] the researcher to draw on a deep understanding of the vast store of research philosophies and methods and select those best suited to her research aims of the moment. (p. 115)
For such an “interpretive bricoleur”, the choice of specific practices would not necessarily be “set in advance” and might include positivist elements such as “statistics, tables, graphs and numbers” and “survey research” (Denzin & Lincoln, 2011, p. 6), as well as the more traditional methods of interviews or participant observation. Using this approach, the ‘interpretivist bricoleur’ “works between and within competing and overlapping perspectives and paradigms” (p. 5), a philosophy that, to a certain degree, fits the approach of the present study. Nevertheless, Denzin and Lincoln cautioned that “the field of qualitative research is defined by a series of tensions, contradictions and hesitations … including disputes over its methods and the forms its findings and interpretations take” (p. 15). Following this argument, multiple interpretations (by different readers) of the findings of the present study might be anticipated, including disagreement with viewpoints expressed by some of the teachers interviewed. As Denzin (1994) cautioned, “qualitative research is many things to many people” (p. 20) and diverse or conflicting opinions are an expected consequence of multiple perspectives.

An exploration of the research philosophies, iteratively undertaken over the course of the present study (see Figure 1), developed an understanding of the relative strengths and weaknesses of the different approaches and their appropriateness for various kinds of research, as well as for the present study. For example, the thrust of the first stage was post-positivist, despite not meeting all the requirements. Similarly, the use of an ‘interpretivist/constructivist’ label for the interview component, strongly reflected the conscious effort made in the interviews to remain open to the views of the participants, despite the constraints potentially imposed by the link with the survey. The key emphasis, however, was on developing a “set of complex, interpretive practices”, as described above by Denzin and Lincoln (2005, p. 3).
Figure 1: Development of a philosophical framework

Figure 1 illustrates the various philosophical and theoretical strands that have been brought together under the umbrella label of ‘qualitative research’. As Denzin and Lincoln (2011) observed, “research is an interactive process shaped by one’s personal history” (p. 5), as well as those of the participants in the study. The term ‘qualitative research’ is therefore the most appropriate label to describe present study, reflecting the flexible, eclectic nature of the particular research journey that has taken place.

3.2 Choice of research methods

This section deals with the methods relating to the conduct of the research, including the design of the data collection instruments. Following the discussion of research methods
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used, ethical issues are discussed and the school settings described. For each component (survey and interviews), details of the sample (how respondents and participants were selected and recruited within the settings), data collection (the instrument and the process), and analysis of the data are described in depth.

The two major components of the research were the survey (comprising both quantitative and qualitative data) and the follow-up interviews (qualitative). This structure reflects elements of the quantitative/qualitative mixed methods model posited by Creswell (2003, 2005; Creswell, Plano-Clark, Gutmann & Hanson, 2003), and fits within the concept of ‘qualitative research’, as explained by Denzin and Lincoln (2005). Morse (2003) discussed using mixed methods to combine research strategies in a systematic way, in order “to obtain a more complete picture of human behavior and experience” (p. 189), strongly emphasising the importance of firstly determining the ‘theoretical drive’ of a study. In this case, the theoretical drive became the in-depth investigation of the information-seeking preferences of secondary school teachers, viewed through the multiple lenses of their personal perspectives. The need to provide fundamental, broad data informed the choice of the initial survey component that was largely quantitative, but with a qualitative element. Later, the interview component, underpinned by an interpretivist/constructivist, qualitative approach yielded rich data that provided detailed answers to the research questions. As with a more recent study of Australian online investors conducted by Williamson and Kingsford Smith (2010), the quantitative and qualitative components were treated as “separate, though related” (p. 9).

The two stages in the data collection were conducted sequentially, with the survey preceding the interview component. A review of the literature indicated that mixed methods had been successfully utilised for similar projects investigating information-seeking behaviour, e.g., those of Fabritius (1999, 2000) and Flick (2002). One advantage of using mixed methods lies in triangulation, a term used to describe the use of multiple research methods and data sources to investigate the same research question, or to study the same phenomenon (Janesick, 1998; Williamson, 2013b). Triangulation was employed both in the design of the study and during the data analysis and interpretation of results, in the ways mentioned below. This served to enhance reliability and to describe a more holistic picture.
of the information-seeking environment of the survey respondents and interview participants (Burns 1997; Darke & Shanks, 2002; Creswell, 2003).

A self-administered questionnaire was the chosen instrument for the first stage of data collection (see Appendix A) followed by a semi-structured interview schedule used for the second stage (see Appendix B). The latter was considered to be the best instrument for keeping the interviews on-topic, while permitting in-depth exploration of areas of interest that emerged during the interviews (Minichiello, Aroni, Timwell & Alexander, 1996, p. 65). As mentioned above, because professional opportunities arose that mandated a change of employment to two other independent schools during the course of the research project, the questionnaire was consequently offered to the teachers at each of the three secondary schools (Alpha, Beta and Gamma) in which this researcher was employed, during the years 2001, 2002 and 2004 respectively, while the interviews were carried out in all the schools during an eleven-month period in 2004–2005. These changes to the original parameters were approved in subsequent academic progress reports and annual ethics approval notifications.

In addition to the results from the survey and the interviews, documents relevant to the research project included field and case notes, such as this researcher’s personal reflections and additional information volunteered by the respondents after the initial questionnaire, either face to face or via telephone. Examples of such notes are included in Appendix C. After analysis, the results were compared to the literature to check for instances of “consensus and dissonance” (Williamson 2005, p. 131).

Figure 2 below depicts the ways in which the methods employed to gather data were integrated into the research environment of the present study.
Figure 2: The research process: integration of literature, data collection, analysis & interpretation of results
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The lowest register of Figure 2 depicts the personal constructs of the researcher, influenced by workplace/personal experiences, informed by the discourse community of school library staff (the social constructionist influence), refined via social/professional contact and educated by an exploration of the literature. At the uppermost level reside the secondary school teachers, whose mindsets would have been similarly influenced by a combination of practical/personal experience and the discourse arising from their ‘community of practice’ (Wenger, 1998). The central section of the diagram shows the research techniques (i.e., the survey and interview components) that were used to investigate the information-seeking preferences of the teachers. The eclectic nature of the research process is thus illustrated, in that the interplay amongst these elements influenced, at different stages, the development of research questions, the formulation of the instruments for investigating the phenomena of interest and the interpretation of results. As depicted in the topmost register of Figure 2, the personal perspectives of the teachers themselves, as expressed in the survey responses, had the greatest influence on the direction of the interviews, with emergent results revealing aspects that were often wholly unexpected.

3.2.1 Ethical issues

The major ethical issue inherent in the present study was the nature of the relationship between the researcher-as-interviewer and the teachers-as-interviewees, due to the potential for interviewer bias to inadvertently guide teachers’ responses throughout the interviews. Unlike other research conducted within a school environment (e.g., Montiel-Overall, 2007, 2008; Williamson, McGregor, Archibald & Sullivan, 2007; Meyers, et al., 2006; Diekema & Olsen, 2011; Tanni, 2012), the interviewer for the present study was not from outside the community under investigation, but had been a colleague and integral component of the library support team, in each school.

At the time of commencement of the data collection, I had been employed as a TL at Alpha for six years. From the start, it was clear that there would be challenges involved with potential researcher bias, as the roles of researcher, interviewer and potential information resource to the teacher-participants were intertwined. Unlike most other studies involving
teachers and librarians, I could arguably be described as an *insider/outsider* (Sherry, 2008) in the research process, due to the combined roles of researcher and potential information resource that are discussed in Chapter 1. The rationale was that the cultural understanding that I provided as an ‘insider/outsider’ could provide a fresh research perspective and perhaps elicit a response from the interviewee that would be more insightful than that revealed to a ‘stranger’ (Yakushko et al., 2011; Kimmel, 2012).

My position of being a part of the study (as one of the potential information resources) nevertheless provided challenges in retaining and demonstrating impartiality and objectivity both when gathering and analysing data and interpreting the results. The workplace relationship with the respondents was an area that presented both positive and negative aspects. On the negative side was the question of any personal or professional bias that might putatively exist towards some teachers (e.g., personality clashes, or implicit criticism of their information choices, based on previous observations), as well as the equivalent bias by teachers towards me. On the positive side, personal contact with the staff on a daily basis facilitated clarification of many potential problems or issues regarding the perceived research purpose or my intent. Initial questions by some teachers revealed suspicions of a hidden agenda, such as: “Are you checking up on whether we are using the technology or the resources properly?” I was the workplace colleague of every respondent, with degrees of familiarity ranging from occasional professional contact, to collaborative associations and personal friendships, and it is true that some teachers were liked more than others, a status that was reciprocated. As a result, potential bias was always present, confirming Morse’s (2006) view that the politics of evidence cannot be separated from the ethics, albeit tempered by a conscious effort to recognise and subordinate it to professional practices.

As a TL who knew all the respondents as professional colleagues and even friends, I must also confess to ‘liking my narrators’, a stance that must have been evident to the participants throughout the interview process, as there was a sense that most seemed to relax after the first few minutes, with some even expressing enjoyment that their personal views were of interest to others. Consequently, total distance was not achievable. Indeed, as Marshall (2002) cautioned, “expect that your emotions will be involved, and that some of
the emotions will be unpleasant” (p. 69). Fortunately, such negative moments were rare. There were thus both advantages and disadvantages inherent in this approach towards ‘shared memory’. Social and educational historian Antoinette Errante (2000) posited that the relative accuracy of recollection is enhanced when both participants (i.e., historian and narrator, or interviewer and interviewee) are both part of the “context of remembering”, but cautioned that “memory is not simply an exercise of recalling; there are many ways of recalling and different reasons why we may (and may not) want to remember” (p. 17). Errante drew attention to the relative vulnerabilities of researchers who were close to their respondents, citing challenges identified within her own experiences as researcher: “Did I like my narrators too much? Was I so drawn into the power of their narratives that I was losing the capacity to distinguish their voices from my own?” (p. 24).

Due to the positioning of the researcher-as-interviewer, the present study contains elements of the “perceptual proclivities” noted by Charmaz (2003, p. 259) and described by Darke and Shanks (2002, p. 118) as “unavoidable” but acceptable. According to Creswell (2003), “the researcher filters the data through a personal lens that is situated in a specific sociopolitical and historical moment … One cannot escape the personal interpretation brought to qualitative data analysis” (p. 182). However, sharing the workplace discourse within a ‘community of practice’ (Wenger, 1998) enabled the recollections or viewpoints of each interviewee to be discussed in-depth with an interviewer with an insider’s understanding of the context, who was (or had been) a familiar part of their workplace environment, a situation likely to be less accessible or intelligible to the external, random interviewer.

3.2.2 The school settings

The present study was conducted within three independent schools, located in different parts of Sydney (NSW, Australia), in which I was employed between the years 2001 and 2005. All three were ‘independent’ schools (i.e., private schools) belonging to the Association of Independent Schools (AIS), catering to a student clientele ranging from kindergarten to Year 12 (K–12) with pupils aged between five and eighteen.
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Profiles of each of the three independent schools involved in both stages of the study can be seen in Appendix D. As evident here, each school exhibited its individual cultural bias and was dissimilar regarding population size, type of religious affiliation, genders of students and staff, socio-demographic profiles, library facilities and exposure to computer technology. Details include information referred to by participants in the study and reflect the status of each school during the year that the survey was undertaken. To preserve the anonymity of the staff (some of whom are still working within the library and/or teaching professions, although not necessarily in the same schools), each school was allocated the pseudonym Alpha, Beta or Gamma, in the order in which the survey was originally administered.

As Appendix D indicates, Alpha School was a well-resourced, technologically rich, girls’ school located in an affluent area of Sydney: 34% of households had weekly incomes exceeding $2000 in the 2001 census year. Beta School was a less affluent, co-educational school in an area in which only 15% of households enjoyed the abovementioned income. Nevertheless, it was a comfortably resourced school. Gamma School was a noticeably less affluent co-educational school, located in an area where only 6% of households had weekly incomes in excess of $2000. Gamma had a technology base that, at the time of the survey, could be described as ‘developing’. Gamma had a higher proportion of families from non-English speaking backgrounds (74%) compared to Alpha (17.5%) or Beta (23.6%), drawing most students from the local parish area.

As befitted a school with a student population in excess of 1400, Alpha had the greatest number of teaching and library staff, as well as a higher technology profile that featured an active and growing laptop program. This program mandated laptop ownership and usage for all students from Years 5–10, with optional use for Years 11 and 12. At the time of the study, all full-time teachers were provided with their own laptops, which they were expected to use proactively in the classroom. Although Beta and Gamma had no equivalent laptop program, staff laptops were becoming more commonly available by the time of each study, funded by the school for selected teachers at Beta but privately leased or purchased by individual teachers at Gamma. Nevertheless, there was still a strong reliance at Beta and
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Gamma schools on staff access to desktop computing facilities, including those available in the school library.

3.2.2.1 School library facilities

All three schools were fortunate in having library buildings that were relatively new, although the level of staffing, resources and facilities available to staff and students differed considerably. Although each school’s library shared features in common, specific resources and services varied considerably, as can be seen in Appendix D. To illustrate, the numbers and ratios of teachers to library staff (at the time of the survey) are compared in Table 2 (below).

Table 2: Proportions of senior school teachers to library staff

<table>
<thead>
<tr>
<th>Staff numbers</th>
<th>Alpha, 2001</th>
<th>Beta, 2002</th>
<th>Gamma, 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of teachers</td>
<td>131 (both F/T &amp; P/T)</td>
<td>40 (both F/T &amp; P/T)</td>
<td>31 (both F/T &amp; P/T)</td>
</tr>
<tr>
<td>‘Librarians’: i.e. staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>employed in school library, with</td>
<td>4 F/T (2 TLs; 1</td>
<td>2 F/T TLs (1 TL</td>
<td>0.5 F/T TL (at school</td>
</tr>
<tr>
<td>teaching &amp;/or library qual.</td>
<td>teacher commencing</td>
<td>as ICT Coordinator,</td>
<td>2.5 days per week)</td>
</tr>
<tr>
<td></td>
<td>library training; 1</td>
<td>but worked from</td>
<td></td>
</tr>
<tr>
<td></td>
<td>librarian – library</td>
<td>library office)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>qualifications only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ancillary staff (‘library</td>
<td>4 F/T, 3 with library</td>
<td>2 F/T (1 in AV; 1 as</td>
<td></td>
</tr>
<tr>
<td>assistants’)</td>
<td>technician qualifications (2 in</td>
<td>library assistant - duties</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AV/Print room; 2 as</td>
<td>shared with Junior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>library assistants)</td>
<td>School Library)</td>
<td></td>
</tr>
<tr>
<td>Ratio of teachers: library staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(TLs &amp; ancillary)</td>
<td>16:1</td>
<td>10:1</td>
<td>21:1</td>
</tr>
<tr>
<td>ASLA/ALIA Standards*</td>
<td>16:1</td>
<td>13:1</td>
<td>12:1</td>
</tr>
</tbody>
</table>

Note. Ratios rounded to nearest whole number.

* Ratios are approximations based on equivalent data closest to time of surveys (Australian School Library Association & Australian Library & Information Association, 2001, p. 68).

Staffing levels recommended by the Australian School Library Association and Australian Library & Information Association (ASLA/ALIA) (2001) enable some comparisons to be made with staffing available at the three schools in the present study. However, direct comparisons are impossible, due to the differences in calculating staff, e.g., ASLA/ALIA figures combined numbers of teachers and administration staff and provided hours per week for support staff. To gain a feeling for whether these three schools were relatively well, or poorly, resourced, an estimate was made for Table 2, based on converting hours per
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week for support staff (based on the standard 37.5 hours per working week) and selecting the ASLA/ALIA figures for teaching/administration staff that were one position higher than the numbers of teachers (since numbers of administration staff were not counted for the present study) for each school. Although the teachers/library staff ratio of 16:1 suggests that Alpha was less well-resourced with library staff than Beta (at 10:1), it must be noted that the library assistants at Beta also spent time processing resources for their junior school library (as did ancillary staff at Gamma), while Alpha library staff concentrated solely on Alpha library patrons.

The figures suggest that Alpha and Beta schools were comfortably resourced with regard to teacher/library staff ratios. In contrast, Gamma was significantly under-resourced with regard to library staff, at the time of the survey, with the teacher/library staff ration of 21:1 comparing unfavourably with the ASLA/ALIA (calculated as an equivalent) standard recommendation of 12:1. Gamma not only had the smallest number of TL hours, with only .5 of a full-time TL available in the school library, spread across 2.5 days per week, but their only full-time library assistant also divided her time by processing resources for the junior school library.

3.2.3 The survey component

This section provides details of how the survey was carried out, including selection of the sample, recruitment of respondents, data collection and data analysis. Personal input from teachers was also encouraged via free-form comment sections attached to each question, thus enabling some qualitative data to be collected during the survey. The survey was also intended to raise teachers’ initial interest in the topic, with the hope that a number might be willing to be interviewed in-depth, at a later date.

3.2.3.1 The sample

The questionnaire was offered to full-time and part-time teachers from the three schools, with a total of 75 responding from the 202 who were eligible (approximately 37%). The population sampled from each school varied: from Alpha, 47 teachers responded out of a
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potential 131 (approximately 36%); from Beta, 18 teachers responded out of a possible 40 (approximately 45%); while from Gamma, 10 teachers responded out of the 31 who were eligible (approximately 32%). Since the numbers of respondents from each of the three schools varied significantly, the results were grouped together to create a more comprehensive picture of the teachers’ information-seeking preferences. Table 3 below shows the number of teachers at each school at the time of the survey, indicating both respondents to the questionnaire and the number of teachers who were eligible, but did not respond.

Table 3: Number of respondents to the questionnaire

<table>
<thead>
<tr>
<th></th>
<th>Alpha</th>
<th>Beta</th>
<th>Gamma</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents by school</td>
<td>47</td>
<td>18</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Did not respond</td>
<td>84</td>
<td>22</td>
<td>21</td>
<td>127</td>
</tr>
<tr>
<td>Total eligible</td>
<td>131</td>
<td>40</td>
<td>31</td>
<td>202</td>
</tr>
<tr>
<td>% Responses</td>
<td>36</td>
<td>45</td>
<td>32</td>
<td>37</td>
</tr>
</tbody>
</table>

Note. Percentages rounded to nearest whole number.

Not all respondents completed every section of the questionnaire, with responses to questions relating to the most popular preferences answered more frequently. Conversely, responses to questions relating to the least preferred options were more frequently overlooked, although this may have been due to the length of the questionnaire and/or the repetitive nature of the questions themselves.

An analysis of the sample by age and gender follows:

Table 4: Respondents to questionnaire by age and gender (all schools combined)

<table>
<thead>
<tr>
<th>Age group</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total responses</th>
<th>Eligible teachers</th>
<th>% Eligible responses</th>
<th>% Responses by gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>12</td>
<td>40</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>Females</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>25</td>
<td>63</td>
<td>162</td>
<td>39</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>202</td>
<td>37</td>
<td>100</td>
</tr>
<tr>
<td>% of eligible respondents by age</td>
<td>15</td>
<td>23</td>
<td>25</td>
<td>37</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Percentages rounded to nearest whole number.
INFORMATION-SEEKING PREFERENCES: TEACHERS

As can be seen in Table 4 above, age and gender differences between respondents were not evenly distributed across categories, with the younger teachers appearing to be less inclined to participate than their older colleagues.

The higher proportion of female to male respondents in the sample was not reflected in the wider teaching community at the time of the present study. That is, females comprised 84% of survey respondents, but only 56% of female secondary teachers nationwide, as reported by McKenzie et al. (2008). The representation of teachers in the higher age bracket (51+) was similarly disproportionate, with 37% of respondents appearing in this age bracket in the sample, compared to the lower rate of 19% reported in the McKenzie (2008) report’s ‘51–55 modal band’. It should be noted that the comparison here is less reliable, as the ages represented in the sample extended beyond this 51–55 age group. As a result of the lower proportion of males to females, and the predominance of those aged 51+ in the sample, the decision was made not to compare results according to the genders or age groups of respondents.

Within the three schools, many teachers taught across more than one subject area, e.g., in English and History, or Mathematics and Computer Studies. To clarify the parameters of the study, respondents were asked to nominate one area of subject specialisation that would be used as a focal point relating to a planned research task. The nominated areas of subject specialisation for each school are collated in Table 5.
Table 5: Major areas of subject specialisation nominated by questionnaire respondents

<table>
<thead>
<tr>
<th>Subject</th>
<th>Alpha Replies</th>
<th>Beta Replies</th>
<th>Gamma Replies</th>
<th>Total Replies</th>
<th>% Replies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>LOTE *</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>English</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>TAS **</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Geography</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Music</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Computer Studies</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>PDHPE ***</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Maths</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Art</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Economics</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>18</td>
<td>10</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

Note. Percentages rounded to nearest whole number. *LOTE = Languages other than English; **TAS = Technology & Applied Sciences; ***PDHPE = Personal Development, Health & Physical Education

It should be noted that there was no relationship between the number of respondents for each subject area and the number of teachers employed to teach in that subject area within individual schools. For example, there were 16 English teachers employed at Alpha in 2001, of whom only three chose to respond to the questionnaire, compared to three of Alpha’s four Computer Studies teachers, and nine out of a possible 18 teachers from the Alpha Science department. However, none of the ten Alpha Art teachers chose to respond. In contrast, at Gamma, two out of the four English teachers responded, one of the four Science teachers, and two of the three Art teachers. The responses from individual subject areas were not representative of the state average. For example, English teachers represented only 12% of the sample overall, compared with the state-wide 17% state average (McKenzie et al., 2008), although the percentage of history teachers responding (at just over 13%) was closer to the 15% state average indicated in the McKenzie (2008) report. As a result of this imprecise subject area representation and the smaller number of responses overall, all responses from a particular subject area were aggregated regardless of school, to provide a picture of information-seeking preferences for all subject areas.
Recruitment of respondents was of key importance. To encourage teaching colleagues to consider participation in the project, I firstly addressed the Alpha teachers in a staff meeting, introduced myself to those with whom I was less familiar and explained the role and purpose of the research. Ethics, confidentiality and privacy guidelines were outlined and initial questions, mainly expressing concern regarding the latter issues, were answered. Copies of the questionnaire, together with envelopes in which to seal the replies, were placed in every staff pigeonhole. Staff were reminded, at weekly intervals over the next few weeks, to consider filling in their questionnaires, which were then collated and hand-sorted, initially by age deciles and gender. In due course, a similar process was undertaken in Beta and Gamma schools.

3.2.3.2 Data collection

A secure collection box was provided in the staffroom for the Alpha staff responses during the period of collection, but my pigeonhole (rather than the secure box) appeared to be the preferred collection location at Beta and Gamma schools. The questionnaire was designed to collect data that would shed light on the information-seeking preferences of teachers, including resources and services that might be accessible and available, either physically or electronically, from school or non-school locations. Personal data such as age, gender, years of teaching, professional qualifications and prior experience in the subject area under consideration were solicited, as these could be helpful in determining if any patterns of preference might be detected. As per the requirements for the Research Project and Ethics Approval, data were secured at all stages of collection, processing and analysis, and I was the only person reading or handling the self-administered questionnaires and data files. No details were discussed with other staff members. Respondents were contacted if their answers were unclear and they had provided their contact details for this purpose.

3.2.3.3 Design of the instrument

To provide a specific focus for the investigation, the questionnaire was designed to encourage the respondents to focus initially on a specific incident, occurring within the context of a student research assignment in their nominated subject area. The topic was to
be one with which the teacher was unfamiliar. This task was a regular challenge for secondary school teachers looking to stimulate students with fresh syllabus options. The structure of the questionnaire prompted respondents to select from a comprehensive range of information resources, based on the proposition that teachers might use resources and locations from amongst these to update their knowledge base. The structure endeavoured to follow approved principles of questionnaire construction, including recommendations made by Burns (1997, p. 475) and Johnson and Turner (2003, p. 303), which suggested including a covering letter and envelope in which the response could be sealed, placing demographic questions first (to additionally act as ‘warm-up questions’) and to include questions that asked respondents to rank their choices in an hierarchical order, enabling them to see all possible options at a glance. Before finalising the survey structure, the chosen questions were tested on a teaching colleague from Alpha (who subsequently did not participate in the formal survey) and adjusted appropriately. The self-administered questionnaire and the covering letter, explaining the academic background and purpose of the research, are included in Appendix A. When the opportunity arose to offer this questionnaire to teachers from Beta and Gamma, adjustments were made to accommodate each new school.

Questions were grouped as follows:

- Information resources, including interpersonal/intrapersonal information resources (i.e., ‘people’), books (including print and digital formats) and Internet sites. In the first category, both ‘real’ people, such as teaching colleagues or the school librarian, or ‘virtual’, such as experts to be found via the Internet or as authors of books, were included.
- Locations (such as the school library, local library, the Internet or one’s own personal/professional collection) where the teacher might seek information resources.
- Formats (such as books, magazines &/or electronic resources) that might be preferred, when undertaking such a task.

As mentioned in Chapter 1, it was initially considered important to pose separate questions to differentiate the various formats encountered amongst the preferred information resources. However, the responses to the survey questions indicated a considerable degree
of overlap in the teachers’ understanding of what constituted ‘information resources’ and ‘information formats’. If anything, respondents tended to be confused by such a fine distinction. Conversely, in the interview component, details such as preferences for specific features of different media types tended to be raised when the conversation turned to ‘information resources’, although the word ‘format’ might appear, where relevant. Recognition of this overlap was adopted in subsequent discussion of the interview results.

Another question asked about the circumstances in which teachers might approach the school librarian, an option being ‘as a partner in professional collaboration’ (see Table 7). At the time the survey was designed (in 2000), the concept of TLC was not only well established (e.g., Matessich & Monsey, 1992; Tallman & van Deusen, 1994), but was attracting increasing interest in the literature of teacher-librarianship (e.g., Haycock, 1998, 1999; Callison, 1999; Bishop & Larimer, 1999). During the time that the survey data was being collected and examined, the term ‘collaboration’ had started to be connected with US studies linking SLMSs with students’ academic achievement (e.g., Lance & Loertscher, 2001; Rodney, Lance, & Hamilton-Pennell, 2003).

It should be noted that the terms ‘library’, ‘librarian’ and ‘collaboration’ were not defined for teachers in either survey or interviews, but left open to individual interpretation, in keeping with the desire to elicit the teachers’ own perspectives.

The main options offered in the self-administered questionnaire can be seen in Table 6.

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Teachers were asked to rank options numerically (after Burns 1997, p. 425), in order of ‘most preferred’ to ‘least preferred’ and to make additional written comments in the space provided, as well as to supply contact details if they had queries or required feedback. Alternatively, the respondents could choose to remain anonymous. In all cases, teachers were given the opportunity to nominate preferred resources that were not included on the checklist. In accordance with recommendations such as the use of “natural and familiar language” (Johnson & Turner 2003, p. 303), terminology that was familiar jargon of librarians was replaced with expressions more commonly used by teachers. It should be noted that the school library staff in each school had varied backgrounds, qualifications and training: e.g., some were dual-trained and qualified TLs, while others were not. In order to capture data about all possible interpersonal information resources used by teachers, the generic term ‘information professionals’ was offered within the questionnaire.

Respondents were next asked to consider and evaluate specific resources, locations and formats of relevance to the research focus. These included the role of the TL as an interpersonal information resource, the school library as an information location and

---

**Table 6: Information resources, locations & formats (options available in questionnaire)**

<table>
<thead>
<tr>
<th>Information sources (real/virtual)</th>
<th>Information locations</th>
<th>Information formats (searching for/or utilising information)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Own expertise</td>
<td>• Own expertise</td>
<td>• Books</td>
</tr>
<tr>
<td>• Colleagues at school</td>
<td>• Own resources (work)</td>
<td>• Magazines</td>
</tr>
<tr>
<td>• Colleagues outside school</td>
<td>• Own resources (home)</td>
<td>• Paper printouts</td>
</tr>
<tr>
<td>• Books by experts</td>
<td>• Departmental collection</td>
<td>• Indexes (paper)</td>
</tr>
<tr>
<td>• Web sites</td>
<td>• School library collection</td>
<td>• Indexes (electronic)</td>
</tr>
<tr>
<td>• Information professionals</td>
<td>• Local library collection</td>
<td>• Computer resources</td>
</tr>
<tr>
<td>• Experts</td>
<td>• University library</td>
<td>• Internet resources</td>
</tr>
<tr>
<td>• Other</td>
<td>• Special collection</td>
<td>• Internet resources</td>
</tr>
<tr>
<td></td>
<td>• Place of subject experts</td>
<td>• Other</td>
</tr>
<tr>
<td></td>
<td>• Telephone as point of contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Email as point of contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Internet site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Computer resource</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td></td>
</tr>
</tbody>
</table>

Note. For the actual layout and phrasing of the questions, see Appendix A.
INFORMATION-SEEKING PREFERENCES: TEACHERS

‘books’ or ‘the Internet’ as possible information formats. As teachers had been heard to refer, generically, to any staff member who worked in the school library as a ‘librarian’, the term ‘school librarian’ was offered, rather than the more professionally specific ‘teacher-librarian’. Respondents were then asked to judge relative importance by choosing from a list of alternatives ranging from ‘very important’ down to ‘irrelevant’, although other options and free-text space were made available if respondents preferred to make an explanatory comment or provide additional feedback. Respondents were then asked to ascertain the perceived usefulness of the school librarian, the school library, books and the Internet, by selecting from options such as those offered in Question 7.5 (see Table 7).

Table 7: Question 7.5: Relating to perceived usefulness of the school librarian

<table>
<thead>
<tr>
<th>7.5</th>
<th>Would you seek out the services of the SCHOOL LIBRARIAN to assist with any of the information-seeking activities listed below?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Please write, in the space provided, the letter that corresponds with your preference, i.e. :-</td>
</tr>
<tr>
<td></td>
<td>Y for “Yes” N for “No” M for “Maybe”</td>
</tr>
<tr>
<td></td>
<td>__ At the primary stages of the research project</td>
</tr>
<tr>
<td></td>
<td>__ For brainstorming suggestions</td>
</tr>
<tr>
<td></td>
<td>__ To stimulate creative thought</td>
</tr>
<tr>
<td></td>
<td>__ Before searching for information</td>
</tr>
<tr>
<td></td>
<td>__ As a partner in professional collaboration</td>
</tr>
<tr>
<td></td>
<td>__ “Just in case” (i.e., as an insurance only)</td>
</tr>
<tr>
<td></td>
<td>__ Only if needed</td>
</tr>
<tr>
<td></td>
<td>__ To cross-check the results of your search</td>
</tr>
<tr>
<td></td>
<td>__ As your first choice</td>
</tr>
<tr>
<td></td>
<td>__ When all else fails</td>
</tr>
</tbody>
</table>

Note. Similar questions were posed for the school library, books and the Internet.

Teachers were additionally asked to nominate the emotions recalled when exercising their preferences for using the ‘most preferred’ resource, or being obliged to use a ‘least preferred’ alternative, ticking as many or as few options as relevant. This feature was included in the questionnaire due to interest stimulated by Kuhlthau’s studies focussing on the student research process (Kuhlthau, 2004), whereby the incidence of negative affect, such as anxiety, was observed to be associated with particular stages of the ISP. Question 7.3 (see Table 8) related to emotions associated with the utilisation of ‘least preferred’ options:
INFORMATION-SEEKING PREFERENCES: TEACHERS

Table 8: Question 7.3: Emotions associated with ‘least preferred’ option for ‘people’

| Question 7.3: Look at the option in the Q.7.1 list to which you allocated “7” or “8”, (i.e., the option considered to be the Least Preferred, when seeking information from “people”).

Please record this option here ________________________________

Look at the descriptions below. What emotions do you recall “feeling” when you were last obliged to use your Least preferred option? Please check as many of the boxes below that are relevant.

- confidence
- confusion
- disappointment
- doubt
- frustration
- optimism
- relief
- satisfaction
- certainty
- uncertainty
- being in control
- anxiety
- other ________________

Note. Similar questions were posed for the school library, books and the Internet.

As can be seen in Table 8, an equal number of positive and negative affective attributes were provided, similar to those in a research study by Miwa (2000). These options were presented within the questionnaire in random order to discourage rote selection, and featured an ‘other’ option. Positive options offered were confidence, optimism, relief, satisfaction, certainty and ‘being in control’; while negative options were confusion, disappointment, doubt, frustration, uncertainty and anxiety.

A problem of questionnaires is that they often tend to reflect a researcher’s mindset. To counter the possibility of the researcher’s implicit bias in the scope, focus or phrasing of questions, teachers were assured of anonymity and were strongly encouraged (both in the text of the survey and in verbal encouragement at staff meetings) to respond to the questions however they chose, and to add their own comments.

3.2.3.4 Data analysis.

Analysis of the data commenced shortly after their collection from each school. As the number of responses (75) was not so numerous as to warrant more sophisticated computer manipulation, the data were hand coded then entered into a series of Microsoft Excel® spreadsheets to facilitate analysis. With regard to the preferences enumerated by respondents, only those selected as ‘first’ or ‘least preferred’ choices were included in the analysis, as not all respondents allocated a number to each option.
The results of the survey (see Chapter 4) provided not only an overview of preferences but also useful comments that were used to inform the direction of the initial focus questions in the subsequent in-depth interviews. These comments are collated in Appendix E.

3.2.3.5 Problems with administering the survey

A number of issues need to be addressed regarding the potential validity of the results of the quantitative component. These include limitations on the size and scope of the population and sample under consideration, and the relatively small number of responses received. As this study was confined to the three schools where I had been employed as a TL, the size and scope of both the population to be sampled and the eventual number of responses received, was limited. As noted above, 75 responses were collected from the three schools, which represented around 37% of the 202 full- or part-time teachers eligible to respond. This small number of responses and low response rate prohibited any generalisations outside the sample group. The literature (e.g. Bishop & Larimer, 1999; Mardis & Hoffman, 2007) supports the view that teachers believe that their available time is increasingly encroached upon by the requirements of paperwork, marking, reporting, setting and conducting lessons. This may explain why a multi-paged, self-administered questionnaire appeared to be a low priority for many.

It was accepted that the relatively small size and scope of the sample limited inferences that could be made about the information-seeking preferences of respondents in the schools under study (Onwuegbuzie & Teddlie, 2003), as well as generalisations applicable to the wider population of secondary school teachers (Kemper, Stringfield & Teddlie, 2003). Nevertheless, as mentioned above, there was the possibility of future, in-depth investigation, via follow-up interviews with as many of the respondents as could be encouraged to participate.

The length and complexity of the questionnaire was also problematic. Had the questions been too brief, it would have implied a superficial instrument; had they been too extensive or complex, participation would have been discouraged and misinterpretation by either
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respondent or researcher inevitable. Despite this intention, an analysis of the responses indicated that, while the majority of respondents completed the entire questionnaire and appeared to comprehend the purpose of the individual questions, some respondents did not answer every question and not every option was allocated a relevant number. For example, it was evident that the earlier areas of investigation (such as those pertaining to information resources) were more comprehensively addressed, while the second stage (relating to information locations) produced a small number of null responses. The last major section, relating to information formats preferred for searching and utilising information, contained the most omissions, suggesting that respondents were either becoming jaded with the task or, where responses were omitted altogether, perhaps indicating that the teacher did not understand what was being asked. In some cases, they may have considered that they had already answered a particular question in an earlier section; considerable overlap between ‘information resources’ and ‘information formats’ was evident, as discussed above. For example, eight teachers did not respond to the last major section of the questionnaire, in comparison to the one teacher who did not respond to the preceding ‘formats – searching’ section. In such cases, the data sheets were coded with a ‘no response’.

The above problems with the questionnaire were most evident in the request to rank the options from ‘most preferred’ to ‘least preferred’. While around 50% of respondents ranked all relevant options in this way, some only nominated a few, leaving the remainder blank. There was no ambiguity regarding the selection of the ‘most preferred’ option, which was clearly identified with the 1st rank order in all cases where the respondent had attempted that question. However, some respondents accompanied their least preferred choices with a comment stating their lack of understanding of the option in question. As a result, it was unclear whether the allocation of the highest number correlated to the option intentionally selected as ‘least preferred’ by a respondent, or was a negative reaction to the ‘unknown’. In certain responses, this negative preference was clarified by the addition of a free-text comment, whereas other responses retained an element of ambiguity. Consequently, the comments for such questions (see Appendix E) were considered to be more valuable than the numerical tallies.
3.2.4 The interview component

This section deals with the second component of the study, viz. the in-depth interviews, including details relating to the choice of the instrument (a semi-structured interview schedule), recruitment of participants and the processes of data collection and data analysis. The results of the questionnaire had provided insight into the information-seeking preferences of those teachers who responded, but the limitations of the self-selected nature and size of the sample prohibited either generalisation or comprehensive understanding of reasons underlying the exercise of preferences. These findings thus stimulated interest in discovering more about the factors that motivated or deterred the exercise of such preferences, within the specified research context.

3.2.4.1 The sample

As Patton (1990) noted, interviewing permits entry into the perspective of others, so semi-focused, in-depth interviews were planned with as many of the former respondents who could be encouraged to participate, although new participants were welcomed. In all, 27 teachers were recruited; comprising 12 from Alpha, seven from Beta and eight from Gamma. Teachers were initially recruited from those who had indicated their willingness to participate further, by providing their names on the relevant part of the questionnaire. Twenty teachers were recruited in this way (see Table 9), mostly from the Science and History faculties, with females from the older age groups predominating.
Table 9: Participants recruited for interviews from survey respondents

<table>
<thead>
<tr>
<th>Subject areas</th>
<th>Age groups</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Science</td>
<td>AB2</td>
<td>A1</td>
<td>A1</td>
<td>G1</td>
<td>AB2</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td>B1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
<td>G1</td>
<td>A1</td>
<td>AGG3</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>A1</td>
<td></td>
<td></td>
<td>AB2</td>
<td></td>
</tr>
<tr>
<td>Computer Studies</td>
<td></td>
<td>A1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOTE*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDHPE**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal = 20</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: schools indicated by letters A, B or G
*LOTE = Languages other than English; **PDHPE = Personal Development, Health & Physical Education

As can be seen above, no survey respondents volunteered from the 21–30 age group. Four from the 31–40 age group volunteered to be interviewed (three from Alpha and one from Beta); while three Alpha teachers, one Beta and one Gamma teachers in the 41–50 age group, who had been survey respondents, offered to be participants in the interviews. The highest number of respondents volunteering (11) came from the 51+ age group, with five from Alpha, three from Beta and three from Gamma. All faculties were represented (if not in all age groups), except for Geography, LOTE and PDHPE. Of the 20 teachers who were recruited from survey respondents, 11 came from Alpha, compared to five from Beta and four from Gamma.

The other way of recruiting participants was through purposeful sampling (Patton, 1990). This approach was useful to attempt to redress the imbalances noted above. Teachers from all three schools who fulfilled certain criteria (mainly, to fill the gaps in the age and faculty areas) were invited to participate, with a further seven accepting (see Table 10). Criteria included gender, age or subject area where there was under-representation, or where it was deemed necessary to provide better ‘balance’ to the sample (Williamson, 2013b). Sometimes specific teachers had attracted attention by exhibiting or mentioning
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information-seeking behaviour that contributed to “extending or deepening the researcher’s emergent understanding” (Pidgeon, 1996, p. 78).

Table 10: Participants recruited for interviews by invitation

<table>
<thead>
<tr>
<th>Subject areas</th>
<th>Age groups</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21–30</td>
<td>31–40</td>
<td>41–50</td>
<td>51+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>G1</td>
<td>G1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>A1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>B1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOTE*</td>
<td></td>
<td>G1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDHPE**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B1</td>
</tr>
</tbody>
</table>

Subtotal = 7

Note: schools indicated by letters A, B or G

*LOTE = Languages other than English; **PDHPE = Personal Development, Health & Physical Education

As can be seen in Table 10, the seven interview participants recruited by invitation came predominantly from Beta and Gamma, as 11 of the 20 teachers who had been recruited from former respondents came from Alpha. One additional teacher was invited from Alpha: a Religious Studies teacher in the 31–40 age group. From Gamma, three English teachers and one LOTE teacher agreed to participate, with three of these being the only teachers in the 21–30 age group. Two more Beta teachers in the 31–40 were invited: one a Geography teacher and the other teaching PDHPE.

Of the 27 interview participants, 12 were in the 50+ age group, five were in the 41–50 age group, seven were in the 31–40 age group, and three were in the 21–30 age group. The general reluctance of the youngest age group (and of English teachers, overall) to participate in the survey was reflected in the interview process. Although the strategy for selecting participants for the in-depth interviews cannot, in its entirety, be seen as an example of “purposive selection” (Morse, 2003, p. 194; Kemper et al., 2003, p. 282), there was an element of purposeful sampling, as an attempt was made to include in the study members from all significant groups and sub-groups (Williamson, 2013b). The relevant
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subject areas, schools, age groups and pseudonyms of all participants can be seen in Appendix F.

3.2.4.2 Data collection

In planning the process of data collection, it was important to consider certain factors in order to ensure the maximum research benefits. These included the scheduling of interview times, the selection of an interview venue at each school, how each interview would commence and flow, how conversations would be encouraged and the ways in which areas of interest or revelation would be followed up.

All interviews were conducted within an eleven-month period during 2004–2005, at locations within Alpha, Beta and Gamma schools, respectively. Interview times were arranged by email and scheduled during the school term, to suit the convenience both of the participants and the interviewer. As this researcher was working part-time at Gamma from Wednesday to Friday during 2004 and 2005, this mandated either a Monday or a Tuesday for teacher interviews at Alpha and Beta. Challenges of working within these constraints included scheduling interviews to suit the teaching load and the varying availability of each participant.

The selection of interview locale at each venue was motivated by the desire to choose a ‘neutral territory’ in which privacy and individual comfort was facilitated without teachers necessarily feeling constrained, disempowered or directed in their response. At each school, availability of private rooms for the interviews differed according to facilities and pre-allocated use, ranging from small, private study rooms down to empty classrooms.

3.2.4.3 Design of the instrument

The interview format consisted of semi-structured focus questions, initially based on the participants’ recollections of a recent incident relating to the need to seek information necessary to prepare for a student research task in a subject area with which the participant was unfamiliar. (See Appendix B, for details of focus questions.) In this respect, the initial
question focus had characteristics similar to the ‘critical incident technique’ devised by Flanagan (1954) and modified for use by Hughes (2007), in that it involved “exploratory research that seeks understanding of specific human activities or an information base for further research” (p. 12). Similarly, the objective of the interview technique was to explore the information-seeking preferences of teachers, in order “to support practical problem solving, performance enhancement and learning” (p. 12). However, in the present study, the initial question was simply a starting point.

The contextual focus was designed to reconstruct the information pathways of individual teachers, stepping them back through recollections of various encounters with information resources, formats and locations. An emphasis was additionally placed on the teacher’s recollection of positive or negative emotions associated with the use of libraries, or interactions with librarians, at any time in the past. However, if teachers preferred to talk at greater length or depth on a topic area that appeared to be relevant to the main thrust of the research investigation, they were encouraged to do so. Some of these digressions provided material that led to subsequent areas of inquiry, as discussed below. This open-ended, interpretivist approach to soliciting information via interviews produced far more detail about the information-seeking preferences of individual participants than did a study of the literature, the questionnaire or the free-form comments appended to the latter.

3.2.4.4 The interview process

The interviews commenced with a consistent format. Firstly, the teachers were shown the audiotaping device and asked if they would agree to be recorded. After this was confirmed, the teachers were asked to read, consent to and sign a copy of the interview consent form, which had been customised for each school (see Appendix B). A test was then performed to check that the audiotaping device was functioning correctly and to demonstrate the recording process to the participant. Demographic details such as age and major subject areas were clarified, after which the teachers were asked to recall their previous participation in the questionnaire (if relevant), and/or reminded of the context and purpose of the study. They were then asked to read and familiarise themselves with the semi-focused questions that would be used to launch the interview.
The specific incident used as an initial focal point entailed a recollection of a specific instance when the teacher needed to research a previously unfamiliar area of the syllabus, with a view to preparing to set a student research task. While not a part of the original area of inquiry, information seeking outside working hours was included after one of the first teachers interviewed described how the appeal of recreational reading in the library eventually encouraged her to return to this location for work-related purposes. This suggested to me that some individuals might express completely different patterns of preference determined by specific needs and contexts, rather than remaining habitually inflexible. Subsequently, the question was put to all interviewees, even though recreational use was not part of the original brief. Instances of positive and negative affect were encountered when teachers were asked to recall an instance of a positive and a negative information-seeking experience, with specific reference to libraries and librarians. With regard to their perception of the ‘ideal’ school library, teachers were invited to express their preferences for library features, services and facilities that might exist in an ideal world with an unlimited budget.

After the experience of the first interview (which digressed into peripheral areas of anecdotal interest to both interviewer and interviewee, but lasted over 90 minutes), a balance was achieved between initiating relaxing, professional conversation as an ‘ice breaker’, and making the best use of the participants’ valuable time. This allowed for constructive time-management, probing questions and the potential to follow up areas of interest that emerged during the course of the interviews (Williamson, 2013a). If the teacher made an interesting, controversial or noteworthy comment, this might be used as a stimulus for further conversation or in-depth exploration.

Teachers were encouraged to discuss or disclose any matters associated with, or branching from, the major research questions, encouraging the emergence of the independent voice of respondents in ways that were prohibited by a more formally structured or empirically quantified approach. When noteworthy issues arose, observations and reflections were briefly noted as memos, without interrupting the conversation, e.g., the number of times the word ‘collaboration’ occurred in an interview. Above all was the desire to communicate to
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all participants a positive and respectful attitude towards their viewpoints, and to encourage them to confidently and wholeheartedly share their recollections, perceptions and experiences relating to the exercise of their information-seeking preferences, regardless of whether these might be deemed positive or negative. In some cases, usually when a strongly negative criticism was expressed, teachers might request that these comments not be put on record, a viewpoint that was consistently respected. In other cases, teachers asked that particular views not be captured on tape, but were agreeable to me making notes of the subsequent conversation, with a view to inclusion in the results. Other issues that resulted in a memo included the strength of enthusiasm expressed by particular teachers regarding their pleasure in finding an elusive resource, or spending time in an ambient library location.

- Protecting the confidentiality of respondents

Protecting the confidentiality of respondents was of prime consideration, apart from encouraging and capturing a frank and free discourse. The community of secondary school teachers from independent schools within the Sydney region is closely-knit, with interpersonal discourse facilitated by attendance at professional functions, membership of professional associations and email lists, in addition to regular mobility of employment from school to school. The participants were not faceless or nameless anonymous interviewees, but workmates, past, present and future. Some of the comments were critical of certain aspects of the information-seeking environment at the various institutions. Consequently, ethical and professional considerations mandated that data were efficiently stored and secured, to protect the identity of contributors.

Strategies used to protect the confidentiality of participants included the substitution of pseudonyms for the real names of all participants mentioned in the interviews, whether teachers or library staff. Pseudonyms, rather than depersonalising numeric labels were chosen (see Appendix F), drawn from the internet-accessible list of popular names (by gender and decade) to be found online at the United States Social Security Administration (2004) web site.
3.2.4.5 Data preparation and processing

After recording, the audiotapes of the interviews were express-posted to a transcriber in Melbourne, who had been recommended by a fellow graduate student as efficient, discreet and professional. When completed, the transcripts were returned via email in formats suitable for inputting into the NVivo® software program that had been chosen to code and manipulate the data. Transcription conventions established with the transcriber are outlined in Appendix C.

The first version of the transcription was in ‘raw’ form, i.e., transcribed as heard and understood by the transcriber. I then edited the transcripts to eliminate superfluous sounds, e.g., ‘umms’, ‘aahs’ and grunts of interlocution, and the very occasional errors made by the transcriber (e.g., where the names of people or resources were unclear on the original recording). Where necessary, clarification of words and phrases was obtained via comparison with the original audiotapes. Appendix C illustrates the changes to the original interview transcripts of a teacher given the pseudonym ‘Susan (TA-H)’, made during the manual data preparation and initial processing, preparatory to input into NVivo®.

The process of editing and preparing the transcripts presented a number of challenges, mainly relating to ethical considerations and the length of time involved in preparing and formatting the data for submission to the NVivo® software program chosen for analysis of qualitative data (Bazeley & Richards, 2005). The process of translating spoken language to written text presented enormous demands on time, as well as specific ethical challenges. These included reconciling the need to preserve the authentic ‘voice’ (i.e., the views-in-context) of the teachers, while simultaneously safeguarding their anonymity by concealing any distinguishing data or identifying details, such as references to family members or friends. Additional profiling was hand-coded after the interviews, with the teachers’ identifiers restricted to a pseudonym which included a tag coded for employment status, school and main subject area taught (for teachers), as these features were considered to be an integral part of the information-seeking context. For example, a teacher given the pseudonym ‘Amy’ had the tag ‘(TA-CS)’ added, indicating that ‘Amy (TA-CS)’ was a Teacher at Alpha school, who nominated Computer Studies as her primary teaching area. For library staff, workplace role and qualifications were appended to their pseudonym, e.g.,
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‘Claire (L-TL)’, which refers to a TL who was officially located in the school library; ‘Leanne (L-A/LTech)’ was a library assistant with qualifications as a library technician; and ‘Beverley (L-TL-Unkn)’ was a TL at a school where one of the interviewees had previously been employed, but was otherwise unknown to the interviewer. With library and other support staff, the school was not disclosed in their pseudonyms to reduce the chance of them being easily identified, as they were fewer in number compared to the teachers interviewed.

To process the data, NVivo® software was utilised on an Apple computer under a simulated MicroSoft Windows XP Professional® operating system environment, using Microsoft Virtual PC®, with the product being in the form of RTF files corresponding with each of the nodes identified as a result of my manipulation of NVivo®’s coding features.

3.2.4.6 Data analysis

This section describes how the data from the interviews were analysed and interpreted. Theoretical approaches that influenced this component of the research included the ‘constructivist grounded theory’ (CGT) approach of Charmaz (2003). Although the research did not follow a ‘grounded theory’ approach as such, the analysis and coding of the data were influenced by CGT, in that it “recognises that the viewer creates the data and ensuing analysis through interaction with the viewed,” (p. 259) and therefore the data do not provide a window on an objective reality. Charmaz noted that researchers’ backgrounds would inevitably influence their interpretations of the data, as they could not avoid being influenced by “disciplinary emphases” and “perceptual proclivities”, thus “shap[ing] the data collection and redirect[ing] our analysis as new issues emerge” (p. 271).

Qualitative analysis generally requires the researcher to explore the data before being able to ascertain the nature of the themes and categories that emerge during the process, rather than approaching the task with preconceived notions. However, this mixed-method study had already produced results from the earlier survey component that suggested themes and categories that the interviews might complement or amplify, as well as supplement with unknown and unexpected findings. As hoped, the interpretivist (qualitative) approach
which heavily influenced the interview component served to enrich the entire study as, during the course of data analysis, new themes, categories and sub-categories emerged, shedding light on the information-seeking preferences of teachers in a way that would not have been revealed from the survey alone.

Themes and categories

Morse (2008, p. 727) defined a theme as the “meaningful essence” that runs through the data, as opposed to categories (and sub-categories, if appropriate), which were labels allocated in order to group and differentiate content, facilitate comparisons and ultimately, to develop taxonomies. Creswell (2003) suggested a further division of themes into “sub-themes” (p. 223), a refinement that was adopted by this researcher. The use of an automated coding tool such as NVivo® facilitated the production of categorised reports which focussed on areas of researcher interest and permitted the exclusion of such “secondary data” (Darke & Shanks 2002, p. 119) as was deemed non-essential or irrelevant to the understanding and analysis of the participants.

The searching and linking features of NVivo® could also be manipulated to reveal details that could be considered as motivators and deterrents influencing the exercise of preference. These could be such as the use of specific words, phrases or other expressions of anxiety, satisfaction or dissatisfaction with the outcome of an information search, or an interaction with a librarian. One example is illustrated in Figure 3, which presents an excerpt from an interview in which the teacher known by the pseudonym of ‘Amy (TA-CS)’ reveals her anxiety when contemplating interactions with librarians whom she felt would distain her lack of knowledge about library systems and procedures:
Node: AB_Fear of Feeling Stupid

55: Amy – See I’d feel confident emailing Miranda or ringing Miranda and saying, ‘You know, I’m an idiot. How do you do this or how do I look up this or something like that.’ There’s others here you wouldn’t. But Miranda is always, you know, she's not going to think you're an idiot or and I always feel a bit like that, if you don’t know enough to, to ask anybody else here.

Passage 2 of 10 Section 2.16, Para 152, 215 chars.

152: Amy – And ones that don’t make you feel like that you don't know where the book is so that you're silly or that you don't know how to look up a book in a, you know, a card system or whatever system they've got now.

188: Amy – Or you don’t feel, I wouldn’t mind like if they came, like Caroline, to do a lesson. And you know that she wouldn't make you feel inadequate.

Figure 3: Excerpt from an interview with Amy (TA-CS)

To my mind, the words ‘idiot’, ‘silly’ and ‘inadequate’, mentioned in connection with a library interaction, immediately resonated with Radford and Radford (1997)’s description of the “fear of feeling stupid”, thus generating a category label (i.e. a ‘free node’, indicated as ‘AB_Fear of Feeling Stupid’) based on this phrase.

During the analysis of the data, relevant themes, sub-themes, categories and sub-categories emerged. As Bazeley and Richards (2005) noted, the NVivo® program facilitated the initial analysis and clustering of data into meaningful categories (and sub-categories) known as ‘nodes’, which emerged concurrently with the reading and interpretation of the data. This permitted the identification and naming of relevant ‘sub-themes’ and subsequent emergence of specific ‘themes’ around which interview segments and conversations were meaningfully clustered. Merging and re-coding of relevant nodes formed part of the iterative process, resulting in additional categories emerging from the data, both as a result of the questions asked and the unexpected information revealed during the course of the interviews.
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As each interview was read, scrutinised and sections of the text were highlighted and coded with new or existing category names (NVivo® nodes), it was evident that any sections of text might carry multiple categories. Appendix C illustrates the various stages in the processing of the interview data, which included primary analysis in order to segregate and categorise individual interview segments. A full listing of nodes can be seen in Appendix G. Following the recommendations of Bazeley (2003) and Morse (2008), category labels were allocated as situations were encountered in an interview that resonated with similar scenarios encountered in other interviews. Node labels might be allocated as interesting themes emerged from the data, some of which went on to form the key themes that underpinned the study. For example, motivators and deterrents to information choice was a major focus, resulting in any conversation that shed light on motivating influences being appropriately tagged. For example, Figure 3 (above) dealt with a conversation with Amy (TA-CS), who revealed that she was reluctant to approach just anyone on the library staff because she felt ‘inadequate’ asking questions that might expose her ‘fear of feeling stupid’. Thus a category label was generated, based on this term.

Amy also made a number of positive comments about interactions with various staff members, some of whom gave her the sense of feeling valued as a person – the antithesis of ‘feeling stupid’, and apparently providing strong motivation to visit the library and talk to selected library staff. The following comments by Amy illustrate such a conversation about library staff who made her feel valued as a person:

**Document 1 of 116**  
A_Amy_151104  
*Passage 1 of 11* Section 2.7, Para 55, 78 chars.

55: But you know Miranda will always, and she'll always look out for it as well.

---

**Passage 8 of 11** Section 2.21, Para 226, 44 chars.

226: you're on a personal level with them as well

---

**Passage 9 of 11** Section 2.21, Para 226, 14 chars.

226: they know you

---

**Passage 10 of 11** Section 2.21, Para 226, 72 chars.

226: And she would just drop everything and come and, and same with Caroline.

---

**Passage 11 of 11** Section 2.21, Para 244, 122 chars.

244: I'll help you look for it, what do you ... You know that sort of a keenness to help or respect for you as a teacher.
The category label ‘AA_Feeling Valued, Special’ was thus used to code instances where Amy and other teachers (in other interviews) recounted situations in which they felt personally/professionally valued by library staff.

Figure 4 below illustrates how the theme ‘Preferences’ was developed from a variety of relevant sub-categories, categories and sub-themes that emerged from the interviews:

Figure 4: Overview of themes and categories developed for ‘Preferences’
Taking just one example from Figure 4 (beginning with the first mention of ‘books’ in the right-hand column), it can be seen how a teacher might express, in the interview, a preference for using his/her own collection of books on a topic, which would equate to the development of the following taxonomy, commencing with ‘Books’ and culminating in the emergence of the theme ‘Preferences’:

<table>
<thead>
<tr>
<th>SUB-CAT 2</th>
<th>SUB-CAT 1</th>
<th>CATEGORIES</th>
<th>SUB-THEMES</th>
<th>THEMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>Print</td>
<td>Personal</td>
<td>Formats</td>
<td>Preferences</td>
</tr>
</tbody>
</table>

NVivo® also provided a facility (known as a ‘memo’) for notes taken during the course of an interview to be linked directly to a specific quote. Appendix C provides examples from the interview with Jason (TA-RS), in which the notes handwritten at the time of interview were incorporated as a memo so that they could be linked in NVivo® to the quote from the interview.

Appendix G presents the full listing of nodes (i.e., categories) that emerged during the analysis of the transcript data and were used to develop relevant themes. In all, the 27 interviews and associated personal notes/memos generated 116 ‘documents’ (the term used by NVivo®). When coded these documents revealed 94 separate ‘nodes’ (i.e., category labels), excluding those used to identify interview focus questions or names of teachers and library staff, which emerged during the course of the analysis of the interviews. These can be viewed in Appendix H.

3.2.5 Problems in conducting & processing the interviews

The main problems encountered while conducting the interviews and processing the results related to the challenge of ensuring trustworthiness and credibility of the data, the issue of potential interviewer-bias, balancing the demands of data quantity versus accuracy of reporting and the impact of the time taken between conducting the first interview and the completion of coding and analysis of the data.
3.2.5.1 Credibility and trustworthiness of the study

Lincoln and Guba (1985) stated that valid research should be plausible, credible, trustworthy and therefore defensible when scrutinised by experts, a sentiment echoed by Johnson and Turner (2003). Guba and Lincoln (1981) suggested four constructs were needed to address the trustworthiness of qualitative research. These were credibility (in preference to the internal validity checks mandated by quantitative research), transferability (in contrast to external validity and/or generalisability), dependability (rather than reliability) and confirmability, principles further reinforced by Shenton (2002, 2004). Confirmability was the term suggested in preference to ‘objectivity’ by Denzin and Lincoln (2011), with Denzin (1994) stating that “objective reality can never be captured” (p. 17). In order to enhance the reliability and trustworthiness of the results of the interviews, the above approaches were utilised in the following ways:

- **Credibility**

To enhance credibility of the data, methods well established in the discipline of LIS were employed. One approach was to invite participants to reflect on a specific incident related to information needs, and to encourage them to describe this in detail. As Shenton (2002) recommended, “multiple voices, exhibiting characteristics of similarity, redundancy and variety [were] sought in order to gain knowledge of a wider group” (p. 65).

Another approach was to use triangulation (Fabritius, 1999), described by Williamson and Johanson (2013) as “the use of multiple methods of data collection, multiple sources of data, and theoretical constructs” (p. 511). Triangulation is demonstrated by use of the following:

- Two instruments (a questionnaire and in-depth interviews) were used to collect the data.
- Multiple voices were sought, including participants from a wide range of subject areas, recruited from three schools “so as to reduce the effect on the study of factors
peculiar to one institution” (Shenton, 2004, p. 66), as well as to compare recounted experiences with the few instances found in the literature.

• Multiple theoretical perspectives were employed, with an emphasis on constructivism (Kelly, 1963; Berger & Luckman, 1967; Lincoln & Guba, 1985; Williamson, 2013b), collaboration within a community of practice (Wenger, 1998; Montiel-Overall, 2005a, 2005b), ownership and control (Habermas, 1984, 1987; Giddens, 1979; Foucault, 1986), and continuity of workplace practices in a time of technological change (Habermas, 1984, 1987; Giddens, 1979; Bijker, 1995).

Tactics used to ensure ‘honesty’ in contributing data (Shenton, 2004) included participants being given the opportunity to refuse or withdraw; being encouraged to be frank; to review or discuss their interview record; given reassurance that there were no ‘right’ or ‘wrong’ answers; encouraged to select contextual areas for discussion with which they were more comfortable; or to stop, at any time, areas of discussion with which they were uncomfortable. As recommended by Shenton (2004), peer scrutiny was facilitated via feedback from supervisors, colleagues and academics (at conferences), to reduce the influence of bias occasioned by my close association with the majority of teachers in the study.

➢ Transferability

Transferability of the study to another situation or site was limited, due as much to the nature of the school settings as to the relatively small size of the sample. Nevertheless, ample contextualisation and sufficient detail was provided to enable readers to ascertain whether a study of this nature might be worthwhile transferring to another school setting, in the future. As Shenton (2004) noted, the understanding of a phenomenon is gained over time through several studies, positioning this investigation as a ‘point-in-time’ study that could be used for comparison with future studies of the information-seeking preferences of secondary school teachers.
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➢ Dependability

As stated earlier, this research situation is a ‘point-in-time’, cross-sectional study, meaning that replication would be impossible. For example, the popularity of the social networking phenomenon, facilitated by the development and accessibility of Web 2.0 and Web 3.0 technologies, has created for teachers new information-seeking opportunities and technologies that were unavailable to the teachers in this study. This does not negate the dependability of the study, as many fundamentals of information-seeking behaviour remain relatively constant. For example, as evidenced in the literature, the range of resources used by the teachers in the present study has expanded (e.g., books are more widely accessible in digital formats, as well as print), but has otherwise not changed radically, since the time the study was undertaken.

➢ Confirmability

The literature suggests that objectivity is impossible, due to the inevitable subjectivity on the part of the researcher (Patton 1990; Morse 2006; Denzin & Lincoln, 2011). Confirmability is not negated, however, as Shenton (2004) opined that confirmability of research findings could be ascertained by factors including whether researchers admitted their own predispositions, to permit readers to judge whether the presentation of the findings emerged from the data and not from the researcher’s predispositions. To assist in this process, I consistently acknowledged my own beliefs throughout the present study, including reasons for favouring one method over another, preliminary theories not subsequently borne out by the data, perceived weaknesses, and lessons learned from the study. As Sutton (1993) suggested, the researcher’s viewpoint can contribute a valuable source of insight and understanding, as long as this influence is recognised and acknowledged.
3.2.5.2 Data quantity versus accuracy of reporting

One challenge inherent in the present study was the need to achieve accuracy of reporting when faced with the mass of data emerging from the 27 interviews, as this challenged the word-limit imposed on this thesis. Nevertheless, accuracy of reporting the range of viewpoints of the respondents was paramount and a balance needed to be sought. The results not included are mainly those deemed to be repetitive, irrelevant or superfluous to the main focus. Where several teachers appeared to be in agreement, the three most relevant or expressive comments were selected for inclusion in the thesis. Some of the more peripheral results were nevertheless considered to be worth conserving for future publications.

Amongst Marshall’s (2002) ‘good housekeeping’ strategies for researchers were the adoption of orderly approaches to data processing and efficient record-keeping. She recommended the merging of the above solutions by including “memoing”, “free-noding” and “coding on” (p. 66) when using computer-assisted coding programs, strategies also recommended by Bazeley and Richards (2005), which I consistently adopted.

3.2.5.3 Length of time taken

According to Marshall (2002), one of the greatest challenges for researchers undertaking qualitative research is the length of time taken to interview, transcribe, code the data and process the results of research, to allow time for distant contemplation of the data, and to take a “scholarly walk” (p. 64) in order to refresh creativity. However, this study took an extended length of time for data to be collated, processed and interpreted, resulting in a ‘scholarly walk’ that more resembles a ‘marathon’ trek, taking several years and extending to three schools, instead of the original one.

Circumstances often deviate from the ideal, and the original timeframe ballooned, reflecting the realities of mixing part-time, distance education with the necessity of working
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full-time, to support a young family. Rapid progress became impossible to achieve, with the result that the present study is a ‘snapshot’ that nevertheless fills a considerable gap in the literature. As pointed out in Chapter 1, there is a paucity of research into the information-seeking preferences of secondary school teachers at this time of technological change in their workplace practices, either in the first years of the 21st century when the present study was undertaken, or at the time of writing. As technological change is at an equally rapid pace in the current decade, it is hoped that this study will provide valuable insights for contemporary TLs seeking to provide their secondary school clients with quality resources, formats and locations for research.

The results of the quantitative (survey) component are discussed in Chapter 4, followed by the qualitative (interview) results, in Chapter 5.
Chapter 4 – Results of the Questionnaire

This chapter deals with the results of the survey component of the study, which comprised a questionnaire with opportunities for free-form comments. As this questionnaire was administered to the first of the three schools more than a decade ago, recent literature was subsequently explored to assist in interpreting the data for a more contemporary audience. Apart from the age of the data, a further limitation exists in the small size of the sample, which renders impracticable any tests of statistical significance or possibility of generalisation. Nevertheless, the value of this component was perceived to be twofold: firstly, in the overview of information-seeking preferences produced and secondly, in the detail provided by the free-form comments frequently contributed by respondents, which influenced the initial direction of the subsequent interview component.

For each section of the questionnaire relating to information resources, formats and locations, the respondents were asked to rank their preferences from amongst the options offered (including an ‘other’ option, with provision for individual comments), ranking from most preferred to least preferred option. For this study, only the highest and lowest ranked options were retained for quantitative comparison, but all free-form comments were included for clarification (Appendix E). Although this limited the ability to gain a picture of the relative merits accorded each potential choice, it provided a ‘snapshot’ of those options most and least preferred by the respondents. A focus on the relative importance of the ‘school librarian’ (as this was the term used in the survey), school library, books and the Internet was provided through specific questions, as these were areas of particular interest. Respondents were encouraged to provide their contact details if they were willing to participate in subsequent interviews, or wished to share additional information with the researcher.
4.1 Information resources

Teachers’ information-seeking preferences encompassed interpersonal and/or intra-personal resources, as well as books and the Internet. A review of the literature had indicated that some individuals prefer to seek information from other people, rather than from non-personal resources such as books. ‘People’ might constitute a colleague, friend, relative, an expert in some professional sphere, an information intermediary, a business contact, or even one’s own wealth of professional expertise or subject knowledge.

Communication could include personal contact (face to face, or via telephone), or via the Internet (e.g., web pages, email or lists). Allowance was made in the structure of the questionnaire to include both real and virtual ‘people’ as potential information resources, including respondents’ own knowledge resulting from an accumulation of professional expertise.

4.1.1 Most preferred information resources

One of the first survey questions required teachers to select from a list of possible resources (with scope for free-form comments or alternatives) and to nominate which were their 'most preferred' to use in the context of preparing for a forthcoming research task. As outlined in Chapter 3, the largest age group (51+) comprised 37% of the sample, while the youngest (21–30) comprised 15% of the sample. Table 11 shows the number of respondents, and the percentage according to age group, who selected specific information resources as their most preferred option.
The results suggest that 28% of these teachers preferred to obtain their information by relying on their own expertise, 23% preferred books written by recognised experts in the field, 15% preferred web sites and 12% preferred the expertise of information professionals such as the ‘school librarian’. Personal expertise, favoured by 39% of the largest age group (51+), could reasonably be assumed to have accumulated over many years of teaching practice. However, it is interesting to note that personal expertise was also the preference (39%) of the youngest age group (21–30), whose wealth of expertise would be arguably less abundant than that of their older colleagues. As mentioned above, these comparisons must be treated as merely ‘interesting’, rather than indicative of any pattern, given the small sizes of the numbers in each group and the fact that it was not possible to carry out meaningful statistical tests.

Books by experts (23%) was the second most popular preference overall, with clear dominance (42%) in the 41–50 age group. As no detail was sought regarding the specific nature of these books, it is unclear how many of these preferences were for textbooks (rather than for books of a more erudite nature), an option that appeared as a clear favourite in the more recent literature relating to teachers’ preferences for information resources (e.g., Tanni, 2012). Web sites were the third most popular preference overall (15%), emerging as the second most popular choice within the 51+ age group, far outweighing that of books. Web sites were also a preference nominated by the 41–50 and the 31–40 age groups, but were a surprising omission from the ‘first preferences’ of the youngest (21–30) age group, despite the relative accessibility of the Internet, especially at Alpha, where
online skills underpinned the laptop program in place at the time of the survey. The popular stereotype of ‘older’ teachers preferring books, while their ‘younger’ colleagues chose the Internet, did not appear to ring true in light of the questionnaire results obtained from these respondents, supporting similar revelations in the literature (e.g., Nicholas & Williams, 1999; De Rosa et al., 2005, 2010).

Information professionals, including the ‘school librarian’, was the fourth most popular preference overall (12%). This may be a reflection of the lack of awareness, evident within contemporary teacher training, of the potential value of collaboration with the school librarian (noted in e.g., Hartzell, 2002; Williams, 2007; Williams & Wavell, 2007). Alternatively, the paucity of more positive preference might be a personal issue, as one teacher observed in the comments area: “Some librarians are more efficient and helpful than others”.

Some teachers were motivated to provide further explanation for their preferred selections, commenting that time (or the lack of this commodity, during the busy teaching year) determined choice: “The preferences are related to time – these choices give the fastest access” and that to use resources other than their own expertise “is time wasting. When I rely on myself this doesn’t happen”. The awareness of time as a limitation on information-seeking proclivities is another trend noted in the literature (e.g., Holmes, 1992; Bishop & Larimer, 1999; Callison, 1999; McCracken, 2000; Mardis & Hoffman, 2007).

4.1.2 Least preferred information resources

In the survey Question 7.2, teachers were asked to nominate their least preferred information resource. The results are presented in Table 12, again with differentiation by age group:
Table 12: Information resources (least preferred options)

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleagues outside school</td>
<td>7</td>
<td>6</td>
<td>11</td>
<td>14</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>Experts</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Web sites</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Information professionals</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Colleagues at school</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Own expertise</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Books by experts</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>101</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number, resulting in some totals presenting as greater or less than 100.

As can be seen above, assistance from colleagues from outside the school emerged as the predominant negative preference for all age groups. In relation to ‘colleagues from outside school’, teachers commented that it was “too difficult to find people who have the time to commit to another school”. One English teacher observed that “ETA [i.e., The English Teachers’ Association of NSW] conferences ... are infrequent, so I don’t use [the expert speakers] as much”. The selection of ‘information professionals’ was the least preferred choice made by a few of the teachers in the 21–30 and 31–40 age groups (around 18% and 16%, respectively), with comments revealing reasons including the perception of negative attitude, lack of subject expertise and poor professional expertise. “Librarians can often be more concerned with the ‘collection’ than with helping people”, reported one teacher.

Another teacher (in the 31–40 age group) took considerable trouble to share, via a subsequent documented telephone call, the details of her uncomfortable relationship with a former TL, confiding that:

I have a mild case of dyslexia and find it difficult to spell key words correctly when trying to search the library online catalogue. One librarian used to march me over to the catalogue and stand there, watching critically, while I tried to type in my search terms without making mistakes. It was very humiliating. I went out of my way to avoid using the library or confronting this librarian, although I enjoyed browsing the shelves for resources, when she wasn’t around.

Positive comments, however, outweighed the negative (see Appendix E, Table E1), with a typical example being contributed by the teacher who expressed the view that: “The library staff are wonderful ... because their role is not limited to books – they assist students in learning research strategies”. 

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4.1.3 The role and relative importance of the school librarian

Teachers’ perceptions of the role and importance of the TL in relation to other sources of assistance with information were solicited in Question 7.4. Respondents were asked to consider and rate the relative importance of the school librarian within their information-seeking routines, selecting the most appropriate response from ‘very important’, ‘important’, ‘not very important’, ‘depends on the individual librarian’ (where respondents were encouraged to qualify their choice) and ‘irrelevant’ (where no librarian’s assistance was deemed necessary to complete the task). The overall results appear in Table 13:

Table 13: The relative importance of the school librarian

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>3</td>
<td>9</td>
<td>7</td>
<td>14</td>
<td>33</td>
<td>44</td>
</tr>
<tr>
<td>Important</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>24</td>
<td>32</td>
</tr>
<tr>
<td>Not very important</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Depends</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td><strong>11</strong></td>
<td><strong>17</strong></td>
<td><strong>19</strong></td>
<td><strong>28</strong></td>
<td><strong>75</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Note. Percentages rounded to nearest whole number.

The school librarian was rated as either ‘very important’ or ‘important’ by 76% of respondents, followed by the qualifying option ‘depends on the librarian’ at 15%. Only 8% of teachers rated the school librarian as either ‘not very important’ or ‘irrelevant’. In the comments offered by teachers, lack of available time continued to emerge as a critical issue, with one teacher who had chosen the option ‘depends on the individual librarian’ adding the qualifier that “if a teacher has the time to seek information, then I would rate the school librarian as Very Important”. Another rated the services of the librarian as “not very important, as there is not enough time to consult”.

The self-confidence of the teacher was also seen to impact on the rating accorded the school librarian, with one teacher commenting that the latter was “not as relevant if I have a good grip on the research task”. Again, the subject knowledge and skills of the individual librarian were noteworthy in regard to their relative importance to teachers. As
one teacher explained, “the importance depends on the varying expertise of the individual librarian – some have particular skills relevant to particular projects”, while another added that librarians are “only important if the librarian has an understanding of the subject and topic”.

Other comments supplied by respondents (Appendix E) offered some degree of clarification regarding teachers’ impressions of the relative contribution of and support provided by school library staff. Some teachers appeared very pleased with the benefits derived from a professional rapport with their TLs, expressing appreciation that “they are always reliable, helpful and I feel confident in their knowledge”, while others were able to identify specific areas in which they felt that collaboration with the librarian would be particularly beneficial: “I find the school librarians an excellent point of contact to help with resources and advice on options for research assignments”. Another teacher commented: “A good librarian helps in working out a pathfinder to the topic”. “Also important”, noted a teacher who had nominated videos as a preferred source of information, “are the video specialists, computer and Internet specialists”.

Although in the minority, critical comments were submitted by those teachers who did not choose to rate the school librarian as either ‘very important’ or even ‘important’. The value of the school librarian “depends on the expertise and interest of the individual librarian”, noted one teacher. They “must be approachable, incisive and useful”, declared another. “The librarian is very important only when they understand what you are looking for and are able to access that information” added a further respondent. The suggestion that “some are a great help – but others are not” was a common refrain throughout this section of the questionnaire.

While comments on such aspects of assistance were largely positive, some concern was expressed regarding the ability of the school librarian to master a sufficiently wide subject range to suit the needs of all teachers. “It is hard when the information [resources] are in [a foreign language] and the librarian is not familiar with the content and how suitable it is for students”, wrote one younger (21–30) teacher, while others were more forthright in rejection of the concept of any collaborative interaction. “Some librarians are better suited
to a specific [subject area and lack] the lateral thinking skills needed to brainstorm”, observed one teacher, while another stated plainly that he “would not consider using the librarian for brainstorming or as a collaborative partner unless they were a specialist librarian”. A follow-up conversation to clarify this distinction revealed that the phrase ‘specialist librarian’ referred to his experiences with school librarians who were appropriately trained and qualified in both teaching and librarianship, as opposed to a teacher who lacked library qualifications but was occupying the position of school librarian.

Teachers were additionally asked to consider at what stage in their research process, and for what purposes, they might consider consulting the school librarian. They were offered a selection of situations and asked to respond with a “Yes”, “No” or “Maybe”. The results indicated that, overall, teachers might consider consulting with the school librarian ‘before searching’ and/or ‘at the primary stages’ of their research (of the total responses, 72% were affirmative), while 64% of responses were affirmative for a nomination of the school librarian as a ‘partner in collaboration’. Where teachers had nominated the school librarian to be ‘very important’ (rather than merely ‘important’), the figures rose to 81% for assistance ‘before searching’, 78% for assistance at the primary stages of research and 86% for those who nominated the school librarian as a ‘partner in collaboration’. However, as teachers were not asked to qualify their understanding of collaborative partnerships, it is unclear whether the understanding of the respondents correlated with that described within the literature of teacher librarianship (e.g., Montiel-Overall, 2005b). The related free-form comments were largely about, e.g., how friendly or knowledgeable teachers found the library staff to be, rather than describing the types of collaborative activities they engaged in with library staff. Nevertheless, within the sample, these results were broadly affirmative of the positive perceptions of the role of the school librarian.
4.1.4 Information formats

This section presents details regarding specific information formats preferred by teachers, including multiple preferences such as retrieving information from the Internet, then printing and utilising it as a paper format, rather than working from the digital copy. Other teachers preferred to search for a particular magazine article using an online subscription service, note down the details and come to the library to request the original paper copy of the magazine. It must be recognised that the choices of formats reflected a ‘point-in-time’ cross-sectional study of preferences, dependent on user familiarity with the technology and formats available, at the time of the survey.

4.1.4.1 Most preferred information formats

Table 14 illustrates those formats most preferred for searching for information, again differentiated by age group:

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>41</td>
<td>55</td>
</tr>
<tr>
<td>Internet resources</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Indexes (electronic)</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Magazines</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Computer resources</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Indexes (paper)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Paper printouts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. Percentages rounded to nearest whole number.*

Results indicated that books were the most popular format at 55%, followed by Internet resources at 19%. In the section provided for additional comments, respondents expanded on their reasons for preferring one format over another. It became clear that there was arguably less differentiation between preferences for books or the Internet than the initial
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results might suggest. Those teachers who preferred books justified their preferences based largely on authority and credibility, relative ease of access or tactile pleasure. Books were variously described as “hands on – easier for me to take notes, etc.” by one history teacher, or “good for an overview and as a first start”, by another history teacher, while one English teacher stated that “(books) are a pleasure to work with. I enjoy the feel and structure of books”. As one respondent noted, books were preferred because she was “more familiar with this method [and] technology [was] often frustrating”.

At the same time, the Internet had its strong adherents, often for similar reasons as those associated with preferences for books. One LOTE teacher voted the Internet as “always the first source, [as it is] convenient, rapid, up to date with most recent information”, while one maths teacher found the Internet the most convenient resource with which ”to stay up to date with BOS” [i.e., the NSW Board of Studies] etc. and also to research for the sake of research”. Another maths teacher named the Internet as important as it was “good to keep up with what software [for mathematics] was available”, while an English teacher noted that the Internet was “a great source for case studies, statutes, etc.”. It is interesting to note that 50% (seven out of 14) of all teachers who nominated the Internet as the preferred format came from the 51+ age group, even though that age group only represented about 37% of the total number of teachers. The Internet proved to be the most preferred choice for 25% (seven out of 28) for this group. In comparison, less than 10% of the youngest group chose the Internet as their first preference.

Respondents appeared to be critical users of Internet resources, rather than slavish devotees. For example, one computer studies teacher found that “web sites provide more current, relevant information”, for her subject area, but noted that they “always needed validation” before use. “The URL will most likely validate authenticity of material”, she reflected, as this “always needs validation”.

Magazines were selected by 7% of respondents (mostly science teachers), ranking fourth amongst the most preferred options. One science teacher from a school which boasted an enviable collection of print/electronic magazine and serial resources preferred these to
books, because books were “very good for basic information but the research is usually out of date”.

The decision to include the ‘other’ category (4%) was amply rewarded, as it showcased preferences that otherwise would not have emerged. For example, one geography teacher nominated videos as a preferred format, while another commented that “speaking with the librarian” was the format most preferred when he was seeking information. Although I had been aware that videos and CDs featured significantly within the school library, departmental and some teachers’ private collections, my personal bias had previously tended to categorise these types of resources as ‘recreational’ (e.g., as lesson substitutes convenient for the last day of term), rather than as bona fide teaching resources. However, when a music teacher commented: “Most of what I use are the primary resources – the music or CD”, it became very clear that resources popular with many teacher-librarians were not always those most highly valued by every classroom teacher, and vice versa. Videos and CDs were also found to be popular with teachers in other studies (e.g., Mardis, 2005; Mardis & Hoffman, 2007).

Paper printouts were preferred by 23% of respondents for utilising information previously retrieved. As one history teacher commented, books were her first choice for locating resources, then photocopies the preferred format for collating and utilising the information located therein. Another science teacher noted that she preferred to make photocopies of the relevant sections of books and print off Internet pages “So I can piece them together”.

4.1.4.2 Least preferred information formats

This section deals with options for particular formats that were ranked as ‘least preferred’. Results are displayed in Table 15:
Table 15: Formats least preferred when searching for information

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indexes (electronic)</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>Indexes (paper)</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Paper printouts</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Computer resources</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Books</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Magazines</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Internet resources</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

Note. Percentages rounded to nearest whole number.

Formats most often selected as least preferred for searching for information were electronic indexes (31%), followed by paper indexes (27%), paper printouts (15%) and computer resources (13%). Books, the Internet and magazines (all at 4%) were less likely to be allocated the lowest preference when searching for information, with reasons relating to perceived deficiencies in these otherwise popular formats. For example, books were nominated as ‘least preferred’ by one computer studies teacher mainly due to the lack of currency of information relevant to her teaching area, since books were “usually printed too long ago to be relevant”, compared with more current Internet resources.

The Internet was selected as least preferred option by three teachers from the combined schools’ 51+ age bracket, for reasons largely related to a perception of wasted time and what might be described as ‘information overload’. As one LOTE teacher commented, the Internet was “too frustrating and time consuming”, compared to “books and photocopies”, a complaint also noted in other studies from non-teaching areas (e.g., Kuhlthau & Tama, 2001). One teacher voted the Internet as the least preferred format for searching, as “it is hard to find information”, while another rated the Internet as the least preferred option because: “I usually can’t find what I’m looking for and if I do, it is very brief and not necessarily written by experts”. Yet another teacher expressed frustration when confronted by the lists of items retrieved from the Internet: “There are usually so many of them and it’s impossible to know which will be useful. It takes ages to trawl through them when refined search options are exhausted”. Perception of inadequate quality control over Internet
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resources is noted in the literature (e.g., by Savolainen, 1999; Kuhlthau & Tama, 2001; De Rosa et al., 2005, 2010; Herring, 2005; Haigh, 2006).

Reasons for the dislike of magazines by respondents included those of a Technology and Applied Sciences (TAS) teacher from Beta commenting that magazines were "not easy to collate and utilise", while a teacher from Alpha noted that "using magazines/serials can be more time consuming when you don’t have a lot of time available". A predominant perception of lack of time existed at Alpha, irrespective of the fact that they not only subscribed to a wealth of magazines and journals in both print and electronic format, but also indexed the former in their library catalogue, which was accessible on teachers’ laptops via the school Intranet.

4.1.5 The relative importance of books and the Internet

Due to the rapid emergence of electronic information resources as a viable alternative to those traditionally offered by school libraries, the relative merits of books and the Internet were of particular interest when considering teachers’ preferences for using specific information formats. Studies noted in the review of the literature (e.g., Herring 2005; De Rosa et. al. 2005) supported the argument that the Internet is increasingly taking the place of traditional library formats such as books and magazines, and indeed, even subordinating the role of libraries and threatening the livelihood of librarians. The questionnaire asked teachers to rank the relative importance of ‘books’ and ‘the Internet’ as preferred formats within their information-seeking practices. Results must be considered in the light of the age of the data and could well be different in the present day (e.g., as indicated in Diekema & Olsen, 2011; Tanni, 2012), due to the impact of technology on digital convergence and the range of formats now available to users.
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4.1.5.1 The relative importance of books

Respondents were asked to nominate their relative preferences for books in the information-seeking process, with choices ranging from ‘very important’ to ‘irrelevant’ to their needs. Results were as follows:

Table 16: The relative importance of books in the information-seeking process

<table>
<thead>
<tr>
<th>Relative importance of books</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>8</td>
<td>12</td>
<td>13</td>
<td>15</td>
<td>48</td>
<td>64</td>
</tr>
<tr>
<td>Important</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Not very important</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Depends</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>99</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number, resulting in some totals presenting as greater or less than 100.

Table 16 shows that books were considered to be ‘very important’ or ‘important’ by 88% of respondents. Only 5% of respondents rated books to be ‘not very important’ with an equal number of teachers selecting the qualification of ‘depends’ (i.e., depending on circumstances). No respondents nominated books as ‘irrelevant’ to their research needs, even if they clearly expressed a preference for alternative formats. It is interesting to note that the percentages of those who nominated a stronger preference for books as ‘very important’ decreased as their ages increased, e.g., 73% of those in the 21–30 age group, 70% of those aged 31–40, 68% of those aged 41–50 and 54% of those aged 51+. This indicates a consistency with the findings from related questions.

Even the Internet-favouring computer studies teacher at Alpha had a positive comment with which to qualify the lower rating allocated by her to the books from the school library, stating that the books which were suited to her research needs were “very useful but usually not available in our school library [and are] too expensive to buy”. A history teacher
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lamented that the popularity of books in her subject area rendered them less accessible, as “books are the most reliable resource, but they are not always available” from the school library when needed.

It is worthwhile to reflect on the changes facilitated by the increased availability of online resources in the years since the survey was undertaken. Access to the Internet has increased in schools, especially since the technology run-out that was a major component of the Australian Federal Government’s post-2007 Digital Education Revolution (DER).

Although books still appear to be popular choices, recent figures (e.g., from Fisher, 2010; Lee, 2010; Rainie et al., 2012; Softlink, 2012) indicated that e-books are competing with sales of printed copies. The increase, however, appears to be in the area of fiction, rather than the non-fiction that would be the preference for teachers preparing for an assessment task. The degree to which technology has changed the research preferences of secondary school teachers since the time of this study is an area that must await further research.

4.1.5.2 The relative importance of the Internet

Teachers were also asked to rate the relative importance of the Internet as their preferred format, with the results included in Table 17:

Table 17: The relative importance of the Internet in the information-seeking process

<table>
<thead>
<tr>
<th>Relative importance of the Internet</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>27</td>
<td>36</td>
</tr>
<tr>
<td>Important</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>13</td>
<td>33</td>
<td>44</td>
</tr>
<tr>
<td>Not very important</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Depends</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. Percentages rounded to nearest whole number.*

The responses suggest that the Internet did not rate as highly as ‘books’, with only 36% of respondents determining the Internet to be ‘very important’, compared with 64% rating books as very important. While the Internet was still rated as ‘important’ by 44% of
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teachers, a further 11% indicated that they considered the Internet to be ‘not very important’. Other teachers chose to remain cautious with the selection of ‘depends’ (7%) and only one teacher declared the Internet to be ‘irrelevant’ to her information needs.

Judging from the comments provided by respondents, the reasons for the lesser popularity of the Internet, compared with books, related to dissatisfaction with either the content, or the quality and integrity of service supply. For example, one teacher from Gamma reported that “at this stage I’ve found some information incorrect and unreliable”, while a Gamma science teacher stated flatly that “some Internet sites are junk”. As one history teacher from Alpha commented, the Internet was “useful for more recent material but reliability is much more of a problem”, an issue that was consistently encountered in the literature (e.g., Holmes, 1992; Perrault, 2007; Tanni et al., 2008; Diekema & Olsen, 2011).

Frustration with the relatively slow speed of Internet delivery (at the time of the questionnaire) was noted by another Alpha teacher, who rated the use of the Internet as ‘important’ but with the proviso that “I do not have enough confidence with it ... I often find it slow and frustrating”. Yet another Alpha teacher conceded: “There is obviously a wealth of good information out there – it just takes a long time for me to find anything”. It is unclear whether this complaint related to the slow speed of the service delivery or the teacher’s lack of success in locating relevant information on the Internet. One LOTE teacher at Beta rated the Internet as ‘not very important’, stating: “I don’t use it at all but the students are free to do so”.

Comments suggest that a high level of discrimination existed amongst this sample when selecting either books or the Internet as preferred formats for research, particularly relating to the currency of content. One LOTE teacher from Beta observed: “Books are very useful when the information needed is not dated. If information on current trends is needed, then the Internet can be invaluable”. A teacher from Alpha deemed books to be important as “information is precise and geared to the level of students but could be outdated”, whereas the Internet “provides a variety of resources and it is easy to find current information”.

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The different roles for books and the Internet within the information-seeking process appeared to be largely appreciated by teachers. Books were rated as important by an English teacher at Beta, who noted that “current books on critical theory and film studies are very important as background reading”, but that the Internet must also be rated as ‘very important’, in fact “vital – especially as most of the BOS information is being updated all the time”. One art teacher at Gamma stated that she changed preferences depending on the needs of the project, topic or student, rating the use of books as ‘very important’, in that they were “tangible, edited, general high quality content” and thus perceived as “reliable sources”; whereas the Internet was noted to be equally significant as it was perceived to be “good for current/contemporary content and fringe issues”.

Although there were insufficient numbers of respondents to make strong statements about patterns of preference based especially on gender but also on age, the results from the questionnaire arguably supported the literature (e.g., Nicholas & Williams, 1999; van de Wijngaert, 1999; Armstrong, Phillips & Saling, 2000; Heimrath & Goulding, 2001) in refuting anecdotal stereotypes suggesting that books were the preferred information format of ‘older’ teachers, while ‘younger’ teachers preferred to use the Internet. In contrast, some of the older teachers appeared to be keen devotees of the Internet in preference to books, while some younger teachers responded with negative views about the Internet and indicated a stronger preference for books.

It is unclear whether this degree of popularity of the Internet has increased, decreased or stayed the same over the time that has elapsed since the questionnaire was administered, as comparisons with more recent studies such as those of Tanni (2012) or Diekema and Olsen (2011) are imprecise. For example, the former study focused on trainee teachers (with relatively limited experience), while the latter utilised a sample even smaller than that used for the present study (viz., five teachers from one school, with experience ranging between two and 16 years). All that can be reliably deduced is that participants in these more recent studies used a variety of resources including the Internet, as did those teachers whose viewpoints are presented in Table 17. What emerges as common to both studies are positive observations relating to the relative ease of access to the Internet, balanced by adverse comments regarding the plethora of irrelevant material inadvertently retrieved.
4.2 Information locations

This section deals with the locations for which teachers expressed a preference when they were seeking information during the course of the research process. These information locations ranged from physical locations such as a library or home office bookshelf, to virtual locations, such as the websites of professional associations. Respondents were asked to rank their preferences from ‘most preferred’ to ‘least preferred’ option, choosing from the locations offered (including an ‘other’ option). Options chosen as most and least preferred are discussed in the following sub-section, with all free-form comments collated in Appendix E.

4.2.1 Most preferred information locations

Again, due to the small size of the sample, the results from all three schools were combined in order to provide a larger sample size. It is therefore unclear what reasons were behind the choices made by individual respondents from each school, as not all of the school libraries offered the same range of resources, services or staff expertise. In order to make sense of these results, further investigation of individual motivation was clearly desirable, to be explored in subsequent, in-depth interviews.

Results from the questionnaire, sorted by age group and ranked by expressions of preference, indicated the number of teachers who chose the following locations as most preferred for seeking information. Options that were not selected as first preference by anyone were omitted from Table 18:
Overall, Table 18 shows that the teacher’s own collection of resources, located at their workplaces, was the option preferred by 28% of respondents, equalling that of the teacher’s own expertise (i.e., knowledge gained from experience), which stood out as the most popular choice in the 51+ age group (39%). The school library fared no better as a most preferred location than the respondents’ own resource collection at home, with each of these options only rating 11%, overall. Proportionately more teachers in the 51+ age group indicated a preference for their home collection (39%), than did teachers in the 41–50 age group (18% and 16%, respectively), while the teachers in the 21–30 and 31–40 age groups did not select, as first preference, the option of collections of resources at home, as there were zero scores for both. With regard to preferences expressed for using the school library collection (11% of the combined totals), teachers in the 21–30 (18%), 41–50 (16%) and 51+ (11%) age groups indicated a varying degree of preference for this location, in contrast to teachers in the 31–40 age group, none of whom selected the school library collection as their first preference.

4.2.2 Least preferred information locations

This section deals with those options for information locations that were nominated as ‘least preferred’ by respondents, with the results displayed in Table 19:

### Table 18: Information locations (most preferred options)

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own expertise</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Own resources (work)</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Own resources (home)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>School library collection</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Departmental collection</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Internet site</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>University library</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Places frequented by experts</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. Percentages rounded to nearest whole number.*
Table 19: Information locations (least preferred options)

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local library collection</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Special collection</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>University library</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Places frequented by experts</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Computer resource</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Grapevine via phone</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Grapevine via email</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Internet site</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Own resources (work)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Departmental collection</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>School library collection</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>99</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number, resulting in some totals presenting as greater or less than 100.

In the table above, it is impossible to know the reasons behind the choices, due both to the small size of the sample rendering any implications meaningless and the level of ambiguity inherent in those answers not accompanied by an explanatory, written comment. For example, the fact that 25% of the 51+ age group chose to nominate ‘special collections’ as their least preferred location is ambiguous, when it is unclear what the respondents understood by the term ‘special collections’. All that can be reasonably gleaned from these results are indications that can be recognised across every age group, such as the suggestion that locations that were least preferred were the local (municipal) library (23%), followed by ‘special collections’ (21%). The explanatory comments, when supplied, were more illuminating: one local library was particularly criticised as being “so limited, [with resources] missing or destroyed”, while another teacher rejected his/her closest university library as “too time consuming” to visit.

4.2.3 The relative importance of the school library

The questionnaire asked teachers to express their views about the role and deemed importance of the school library, with options ranging from ‘very important’ to ‘irrelevant’. As the respondents expressed their preferences in a questionnaire, rather than demonstrating them in the workplace where they might have been observed by a researcher,
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the results (in Table 20) merely indicated what teachers chose to express about the relative importance of the school library, regardless of how they may or may not have actually used it on a daily basis.

Table 20: The relative importance of the school library

<table>
<thead>
<tr>
<th>Age group of respondents</th>
<th>21–30</th>
<th>31–40</th>
<th>41–50</th>
<th>51+</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>3</td>
<td>8</td>
<td>14</td>
<td>13</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>Important</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>12</td>
<td>26</td>
<td>35</td>
</tr>
<tr>
<td>Not very important</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Depends</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total responses</strong></td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>28</td>
<td>75</td>
<td>101</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number, resulting in some totals presenting as greater or less than 100.

No respondent deemed the school library to be ‘irrelevant’, while 86% of teachers nominated the school library as either ‘very important’ or ‘important’. As one teacher from Alpha commented, the school library is “vitaly important, as it is convenient and well equipped”, while others noted that it was important as the “library holds a diverse range of extremely useful resources”, especially the “good collection of up to date information in journals etc. relevant to my subject area”. While another Alpha teacher echoed the previous view that the school library was “VITAL – convenient and well equipped”, the same school library was less likely to be used by the computer studies teachers, in comparison with the Internet. As one of these teachers commented, “Most research that I do would be on new and emerging technologies and I know how and where to search [online] for relevant information”, while another saw the school library as not very important as the resources “are often out of date”, at least in her subject area. Nevertheless, these perceived deficiencies in the resources offered by the school library did not necessarily render its services redundant, as this teacher noted that despite the fact that “I don’t like to use the library … [I] would count [one of the librarians] as my resource”.

Physical proximity to the school library was seen as advantageous by one teacher, who commented that it was ‘very important’, because it was “close by, easily accessible and [one of the librarians] is very approachable”. One teacher commented that the school
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library was “always my first port of call”, while another noted that “I rely almost entirely on the library keeping up to date with the latest resources and new materials”.

A number of teachers appeared to rely on the school library as a ‘very important’ source, e.g. “for information not kept/not obtainable by the individual”. To one teacher, the school library was ‘very important’, in fact, “vital – especially for the ETA publications, specialist publications and video collections”. The school library’s modest but intact collection of newspapers was appreciated by one teacher, who used them because of the perceived lack of an “accessible, Internet-based repository of feature stories from major newspapers ... I tend to rely on the school library as a source of these feature stories”. Although praising the newspaper collection, this teacher criticised her school library as being otherwise “poorly resourced”, requiring her to "use the Sydney University library occasionally” – a further encroachment on her time. Print-based resources were not the only attraction of the school library for some teachers, one of whom nominated this location as ‘very important’ because she could “usually find information either ‘printed’ or pointers to Internet information of a relevant nature” As one teacher noted, “As the collection is improving, [the school library] is becoming more important”.

It became evident, during an analysis of these results, that for some teachers the school library was perceived as an information location less suited to their research needs than to those of their students. One teacher from Alpha suggested that the school library was “great for research tasks for students, and for the video collection”, but no mention was made of any additional use of the school library by the teacher herself. Another teacher from Beta described the school library as “not very important ... unless [for] a research task for students. Then it becomes very important”. It is interesting to note that the only teacher who ranked the school library as the least preferred location for seeking information commented that, although it was not important for her own research needs, it was important for those of her students.
4.3 The role of affect

The role of affect as a motivating influence in the decision-making process was of particular interest to me. Nahl and Tenopir (1996) had defined affect as:

> The affective domain [that] pulls together into one powerful category the entire motivational and emotional involvement of searchers … as well as the emotional dynamic features that determine the quality of the search process, (e.g. frustration, hope, disappointment, excitement, disbelief, etc.). (p. 277)

This understanding was enhanced by Kuhlthau’s (1993, 1999a, 2004) contribution to the roles of anxiety and affect in the student ISP. According to Kuhlthau (1999a), “feelings in the process of information seeking, traditionally ignored and even denied as unimportant, may be seen as a critical element in the experience of users when studied in context” (p. 15). As a consequence, the role that a teacher’s emotions or perceptions might have to play in their exercise of preference for particular information resources, formats or locations was an area that was explored.

To investigate the associations between affect and the exercise of preference, a selection of emotions associated with positive and negative affect was included in the questionnaire, with respondents invited to choose any or all emotions that they recalled associating with the exercise of their information preferences. Respondents could select as many or as few emotions as they considered relevant, as well as adding any personal comments or observations relating to the exercise of preferences when selecting information resources, locations or formats. In the questionnaire, the terms were presented in alphabetical order with no emphasis on their meaning, so as not to appear to be leading the respondents into choosing in accordance with an apparent pattern. In Table 21, they are grouped according to whether they were nominated as a result of association with the teachers’ most or least preferred options (labelled MPO and LPO, respectively):
Table 21: Emotions associated with most or least preferred options

<table>
<thead>
<tr>
<th>Emotions: MPO</th>
<th>Resources</th>
<th>Locations</th>
<th>Formats</th>
<th>Emotions: LPO</th>
<th>Resources</th>
<th>Locations</th>
<th>Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence</td>
<td>55</td>
<td>54</td>
<td>53</td>
<td>Frustration</td>
<td>26</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>42</td>
<td>42</td>
<td>35</td>
<td>Uncertainty</td>
<td>27</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Optimism</td>
<td>38</td>
<td>35</td>
<td>35</td>
<td>Disappointment</td>
<td>13</td>
<td>25</td>
<td>14</td>
</tr>
<tr>
<td>Certainty</td>
<td>30</td>
<td>32</td>
<td>26</td>
<td>Doubt</td>
<td>20</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>In control</td>
<td>26</td>
<td>35</td>
<td>32</td>
<td>Confusion</td>
<td>9</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Relief</td>
<td>12</td>
<td>13</td>
<td>12</td>
<td>Anxiety</td>
<td>6</td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

MPO = Most Preferred Option; LPO = Least Preferred Option

Of the available options, ‘confidence’ was chosen most frequently (see above), with regard to the most preferred information resources, locations and formats, with ‘satisfaction’, ‘optimism’, ‘certainty’ and ‘being in control’ being progressively less popular choices. In all, some indication of positive affect was associated with the ‘most preferred’ option in most responses to this section of the questionnaire. Respondents contributed their own understanding of this section of the questionnaire, in some cases intermingling both positive and negative comments when describing the same option. For example, one respondent who selected the Internet as the most preferred information resource then volunteered associated comments noting “curiosity and interest”, “sense of discovery (if new)” and “reassurance if expectations confirmed” but also added the ostensibly negative references “anxiety”, “doubt” and “frustration with technology”.

Respondents were asked to nominate any emotions associated with the use of the information resource, location or format that they had previously chosen as the least preferred and many added comments to clarify their intentions. The terms associated with the least preferred options were more numerous in the areas of ‘frustration’ and ‘uncertainty’, with ‘disappointment’ for locations and ‘confusion’ for formats appearing more frequently than other choices. ‘Anxiety’, which I had assumed would be chosen more frequently in association with respondents being obliged to select their least preferred option for interacting with information, was one of the terms least nominated for resources and locations. The assumption that positive emotions would be associated with most preferred options and negative emotions with least preferred options was not overwhelmingly supported by the results from this section of the questionnaire.
Interestingly, some respondents proffered what might be perceived as negative comments, in connection with selecting their most preferred option, although these were fewer than positive comments. It seems that ‘anxiety’ was not as ubiquitous a companion of teachers’ least preferred information experiences as were other examples of negative affect, such as ‘frustration’ and ‘uncertainty’. The results of this section of the survey are limited, in that they do not clearly indicate why teachers associated particular emotions with their preferences.

### 4.4 Relevance of the findings

The questionnaire was administered to teachers with a view to ascertaining their information-seeking preferences, as well as discovering any motivating influences or deterrents influencing these choices. Far more was gleaned from responses to questions relating to preferences for options that were most preferred, than for those least preferred. Results were mixed. On the one hand, patterns of preference could be reasonably detected for particular information resources, formats and locations, often supported by ample comment to clarify any ambiguities. On the other hand, it became clear that individual teachers held conflicting views as to the relative value of specific items or services, such as the role and function of the school librarian or the nature of any collaborative interaction (i.e., in relation to one of the options in Question 7.4) between teachers and library staff.

With regard to information resources most preferred by teachers, the cache of professional expertise of the individual teacher was predominant, with information professionals (including the school librarian) only attracting 12% of the combined preferences. Nevertheless, the role of the school librarian was deemed to be either ‘very important’ or ‘important’ by 76% of respondents, a largely positive perception that has been reflected in the literature for more than a decade (e.g., Kuhlthau, 1999a, 1999b, 2004; Mardis & Hoffmann, 2007; Montiel-Overall, 2007; 2008; Softlink, 2012).

With regard to preferred formats, the survey results indicated that books were clearly the most popular format at 55%, followed by Internet resources at 19%, a result that was also reflected in the more current literature (e.g., Tanni, 2011), although direct comparisons are
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not possible, as was explained previously. The increasing popularity of the Internet was already evident in the preferences of (but not limited to) science teachers, similar to the trends noticed both in schools (e.g., Herring, 2005; Haigh, 2006; Mardis & Hoffmann, 2007) and the wider world of information use (e.g., De Rosa et al., 2005, 2010). Resources that were considered to be more accessible in digital formats (e.g., magazines and journals available via EBSCO’s CD-ROM subscription service, or online from JSTOR) were starting to make an impact on the information-seeking preferences of a small number of respondents, but books were limited to use in their printed form by teachers at the time of the study, pre-dating the availability and growing popularity of e-book formats (e.g., Lee, 2010; Softlink, 2012).

Information locations were revealed to favour a marked preference for the teacher’s own expertise (28% overall), or collection of resources kept on bookshelves, in filing cabinets or stored on one’s own computer, at work (28%) or home (11%); reflecting and foreshadowing the popularity of these indicated in the literature (Holmes, 1992; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). Preference for the resources of the school library was less evident in these results (11%), although comments by these users indicated considerable devotion. The trend away from the traditional library-based resources towards those located online (Herring, 2005; De Rosa et al., 2005, 2010; Haigh, 2006) was evident in the survey results, despite a plethora of positive comments about the perceived value of the resources and services delivered by selected library professionals.

Motivators or deterrents for use of specific information resources, formats or locations were most evident in references to teachers having sufficient time or ease of access (as with e.g., Holmes, 1992; Bishop & Larimer, 1999; Callison, 1999; McCracken, 2000; Mardis & Hoffman, 2007). Occasional, cryptic comments such as preferential use of the school librarian, depending on the individual concerned, suggested that compatibility of personalities was one factor that warranted further investigation (as recommended by, e.g., Montiel-Overall, 2006). Kuhlthau’s (2004) and Miwa’s (2000) suggestions that affect might play a more significant role in the information decisions made by users was not able to be fully investigated by the limited nature of the survey instrument, which prohibited any probing of areas of emerging interest.
Limitations were also obvious in the data that could not be obtained, due to the restrictions imposed by the survey and the relatively small number of fully completed responses. The main issues concerned the nature of the choices that could not be followed up, e.g., the second and subsequent choices of information resources, formats and locations, as well as clarifying areas of confusion caused by a conceptual overlap between ‘resources’ and ‘formats’ (discussed previously). Although the questionnaire served to begin the investigation into the information-seeking preferences of these respondents, it was evident that further in-depth investigation was required if less ambiguous answers to all the research questions were to be obtained. Thus it was decided to proceed to an in-depth interview component of the study, so that such issues could be more comprehensively explored. This component of the study is addressed in Chapter 5.
Chapter 5 – Results of the Interviews

This chapter presents the results from the in-depth interview component of the investigation into the information-seeking preferences of secondary school teachers. Interview questions were initially designed to elicit the teachers’ preferences for particular information resources and locations, including the roles played by school libraries and library staff, with a view to gaining insights that might be useful to TLs facing the challenges of school librarianship in the 21st century. A second area of questioning related to those factors that appeared to act as motivators or deterrents in influencing the exercise of preferences. As already mooted, the original analysis of these preferences into resources, formats and locations resulted in considerable overlap, especially between resources and formats. Thus the discussion reflects the reality by not always acknowledging the original precise categories.

The interviews commenced by inviting the teachers to talk about the information resources and locations they preferred when planning a unit of work with which they were unfamiliar. Nevertheless, conversations were encouraged to flow in directions considered meaningful by the participants, with the only proviso being that they were broadly ‘on topic’. Where appropriate, these expanded conversations were included in the findings, using the emerging data to enrich understanding of the area of study. As mentioned in Chapter 3 and above, it became evident that categories of preference could not be considered mutually exclusive. For instance, one teacher’s expressed preference for using books from their own collection could not be simply placed into a single category of ‘Resource Format – Books’ or ‘Resource Location – Own Collection’, as it was appropriate to both labels. Preferences proved to be as diverse as the personalities of the teachers themselves, and therefore often overlapped more than one theme/category (see Chapter 3, Figure 4). Consequently, categories, as outlined in Chapter 3, should be regarded as a collection of lenses for viewing different facets of the information-seeking
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preferences of the 27 participants, 20 of whom had been respondents to the original questionnaire.

As detailed in Chapter 3, the interviews encouraged teachers to reflect on where they went to meet their information needs, what they did, with whom they consulted/collaborated, what resources they retrieved from their preferred locations and what information products they preferred to use, either personally or with their students. Some unplanned topics were pursued, after they emerged from interviews as a meaningful thread. These included the seeking of information for leisure/recreational purposes (to compare with the work-related, information-seeking patterns elicited via the questionnaire), or describing how teachers felt/reacted when they recalled specific encounters/incidents involving libraries and/or librarians. The final questions related to sharing their vision of the ‘ideal’ library, given the assumption of no budgetary restraints. As participants were encouraged to speak freely, information emerged that provided new insight and significantly enhanced the understanding of the various phenomena under consideration.

5.1 Information-seeking preferences: resources

The first set of interview questions dealt with participants’ preferences for specific information resources, including various people, books, the Internet and other formats. Although the initial interview questions related to seeking information for a specific research purpose, teachers were encouraged to range over the whole panoply of information resources they deemed relevant, and were not restricted to the school environment. The interview results thus provided a spontaneous and often unexpected contrast to those of the questionnaire, which had asked for responses to specific questions, with limited scope for extempore comment.

The first section deals with people as preferred information resources. Preferences for other types of resources follow. They include books, the Internet, videos, magazines and paper printouts. Because library staff are particularly important here, there is considerable emphasis on them in this section, including perceived roles and responsibilities of library staff and of collaboration. Because it is difficult to separate library staff from the concept
of the library as a ‘location’, there is some discussion that is not strictly from the ‘interpersonal perspective’.

5.1.1 People as information resources

As indicated in the literature (e.g., Julien, 1997, 1999; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012), interpersonal sources (i.e., other people) were considered important and influential information resources. Some of the people who were described by participants as useful information resources were library staff, while others were unrelated to the library sector.

Interactions with people from outside the library area are dealt with first, followed by a more detailed exploration of the relationships and the nature of the interactions between teachers and library staff. Factors that appeared to act as motivators or deterrents to choosing particular people as information resources were identified, and their significance is discussed within the context of the relevant literature.

5.1.1.1 People as information resources: non-library staff

During the interviews, it became clear that many teachers valued specific people, frequently described as useful and helpful, who could point them in the right direction when they were seeking information in an area with which they were unfamiliar, a trend that reflected the results of the questionnaire. However, it is interesting to note that no teacher chose to nominate interpersonal resources as their ‘first preference’, when asked to recall their research process, in contrast to the survey results. Popular interpersonal resources included people who were not library staff, such as trusted friends and family members, professional colleagues from the teacher’s school and wider academic circles, and random individuals serendipitously encountered while seeking information.
More than any other participant, Michelle (TB-E)\(^3\) revealed her appreciation of the value added by interpersonal communication with preferred ‘experts’. This ranged from the use of her university lecturer, peer referrals from her professional network (contacted online or in person), and well-connected contacts including family members used as information ‘gofers’ or ‘gatekeepers’. Michelle explained that she preferred to ask for help from somebody who possessed appropriate subject expertise: “I looked … [at] the Charles Sturt University site where … [my lecturer] had actually posted a lot of things on postmodernism … He also had a lot of connected Internet sites I thought quite good for information … When I went along to those class meetings I would say to him, ‘Can you tell me about this or that?’ And straight away he’d be able to answer my question”.

Michelle explained that the after-hours experience of working for the HSC Advice Line serendipitously provided her with an opportunity to exploit the resources of this professional network to accumulate material for a forthcoming student research task: “I was doing a lot of talking to other teachers, finding out good texts to use. When I was going to places like Advice Line I was seeing what other teachers were using … So when we weren’t busy taking calls we’d talk about what you are teaching … You could start sharing the ideas; asking them what they use; what was helpful for them. That exchange of information … was really valuable”. When asked what she did after obtaining a list of relevant books from the above contacts, Michelle replied: “I told my husband to go and get it off the shelves [of his university library]. So basically …[my] husband was my [library] assistant”.

When Jessica (TG-E), a young and inexperienced teacher, needed recommendations for specific types of teaching materials suited to the academic level of her class, she preferred to go straight to Cynthia (TG-E): “My Head of Department, who’s always full of knowledge ‘cos she’s taught this before. She also gave me her own personal resource book on Of Mice And Men. And she said, ‘Use this’”. Cynthia additionally brought in a file of notes and

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\(^3\) As mentioned in Chapter 3, pseudonyms such as ‘Michelle (TB-E)’ are accompanied by bracketed letters to indicate professional status (Teacher), school (Beta) and nominated subject area (English) of the teacher. School library staff were similarly represented by gendered pseudonyms, roles (Librarian) and qualifications (Teacher-Librarian), e.g., Caroline (L-TL). A list of pseudonyms, with accompanying details, is in Appendix F.
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lesson plans for Jessica to use in her class. As Jessica noted: “She didn’t even ask me. She just brought it in. So that was good”. Joshua (TG-E) was another young teacher who acknowledged the benefits of Cynthia’s mentoring and sharing of expertise: “She’s a wealth of information, Cynthia. She’s extraordinary. Not only did she have a folder full of material and resources for me, but she was also more than happy to sit down and discuss certain topics and certain ways I can go about bringing the text to the Year 10s ... So that was definitely helpful”. Diekema and Olsen’s (2011) concept of an ‘information heritage’, developed and passed down by older teachers/mentors, is demonstrated by the role played by Cynthia within her department.

Interpersonal communication did not have to be face-to-face. Linda (TA-CS)’s expressed preference was for seeking information using computer-based resources, so she comfortably used technology to communicate with subject specialists such as discussion list moderators: “I sort of lurk there [on a recommended discussion list] and watch what they’re doing ... If they’re following a thread I want to follow, I’ll look at a few [messages]”. Over time, Linda had learned to discriminate and disregarded information from contributors she deemed unreliable: “You learn to know the names of the people who put in relevant information and those that just do nothing”.

For other teachers, browsing or following up on referrals from subject experts who communicated via more traditional print or television media was the preferred option. Christopher (TA-RS) described how he prepared for a unit of work related to the self-image of teenage girls, by first consulting a book written by an expert: “Rosalyn Wiseman: her book Queen Bees and Wanna Bees ... to get a basic sort of ‘girl world’ picture ... Since she’d already been here to the school and presented a quick overview [of her book], it seemed like she had something to say. I knew we had the book here ... so I went to ‘her’”. Christopher talked about the book as if it was a virtual personification of the author herself, arguably influenced by his meeting her at a school function.

People from outside teacher’s professional circles were also preferred as information resources if their contributions had proven to be reliable, over time. As Patricia (TA-S) stated: “I find that I tend to also talk with friends about books so therefore I often have a
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preconceived idea about authors I want to borrow”. James (TB-RS) similarly emphasised the importance of communication with friends “outside of work. Not so much through email but more just chatting to someone ... You know, when you talk to people who are doing a similar thing and they say, ‘Have you seen X?’ And you think ‘I’ll try ‘X’ out’ ... You tend to bump into these people more, face to face”. Nancy (TG-H) revealed an unexpected preference when asked whether her favourite ‘information gatekeeper’ at a frequently visited university library might possibly be an academic or a librarian: “No, no. He’s an alcoholic person who has been working there thirty years, putting books back on the shelves”, reinforcing the idea that for some teachers, the perception of reliability and usefulness could be the dominant motivator when seeking information, rather than academic status or reputation.

5.1.1.2 People as information resources: library staff

Library staff were well represented as preferred information resources, whether from school, special or local libraries. It was noted that participants tended to refer to library staff generically as ‘librarians’, regardless of the person’s specific qualifications or job description. Although the distinction between, for example, TLs with dual qualifications in both teaching and librarianship, and library assistants (who may have neither) appears to be of considerable significance to the school library profession (e.g., Chisholm, 2012; Osborne 2012), it was of limited interest to the majority of teachers interviewed. To most participants, what counted more was the level of personal satisfaction or dissatisfaction resulting from the encounter. However, when it came to participation in the teaching process, it was a different story, as will be discussed below.

Overall, the majority of comments from the interviews were very positive regarding the prospect of seeking information from library staff in either school or local libraries, with many teachers expressing views about their general usefulness. This response once again reflected the trend in the survey component, but the interviews provided more detail regarding the ways in which library staff were held in high (or in some cases, low) esteem. For example, Donna (TG-H) stated: “I have found librarians very useful. I used to use ... [the local library] quite a bit, some years ago and the library staff were absolutely
### INFORMATION-SEEKING PREFERENCES: TEACHERS

Stephanie (TG-LOTE) went so far as to state that she had never encountered a librarian who was not helpful, describing a librarian at her local library whose subject expertise in her LOTE area was deemed so reliable that: “we actually went as a faculty and we asked him for advice ... when we were looking for ... [background information on] a play”.

On a more specific level, library staff appeared to be valued both for proactive and reactive assistance, ranging from personalised updating services, to recommendations for novels. Amy (TA-CS) mentioned her appreciation of the role that librarians like Miranda (L-L) performed in keeping her updated for work-related purposes: “They give me a [computer] magazine a month, so I’ll flick through that and find articles ... She sent me an email the other day and it was all about different web sites”. Amy also valued her relationship with older library staff when it came to recommending novels for her recreational reading: “I’ve come in here and said, ‘I want to borrow a book. ... And it was, ‘Oh, oh good’. And it was like, here’s a Maths person that hasn’t borrowed a book, let’s go and ... [help her] ... They went and said, ‘What sort of novel do you want?’ And I just said, ‘Well I read anything’. ‘OK, we’ll get you a selection of the ones I like, see what happens’. So that was a service on a personal level”.

Jason (TA-RS) also valued the interpersonal relationships established over time with specific library staff, stating that “when I brought a class in, Miranda (L-L) would already be familiar with what I was doing, and she ... [came] to be able to distinguish between what was Year 11 and what was Year 12”. The professional expertise of specialised library staff was also appreciated: “They just have an amazing knowledge of the collection ... Miranda has also been good at tracking down additional resources, after I gave her the initial list. [For my AV needs] ... Louise (L-A) in particular will say, ‘Look I’ll keep an eye out for it and if there’s a [TV] program, I’ll record it for you’”. In libraries as well-staffed as Alpha and Beta, flexible scheduling (emphasised by, e.g., Tallman & van Deusen, 1994; Haycock, 1998) permitted a high degree of service and subject specialisation which was clearly appreciated by teachers.
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Mary (TA-S) commented that working with an astute TL saved her time and energy, making her teaching day more productive: “Caroline (L-TL)’s always been really, really helpful. Really on the ball”, recalling an incident in which she “wanted to work with the HSC exemplars”. So as we had the site at school, Caroline went on there and arranged the topics that I wanted into groups ... so that when I came to get it, it was all ready for me to use in class”. As Mary was quick to appreciate: “Oh, I wouldn’t have had time to do it. It was an awful lot of work. It took her ages”.

Robert (TA-RS) commented positively on the efforts of library staff to streamline the process of accessing information during research classes, thus maximising teaching time: “Take comparative religion. I always use the library for that one. And the library staff get out the books, and then the girls just come and they have the books there in front of them”. But he also valued the expertise of particular library staff when it came to recommending suitable videos for classroom use: “If I give Louise (L-A) and Peta (L-A/LTech) a particular area that I’m interested in, they’ll say, ‘Oh we’ll go and see what we can find’ ... on that particular topic”. Patricia (TA-S) appreciated the role that library staff can play in assisting both teachers and students to evaluate Internet sites: “Marina (L-TL) ... has given me a lovely scaffold, which we use quite often, in terms of just looking at a site in terms of scientific reliability”.

Susan (TA-H) recalled utilising the online expertise of one of the librarians to prepare a list of appropriate web sites in anticipation of a class research project: “We ... asked somebody like Caroline (L-TL) to actually search out some sites for us for the Cultural Revolution and particularly for the Red Guard”, but when it came to hands-on assistance with technologically-sophisticated class projects, she relied upon the expertise of the AV staff: “Peta (L-A/LTech) was fantastic, because some of the girls wanted to put video and sound into their web-pages ... She and Leanne (L-A/LTech) between them were helping”.

James (TB-RS) also found library staff helpful when he needed to prepare for a research task: “I’ll go and I’ll say I’m searching for something on a particular topic [and] they’ll usually find for me books or articles that I need. Certainly now that we’re changing ... [to]

4 i.e., model exam questions.
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technology, it’s asking more for technological advice too … I use our librarians here enormously for showing videos … [and] setting up video presentations which I use a fair bit, but … [also for help with] computer usage”.

Cynthia (TG-E) recalled that one helpful TL proactively assisted her in supplementing her own classroom collection: “Charles (L-TL) gave me a couple of satires. One was very short and I loved it so much I bought a class set”. Joshua (TG-E) recalled how he became aware of the usefulness of the TL: “The recommendation came … from the teachers in the staff room … They said to me, ‘You must take advantage of Cassandra (L-TL) in the library. She is a wealth of information as well. She can help you’ … Nancy (TG-H) said she’s used … [Cassandra] on quite a few occasions and she’s found her to be very helpful towards her and the students”. In contrast, Linda (TA-CS) expressed the view that she did not need to approach library staff for assistance or recommendations: [I’ve] got everything up in [one of the computer rooms] which I can use”.

5.1.1.3 Perceptions of the roles and responsibilities of library staff

As the interviews progressed, it became evident that teachers had widely differing and often conflicting perceptions as to the ‘proper’ roles, duties, qualifications and professional status of the various library staff. Although these varied from one teacher to another, there were some features in common.

➢ Qualifications, training and classroom experience of the teacher-librarian

Robert (TA-RS) was adamant that prior experience as a classroom teacher would greatly enhance the ability of the TLs to empathise with their teaching colleagues: “Oh, I think that there’s no doubt about that. No doubt … [that classroom teaching experience] would be a wonderful asset [for] a librarian to have”. But not all teaching experience was necessarily equal, in that he believed that a primary-trained TL might need to receive additional training before being appointed to a secondary school library position: “I think that some professional training would be needed … I think for their own good”.

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Other teachers appeared to equate the librarian’s academic qualifications, professional training, or expertise in classroom teaching practices with their suitability to collaborate as an academic equal, or to constructively assist teachers with the students’ research tasks. Stephen (TG-H) emphasised the value of working with a “specialist librarian”, rather than with a library staff member who was not specifically library-trained and qualified, because of his perception that “the specialist librarian tends to have academic proclivities, or she ... [shares] my academic proclivities”. The knowledge that their TLs possess dual qualifications and relevant experience was vitally important to some teachers, echoing similar questionnaire responses.

To other teachers this was not perceived as an issue, since a ‘positive attitude’ demonstrated towards their library clients appeared to be more highly regarded. Amy (TA-CS) did not discriminate between library staff on the basis of qualifications or teaching experience, “as long as they showed a positive approach to you”. This view was shared by Jason (TA-RS), for whom any library staff member was potentially a valuable resource, regardless of perceived training or qualifications: “I don’t think it would have even occurred to me to be looking on the library [staff] ... in that way”.

For some teachers, the perception of the status of the TL within the teaching hierarchy and political power structure of the school appeared to be as much a dominant factor as the perception of their roles and responsibilities, in determining whether they were accepted as a ‘peer’. For individual teachers, either factor could influence the levels of potential collaboration, as can be seen below.

- Roles and responsibilities deemed appropriate for a teacher-librarian

When asked what types of professional services she wanted from her library staff, Amy (TA-CS) suggested that a positive relationship might begin with, for example, “a guided tour, one-on-one of the library. Like, sort of just taking you around saying: ‘This is what you’ve got, this is how you look things up’. A librarian might say: ‘If you were going to

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5 According to Stephen, a ‘specialist librarian’ was one specifically trained in library science, rather than a teacher merely seconded to the school library.
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bring in a class we would show you ... [and] the students how to do ‘XYZ’, if you don’t know how to do it”. Like Robert (TA-RS), Amy welcomed more proactivity from librarians, suggesting that she would be happy “if they just came into your lessons to see what you were actually doing and came to observe you and then say, ‘Oh, this is how you teach, this is what your method is. I can help you look for resources or another way of looking for resources rather than the ones that you’re constantly using’”.

However, unlike Robert (TA-RS) and Amy (TA-CS), Linda (TA-CS) expressed strong negativity towards any suggestion of teacher/TL interactivity, to the extent of criticising other teachers who approached the TL for assistance with a student research task. “For the Head of History to get a librarian to go and find all the good videos and things that she can link to in the web, that’s ... [the teacher’s] job.” In contrast to Linda, Lisa (TA-H), a history teacher, expressed satisfaction with the efforts made by library staff to cater for her information needs: “Here, the resources are so good ... that I sort of stopped ... [building up my own personal collection] over the years. But often I’d find if something is really good ‘out there’, I’ll ask Miranda (L-L) and she’ll be able to get it in for us”. Lisa noted that Miranda was skilled at locating resources for topics that had not been well-resourced in recent years, a common problem in an educational system where the syllabus content can change so frequently: “Miranda has been trying to track down some of ... [these hard-to-get books] through second-hand sales, but that’s become quite a [supply] problem as well ... To have a couple of librarians come and help or offer to help you find resources – it just sort of makes the process so much better in the initial stage”.

Donna (TG-H) had very strong opinions about the role and responsibilities of the TL: “School librarians ... are firm in terms of controlling what goes on in the library, but are there to assist students and staff. And that’s what I think the role of a librarian is in a school”. Donna continued: “At my former-to-last school I just considered Marguerite (L-TL-Unkn) to be phenomenal. She would purchase ... [books], build the collection up, and let us know when new things were regularly put out in a catalogue. She let us know what’s come in. Revised the catalogues. She and her team worked extremely hard”. Donna emphasised the importance of the TL in providing information updates to staff: “Teachers
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are teaching four, five, six periods a day. You know, they’re caught up. They can’t always go to a librarian or someone and browse”.

Donna (TG-H) was also very specific regarding her understanding of the definition of the term, ‘teacher-librarian’, with views that might be at odds with many of the library profession: “Many teacher-librarians don’t acknowledge the ‘teacher’ part of their title. And I’ve seen that. They’re more interested in being a ‘librarian’ than a ‘teacher-librarian’. And if they’re given a roll group to be with for example, or they’re actually told ‘You’ll need to teach a subject’, there is huge resentment. Huge resentment. And I find that really strange. If you want to be a straight librarian, work in a Council Library”.

Donna’s perception of the role and duties of ‘non-teaching’ TLs clearly differentiated them from classroom teachers: “Yes, librarians have a lot of work to do. But they don’t they don’t have external exams and external assessments to meet. And they often don’t have to deal with parents either … [like] a teaching staff [member] does … It’s a difficult position but it’s also, I don’t think, and I could be naive here, I think there’s a lot more calmness in being a librarian than there is in being a full-on classroom teacher. Because yes, you help kids find books but there’s not those other things [like] the assessments … [that classroom teachers have to set and mark]”.

For Donna, the title ‘teacher-librarian’ appeared to carry a different connotation to that recognised by TLs, in that it was more about the sharing of classroom duties and responsibilities related to the teaching of a subject, rather than teaching information skills in a school library context, in collaboration with the teacher. Conversely, David (TA-S) appeared to believe that TLs should not have their time taken up with routine, supervisory duties that detracted from their core role of organising information resources for staff and students: “I think I’d remove marking a roll … I think that’s just disrupting … It’s just another imposition on the library staff”.

Participants espoused strong and diverse opinions about what a librarian should and should not do, some of these viewpoints being self-contradictory. Despite her expressed view that a TL should ‘teach’ more classes, Donna (TG-H) was adamant that a TL should not
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presume to ‘take over’ the lesson and ‘teach’ the students, when staff brought classes to the library: “Beverley (L-TL-Unkn) ended up alienating a lot of the staff because she would dictate to them how to teach their kids in the library ... I know she alienated the entire English department. And you don’t alienate the English department ... It’s not a good idea. So they just wouldn’t go down [to the library]”. As Donna opined: “People go in [to libraries] when they have to go in. People don’t go in [to libraries] because they want to go in”.

There appeared to be notable contrasts between individual perceptions of what levels of intercession or proactivity a librarian should or should not offer to clients. Robert (TA-RS) was appreciative of the helpful responses by library staff, but expressed the desire for a more proactive approach from librarians who would anticipate his information needs: “[At Alpha library] you know that ... if you have a query, it will be answered. But very rarely do you get a librarian say, ‘Oh, you’re working on this, you know, have you thought of this?’”. When asked if he would appreciate this level of support for his information needs, Robert replied: “Yes, I certainly would ... I don’t mind someone crossing the boundaries” he added, suggesting that he somehow regarded such proactivity by a TL to be “crossing the boundaries” of what might be considered to be an acceptable part of a librarian’s role.

In contrast, Donna (TG-H) gave clear indications that she preferred to personally direct the activities of the library staff regarding her information needs, only approaching a librarian for help if she had a specific query. If she wanted any books, she stated: “I usually browse and help myself. If I’m really stuck, if I can’t find a book that I’ve seen in the catalogue, I’ll go to the desk [and ask for assistance]”. To Donna, the degree of proactivity that Robert desired would be unwelcome, demonstrating the multiple perspectives that emerged from the interviews.

Other teachers, such as Deborah (TA-E), simply confessed that: “I really don’t use ... [the library staff] a lot here”, without mentioning any particular grievance during her interview. She continued: “I mean, I come over occasionally, when there’s something new on the syllabus. Or occasionally I come over looking for a novel, you know, a fiction book. But I don’t think I use... [the services of the library staff] a great deal”. It is significant to
note that Deborah’s admission of minimal usage, disclosed in the interview, directly contradicted her previous response to the survey question where she had indicated her preferential use of librarians and library resources. This type of additional detail indicates the value of in-depth interviews where questions can be clarified and issues explored.

5.1.1.4 The nature of collaboration between teachers and librarians

At this point, it is timely to consider the nature of the collaborative engagements between teachers and librarians, which formed one of the subsidiary research questions and became a theoretical strand within the present study. Although one survey question asked for respondents’ views on the school librarian as a potential ‘partner in collaboration’, it was unclear from the survey findings exactly what individual teachers understood by the word ‘collaboration’. As one aim of the present study was to discover more about the nature of teachers’ interactions with library staff as an information resource, no definition was provided to teachers during the interview process, with the line of questioning endeavouring to elicit a description, or contextual detail, from the participants themselves.

Although positive, professional interactions between teachers and librarians were amply described both in the survey and the interviews, the emerging detail suggested that most research interactions fell short of the ‘high-end’ collaboration described in the literature of teacher-librarianship (e.g., Montiel-Overall, 2005a, 2005b; Mardis & Hoffman, 2007) as the ideal, professional partnership. While teachers mentioned a range of collaborative activities, these were mainly at the low-medium levels of Montiel-Overall’s model. Table 22 shows examples of teacher activities that fell under the different facets:
Table 22: Examples of types of collaboration between teachers and library staff

<table>
<thead>
<tr>
<th>Facets for collaboration:</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facet A – LOW: Coordination</strong> – Working together to arrange schedules, manage time efficiently and avoid overlap. Examples: addressing specific requests from teachers; materials gathered on spur of moment.</td>
<td>Robert (TA-RS), Amy (TA-CS), Susan (TA-H), Michelle (TB-E), William (TB-G), Nancy (TG-H): asking for resources to be set aside either for their own use or accessible to their students.</td>
</tr>
<tr>
<td><strong>Facet B – MEDIUM: Cooperation</strong> – Responsibilities are divided among participants to create a whole project. Examples: informal planning; advance notice for needed library resources.</td>
<td>Jason (TA-RS), Lisa (TA-H), Mary (TA-S): requesting Miranda to purchase resources needed for unit of work; Caroline preparing exemplars for Mary (TA-S) &amp; web sites for Jason (TA-RS); Marina preparing Internet site evaluation scaffold which Robert (TA-RS) regularly used with classes.</td>
</tr>
<tr>
<td><strong>Facet C – HIGH: Integrated instruction</strong> – Jointly planned, implemented, and evaluated instruction integrates library curriculum and content curriculum in a lesson or unit. Examples: concerted effort to promote library.</td>
<td>Melissa (TB-S) collaboratively planning &amp; executing new units of work with Lucy (L-TL-Unkn) &amp; Cassandra (L-TL).</td>
</tr>
<tr>
<td><strong>Facet D – HIGHEST: Integrated curriculum</strong> – Integrated instruction found in Facet C occurs across a school or school district. Examples: formal planning with teacher on a resource-based project or unit; participation in development, execution &amp; evaluation of a resource-based teaching unit; participation &amp; contribution made to planning &amp; structure of curriculum.</td>
<td>No examples of this level of collaboration emerged from the interviews.</td>
</tr>
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</table>

Note. Based on Montiel-Overall’s (2005a, 2005b, 2008) four facets of collaborative interaction

It can be seen that interactions with library staff encompassed the full range of collaborative activities described in Montiel-Overall’s (2005a, 2005b) TLC model (see Chapter 2, Box 2.2), with the exception of Facet D. The most frequent references related to low-medium (i.e., Facets A and B) library activities, such as a librarian lending a box of books to a teacher, recommending reading material or setting up a collection of web links on the relevant page of the school Intranet. For example, when asked about his recollections of positive interactions with library staff, Jason (TA-RS) described how he “had spoken to Miranda (L-L) and I had arranged to sit down with her. I then presented that list of resources to Miranda, who agreed to go off and organise them for me.”

Similarly, Amy recounted how a TL assisted her by suggesting she do a project to engage
the interest of her ‘challenging’ Year 10 Maths class: “I just named the topic and she collected all the resources and put them in a box and nobody was allowed to use those except for me. She had them set aside especially”.

In contrast to the frequent occurrences of activities in Facets A and B, ‘high-end’ (i.e., Facet C) collaborative activities where teachers and library staff jointly create, teach and evaluate ‘something new’ (Montiel-Overall, 2007, 2008) were uncommon. Only one teacher, Melissa (TB-S), described professional interactivity that would be recognised as ‘high-end collaboration’ (Facet C) by Montiel-Overall (2005a, 2005b), in the sense of a student research activity that had been cooperatively planned and executed by teacher and TL, working together as mutually recognised and respected peers. Melissa’s (TB-S) understanding of the term ‘collaboration’ was apparently derived from her positive experiences in other schools: “My experience with teacher-librarians in other schools has been quite different than with our current librarian. And the way it would work say, when I was at... [a school] in Canberra, there was a lady there called ‘Lucy’. I would go to Lucy and I’d say, ‘This is what I’m doing with Year 10 or Year 9 or whatever. This is the assignment I want them to do. How do you think we should tackle this?’ And we together we would actually plan our assignments. I would have a broad plan and she would help me to hone in on what she thought she could do ... [It was] real collaboration. And basically we would team-teach. I would bring the class in there for lessons and, and I would do my bit and she would do her bit ... [covering topics such as] ‘How do they write a bibliography’? ‘How do they find out where to go for information’? All of those sorts of skills that the kids need”. Melissa also demonstrated a comprehensive understanding of the importance of the information literacy skills students absorbed during the process of a professionally conducted research project, observing: “It’s not just a science-based thing. At the end of the day, science might be the theme or the flavour of the project, but those skills are just repeated throughout ... [their lives]”.

Although Jennifer (TA-S) stated that she had “a good, collaborative relationship” with the library staff, it was noted that her comments related not to the high-level collaboration described by Montiel-Overall (2005a, 2005b), but to her sending students to nominated library staff whose expertise she had previously vetted: “I certainly know that in the last
couple of years I’ve sent specific students to specific librarians, who ... [are aware of] what we’ve set in assignments. And so therefore know very specifically where they should direct the students. And those students have come away saying, ‘That was fantastic. That was the best advice I’ve ever had’.

There was no evidence that the type of collaboration described by Montiel-Overall, and keenly sought by TLs in the Guided Inquiry model (Kuhlthau, et al., 2007, 2012), was a familiar concept to the majority of teachers interviewed for this study.

5.1.2 Motivators and deterrents: choosing library staff as information resources

Factors that motivated or deterred teachers from utilising certain types of information resource, or patronising specific information locations, were of key interest. Of primary consideration were those factors relating to the exercise of preference for TLs and other library staff, including choosing (or discounting) the school library as a preferred information location due to issues involving specific library staff. The principal espoused in ‘Mooers’ Law’, namely, that “an information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have information than for him not to have it” (Mooers, 1960, p. i), applies as much to teachers considering whether to consult with library staff when seeking information, as to choosing any of the alternative resources, discussed in a later section.

This section focuses on those factors that appeared to motivate or deter teachers from using school library staff as information resources. This topic area is closely related to the concept of TLC, which is discussed in the previous section. As already noted, a study of the literature had suggested that the most effective way to ensure beneficial research outcomes for students lay in collaboration between teachers and TLs, although it became clear from the interview findings that ‘high-level’ collaboration amongst the teachers and librarians in this study was rare. Key factors identified in the literature as influencing the likelihood of successful collaboration included:
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- sufficient time to plan such activities (Tallman & van Deusen, 1994; Haycock, 1998; Bishop & Larimer, 1999; Callison, 1999; McCracken, 2000; Kuhlthau, 2004; Mardis & Hoffman, 2007; Tanni et al., 2008; Diekema and Olsen, 2011; Tanni, 2012)
- access to desirable resources (Mardis, 2005; Mardis & Hoffman, 2007; Montiel-Overall, 2008)
- the support of the decision-makers in the school hierarchy, the most significant being the principal (Edwards, 1989; Webb & Doll, 1996; Haycock, 1999; Oberg et al., 2000; Lloyd & Bannister, 2001; Hartzell, 2002; Montiel-Overall, 2008; Hughes, 2013).

Motivators and deterrents that emerged from the interviews resonated with the factors described above as necessary for collaboration to occur, although the support of key decision-makers was not evident, as will be discussed later. These included personalities (of both parties), as well as time and access. The perception by teachers of the role and status of the TL (i.e., whether they were accepted as a professional ‘peer’, as discussed in the previous section) emerged as a strong factor influencing the likelihood of teachers approaching any of the library staff, as did the relative degree of ownership and control over the teaching/learning process that was demanded by some (but not all) of the teachers interviewed. This perceived need to exercise power and control over their workplace environment was anticipated in the literature (e.g., Radford & Radford, 1997; Tuominen, 1997; Wenger, 1998; Groundwater-Smith et al., 2007). The influence of these factors varied from one individual to another, as discussed below.

5.1.2.1 Personalities

With respect to the impact of personalities on the exercise of preference for library staff as information resources, motivating influences included a history of successful interactions with librarians whose personalities generated a sense of ‘reliability’ and conviviality, including social skills that left the teacher with the impression that he or she was valued
and respected as an individual, as well as a teaching colleague. For example, Amy (TA-CS) mentioned targeting specific library staff who were perceived as positive and helpful, an impression that had apparently been instilled during prior information exchanges of a more social, recreational nature: “I will deal mainly with Miranda (L-L) and with Caroline (L-TL), and because they’re both so positive and they’re both so keen to help and to give you information. And you’re on a personal level with them as well. They know what you do, like Miranda always looks out on the garden party day for craft books and beading books [for me].”

Stephen (TG-H) stressed the importance of maintaining a good professional relationship with the TL, particularly in regard to building up a strong collection that would support his teaching needs: “I have noticed that where there’s a synergy between the ‘specialist librarian’ and particular teachers and faculty coordinators, that’s helpful”. Stephen expressed the view that “those teachers who actively seek to develop a relationship with ‘the library’ … will often find that they will be received well. I mean this is not surprising. This is all together human”.

Patricia (TA-S) expressed the view that: “The librarians actually know my tastes in books. They will alert me when I go over there, to books that I would like to read. And I used to find that very much with Claire (L-TL)”. Jason (TA-RS) confided: “It was just, you know, that spark of enthusiasm that you get when you find someone that gets on the same wave length … I’ve always felt that it’s an area that I can talk about in an academic way and, and have it treated with respect … It’s made it much more comfortable for me, and this is in terms of you know, confidentiality …the sense of professionalism that I’ve always felt from them, and just the rapport that I have built up with the … [library staff]”.

Such social interaction within the professional environment of the school library can contribute to the development of the shared ‘world view’, noted as desirable by, e.g., Kuhlthau (2004), Montiel-Overall (2005b) and Callison and Lamb (2006). McKenzie (2010) indicated that informal, social discourse (‘small talk’) within a workplace setting could serve to reinforce bonding and foster common understanding between participants, a phenomenon also noted by Olsson (2009).
A number of teachers shared the view that librarians should exhibit personality traits that would enhance communication with library clients. Nancy (TG-H) emphasised the importance of library staff having positive personality traits, stating that: “I think librarians really need ‘people skills’ because they have to make people feel comfortable”. In Nancy’s view, the TL should be a positive person who “invites people to give her tasks to do because that’s what her job’s all about. Helping to find information. And [our librarian] has really opened up a nice relationship with our staff in that way”.

Alternatively, Michael (TG-S) emphasised intelligence and perceptiveness as the most desirable characteristics of a librarian. Matthew (TB-PD) opined that the approachability of a librarian was very important, particularly in a school library where young and impressionable students were involved: “Approachability is … [definitely] important … I think it’s a personality [trait] as much as a position. If you haven’t got the personality to … drop everything when needed (and it’s like any teaching job I guess), then that’s not going to work. And it’ll be a negative experience of going to the library, if you put … [customer service on] hold the whole time”. Robert’s (TA-RS) preference was that the “ideal librarian would be a little more open and enquiring, questioning”, positing that librarians should be obliged to undergo a personality test before being allowed to practise in schools: “You’d need to do … a Myers-Briggs test on librarians. I don’t know where they would rank as personality types”, since “some [librarians] relate better than others”. Michelle’s (TB-E) ideal librarian was “any cooperative spirit that … [says], ‘yes we can get these resources’, and ‘we understand that this is important to you’”.

In the case of Amy (TA-CS), positive interactions with sympathetic librarians arguably served to overcome her self-confessed fear of feeling like an “idiot”, a term that resonated with Radford and Radford’s (1997) description of the library user who avoided encounters with librarians, for ‘fear of feeling stupid’: “I’d feel confident emailing Miranda (L-L) or ringing Miranda and saying, ‘You know, I’m an idiot. How do you do this or how do I look up this or something like that’. There’s others here you wouldn’t [approach]. But Miranda is always … [positive], you know. She’s not going to think you’re an idiot … and she’ll always look out for … [your requested resources] as well … and she would just drop
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everything and come and, and same with Caroline ... You know that sort of a ... keenness
to help or ... respect for you as a teacher”.

In contrast to the satisfied majority, some teachers recounted situations in which they
appeared to be consciously or unconsciously avoiding contact with the TL. Amy (TA-CS)
described her attempts to smuggle her small class of students into the library, “creeping
around the back of the shelves” to avoid a physical confrontation at the time when she was
feeling intimidated by perceived criticism from Sylvie (L-L). Susan (TA-H) also described
the demotivating impact of repeated negative interactions with Sylvie which appeared to
act as a deterrent to bringing her classes to the library, except where the need to access
video resources made such visits unavoidable: “Did you ever know Sylvie? She could be
pretty difficult ... She would get quite snippy and quite upset because there were these
hoards of kids, so we used to say to the girls, ‘We’ve just got to ... [behave], you’ve got to
whisper, you’ve got to creep up the stairs. Because if you don’t behave, we’re going to get
thrown out’. And that’s kind of how we managed it. But things were a bit tense there,
certainly”.

Other teachers mentioned that, in cases where a clash of personalities was predictable, they
either avoided or stopped visiting the library altogether. Donna (TG-H) expressed her
dislike of occasions “when librarians make comments like, ‘I really find teachers stupid. I
don’t like teachers’, and those comments get back to other staff ”. Donna explained that,
due to her dissatisfaction with the attitude and conduct of the librarian at a previous school,
she had developed information-seeking habits that made her “independent of the library”
stating that Ithis is what teachers and departments do”, when sufficiently disgruntled: “I
stopped going in ... and as I’m resourceful ... I’ll go to book shops, I’ll go to other
libraries, I’ll get it for my kids, I’ll photocopy it, I’ll give it to them anyway. So [the
students] don’t need to go either”.

Joshua (TG-E) described an unwelcoming encounter with the librarian at his previous
school: “[I went to the library] to see if they had some particular books. And being ...
[told], ‘I don’t have enough time at the moment. Can you come back at another time?’ Just
being blocked away, that sort of thing. I thought ‘OK. That’s fine’. I got the message,
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basically ... [With this librarian] there’s priorities ... especially when there’s a newspaper in front of the librarian”, he added. Needless to say, Joshua did not return to consult this librarian.

Discord within the library, resulting from personality clashes between library staff members, was described by Christopher (TA-RS) as creating an uncomfortable environment and undoing the good work that the vast majority of librarians were demonstrating on a daily basis: “There’s a little bit of active strife within [this library] ... It’s known as one of the hotter spots in terms of staff relations ... So I think that works against the [otherwise positive] approach and ... undoes some of the PR image”.

The personalities of the individual teachers appeared to impact as much on the success or failure of any collaborative enterprise as the personalities of the library staff. On the one hand, a confident personality such as that revealed by Jason (TA-RS) seemed to encourage him to persevere with his information-seeking strategies: “I get pleasure from seeking information. The searching process, as opposed to the mere result. It’s a personality factor”. On the other hand, Amy’s (TA-CS) personality appeared to render her vulnerable to a negative self-image, such as the ‘fear of feeling stupid’ (Radford & Radford, 1997), noted previously. Amy (TA-CS) revealed her reluctance to speak to Sylvie (L-L), the previous Alpha librarian, as the standard response to her attempts at browsing had invariably been a suggestion that she “look it up in the catalogue”. This suggestion apparently caused Amy significant discomfort, as, due to her mild dyslexia, “I can’t spell very well at all, and I find that if you’re looking up something, I can’t use a dictionary very well because you don’t know if it’s right or wrong. Trying to look up a book and not know how to spell it and then being too embarrassed to actually ask the librarian how do you actually spell the book so that they don’t think that you’re silly ... You were made to feel like you were quite ignorant because you couldn’t spell ... They couldn’t understand that if you can’t spell, you’ve got no idea how to spell what you look up”. Amy expressed a preference for consultation with “older” library staff such as Miranda (L-L), with whom she felt more comfortable. “I could go to them and say ‘I’ve stuffed up’, whereas I wouldn’t go to the young ones on the desk and say [that]”. Amy explained that: “In school libraries, I always feel if you don’t know enough to ask anybody else here, [it makes] you
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feel inadequate … [They] make you feel like you don’t know where the book is so that you’re silly or that you don’t know how to look up a book in a card system or whatever system they’ve got now … It’s almost like you’re a teacher and you should know … Even borrowing the equipment sometimes, you’re made to feel like an idiot”. Amy shared her negative perception that the younger library staff were thinking: “I’m getting one better than you!” Amy deplored: “that sort of division between library people and teaching people, [where] there’s not a cross [over] between the two [groups]”.

Jason (TA-RS) offered his insight into the gender-based dynamics of the staff room, reflecting on his previous employment at an all male school: “An all-male working environment tends to be hierarchical. Where I worked previously, men on staff didn’t like to ask questions, maybe fearing that this demonstrated ignorance and lack of control”. David (TA-S) expressed an opinion suggesting that personality traits were influential, in that “people are all egotistical or something. I don’t know. I just think people are reluctant to get other people thinking that they don’t know how to find things, whereas … [librarians] are trained to do it”.

Deborah (TA-E) revealed that she didn’t like to approach library staff for advice on Internet searching because “I wouldn’t have known what to ask for. I haven’t really been confident… in looking for University sites. I’ve got into them by accident rather than design”. Jennifer (TA-S) described feeling similarly helpless when she was unable to find resources in her university library: “You really can’t find anything”, but felt uncomfortable approaching a librarian who was unfamiliar to her: “I think it was never the same person …. so I certainly felt I couldn’t just go up and say, ‘Well, help me find something’”. Robert (TA-RS) was more self-deprecating: “I have to be honest and say that it is partly true my own technique as a teacher that I’m exposing here. My inadequacy. Or perceived inadequacy”. This ‘fear of feeling stupid’ (Radford & Radford, 1997) appears to have deterred more than one teacher from approaching library staff to ask for assistance, lest this lack of confidence be construed as a weakness or confirmation of the teacher’s perceived inadequacies, a phenomenon also noted in Mills’ (2003) study of university academics.
5.1.2.2 Time and access

Time and access (including familiarity with the resource in question) were the most common factors that emerged from the literature as major factors influencing motivation for information seeking behaviour, especially for choosing one information resource over another. The following outlines the findings regarding these factors, as they applied to the choice of library staff.

➢ Time

The availability of time was seen as influencing choice of interpersonal resources, including the decision whether to collaborate with school library staff (e.g., Tallman & van Deusen, 1994; Haycock, 1998; Bishop & Larimer, 1999; Callison, 1999; Kuhlthau, 2004; McCracken, 2000; Mardis & Hoffman, 2007; Montiel-Overall, 2008; Tanni et al., 2008; Diekema and Olsen, 2011; Tanni, 2012).

As with a number of the questionnaire responses, the interview results frequently mentioned ‘time saved’ as a result of a fruitful encounter with another person, most commonly a library staff member. Mary (TA-S) expressed a preference for working with those librarians who “have been allowed to have enough time to come and help me properly”; i.e., those with sufficiently flexible schedules (Tallman & van Deusen, 1994; Haycock, 1998). Mary reinforced that these librarians “are the ones that I have valued”. Nancy (TG-H) was pleased when the TL performed a search of all resources in the library relevant to a particular topic: “That was very good. She sent that information back to me and I had a look at it”. For Nancy, an important role for the librarian was saving the teacher’s valuable time, as she had explained that she had very little time to come to the library to browse the collection.
Lack of time

Conversely, instances of ‘lack of time’ were offered as a prime reason for not visiting the school library or talking to a librarian. In Christopher’s (TA-RS) opinion, the speed and ease of access to the information resources available via his laptop convinced him that it was a better alternative to walking over to the library and interacting with one of the TLs: “I have the laptop... so it’s easy. Well... [information seeking is] usually a haste-based sort of approach... It’s what you can get access to quickly and then maybe what do you stumble across... [that] might then lead you into another area”. Christopher added that his perception of the amount of time in the school day needed to go and talk to library staff acted as a deterrent, since some were considered garrulous, adding that if “you’re going to get side tracked in a conversation when you’re in a hurry... you will avoid going to the library”. In contrast, Jason (TA-RS) considered that conversations with the Alpha library staff might constitute “social banter which some may consider time wasting, but here has a social purpose” that provided motivation to pay a visit, reflecting views reminiscent of McKenzie’s (2010) description of ‘small talk’ as a means of breaking down certain barriers to communication. As indicated in the literature (above), the perception of sufficient or insufficient time significantly reduced the likelihood of a teacher’s collaboration with librarians, with some teachers appearing to offer this as an excuse for avoiding school library staff, while others preferred to invest their available time in seeking resources perceived to be more conveniently accessed via the Internet.

In some cases, teachers appeared to admit that having insufficient time to visit the library resulted in a situation that was not ideal. As David (TA-S) observed: “I’d like to spend time doing historical [research] things but I just haven’t got the time to do it”, while Barbara (TB-S) explained, “You go [to have a collaborative chat with the librarian] and it’s all good stuff. And then you don’t have time to put it into practice”. Robert (TA-RS) also used the excuse of ‘lack of time’ to spend with Marina (L-TL) in collaboratively planning a research task, expressing apparent regret at the lost opportunity: “I think that what concerned me, why I probably didn’t go through with that [offer of Marina’s] is that I only see the classes so rarely, that it was more, how much time is this going to take? Can I afford the amount of time to devote to this particular topic?”. However, he immediately
added the following rider: “In other words, I s’pose what was at the back of my mind was losing control of the process, and that’s maybe saying more something about me and my technique. It’s the sort of handing over [control]”. The influence of perceptions of power and control over the teaching process is discussed in a later section.

Patricia (TA-S) offered reasons why some fellow science teachers appeared to avoid engaging with library staff when they were looking for information, instead preferring to independently access the Internet: “It’s easier. It’s much easier for them. Saves them a lot of time”. Patricia added that: “I don’t know whether some of ... [these science teachers] really have those research skills themselves”. It would be interesting to explore the degree to which a teacher’s claims of ‘lack of time’ to consult with the TL was a camouflage for more complex issues, such as feelings of inadequacy, a desire to avoid a personality clash, or to retain a degree of power and control over their teaching environment, as Robert’s quotation, above, seems to imply.

➢ Access

The factor of ‘time’, as an influence on the exercise of preferences, was matched by that of ‘ease of access’ to resources, both in schools (e.g., Mardis, 2005; Mardis & Hoffman, 2007; Montiel-Overall 2008) and the non-teaching world (Harris & Dewdney, 1994; Nicholas & Williams 1999; van de Wijngaert, 1999; Gorman, Yao & Seshadri, 2004; Williamson & Kingsford Smith, 2010). Access to key interpersonal resources, such as library staff with appropriate subject expertise, relevant library facilities, services and ICT skills was found in the literature to be related to the existence of a positive school culture that prioritised a well-equipped library environment for teaching and learning (Mardis, 2005; Mardis & Hoffman, 2007; Montiel-Overall, 2008). As all three schools in the study could be considered to be ‘well equipped’ in varying degrees (see Appendix D), it is of interest to ascertain the extent to which ease or restriction of access to the above features appeared to influence a teacher’s information-seeking preferences for particular information resources.
Accessibility of library staff

Ease of access to school library staff was a feature that was noted as a motivating influence by a number of teachers. Jennifer (TA-S) spoke positively of her previous school, in which the librarians were physically located within the main area of the library, so as to be visibly and easily accessible to teachers: “The library staff sat in the middle of the library out in the open. They were not hidden away behind desks, or ... [anything]”. Jennifer recalled that they definitely looked more accessible, “and they seemed to be to the students more accessible. Yes, it was a strange school. Well it wasn’t strange. It was a brilliant school. But their staff rooms had glass walls. So the students could see straight into staff rooms. And it just brought this trust and this openness to this school that was just quite magical”. However, Matthew (TB-PD) made the point that visible accessibility of library staff could become a negative feature if the library workroom creates the impression of being a ‘fishbowl’, or if the staff’s physical location was perceived to be intruding into the workspace of library patrons. According to Matthew, the open plan spaces in the Beta school library created an impression of accessibility for the K–12 clientele, but the conversations of the library staff over day-to-day matters created a negative intrusion: “It is very open and welcoming and therefore the librarians are on show the whole time, in that you can almost see every librarian in there because of the windows and the half-cut walls. So if they do need to talk to someone, where do they go? They’re on show the whole time. So ... it’s almost like that they’ve created a very welcoming environment but it might be to the detriment of them being able to talk things through [without disturbing patrons]”.

Access to library staff could be limited by the conditions of employment of certain individuals, as at Gamma, where the TL was originally employed on a part-time basis for only three days per week. This restricted access by teachers and presented challenges to the practicalities of collaboration. As Jessica (TG-E) noted, “I find Cassandra (L-TL) very accessible ... [but] I wish ... [she was] here for longer... more [often] ... [Then she] could do more for the library”. Nancy (TG-H) agreed with the need for more access to the TL for purposes of research assistance, stating: “I think we need a full-time librarian here, although I think that Nicola (L-A) is more than an assistant in this school, so we’re very lucky to... [have her full-time]”. Nancy was critical of Beverley (L-TL-Unkn), a librarian
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who was employed full-time at her previous school, but was not accessible to patrons due to her persistently late arrival in the library. Not only was Beverley rarely on time, but “didn’t require her assistants to be there on time either, until there was a big stoush about it. And the Coordinators, me one of them, were saying ‘Well what’s the use of saying the library’s open at eight o’clock if nobody’s there ‘til twenty past?’ … There wasn’t an orderly opening to it”’. Nancy added that Beverley made herself inaccessible to library clients, even when she was on duty in the library: “She was doing her own [academic] work, and spent most of her time in the … librarian’s room. And all the assistants did everything. So she wasn’t really available … She just said that she was too busy … [to talk to teachers]”.

➢ Access to subject expertise and professional skills

The subject expertise and professional skills of library staff were resources that were highly valued by teachers, irrespective of whether the staff members were TLs or library assistants without teaching qualifications. As Jason (TA-RS) enthused: “[The AV staff] … just have an amazing knowledge of the collection and … the positive vibes increase with the re-visits”, while Stephen (TG-H) valued empathetic discourse, competence and efficiency: “It’s just delightful to come away, one: after a stimulating conversation, two: after a conversation which is clear that there is sympathy and empathy regarding the building of the collection. And three: when you go to the library and …[your] material has arrived … A good librarian … can point you in the right direction. It’s just helpful, even at a nuts and bolts level. Very important”.

Patricia (TA-S) commented: “I don’t think … [some teachers] appreciate just what the librarians will do for us. And they don’t appreciate the value of teaching them research skills. And I think that’s a big pity. Because … [teachers] will do research from a limited variety of resources. And hand it to the kids. They don’t appreciate that the kids have to actually get in there and do that research themselves”. She reinforced her opinion that younger teachers lacked the information skills necessary for effective research practices, and therefore would not appreciate the value of such skills in trained library staff: “I think
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Some teachers have done very limited research within their degree. They’ve done very structured degrees, and so therefore haven’t had to use those skills”.

Lisa (TA-H) suggested that interaction with a professionally skilled librarian significantly enhanced the research experience of teachers: “Definitely. When perhaps you’re having trouble finding something. You know what you want and you know it must be there but you just can’t find it … [Librarians are] much more skilled in being able to put their hands on things. I find that if they offer their services and will find something for you, it does give you that sort of warm feeling that … [persuades you] libraries are very helpful places”.

5.1.2.3 Issues of power and control

The literature indicated that issues of power and control permeated every aspect of workplace relationships (e.g., Giddens, 1979; Foucault, 1986; Habermas, 1984, 1987; Radford, 1992; Bijker, 1995; Radford & Radford, 1997). Power and control is a major theme in the present study and forms one of the theoretical strands underpinning the thesis. Insights from the findings, relating to issues of power and control, are further discussed in Chapter 6.

One key factor influential in the decision to approach library staff was the strength of teachers’ perceptions of their ownership and control over the teaching and learning process. In some cases, this intertwined with the individual’s perceptions of the role and function of the TL. As mentioned earlier, Robert (TA-RS) had used the excuse of ‘lack of time’ to spend with Marina (L-TL) in collaboratively planning a research task. On reflection, he revealed that “what was at the back of my mind was losing control of the process … It’s the sort of handing over… [control]”. As Robert (TA-RS) opined, “a teacher likes to feel as though they have control. And yet, I’m not a control freak, like some teachers”. This viewpoint had earlier been encountered in the survey comments, when a teacher stated that she chose to conduct research ‘her way’, rather than provoke disappointment by seeking assistance from ‘other people’. Wherever the perception of being ‘in control’ appeared to be reinforced by a positive engagement with a librarian, the latter would be sought as the preferred partner in the research process. Stephen (TG-H) described his relationship with
the TL as “a number of very pleasant experiences”, largely “because I’ve been inclined to get my own way in terms of having the collection built up, and so on”; whereas Amy (TA-CS), as mentioned previously, was won over when a previously ‘disagreeable’ TL made a point of making a special collection of resources for her exclusive use, making her feel that she was a ‘privileged’ client.

Where the teacher’s sense of ownership and control appeared to be threatened or challenged by TLs or other library staff, teachers tended to react negatively with criticism or descriptions of avoidance. One of the most scathing critics of library staff was Linda (TA-CS), who had commented that she preferred to use her laptop to access resources via the Internet, rather than anything offered by the library. One reason for her antipathy was her perception that librarians had: “too much control. Much too much control. ‘Do it my way’”. Linda was particularly critical of Leanne (L-A/LTech) a member of the library staff who had, in Linda’s opinion, presumed to ‘teach’ research classes: “Putting it very, very bluntly, it pisses me off that they try to take the role of teacher, when they are a Library Technician. I think it’s a power thing. I do really. I don’t know whose problem it is, mine or theirs. I think that a lot of the trouble we’ve got here is lack of communication and too much of a power struggle, but that’s typical in all schools”. Linda explained that she avoided contact with library staff, as much as possible: “I just find librarians and library staff are so protective of their books that I can’t be bothered with it. Would you? That’s my nature, probably my problem, not other people’s”.

William (TB-G) expressed his opinion that Geraldine (L-TL), the Beta librarian, had established an environment in the library that was challenging his authority as a teacher, commenting: “I’ve never had an issue or a problem in the past. But ... with the school library here ... ‘Big Brother’ was watching all the time ... You talk to a lot of the kids here and they just don’t like using the library ... [because of] the feeling that they’re being watched”. Michelle (TB-E) concurred, observing: “I sort of feel like there’s a police state operating [in the school library] ... It’s not just me”. Melissa (TB-S) was more scathing, contributing the comment that “it’s a real coven of witches up there”. William noted that Geraldine not only used computer surveillance software to “spy on” the Internet activities of students in the library, but had apparently extended this activity to include the teachers:
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“I consider it a negative experience … [because Geraldine is too] intrusive … And to be told that … [what I was searching for] was inappropriate and it was a waste of resources etc., etc., is just a complete slap in the face … I go now [to the library only] when I have to”. William added that he no longer brought research classes to the school library, preferring to take a borrowed box of books to his classroom, or to schedule time in the computer room if the research was to be conducted solely via the Internet.

The perception of the TL’s control over the technology agenda in the school, and the resulting degree of power wielded over teachers, was a concern to many teachers, although for different reasons. Karen (TB-E) perceived that her authority (as Head of the English Department for many years) was being undermined and her literacy skills (derived from her expertise with print resources) were being disparaged. Karen opined that the school library hierarchy had grown to dominate the whole of the teachers’ information environment. As she commented: “I think there’s too many power brokers running around left, right and centre [based in the school library]. I think that they have the links with the technology. And I think they make decisions [that] everyone should be up to this [level]”. Karen (TB-E) expressed her further conviction that Geraldine was trying to force her to resign, due to her age and perceived lack of experience with technology: “And you just think, ‘Well look, it’s just a matter of time, and I’ll be out’. And you’ll get what you want, and that’s the sad thing about a career isn’t it?”. It was evident from the interviews that librarians who were perceived by teachers to be pursuing an agenda that clashed with their own, were rejected as resources or potential collaborative partners, in preference to those TLs who demonstrated a more collegiate, ‘shared vision’.

In some circumstances, a firm degree of control by library staff was perceived as desirable, with many teachers expressing the view that one of the most important duties of librarians was to maintain a quiet and orderly library environment. As Donna (TG-H), stated: “School librarians ... [should be] firm in terms of controlling what goes on in the library, but are there to assist students and staff. And that’s what I think the role of a librarian is in a school”. However, obsessive control exercised by the librarian could influence the teacher’s overall perception of the librarian’s approachability. As Nancy (TG-H) noted of one librarian: “I think she actually saw her job as keeping everything neat ... The worst
thing is the librarian who wants a very orderly library and wants a collection in order and she sees the only way to do that is to discourage people from coming and messing it up. And there are people like that”.

5.1.2.4 Other influential factors

The above factors were not the only influences on teachers’ preferences for approaching library staff for assistance or potential collaboration. It can also be argued that, in some cases, a teacher’s perceptions of the roles and qualifications of the librarian rendered them more or less desirable as a potential information resource or partner in collaboration, as described in an earlier section. This supports Immroth and Lukenbill’s (2007) view that positive, collaborative engagements were more likely to occur when teachers recognised librarians as a peer, i.e., “a full member of the teaching staff”.

Another factor that merits discussion is support from the key decision-makers within the school hierarchy, especially the principal, which was considered to be a critical factor in the success or failure of collaboration between teachers and the TL (Edwards, 1989; Webb & Doll, 1996; Haycock, 1999; Oberg et al., 2000; Lloyd & Bannister, 2001; Hartzell, 2002; Montiel-Overall, 2008; Hughes, 2013). It is therefore interesting to note that the attitude (supportive or otherwise) of the principals at the three schools was not a factor that arose in the interviews. The implications of this omission are discussed in Chapter 6.

The literature had indicated a gap in the knowledge of exactly what teachers wanted from librarians during the ISP (Callison, 2005; Todd, 2005; Meyers et al., 2006). In the present study, time and access emerged as the most frequently mentioned factors influencing teachers’ decisions to interact with, or avoid library staff as information resources. Nevertheless, it was clear that personality issues, intertwined with the teachers’ perceptions of relevant professional and interpersonal relationships, and a sense of exercising the requisite degree of power and control over the classroom situation, contributed significantly to motivating or deterring teachers’ choice of library staff as preferred information resources.
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5.1.3 Information resources other than people

This section deals with preferences for information resources other than ‘people’. In the interviews, the most popular first preferences for resources were revealed to be overwhelmingly books, and electronic resources accessed via the Internet. These were followed, to a lesser degree, by a range of other digital and print formats including videos, magazines, paper notes, printouts and photocopies. This popularity was a reflection of the survey results, although ‘people’ were more frequently mentioned as the ‘first preference’ in the latter.

The interview schedule initially asked teachers to focus on a specific incident recalled from memory. They were then asked to step the researcher through the process. The resources mentioned as the ‘first preference’ in this stage of the interviews are shown in Table 23.

| Table 23: Teachers’ ‘first preference’ for resources when planning a research task |
|---------------------------------|---------------------------------|---------------------------------|
| Amy (TA-CS)                     | Print: Specific Internet site (bookmarked as a result of moderated discussion list for Computer Studies teachers) | Digital: Book (school library) chosen for overview of topic area |
| Barbara (TB-S)                  | ‘The textbook’ *(personal collection)* | |
| Christopher (TA-RS)            | Book (school library) chosen for overview of topic area | |
| Cynthia (TG-E)                 | Book (personal collection) | |
| David (TA-S)                   | Library catalogue (to check scope of resources) | |
| Deborah (TA-E)                 | Book (personal collection) | |
| Donna (TG-H)                   | Book (personal collection) | |
| James (TB-RS)                  | Internet (Google) | |
| Jason (TA-RS)                  | Book (personal collection) | |
| Jennifer (TA-S)                | Internet (Google) | |
| Jessica (TG-E)                 | Printed notes (departmental collection) | |
| Joshua (TG-E)                  | Internet (Google) | |
| Karen (TB-E)                   | Book (school library) | |
| Linda (TA-CS)                  | Moderated discussion list for Computer Studies teachers | |
| Lisa (TA-H)                    | Internet (Google or Yahoo) | |
| Mary (TA-S)                    | Internet (Yahoo) | |
| Matthew (TB-PD)                | Internet (Google) | |
| Melissa (TB-S)                 | Internet (Google) | |
| Michael (TG-S)                 | Internet (Google) | |
| Michelle (TB-E)                | Internet (Google) | |
| Nancy (TG-H)                   | Printed notes (personal collection) | |
| Patricia (TA-S)                | Textbooks (personal collection) | |
| Robert (TA-RS)                 | Encyclopaedia (personal collection) | |
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<table>
<thead>
<tr>
<th>Teacher</th>
<th>Resource</th>
</tr>
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<tbody>
<tr>
<td>Stephanie (TG-LOTE)</td>
<td>Textbooks (departmental collection)</td>
</tr>
<tr>
<td>Stephen (TG-H)</td>
<td>Encyclopaedia (personal collection)</td>
</tr>
<tr>
<td>Susan (TA-H)</td>
<td>Printed notes (departmental collection)</td>
</tr>
<tr>
<td>William (TB-G)</td>
<td>Internet (Google)</td>
</tr>
</tbody>
</table>

Note. *‘The textbook’ refers to the version used by the class. ‘Textbooks’ indicates that more than one textbook would be examined. ‘Book’, in the singular, refers to a specific book named as ‘first preference’.

As can be seen in the above table, the resources preferred as a ‘first choice’ fell between printed and digital resources, the latter commonly found via the Internet. Although the questionnaire responses had included other ‘first choices’, none of these emerged in the interviews. Teachers discussed specific ways in which they selected and utilised these information resources, which varied according to specific lesson requirements. Of the 27 teachers asked to describe the research journey undertaken when they went searching for information for a specific research task, 14 of the 27 nominated printed resources as their ‘first choice’ (51.8%). The print resources preferred included ‘books’ (six teachers: 42.9% of those who preferred print resources); encyclopaedias (two teachers: 14.2%); ‘textbooks’ (three teachers: 21.4%); and printed notes (three teachers: 21.4%). These printed resources came predominantly from personal collections (nine teachers: 64.2%); departmental collections (three teachers: 21.4%); and the school library (for two teachers only).

Thirteen of the 27 teachers interviewed chose digital resources (48.2%), with 12 of the 13 choosing resources from the Internet (i.e., 92.3% of all who nominated digital resources). Of these 12, seven teachers chose Google as their preferred search engine (i.e., 58.3% of those who nominated Internet resources); while two chose Yahoo. One teacher chose to visit her favourite, moderated discussion list for Computer Studies teachers; while another went directly to an Internet site drawn to her attention by the Computer Studies moderated discussion list. One teacher chose to access the school library catalogue as his first stop on this information-seeking journey.

It should be noted that ‘first preference’ did not imply that a format was used exclusively, as can be seen with three of the science teachers from Alpha, where flexible approaches prevailed. For example, to prepare for her lesson on photosynthesis Jennifer (TA-S) first went to the Internet. However, when setting work for students, she first went to the textbook, as it was a resource common to them all. Christopher (TA-S), a heavy user of the Internet via his personal laptop, altered his routine for the nominated research task: he first
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went to a book in the library that was by an expert in that field. Patricia (TA-S) nominated textbooks, then books in the library, then the Internet, using Google Scholar (just demonstrated by her son).

In some cases, as an interview proceeded, teachers might express a dislike for a particular format (such as books) when discussing work-related purposes, but indicate a strong preference for its use in a recreational context. In the next section, the role of books and the Internet are discussed, followed by the role of other types of information resource. Motivators and deterrents for choosing either books or the Internet are discussed in Section 5.1.4.

5.1.3.1 The role of books

As noted in Table 23, over half of the participants discussed their preferences for obtaining their information from various types of ‘book’, frequently describing in detail the role that books played in their research strategies. All teachers opined that they would at least consider using both books and Internet resources, where available and applicable, at some point in their search for information. Nevertheless, it was clear from their expressions of enthusiasm (or otherwise) that specific formats tended to dominate, especially when they had demonstrated their reliability over alternative types of resource.

➢ Textbooks/workbooks.

The preferential use of textbooks, as the first step on a teacher’s quest for information, was a trend that emerged from recent studies (viz., Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). While the survey questions in the present study tended to blur any distinctions between textbooks and other books, the interviews revealed detail regarding the important role that textbooks played in the information-usage patterns of certain teachers. This preference was shared by around 25% of teachers (total sample), with over 11% nominating textbooks as their ‘first preference’.

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Patricia (TA-S) regarded textbooks as a primary source of direction as well as reliable background information, stating that she first reached for the current edition of the science textbook, on her shelf: “My first approach would be to ... go to the textbooks”. She would secondly “go to resource books in the library ... I think what books do is give you something solid to base your [subsequent] Internet research on. I think going straight to the Net is often a waste of time”. Although a proactive user of the Internet, Patricia appeared to believe that there was a time and a place in her life for a wider range of resources. As she said: “You can’t take the computer to bed [which is where] I prefer to read books”.

For his classroom research needs, Matthew (TB-PD) relied heavily on the resources contained within a textbook/workbook written by a team of teachers experienced in his subject area. As a result, Matthew stated that few research resources were needed outside the recommendations of the workbook in order to satisfactorily complete the units of work: “I think because we have workbooks, most of the information’s in there”, including Internet links. Otherwise, Matthew considered that he had “tended to move away from using paper [formats]”.

- Reference and non-fiction books

Books were popular with most teachers at some point in their information seeking. In David’s (TA-S) view: “Books are still good ... [as they] provide a lot of visual material that the Internet doesn’t do quite as well”. Although Mary (TA-S) initially declared that she “would never go to books” for background research prior to setting a student task, she subsequently mentioned that reading a good book can serendipitously initiate the creative process: “I had read a book called The Genome which talked about each of the genes and what they discovered about them and the science behind them. Right at the end was a web site for scientists which ... [was] very, very informative”. Mary emphasised that she “would never really look to the Internet as a source of inspiration, whereas I would get inspiration from a book, I think, because I can read it at my leisure and I can read it quickly and I can just flip, flip, flip [the pages], whereas waiting for the pages to turn over on the computer for me is tedious”. Mary pondered on this phenomenon and came to the
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conclusion: “I’m afraid I’m a 'book person' initially. No apologies either, because I think the scope is so much greater. So, to me, the whole depth of my teaching comes from ... [books and] not from the Internet”.

For his mythology research topic, Robert (TA-RS) first went to his own copy of a classics encyclopaedia, which he kept in his personal collection at school: “I have it there and I take it to class at times. Simply because the girls will ask questions. And if I’ve got it there I can very quickly open it. It’s quicker than having [to use] the computer ... It’s put together by alphabetical entry and it’s put together by experts. I think an encyclopaedia distils [the information]. It’s authoritative and it’s the best information floating to the top”. Robert would then “also go to the library because nothing can replace books. And I’ve found two or three really good books on the legends and myths of ancient Greece which I’ve used just as much”.

Susan (TA-H) noted that the bias that she found on the Internet was “not as prevalent in books because [with] the sort of mainstream books that we’ve got in the library, you tend to get more a balanced or a historical view ... Particularly in a subject like history, there’s just so much new writing and scholarship and research and so on going on all the time, and most of that is still [published] in book form”. Due to the authority of reputable print resources, Donna (TG-H) similarly stressed that she was “a very firm believer in ... [reaching for] the book first, then the Internet further down the track. Later”.

Michael (TG-S) reminisced about the changes that he had seen in the years since first researching the area of genetics, then teaching science in a high school: “You cannot rely on one single source anymore. Fifty, forty or thirty years ago when I was doing my [research] work, we depended upon the printed word only. But as electronic transfers become much more available, we began to depend upon them. And use them to a greater degree than we had done. And we find now that we are almost completely dependent upon them. And I really don’t want that. I want to be able to draw from all resources which I feel are important in my case”. Like many of the older teachers interviewed during the course of this investigation, Michael indicated awareness of the need to critically evaluate all information resources and to select those most appropriate to the job at hand, adapting to
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changing technology as needed. For many teachers, the reliability and authority of books, particularly when easily accessed from their personal collections or well-equipped school library, rendered them a preferable information resource, in comparison to the Internet.

5.1.3.2 The role of the Internet

As Table 23 indicates, the Internet was the format of choice for over 44% of all interview participants, used either alone or in conjunction with print resources, depending on individual preferences. Some teachers seemed more informed than others about the nature of the Internet, with one or two appearing to believe that Google was a site from which information could be obtained, rather than a search engine employed to locate and display a list of resources based on the user’s search terms. As with the results of the survey component, preference for the Internet was not confined to teachers of any particular age group, subject area or gender.

Just as in the literature (e.g., Recker et al., 2004; Mardis & Hoffmann, 2007), the Internet was particularly popular with science teachers, although all faculty areas described using the Internet at various times. Jennifer (TA-S) was adamant that using the Internet from her laptop “is my preferred option with virtually everything ... Even if I’m looking up photosynthesis, [for] which I’m probably better off looking in a good science textbook, I would still probably go to the Internet to see what’s there”.

Linda (TA-CS) shared some of her favourite strategies for finding information: “If I’m looking for new technologies, we’ll do a combination of things. I’ll go to Google and do some Boolean searches on key words. I’ll use some other search engines, which give me different ... [algorithms] to use, and I’ll do Boolean searches on key words in those. Have a look at them, bookmark some of them, capture some pages if I think they’re relevant, etc. ”. Linda regularly visited favourite sites to check that they were still up to date and relevant. “They do change. Most of the sites which [I use] don’t change. They’re fairly stable sites. And you’re never going to find up-to-date IT information in a book”. Linda relied heavily upon Internet resources for her research needs. She subscribed to a number
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of e-lists, despite acknowledging that “some of them are pertinent, some of them aren’t. Most of my professional reading is downloaded off the web”.

Barbara (TB-S) was an older science teacher who had embraced new technologies for her own research purposes, despite being aware of their limitations for her students: “I can see that I’ve gone so much more [away] from books to the Net, and using the Net as the ‘world wide encyclopaedia’ … At school, I notice the students do too. I’ve got to force them [to range more widely for research sources]. If I set an assignment which says [to use] ‘a number of resources … [they’ll give me] 15 Net resources and one book, you know, just because I’ve said ‘use a number of resources’”.

As with Tanni’s (2012) trainee teachers, history teachers like Susan (TA-H) found the Internet to be a valuable source when preparing to teach a new topic, in her case, the Chinese Cultural Revolution. However, as a user who preferred authoritative books, she was also aware of some of the problems inherent in the credibility and authenticity of online information, especially when the students strayed away from the sites that had been bookmarked for them: “One of the research assignments that we set the students on the Red Guard, they actually … [completed] largely from the Internet … We had some stuff bookmarked [by library staff] on the intranet. But the girls … [are] really good at advanced searches and … got in and found quite a lot of stuff by themselves. And since it was a … [topic] that was basically dealing with propaganda, it didn’t matter that they were getting into sites that were just pure propaganda. Because that was the whole point. But the danger is where they get into sites that are pure propaganda and they take it as gospel”. Despite her reservations about the bias inherent in some Internet sites, Susan was critically aware of the relative benefits of this multimedia format: “The Internet is really good for certain things, for example, for pictures”.

The reliability and trustworthiness of information was as much an issue for Melissa (TB-S) as it was for respondents to the OCLC surveys (De Rosa et al., 2005, 2010). She explained how she carefully vetted Internet sites before accepting the authority of their information: “I look at the URL and see where it’s come from, and if it’s a university source or a reputable publisher or something like that, then that’s ok. But if I’m looking for specific
pieces of information, for example ... for weather, then I’ll go to the Bureau of Meteorology site; or if I know that there’s a government agency or a tertiary institution that ... [specialises in] those particular things then I’ll go to their site and look specifically there for things as well”.

One teacher expressed a preference for resources from archival databases, an information location that was growing in popularity with the increase in, and widening scope of, Internet usage. It was a trend also reflected in the OCLC surveys (De Rosa et al., 2005, 2010). Lisa (TA-H), the avowed lover of books, had recently discovered a new location in which to find digital versions of books on a wide range of relevant research topics: “The school has us signed up to Questia⁶. So I have got a password but I haven’t had a chance to use it yet. But over the holidays, I’m going to go into that and see what is in there”.

Since this interview, there has been a proliferation of small, portable devices (such as iPads) suited to reading e-books. Although far from displacing the printed book as a source of reading pleasure, e-books have made significant inroads into the book-buyers’ market (Fisher, 2010; Lee, 2010; Lovett, 2012; Rainie et al., 2012; Carroll & Morris, 2013). It would be interesting to discover whether these technological changes have modified the information behaviour of teachers such as Patricia (TA-S), in the years since the interviews.

5.1.3.3 Other types of information resources

Some teachers expressed a preference for using information resources other than people, books or the Internet, options which were discussed earlier as some teachers’ ‘first preferences’. Formats included videos, magazines and journals, newspapers, paper printouts and emailed documents, either stored on their computers or printed and filed away for future use. Once again, this selection reflected the preferences expressed in the survey.

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⁶ An online, subscription database providing access to full-text books, magazines and newspapers.
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➢ Videos

Videos, increasingly being utilised in the three schools in DVD rather than the older VHS tape format, had proven in the questionnaires to be a popular teaching tool with many staff members. In the interviews, videos were confirmed to be popular amongst teachers from different faculties, both for their engaging multimedia content and their use in breaking up the monotony of classroom teaching. David (TA-S) commented that “we still use things like videos, and I’m always looking out for things like that ... assuming that the videos aren’t dated”. Nancy (TG-H) stated that her use of the school library had been more for videos than for books: “As a head of a department I’m very keen to add to the collection in DVD form. That’s how I use this library”.

➢ Magazines and journals

Magazines and journals appeared to have their devotees in the three schools interviewed, with some teachers having their own subscriptions at home. While leafing through issues for relaxation or current awareness seemed to be common, many teachers described serendipitously finding an article that stimulated a subsequent research task or provided a fast solution for a lesson plan.

Deborah (TA-E) utilised the English journals in the Alpha library. She liked to browse, as “if you can go through something like Sydney Studies in English ... [there might be] an article there that’ll be good”. Deborah liked this journal so much that she “asked for us to subscribe to Shakespearean Quarterly, when we first started the new course”. Karen (TB-E) also appreciated the Sydney Studies in English journals, stating: “I especially read the introductions because I thought that was giving me some sort of way in [to the new topic area]”. Her colleague Michelle (TB-E) also kept up to date by reading selected professional journals, for which she had a personal subscription: “I’ll tell you what I’d read – things like Metaphor, which is [a quarterly magazine by] the English Teachers Association.”
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Cynthia (TG-E) noted that she used particular magazines that were available in the Gamma school library: “Because ... [the librarian has] built up the critical repertoire there, I can go to Sydney Studies in English and there are excellent articles there on HSC texts”. She explained that she also preferred the printed format: “I like reading a journal article. I like it in my hands”. She might then choose to photocopy certain articles to add to her personal collection: “I've now got folders of downloaded articles on 19th century poetry ... [for] last year’s course”.

Amy (TA-CS) liked the library staff to put the latest magazines into her pigeonhole after they were processed, not only for keeping up-to-date in her subject area, but to use to prepare a folder of ‘just-in-time’ lesson notes: “I'll flick through them and find articles ... to photocopy”. Mary (TA-S) also appreciated the library’s extensive collection of science and current affairs magazines: “like in The Bulletin, for instance, I just happened to be reading about ... the latest science and research and ... what carbon is used for ... and that fitted in ... with a lesson for the next day”. Mary enjoyed reading magazines “voraciously, I would say”, both at school and at home.

Her colleague Patricia (TA-S)’s extensive knowledge of the scientific magazines held in Alpha library appeared to be a consequence of her prior collaboration with library staff to create a research task for Year 10, designed specifically to introduce the students to a range of scientific literature. Referring to the EBSCO magazine database subscription service (accessed via networked CDs, at the time of the interviews), she noted that “we’ve also got a nice search [facility] in the library which ... [the students are] familiar with and which searches [the journals] quite nicely”. In contrast to Patricia (TA-S) and Mary (TA-S), Jennifer (TA-S) declared that she neither subscribed to magazines at home nor browsed the collection in the school library: “No. No, I’m... [too busy]. Yes, time is of the essence. And so that’s why I probably don’t ever go to magazines ... A lot of information that has traditionally been in books, I think is now on the Internet”, which remained Jennifer’s preferred method of seeking and acquiring information for teaching and research purposes.

Although Lisa (TA-H) loved to browse the collection of archaeology and history magazines, her colleague Susan (TA-H) was not such a devotee: “To be honest, History
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*Today* is very erudite. And it’s often quite dense. In other words it’s very worthy but it doesn’t... [always grab my attention] and a lot of the topics are... [not ones] that we actually deal with in our syllabus... So, if it was lying on the desk I would pick it up and read it and be quite interested, but I wouldn’t search it out”. When asked if she ever used the online versions of these magazines that were available via the library’s subscription service, Susan replied that she “never used them. I know they’re available, and I know in the library that they’re available for the girls. But I’ve never actually tried to use them. That’s an honest answer”. In contrast, Donna (TG-H) found Internet access to subject-specific magazines to be useful: “I like to make very good use of magazines and visit magazine sites, and downloading articles. For example, Archaeology Magazine or History Today, or something [similar]. They tend to have reputable articles by reputable historians”.

Barbara (TB-S) revealed that she was no longer able to read magazines at school as she did in the past, explaining that the Beta library discontinued the print subscription to many of her favourite titles: “We used to have, what’s the science one? *New Scientist*. Then they stopped getting the subscription... *National Geographic* got stopped too. But I would like them to start *New Scientist* again because that’s got some really useful articles”. Her colleague Melissa (TB-S) expressed similar concern that the school library appeared to be discontinuing print subscriptions in favour of electronic magazine database services. She particularly missed the “*New Scientist*, certainly for senior students, Year 10 and up”. Melissa explained the role that the print editions of certain magazines and journals had played in her professional life: “Personally I like to sit and read a real magazine, from the point of view that you don’t have to take a break necessarily from a hard copy magazine, whereas theoretically you should take a break from that [computer] screen. So if you’re reading something on the screen all the time, it has that deleterious effect”.

David (TA-S) was quite comfortable mixing his newspaper formats, describing how he used the print version of the *Sydney Morning Herald* for personal/professional reading and current awareness, frequently downloading the electronic copy of relevant articles later at school. Like David (TA-S), James (TB-RS) was comfortable using the online equivalent of traditionally printed newspaper resources, seamlessly integrating print and electronic
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formats. “I also use the Sydney Morning Herald site a fair bit, looking through stuff I can grab out from there for my lesson plans. Today, for example, I looked at the Herald site first, [noted] what articles they had, grabbed some [information] off there, then went to this particular Bible search site, looked up ‘suffering’ and it threw up the verses that I wanted on that [topic]”.

➢ The role of paper copies

Loose-leaf paper formats, such as printouts and photocopies, appeared to be the choice of many teachers for handling and annotating resources retrieved from the Internet, even when storing and reading digital versions might be an alternative. For example, Cynthia (TG-E) mentioned that she still preferred to photocopy articles from journals and magazines to store in her filing cabinet and hand out to classes, while Jason (TA-RS) also mentioned printing copies of articles found on the Internet, for much the same purposes.

Deborah (TA-E) expressed a preference for printing articles of interest culled from the Internet, stating: “If it looks as though it’s good, I tend to print it, and then look at my leisure because I don’t get a lot of time online at school. You know, I don’t get many free periods”. Jennifer (TA-S), who had indicated a strong preference for Internet resources, nevertheless preferred to move between electronic and print as it suited her convenience: “I tend to bookmark everything, and print the shorter … [articles]. Ones that don’t print well… [I’ll often] copy and paste into a Word document, especially if there’s an interesting paragraph … In a much longer document, I would possibly just cut and paste [the relevant section] into a Word document and save that as notes”. Robert (TA-RS) also preferred to print his Internet articles and read them at leisure as paper copies: “I then just print off the material that I need on a particular character. I’ll use that for my own reading”.

Nancy (TG-H) was another teacher who was happy to mix her formats, relevant to the task at hand: “Occasionally if I get a good [Internet] site recommended to me, I’ll read it. But I’m more inclined to ‘skip read’ and then if I like it I’ll print it off and take it to bed and read the whole thing”. Karen (TB-E) also expressed a preference for reading Internet resources in the form of paper printouts, particularly as she could make margin notes and
use “the highlighter. Yes, always. I always like the hardcopy, rather than the [computer] screen”. Matthew (TB-PD) noted that he restricted his printing to a few critical Internet articles, as did Melissa (TB-S), who observed: “You don’t want wadges of paper. I mean isn’t the whole reason that we’ve got computers and all these electronic means of doing things, to try and save all that paper that we ... [used to waste]?”.

It was clear that different formats were preferred at different times by different teachers, according to perceptions of relative convenience, usefulness and functionality. Despite the willingness of many teachers to investigate ‘new’ formats, the first preferences for information resources tended to be those deemed most reliable, about which teachers spoke with the most confidence and over which they appeared to exercise the most control. This appears to be a trend that has withstood the test of time.

5.1.4 Motivators and deterrents: preferences for books and the Internet

This section deals with motivators and deterrents for seeking information resources other than people, with a focus on preferences for books and the Internet. Individual teachers were as apt to express a preference for choosing one format over another, or to justify their use of multiple formats. Evidence from this section of the study will be of use to contemporary TLs in their quest to provide a repertoire of valuable resources in the face of increasing cuts to school library budgets, particularly when it comes to considering whether to invest in ‘books’, Internet resources, or both (as indicated as a priority in the Softlink (2012) school library survey).

5.1.4.1 Time and access

As with the factors influencing preferences for interpersonal resources, reasons for preferring one format above another included the perception of time saved or access to key facts expedited, their perceived reliability or authority, a sense of ownership and control over the resources, and the tactile and sensory aesthetic pleasure (or distaste) derived from using specific formats.
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➢ **Time**

The perception of time saved (or squandered) by using one format rather than another was most commonly mentioned in connection with Internet resources. Linda (TA-CS) was one of the strongest advocates when it came to her subject area - computer studies: “I would go onto the Internet and go straight to the Visual Basic sites which I have bookmarked”, while Matthew (TG-PD) was equally enthusiastic about the time saved by using Internet search engines: “I just find [with Google] that it’s easy and it’s quick”.

This format, however, proved to be a two-edged sword, with as many opponents as advocates. Nancy’s (TG-H) complaint related to the time wasted due to ‘information overload’ resulting from an Internet search: “I find that using the Internet is like wading through a lot of junk mail … When I first started with the Internet, I’d download forty-two pages ‘cos I didn’t know how to stop it”. Susan (T-H) was disappointed with the Internet as a teaching resource when she “discovered that … all the network points … couldn’t actually get [you] into … [the computer network]” and wasted an entire lesson. As Stephanie (T-LOTE) stated, “When computers are down that lets you down because that’s really what the library’s relying on for you to access their information. So that can be a frustrating experience”. This negative situation was heightened at school for Cynthia (TG-E), when the Internet “system broke down three times”.

➢ **Access**

As well as time, access was also a key issue for many teachers. Formats that facilitated easy access to valuable information contents were highly regarded by teachers, although individual preferences differed. Motivating influences included portability, authority and easy access to contents via, e.g., the index or search facilities commonly associated with books. For example, Robert (TA-RS) enthusiastically explained his preference for bringing to the classroom his own printed copy of a classics encyclopaedia: “It’s put together by alphabetical entry. And it’s put together by experts, of course”. But accessibility was found to be a variable determined by the nature of the resource and the integrity of the contents.
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As some teachers noted, books were easily damaged or vandalised, resulting in a deterrent to use them unless (as discussed in the following section) the item was a part of a personal collection under the direct control of the owner. Books from libraries were at higher risk of damage. David (TA-S) nostalgically recalled using a favourite book from his university library: “There were always fabulous maps I remember, until somebody ripped it out, and stole it.”

As both questionnaire and interview findings demonstrated, streamlined access to resources on the Internet was also a strong motivator for use, by those teachers who were not deterred by the occasional slow speed of the service. However, although time and access emerged from the interviews as strong indicators of preference, the influence of other factors such as power and control, and aesthetics, was also apparent.

5.1.4.2 Perceptions of power and control

Conversations with some teachers seemed to reveal sensitivity to issues of power and control in the workplace, including perceptions of heightened or diminished self-image resulting from use of certain information resources. One factor of importance to these teachers was the sense of ownership and control over their perceived working environment, which became ‘territorial’ to the point of ‘anti-collaborationist’, for some teachers (a characteristic noted by, e.g., Gibson-Langford, 2007; Immroth & Lukenbill, 2007). As well as impacting on relationships with various library staff, this phenomenon could manifest itself in preferences for building up one’s own collection, preferring particular information resources, or favouring specific information locations. This was a predominant feature of both survey and interviews, as well as in the literature, over time (e.g., Holmes, 1987; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012).

Resources from within the teacher’s personal collection that could be collated and managed easily were highly rated by many teachers, irrespective of whether the resource was a book, or digital resources from the Internet. With Jason (TA-RS), the preferred format was books. “I suppose the thing is that I wanted resources that were my own. So I can underline them. So I can annotate them. So I can photocopy them. I mean basically if”
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they’re my resources I can make them as user friendly for me as possible ... I mean if it’s a library resource then I can’t do that”. The reliability, portability and pleasingly tactile nature of printed books gave Jason the sense of ownership and control over his information resources that did not seem to be delivered by the more ephemeral nature of digital resources from the Internet. This contrasted with Linda’s (TA-CS) preference for Internet resources, which appeared to convey a sense of freedom and independence, as well as the previously-mentioned timeliness of delivery and currency of content: When at home, Linda could “just use the computer wherever I want to, and the wireless [network] goes through the house”.

In contrast to Linda, Karen (TB-E), an older English teacher, perceived that the rise of technology was transferring academic authority, power and control from teachers like her, whose reputation for erudition had been built on ‘book learning’, to teachers who were more skilled than she was in the use of computers: “You see, technology is such a part of it all now. It’s still going. Technology is such a focus now that people who literally cannot write a sentence have more power over me than I have for all the sentences I can write ... But that’s life. I’ve realised this. This is huge change. I’m one of the last coming through that will be in such a position”. Karen explained that it was not the specific ICT skills that intimidated her, but “it’s just ... the sad inversion of knowledge now”.

Karen’s comments illuminate another aspect of the ‘book versus the Internet’ debate, in that they appear to be perceived by Karen as artifacts of power and control. Although she professed to use various ICTs in the classroom, she felt that her strengths lay in her mastery of the world of literature, which, for generations of English teachers, had been expressed in the printed book. As she described print as being progressively removed from the Beta library and replaced by computers by Geraldine (L-TL), she saw her academic strengths as being ‘sadly inverted’, and her job increasingly at risk.

5.1.4.3 Aesthetics

As already noted, aesthetic factors motivated some teachers to choose or reject books as an information format. There were teachers who enjoyed the tactile and sensory pleasure
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gained from browsing and handling ‘nice’ or ‘new’ books; while others expressed a negative reaction to the mere thought of handling books that were dirty, worn or shabby. This trend was previewed in the comments appended to the survey responses (see Appendix E) that praised or criticised aspects of specific formats.

Despite his descriptions of his own prowess as a user of Internet resources, Stephen (TG-H) was open about his preference for books, especially hard covers, stating with pride: “I like books. I like printed matter. I like the feel of books ... Then there’s a particular pleasure of touching such a thing [as a nice book] as well ... I find the Internet for that reason a relatively sort of cold medium. Print material is very attractive”.

This tactile predilection was shared by Nancy (TG-H), who stated that she would “always look for a leather cover, good print and I’ll often buy a book, even though I’ve got a copy of it, because I like to hold those kind of books. You know, they are so well made”. Lisa (TA-H) similarly mused about the pleasure to be gained in touching and browsing through a pile of books: “I just love the feel of picking up a book and sort of browsing through it. And looking on the shelves at what’s new and what’s interesting. That idea of just being able to browse and pick up books, and sort of touch and preview it”. This sentiment was one with which Karen (TB-E) was in complete agreement: “It’s the pleasure. Yeah, it’s the pleasure of looking at [a book] and re-reading and picking up and browsing again”.

Expressing a love of books did not mean that these teachers were not fastidious in their individual preferences. As Lisa (TA-H) commented: “even though my mind will tell me that the older [book is] ... going to be perhaps more weightier, and more academic, I’ll always perhaps avoid it for something that looks more interesting or pleasurable to actually read. Yeah, cleaner”, while Stephen (TG-H) was more forthright: “Who wants to read a tatty book, unless it’s come from the 16th century? ”.

In contrast to the teachers described above, others described a tactile and sensory dislike of books, per se. To computer-loving Linda (TA-CS), library books were nothing but “shelves of decaying vegetable matter”, while David (TA-S) expressed a distaste for the “dust which tends to collect on books, especially at home”.

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Resources from the Internet also drew criticism on aesthetic grounds. As Karen (TB-E) explained, she was "still struggling with the fact of spending hours looking at a screen ... I would prefer to be just reading a book", while Mary (TA-S) stated that although she "can certainly find out things on the Internet, I just don’t find it that easy to read and I read fairly quickly and I’m waiting for the bottom to scroll". As Mary concluded: "I just find the whole thing irritating". It would be interesting to interview Karen and Mary today, to solicit their views on the aesthetics of e-books, some of which offer a consciously crafted facsimile of the print versions.

In summary, it can be seen that the main factors influencing the choice of books included their relative authority, relevance, scope of content, reliability and logical layout, as well as the tactile, aesthetic pleasure inherent in ‘handling a good book’. Factors that appeared to deter teachers from using books focused more on the dated nature of the content and the unreliability of access to the physical resource (usually discussed in the context of library books). Aesthetics unexpectedly emerged as a positive influence on those who expressed a liking for handling books, and an equally negative influence on those teachers who disliked handling shabby or dirty books.

Most teachers mentioned retrieving information from the Internet, with which they supplemented their personal collection of teaching resources. Those who preferred the Internet expressed motivation due to ease of access and the amplitude of choices that resulted from a search, although this was balanced by instances of negative comments relating to restricted access occasioned by unreliable technology, ‘information overload’ (often the result of poorly structured searches), mentioned by teachers such as Deborah (TA-E), Nancy (TB-H) and Michelle (TB-E). This increased the likelihood of teachers retrieving biased content. The Internet proved to be a popular location from which to seek information for research purposes using their favourite search engine, with Google overwhelmingly the most popular choice (a trend reflected worldwide, e.g., De Rosa et al., 2005, 2010). Future implications for books, libraries and digital resources are discussed in Chapter 6.
5.2 Information-seeking preferences: locations

The interview findings indicated that teachers preferred to patronise information locations that best suited their individual habits and personalities. The impact of technologies such as the Internet was blurring the boundaries between locations used to seek, locate, retrieve and store information, whether at work or home. As Giddens (1979) explained, “time, space and repetition are closely intertwined” (p. 204) and a particular place (‘locale’) was “not just a spatial parameter and physical environment, in which interaction occurs” (p. 207). Therefore in this section, the terms ‘locations’ and ‘places’ are used interchangeably to include (when relevant) both physical locations, e.g., the home bookshelf, the departmental filing cabinet, the school library, or virtual places such as the Internet.

Teachers’ preferences again tended to reflect the results of the survey component, particularly when interviewees were asked about the places that they first ‘visited’, to seek information needed to prepare the research assignment for their students. However, some teachers subsequently revealed that the range of their hunting and gathering activities might be expanded to include serendipitous encounters not part of the planned information-seeking strategy. Locations most preferred by the participants included personal collections, which remained the most popular location for the initial investigation of a new topic, although most teachers mentioned alternative locations visited in their quest for information. Of these, the most frequently mentioned included the Internet (previously discussed in section 5.1.4), departmental collections and libraries, including municipal (local/council), university and school libraries. As with resources, it became clear that preferred alternative locations varied, according to the nature of the task at hand.

5.2.1 Personal collections

As already stated, the most popular location from which to seek information was, without doubt, the teacher’s personal collection, a phenomenon reflecting both the survey results and trends noted in the literature (e.g. Holmes, 1992; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012).
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Personal collections were located at home or at work, on a shelf, in a filing cabinet, on one or more computers, or in multiple locations. They were considered to be readily accessible, in the sense that an individual needed no one else’s permission or goodwill to utilise them, as access was theirs to control and resources could be utilised repeatedly. They were also deemed relatively easy to use, as the teachers were familiar with them due to past experience.

As a science teacher at Alpha, David (TA-S) was supplied with a school laptop computer, although his home computer still had “a lot of work-related stuff stored on it. With the laptop it’s sort of less than what it used to be because the laptop comes with me, so there’s a lot of electronically-stored stuff”. However, he also kept at home “lots of books, both work-related and things that I’ve read that I just don’t like throwing out”. Deborah (TA-E) also valued her home collection of teaching resources in print format, to which she turned when she needed to conduct new research. Jason (TA-RS) also turned firstly to his collection of resources kept at home. Similarly, Lisa (TA-H) noted that her first choice for reference would also be her print resources, at home: “I basically just use different texts, different recommendations in books that I might have read. They might be in the back of the books”. Patricia (TA-S) also preferred to use her home collection, focusing on “my own textbooks first”. Patricia’s home collection also included copies of magazines to which she subscribed.

Although James (TB-RS) also relied primarily on his personal collection of resources for teaching, these were largely stored on his home computer: “I’ve got some things filed away on computer that I know I can go back to. I try not to reinvent the wheel, but if I’ve got stuff, I can re-use it [when] I’m looking for some sort of current article”. In addition, James also “read magazines. I’ve got a couple of mags. I subscribe to [at home]”. Robert (TA-RS) had previously stated that the key item in his personal collection was his “good old ... classics encyclopaedia”. Although both Robert (TA-RS) and James were male teachers of religious studies, aged in their 50s, they revealed very different preferences when it came to content, style and format of their personal collections.
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Melissa (TB-S) nominated her personal collection as the first location for “*brushing up on something for a senior class, [by using] my science reference books*”. As the location of first preference, William (TB-G) nominated his home collection, which also consisted of copies of current textbooks he had “*used before*” and a collection of geography resources that, like Jason (TA-RS), he brought to class to share with his students. Cynthia (TG-E) kept part of her personal collection in four filing cabinets located in her study at home, as well as having a comprehensive collection of books in the study and stored in the attic, while Donna (TG-H) owned “*a very extensive personal library which includes books, magazines, DVDs and historical novels*”. Jessica (TG-E) was currently building up a home collection that included “*a lot of classics*”. Stephanie (TG-LOTE) relied on her personal collection of her own notes, which she made available to students in order to point them in the ‘right’ research direction.

Stephen (TG-H) invariably started his background research by consulting “*the [Encyclopaedia] Britannica in printed form. I have a copy at home*”. His home library was extensive, but apparently smaller than it used to be: “*I had a collection of about five thousand volumes at one time. But that’s now reduced to a little over a thousand volumes because I’ve been travelling internationally*”. In addition to his personal print collection, Stephen (TG-H) used his high-speed Internet connection to build up his electronic home collection.

5.2.2 Departmental collections

Departmental collections (sometimes referred to as ‘departmental libraries’) refer to those under the auspices of a faculty. Located at school, they could be biased towards one format, or include a blend of appropriate materials. They tended to be the preferred location for seeking information only if the collection was regularly updated and maintained by proactive teachers within the department. Sometimes this appeared to be the result of an initiative of the head of department, which might be subsequently extended by collaboratively-minded teachers.
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The Gamma English departmental collection appeared to be a popular location for resources, emerging as the first choice of several teachers. Cynthia (TG-E) observed that the English department: “has commandeered a few shelves in the staff room”, in addition to the several filing cabinets heavily relied upon by the younger members of the faculty. As Cynthia commented: “We are a paper-heavy faculty. We have to deal in books and paper. And I don’t want kids to be reading off a screen all day long. I don’t think it’s good for their eyes. I find that myself, my eyes get sore. So the exams that ... [students] sit are still paper-in-hand, so we try to deal with both [formats]”.

Joshua (TG-E) regularly added to the English departmental collection, commenting that when he found some useful notes on the Internet, he printed: “and put them all into the resource file that we have here at school, so other teachers can use ... [them] as well”. Joshua explained that when he first came to the school as a new teacher, he did not have many resources of his own: “and I’ve found that the school ... or the teachers have provided me with a wealth of resources here ... And I feel it’s my way of helping the school, or giving my appreciation back by putting what I have found into that resource folder”. His colleague Jessica (TG-E) was also progressively adding to the cache of English resources currently located in the staff room, such as “sample tasks from previous years. I’ve photocopied those and I’ve given the kids... resources from things that we have in the staff room”. The practice of new generations of teachers contributing to the staffroom collection of ‘inherited’ resources (Diekema & Olsen, 2011) was well established in the English department at Gamma.

At Beta, Barbara (TB-S)’s science departmental collection was the result of her personal efforts to supplement the science teaching resources that had been steadily collated over many years of teaching, while the English departmental collection was the offspring of “the old English book-room” collection, currently maintained by Karen (TB-E), who supplemented it with newly-purchased DVDs and copies of relevant texts. However, staff members at Beta were, like Karen, beginning to report instances of increasing pressure from Geraldine (L-TL) to construct a repertoire of digital teaching resources available via the school’s Intranet.

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At Alpha, Susan (TA-H) made reference to her history departmental collection, which was “based upon course notes ... which we’d researched maybe three years before that”. It would appear that since the advent of computer technology at Alpha, the print-based departmental collection had steadily given way to enhanced personal collections of mixed formats, enriched by laptop-accessible, online resources. At the time of interview, Linda (TA-CS) was striving to encourage the development of Intranet-based subject resource collections in all departments, accessible to staff and students alike. However, as with Geraldine’s (L-TL) similar ambitions at Beta, this appeared to be a lower priority to the various Alpha teachers than preparing for their teaching needs.

5.2.3 Bookshops

Some teachers noted their preference for visiting bookshops for reference materials and recreational purposes, browsing through and buying from new, second hand or specialist bookshops, both physical and online. These resources were added to their personal collections, either at home or at work.

Some teachers like Karen (TB-E) described keeping up-to-date with new books via newspaper reviews, then seeking them in her favourite bookshop. Others, like Jessica (TG-E), preferred to purchase from online bookstores, via the Internet. As well as his favourite religious bookshop and its online equivalents, Jason (TA-RS) “went to a number of second-hand book shops. I would also have gone to some new book shops”. Not content to base his personal collection solely on photocopies from the Internet, Joshua (TG-E) recounted ranging wider in his quest for teaching resources and research materials: “I actually went and shopped around. I had a look around at some of the bookstores – some second-hand bookstores actually. And I found some [study] notes and some Spark Notes and I just went around and bought my own resources that I thought were useful for my particular class”. Cynthia (TG-E) and Donna (TG-H) were also devotees of bookshops, both new and second-hand, with Donna recalling spending her weekend browsing through bookshops: “I’ll go first of all to the history section. And I’ll wander through that. The biographies. Then I’ll go to the arts section. Again, non-fiction. [Then] ... the kids section”).
INFORMATION-SEEKING PREFERENCES: TEACHERS

Cynthia confessed that she loved to “go round the second-hand book shops. I go to Goulds in Newtown. I hang out in the Cornstalk Book Shop”.

William (TB-G), the geography teacher from Beta who had expressed dissatisfaction with the services of his school library, nevertheless described himself as being an enthusiastic recreational reader. “Where do I get the books from? I buy them. I go to bookshops. Go to Dymocks. See what there is and then, and buy them or, or go and buy a magazine from a newsagent”.

5.2.4 Libraries as information locations

Libraries were mentioned as popular locations for seeking information resources, with participants indicating preferences for school, municipal, university and even special libraries, according to individual motivation, or in response to perceived deficiencies in alternative locations.

5.2.4.1 The school library

The school library emerged as a popular option, according to the majority of participants, although (as with the survey results) not necessarily the first choice of all teachers seeking information. This section focuses on specific descriptions of library use, including contributions by teachers who did not describe themselves as regular library users.

Michael (TG-S) opined that a smaller school library (like Gamma) was not necessarily disadvantageous, since the library staff had an unobstructed overview both of the library’s resources and the needs of their clients. In a smaller library, staff “seem to be much more aware that they’ve got to provide a greater service, because of their lack of space and equipment. I find that the people in the [school] library are sharper than they are in a very large library”. For example: “In a large library you would find that, ‘Yes it’s over here in, and these are the numbers, just walk down there and find it.’ Where because this one is small, it’s able to be ‘Yes, walk over here with me and I’ll show you where it is.’ So that you’re getting more direct attention”.

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Despite expressing a preference for information retrieved from the Internet via his laptop, Christopher (TA-RS) still came to the school library on a regular basis, both to check out new novels and use some of the library resources and services, such as “to print on the colour printers, upstairs”. In addition, through the services of the library, Christopher was “able to obtain two books particularly that were really helpful and then we got a, sort of a half class set of those. And so ... we actually do the lesson here in the library ... So the library’s a good nexus [which] actually does gather things quite well. So when you head down that path, it’s good to sort of drop in”. The school library also provided at least one source of attraction to computer-devotee David (TA-S), who visited regularly to check out the latest videos, on which he relied heavily for teaching. To Lisa (TA-H), the school library had another draw card; browsing the extensive collection of journals and magazines.

Although James (TB-RS) commented that he was not a regular user of the school library, he declared that he would prefer to see his students take advantage of the many useful features of the school library, rather than go straight to the Internet at home: “I’d say, here would be probably be where it would be ... [best for the students]. Seeing kids use computers, to research stuff under partially my guidance, partially librarian guidance and actually see them find things that interest them”. This was not the only instance of teachers expressing a desire for their students to practise what they themselves did not model.

5.2.4.2 Other libraries

Although all participants had access to a school library, their experiences and level of satisfaction with the services and facilities varied. Many mentioned their preference for other information locations, including other libraries, referring to features and services that were perceived as unavailable in their own school libraries. For example, Deborah (TA-E) expressed disappointment with the academic level and subject scope of the Alpha school library collection, choosing instead to visit and explore the collection at Sydney University’s Fisher Library, with a view to locating the specific material that she had identified for her new research task.
Other teachers expressed satisfaction with the school library, choosing to exploit the resources of other libraries due to their subject specialisation, or because the locations were perceived to be more convenient and accessible at the time of the information need. Donna (TG-H) described her occasional use of municipal libraries: “If I was doing Hannibal; Roman history for example, I know that there are books in Campsie library. I know there are some Egyptian books in Bankstown library if I want to go out that way. I am aware we can do inter-library loans, but I’ve steered away from them myself, in the short term. But the local libraries are meant to be for every man. So what you find is that certain libraries specialise in certain areas”.

Stephen (TG-H) recounted using a number of excellent municipal libraries during his career: “When I lived in Castle Hill, the Baulkham Hills Shire Council rather cleverly built a block of flats, pretty flash ones I’m bound to say. And were astute enough to put a beautiful new, high tech library underneath it with a cafe attached to it. Now quite apart from the pleasure of drinking a good coffee while you’re perusing a book, I had the pleasure of stumbling across a small but I suspect unique, collection on modern Russian history. And found myself enjoying an afternoon, serendipitously. I’d gone really to return another book, and just glanced at a shelf I was passing. And there went an afternoon! And once again, it was pleasurable because the books were new. They were attractive. They were obviously recent. Just plain enjoyable”.

Like Mary, Patricia and Jennifer from Alpha school, James (TB-RS) revealed that his use of libraries for recreational purposes was in contrast to his workplace information behaviour, observing that “although I get some [novels] from the school ... [my local] library is for me the best source of novels. [It’s close to home and has a] ... great range of books, both for research and recreational purposes”.

5.2.5 Motivators and deterrents: the school library as preferred information location

The major motivators and deterrents influencing teachers’ preferences for specific information locations were, once again, found to be the common perceptions of time
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(saved or squandered), access to the location and its facilities, and a sense of personal comfort, ownership and control when utilising the location in question. As with preferences for specific resources, the interviews produced evidence for the strong influence of aesthetic factors associated with utilising (or avoiding) particular information locations. This section focuses specifically on teachers’ motivation (or lack thereof) for utilising the school library as an information location.

5.2.5.1 Time and access

‘Time saved’ was the reason frequently given as a prime motivation to visit specific information locations, with the perceived lack of this factor most commonly used as an excuse for not visiting more frequently. Christopher (TA-RS) explained that he rarely used the school library as a research location, stating that he did not “usually find the luxury ... [of time]”. Mary (TA-S), a keen visitor to the school library for the purposes of borrowing recreational fiction, nevertheless revealed that she preferred to visit the Internet for her research needs: “I can access it at home or I just find it’s easier [than] the trip across [to visit the school library]. Let’s face it ... I’m on a heavy [teaching] load and I just don’t have much spare time and so anything that saves me time means that I tend not to use the library”. Robert (TA-RS) mentioned that his reluctance to visit the school library more often was due to his “knowing that it’s going to take a lot of time, and a lot of extra time on my part to make sure that [the research] was on track”.

Joshua (TG-E) explained that he was “inundated in my work here at school, and it restricts me from going to the library. I just feel that I’m rushing for things at times”. His colleague Jessica (TG-E) agreed that a lack of time was a perceived impediment to library use: “I don’t really have time to go to the library, and look up books and journals and things like that. I wish I did have the time but I just don’t”. It is interesting to note that Jessica mused that if she had the time, she would go and visit Sydney University library, rather than visit her school library, which, although lacking equivalent academic prestige, was in much closer proximity.
INFORMATION-SEEKING PREFERENCES: TEACHERS

In Amy (TA-CS)’s case, “it’s often easier for me to actually search the web myself than go to the library resources because ... [the collection is] not focused enough on what I want from the syllabus”. She conceded that a user-friendly listing of resources would be useful, as “at least you would actually know what’s in the library and what ... resources [could] be useful”. Amy’s acknowledged library anxiety did not stop her from visiting the school library to chat with Miranda (L-L) about her hobbies, or to borrow recreational reading material, suggesting that a teacher’s perception of time as a commodity was relative to the strength of other factors that operated as more powerful motivators or deterrents.

➤ Access

The decision to visit particular information locations was equally influenced by the teacher’s perception of the level of difficulty required to access the location, whether physical (as with a library), or virtual (as with access to the Internet). Once at the location, access to the anticipated resources and facilities presented further challenges.

Access to books was a key motivator for library use. Despite the evident appreciation of resources located on the Internet, for most teachers the core library ‘brand’ still emerged as ‘books’, even in libraries like Alpha that boasted the most advanced technology, a perception shared by the respondents to the OCLC surveys of library use (De Rosa et al., 2005, 2010). While some teachers named specific print resources as the prime motivators to visit the school library, others were more general in their description of the critical motivators: “It’s good because every week you come in here and there’s new books”, declared Mary (TA-S). The library’s ability to display and present books in an attractive and inviting manner made them appear more ‘accessible’; a prime motivator for teachers who, like Lisa (TA-H), Nancy (TG-H) and Stephanie (TG-LOTE), enjoyed browsing. Stephanie remarked that “It’s nice when you walk in and you see what new things are available and they’re normally on display in a separate area ... That way, it’s easy for you to know what is available, just simply by walking in. And you find things you weren’t going to look for anyway”.

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Easy access to other library services and facilities served as a draw card or deterrent, depending on the opinions of the various teachers. While Christopher (TA-RS) revealed that he visited the library in order to “print on the colour printers, upstairs”, David (TA-S) reacted negatively to the fact that one area of the library had become a de facto print room, a noisy function that he believed should be handled by the IT department in a separate area.

Other factors that influenced a teacher’s motivation to use one location rather than another were access to supportive, helpful and friendly staff and to work-friendly facilities to assist busy teachers. Lisa (TA-H) enthusiastically described the positive affect generated by the perception that “if you have helpful librarians [who] … offer their services and will find something for you, it does give you that sort of warm feeling that libraries are very helpful place”. With regard to libraries as preferred information locations, access to work-friendly features that might be incorporated into their design and layout also emerged as important motivators for use, in that they had to be large enough to suit relevant class sizes but small enough to be ‘client-friendly’, with a variety of locations suited to different types of use.

Separate library areas, clearly defined to accommodate both silent study and academically productive, but noisier activities, appeared to be essential commodities. Susan (TA-H) revealed that she was motivated to use the Alpha school library not only because of access to desirable resources but also the design and layout, since “you can have a whole Year 9 class in there and they can all get connected [to the computer network] and ... [do] things like their web page projects – absolutely brilliant. I think the library’s fantastic. I think the service and everything is really good”.

Mary (TA-S) appreciated the proximity of more traditional library resources accessible in Alpha’s library: “I quite like going into a library where all the latest magazines are just either on the tables or in the stacks and you can just quickly riffle along and see if there’s anything”.

In contrast, Barbara (TB-S) revealed that she found it easier to access the collection of books assembled in a separate departmental library that she had built up over time: “I’ve built up a science resource area. They actually are some of the library books that we have
INFORMATION-SEEKING PREFERENCES: TEACHERS

[borrowed] on permanent loan. But we have our own resources, within the department”, since these were deemed more easily accessible than the science collection in the school library, which she stated that she rarely visited.

Just as access to resources and services motivated teachers to visit a particular information location, so the restriction of access to the same resources was found to act as a deterrent. The inability of users to locate books in the library, when all evidence from the catalogue suggested that they should be on a particular shelf, was a source of frustration to a number of teachers who had taken the time and trouble to visit. As Matthew (TG-PD) recalled: “talking about the books in the library ... [I feel] the frustration of not being able to find something that I need or it’s been put back in the wrong spot or it’s been borrowed out”. Karen (TB-E) was also frustrated by the ‘vanishing book syndrome’: “I first went to the library and had a look on the shelves, but realised that many of the texts that I needed weren’t there. Even the actual text wasn’t there! ... Am I the only one who’s looking at Revenge [Tragedy] on the shelf? Am I the only who’s looking for work on The Crucible?”. Stephen (TG-H) agreed: “It is frustrating when the library doesn’t have the appropriate resource ... I come here [to the school library] every day. And it’s always of concern to me if I go looking for information and can’t find it, because that means my students are not going to be able to find it either”. This is one area in which digital resources might compensate for the absence from the shelves of more traditional print resources, as they are less easy to misappropriate or mislay, unless inaccessible due to a computer malfunction.

5.2.5.2 Perceptions of power and control

In addition to the influences described above, factors such as perceived personal comfort, familiarity, ownership and control over what happens in an information location emerged as motivators for use. In some instances, the impression of someone else’s ownership and control over library resources, perceived as being exerted by some library staff, was described as a disincentive for visiting the library itself, as evidenced by Linda’s (TA-CS) complaint that she did not like to use the library because of the territorial attitude of the librarians: “They don’t want you in there, so ... I won’t take a class in there”. Alternatively, it could be argued that Linda’s self-confessed strong personality could have
INFORMATION-SEEKING PREFERENCES: TEACHERS

contributed to her perception of ‘territoriality’, particularly when it came to the use of technology.

William (TB-G) expressed strong views regarding the need for the school library to offer a quiet haven for teachers and students to come and work, to the extent that a noisy school library acted as a deterrent for use: “You’re supposed to go there to work [quietly]. It’s what I’ve always associated libraries with, as places to study. [However, in the Beta library] ... you’ve got some shrieking, wailing by Geraldine ... Or you’ve got [library staff] walking around ... [making] noise and things like that, while people are trying to work. It’s just a complete disruptive element ... [and] ... not supportive whatsoever ... If I can’t get into the computer room, then I won’t go into the library”. Other teachers shared his viewpoint, with Karen (TB-E) describing the library as “a bit of a noisy spot ... It’s like a party atmosphere with the staff ... [and] I don’t want anything to do with it”. Matthew (TB-PD) opined that it was the responsibility of the library staff to set an example and to keep order, for the sake of maintaining a harmonious working environment: “It’s important [for] a librarian to set the example ... I’ve thought, ‘Oh there’s a bit too much noise in the library’, and it’s not just coming from the students”. However, David (TA-S) perceived that there were advantages and disadvantages inherent in the role of ‘librarian as invigilator’, conceding that although “the standard ‘shooshing’ of librarians is necessary ... it sort of stigmatises [the library] ... So I mean that works both for and against the library, I think”.

5.2.5.3 Aesthetics

The aesthetics of libraries played an important role in influencing teachers to consider them as potentially desirable information locations. Motivating influences included the library layout, décor, ample lighting, the visual appeal of the collection and the impact of ‘first impressions’ on the visitor. Of importance to many teachers was the concept of the ‘quiet library’, represented as a haven of peace and calm where teachers could escape from the hurly-burly of their teaching day.
INFORMATION-SEEKING PREFERENCES: TEACHERS

Stephen (TG-H) emphasised the importance of these aesthetical features in libraries: “A library’s a refuge actually. For me, a library is a place to go to escape ... It’s a quiet place. It’s a place of contemplation ... And the physical environment and arrangement of the library... the collection ... and the quality of the staff, you know ... [are] of equal importance. There needs to be a culture of excellence in a library. And that includes the architecture of the library, and the layout of the library. So, I’m quite fussy and quite particular about libraries. When the Wellington City Council in New Zealand built a magnificent new library, I almost applauded. They spent an extraordinary amount of money on the shape, the physical building, the architecture. And it is one of the most beautiful libraries that I’ve been in”. Almost as an afterthought, Stephen added: “It also has a very good collection”.

Some teachers appeared to be highly sensitive towards other aesthetic considerations such as the negative impressions created by libraries that were described as dark, dank or dirty. Factors described as deterring teachers from visiting certain libraries included a shabby and run-down work environment, poor lighting, dust and dirt, vermin and lack of comfortable seating and work areas. In some cases, it was apparent that these considerations outweighed other positive advantages such as easy access to relevant content, or the availability of library staff otherwise described as ‘helpful’. Donna (TG-H) revealed an aversion to “poor lighting. A dusty looking environment. Unkempt. Books that look as though they’ve been there since Methuselah ... Nowhere to sit and work quietly”. Her colleague Stephen (TG-H) noted his initially negative impression of the Gamma school library: “What disappointed me was the rather ... shabby physical environment. The tightly stacked shelves that scarcely provided enough light to actually see the titles, and so on. And I’ve often commented to people that although the collection is itself pretty good ... the library environment itself wasn’t nice”.

Negative impressions of a library appeared to have a profound impact on teachers who seemed to be more sensitive to such factors. Karen (TG-E) described the claustrophobic atmosphere of the university library where she was currently enrolled in a post-graduate program: “I spend my life there once a week. But I don’t find that a happy experience. It’s tense. It’s just frightening ... The Closed Reserve is appalling. It has not enough desks, not
enough shelf space”. She also expressed equal dismay at the negative impression of sparse resources on the shelves in the Beta school library: “To me it seems like a fairly empty library. It just doesn’t seem to have all that much there [in the way of resources], and I gather that it’s going to work like that more. Is that the case? That we’re going to get more electronic? … I think they’ve culled an enormous amount [of books] … When I just look I think, ‘Gee whiz’. I suppose kids now would go to a computer. They wouldn’t go to the hard copy”. Book-loving Karen’s viewpoint was in direct contrast to Linda’s (TA-CS): “I know there’s a reluctance to throw out books. I’d rather not buy them. I’d rather not even have them … I would prefer the library just put in the books we ask for. And they’re very few. Because they’re out-dated … the books in there are useless. I don’t know who put them there, but I wasn’t asked … If I want a book I go [to a bookshop], rather than a library”.

David (TA-S), who had expressed his preference for using Internet resources accessed from the comfort and convenience of his own laptop, revealed his aversion to one of the downsides of an established library with a large collection of print resources: “I don’t like dust. I guess that’s one thing that libraries sort of face, somehow to cope with lots of dust”. David’s (TA-S) expressed preference for immaculately clean surroundings explained his feeling of extreme distaste when he made one of his occasional visits to the school library, only to discover that tender-hearted Miranda (L-L) had permitted pigeons to breed in the students’ bag racks outside the library doors: “There is one thing I’ll criticise. Pigeons … I think it’s unhealthy, personally”.

Other features that appeared to strongly deter teachers from choosing particular libraries included a poor library layout that inhibited patrons’ work practices, confusion resulting from a library system designed more to facilitate library management than clients’ access, and the perception of constant surveillance by library staff. Cynthia (TG-E) expressed a negative perception of the library circulation desk, whose dominance evoked Radford and Radford’s (1997) “overarching concern with order” (p. 297): “I think a lot of school libraries have a very imposing desk that you walk past, with a few adults there, looming over the entrance. And I wonder how kids feel about that. It’s obviously to watch that things are not going out in bags and things. I think … [I would prefer] a library that looks
INVITING. A library that doesn’t pose [visual] obstacles straight away is one where … people feel that they are allowed to roam and adventure”.

Not every teacher wanted a spirit of ‘roaming and adventure’ encouraged within the library. Along with other teachers quoted above, Nancy (TG-H) expressed her strong opinion that libraries should be havens of peace and quiet: “I don’t agree that libraries should become this interactive playground. Maybe it’s old fashioned but I still think that libraries should allow people to do individual reading and work, and people should talk quietly in libraries. I hate libraries where the librarian has turned it into a circus”.

Expressing an appreciation of books, whether for professional or recreational use, did not necessarily predict school library use. While some teachers were regular borrowers from their school library, others preferred to acquire their own reading materials, which they used to construct a ‘home library’. The key to the patronising the school library seemed to be whether these locations offered a rich collection of recreational reading material for adults, plus the support and professional attention of sympathetic library staff who could discuss the merits of the latest releases with like-minded clientele.

It can be seen that the nature and extent of the impact of motivational factors on the information-seeking behaviour of the secondary school teachers is one of this study’s most important contributions, due to the paucity of information previously available to inform the decision-making of school library managers. Factors that broadly influenced the information-seeking preferences of teachers were personalities, time, access, perception of relative ownership and control of the information-seeking process (including perception of the role and function of library staff) and aesthetic considerations. Of these five factors, time, access and the perception of ownership and control were those that consistently featured as influential in the exercise of preferences, irrespective of whether for information resources or locations. However, it should be borne in mind that what apparently pleased one teacher might easily offend another. There was no simple formula, but a complex pattern of information preferences that will continue to challenge TLs who are wondering how to attract more teachers to the school library.
INFORMATION-SEEKING PREFERENCES: TEACHERS

5.2.6 Teachers’ perceptions of their ‘ideal’ library

During the interviews, teachers expressed both positive and negative views about different aspects of the school library, including perspectives that have synergy with comments from the OCLC studies (De Rosa et al., 2005, 2010). One question related to the teachers’ ‘vision’ of their ideal school library, based on the assumption of unlimited space and budget. Responses included praise of features of existing or previous school (or other) libraries, while others envisioned specific enhancements, improvements or radical renovations to facilities, resources and services. A snapshot of typical responses is included in Appendix I.

Donna (TG-H) expressed a wish to increase the overall size and functionality of her school library. “I would close off ... [the space above] the library ... create a mezzanine floor [and] put more books up there. That’s where you could put discussion rooms. You could make it a senior-focused area ... What else would I do in here? Limited space is the problem. There’s not that much space. I would get an extensive collection of academic magazines. Like the full range of Scientific American, all that. And create a section where kids can sit and read those. I’d get more kits, relevant kits for teachers to use; expand the video and DVD collection; create a viewing area where kids could go and watch them, if they’ve been away or they’ve missed the film or want to borrow the film to have a look at, they can sit and watch it quietly. Create another area where kids can work on languages. A lot of things.”

Nancy (TG-H)’s vision of an ideal library focused on enhancing access to collections customised for teachers, including resources specifically collated to reflect the topic that was currently being studied. These would include “books, magazines and videos, and the librarian would have that section all sorted out for me”. She also expressed a desire to increase the computing facilities of Gamma library, which were minimal compared to those of her previous schools. “Well, I would have attached to this library a computer room where there’s about ... thirty computer ... with a big table in the middle of it so students can use computers and books [simultaneously]”. Nancy also envisaged a media viewing room attached to the library and serviced by a library assistant: “I would like a room that has its own, big, cinema type screen attached to the library”. Other features on
the wish list of teachers included a display area for student work and a bigger librarian’s office that could accommodate guests, workspace and a teachers’ professional development collection.

Features that enhanced the comfort of library users were strong motivators for some teachers. For example, Jessica (TG-E) was inspired by the thought of an ideal library replete with “comfy couches where you can sort of sit down and just read. You know, just plonk yourself down and if you want to spend the whole lunch time there, you spend the whole lunch time there”, while Donna (TG-H) preferred the types of libraries that had “a quiet section where people can work quietly” as well as “rooms for discussion”. Cynthia’s (TG-E) view was that “space is a good thing. Areas where you can sit and read. Where you can dump your bag. Little posts where you can perhaps [check] a catalogue or sit in the sun with a book you’ve just discovered … Ambience. I think you need greenery. I think [a] fish tank is great”. Jessica (TG-E) opined that, in her ideal library, “a water feature would be lovely”.

The concept of a ‘quiet library’ emerged as a strong, aesthetical feature in many teachers’ visions of their ideal library. A quiet, secluded workplace with resources at his fingertips was the feature that most attracted Matthew (TB-PD) to spend time in the school library, despite his avowed preferences for his own textbooks and the Internet: “I think to me, a library is a quiet place, and I think that’s helpful … If I’m in my staff room working … there are always distractions … So I think the library for me is a positive place in that there are resources there at my fingertips. There are people who can help me if I need to be helped. But it’s also a place where I can almost hide. It’s almost universal, the rules of a library: that you’re quiet, there’s work there for you, if you need help … [you can] get help”.

A quiet place to work was one of the most commonly discussed benefits of a library. Nancy (TG-H) expressed the view that: “libraries are like churches in cities”, offering peace and solitude for the reader or researcher: “You can go there and sit quietly on your own and nobody questions that you’re on your own. In this world that you’re supposed be an individual but also be with other people all the time. You know there’s this weird
INFORMATION-SEEKING PREFERENCES: TEACHERS

dichotomy that we run in our society’. Christopher (TA-RS) expressed his appreciation for the soundproofing tiles that had been integral to the open-plan design of the new Alpha library: “The noise doesn’t carry as much as I would have thought it would in a big, open space. Which is good. I know it’s sound proofed [with] a lot of places for people to sit around big tables”. Stephen (TG-H)’s vision of an ideal library epitomised his requirement for an ample but silent working space, an ambient physical environment, professional staff and good coffee: “I think to have sort of open spaces where you can sit down and spread books out, take notes, have a cup of coffee beside you and so on, are very important”.

Aesthetic factors emerged as strong, affective influences shaping the vision of the ideal library. These included an ambient atmosphere, including sensory stimulation that appeared to be appreciated by certain teachers. Pleasing features mentioned by staff members included running water, softly playing music and pleasant aromas. As Lisa (TA-H) revealed: “The idea of atmosphere is really important to what I associate [as] pleasant in a library. And here they actually play music, and they’ve got a little water feature going. All that sort of thing. So when you walk in you get the feeling that libraries are lovely places to be in. So that I think, has on your psyche a wonderful effect”. Nancy’s (TG-H) ‘ideal’ library was one filled with the pleasurable aromas that she associated with a favourite library from her early childhood: “I loved the smell of it because it smelled of … potpourri”, whereas Stephen’s (TG-E) favourite library smell was one associated with the aroma of “good coffee”.

Even for avid computer users, there still existed an association of the library with books, reflecting the findings of the OCLC studies (De Rosa et al., 2005, 2010). As David (TA-S) opined: “I think the role of a library is to keep some historical perspective in the collection. You know, not just chuck the old stuff, but replace obviously things that need to be replaced or modernised. But to keep some of the older books because I think they’re a valuable resource, as well”.

It can be seen that there were many features to consider, when teachers discussed their ‘ideal’ library. Foremost were those that facilitated a quiet, ambient working environment, with ample resources (both print and electronic) and the unobtrusive presence of discreet,
INFORMATION-SEEKING PREFERENCES: TEACHERS

highly professional library staff. For some teachers, aesthetic considerations emerged as a noticeably strong influence. Teachers’ perceptions of the roles, features and functions of the ‘ideal’ school library and its staff contained similarities and differences that shed light on factors that motivated teachers to visit the school library, and/or engage with its staff. The diversity of opinion revealed the multiple perspectives that emerged from the interviews, validating the constructivist approach chosen for the study.

5.3 The relationship between survey and interview findings

When the findings of the survey and interview components were evaluated, it was clear that the latter contributed more towards expanding the body of knowledge about the information-seeking behaviour of secondary school teachers, in that the interviews revealed greater detail about those factors that exerted the most influence on the exercise of preferences. Consequently, one area requiring consideration relates to the actual contribution made by the survey to the present study.

The purpose of the survey was to ‘test the waters’ in an area of research that was acknowledged to be sparsely covered, namely, the information-seeking preferences of secondary school teachers. With the wisdom of hindsight, it is acknowledged that the questionnaire was lengthy and made more cumbersome by the inclusion of jargon more intelligible to a group of TLs than teachers. This may have resulted in some responses being returned with incomplete or unclear answers, possibly the result of ‘survey fatigue’ or a lack of sufficient clarity in the questions. Nevertheless, sufficient answers were gathered to provide an initial picture of the information-seeking preferences of these teachers, especially when supplemented by the free-form comments with which many teachers chose to amplify their views.

In-depth interviews, undertaken in a relaxed and supportive setting, provided the necessary insight. The interview component not only broadly confirmed the patterns of preference revealed in the questionnaire, but clarified anomalies and perceived contradictions, revealing a wealth of knowledge about the motivating influences on teachers’ decision-making that could not have been uncovered using the limited structure offered by a
INFORMATION-SEEKING PREFERENCES: TEACHERS

questionnaire, with only a few lines available for extempore comment. With recent literature to contribute additional insight (e.g., Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012), reliance on the literature of non-teaching sectors was alleviated. Nevertheless, the latter still provided useful perspectives, given that all information seekers share common needs and attributes.

Data from the interviews were instrumental in permitting the identification of a number of theoretical strands underpinning factors that appeared to influence teachers’ decision-making. Dominant strands were the multiple perspectives of the teachers, perceptions of power and control, the nature of collaboration between teachers and library staff and, overarching all, the impact of continuity and change on the information-seeking practices of teachers in a time of technological challenge. These theoretical strands are discussed in the Chapter 6, in the context of the results of the study.

5.4 Conclusion

The results of the interviews served to strengthen the questionnaires’ findings regarding preferences for various information resources and locations, in addition to revealing details about the teachers’ motivation, as a result of delving far deeper than the scope of the survey permitted.

Apart from the notable differences outlined above, the results of the interviews largely supported those of the earlier questionnaires, in that no relationship could be detected between the age or gender of teachers and their expressed preferences for information resources or locations. Subject specialisation again emerged as a factor for informing the choice of resources, in that preferences appeared to be consistent with the survey results and reflective of the quality, quantity and reliability of resources provided or facilitated by the individual schools. The mere existence of comprehensive collections, the perception of sufficient time, or close proximity and relatively easy access to school library facilities, might influence but did not mandate the expression of preferences. These continue to present as complex, with implications for school library practice that will be more comprehensively discussed in the final chapter, Chapter 6.
Chapter 6 – Conclusions, Reflections and Recommendations

When secondary school teachers were beginning to face the challenges of a technological revolution in the classroom, nearly two decades ago, curriculum consultant Cliff Malcolm (1996) commented that teachers were now “busier than they have ever been, operating in increasingly complex environments with decreasing resources” (p. 3). Nearly two decades later, teachers are under even greater pressure to ‘perform’ in the classroom, which means less time to experiment with new sources of information that are constantly vying for their attention, less time to make an exploratory visit to the school library to check out the latest books or magazines, and less time to collaborate with teacher-librarians (TLs) or other library staff. Yet teachers still need to prepare research tasks for their students on topics with which they are unfamiliar, and will seek information that best suits their immediate needs.

This study, set in three Sydney independent schools, explores ways in which groups of secondary school teachers responded to the challenges of seeking information in the early years of the 21st century, at a time when technology was continuing to ‘raise the bar’. This ‘snapshot in time’ sheds light on what information resources were preferred by these teachers, and which locations they patronised or avoided. It is highly significant that the study took place at a time when technological change was beginning to have considerable impact on teaching and learning. One overarching theme of the study is the impact of ‘continuity and change’ on teachers’ resource preferences, to be described later in the chapter. Established patterns of information seeking were constantly being challenged. Questions to explore include: Which information-seeking strategies changed? Which endured? How did teachers adapt to, or reject, these changes? Although contemporary Internet technologies such as Web 2.0’s social networking tools (e.g., Facebook, Twitter,
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YouTube, blogs and wikis) were unavailable to the teachers who participated in the study, we can learn from past experiences, so that TLs can better support the teachers of tomorrow. The technology may be new, but the challenges are ubiquitous.

As discussed in Chapters 1 and 2, gaps in the literature were evident, some of which this study sought to fill. Despite studies looking at teachers’ involvement with TLs, in the course of their students’ research practices, few had emerged that shed light on the information-seeking preferences and practices of the teachers who must set these research tasks. This is still mostly the case. The limited detail available over the past two decades (spanning studies by Holmes, 1992; Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012) has shed some light on the types of resources that teachers might prefer when planning a lesson for their students, but questions of what motivates teachers to make these choices, how they view the role of the school library or how they respond to the prospect of collaboration with the TL have not been adequately explained by earlier studies. This thesis provides answers to some of these questions.

This chapter discusses the implications of the findings, detailed in the previous two chapters, with reflections on ways in which contemporary TLs might use this knowledge to better prepare for the research needs of their teacher-clientele. The chapter revisits the rationale behind the design of the study, summarises the answers provided to the research questions, and flags those aspects that remain inscrutable. Insights obtained from the perspective of the four theoretical themes that underpinned the study are addressed, pinpointing ways to illuminate future directions for teacher-librarianship in the 21st century. Limitations of the study are discussed, and suggestions proposed for further research that leverages on the contribution made by the study.

Two main research questions were posed, each of which had multiple sub-questions. The first investigated the preferences of teachers for specific information resources and locations. The second sought to explore the factors that motivated or deterred decision-making. How this thesis addressed those questions is discussed below.
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6.1 Research Question 1

‘What were the information-seeking preferences of secondary school teachers in the three schools studied?’

The first research question explored the information-seeking preferences of secondary school teachers. One sub-question set out to determine what information resources and locations were most or least preferred by teachers planning a student research task based on a topic with which they were unfamiliar. A second sub-question sought to discover how these teachers viewed the role and contribution of the school library and its staff. Data were collected via survey and interviews. The major findings of both components are summarised within the relevant sections below.

6.1.1 Information resources

The findings of the study suggested that teachers’ preferences were diverse. Interpersonal resources (i.e., people who were used as sources of information), traditional resources such as books, and more recent technological resources such as videos and the Internet, all had their advocates and detractors. No patterns were detected that could link information-seeking preferences to the age or gender of teachers, calling into question any lingering stereotypes.

In both the survey and interviews, teachers were asked to recollect a particular topic they researched as part of their preparation for a student assessment. In the interview component, they were also asked to step the researcher through the process. The survey responses indicated that the teachers’ ‘own expertise’ was the information resource most preferred (28%), although this option was not specifically mentioned in the interview findings.

‘Books by experts’ (23%) emerged from the survey findings as the most preferred information resource by the second largest number of teachers. No clear distinctions were
made between a preference for textbooks or reference/non-fiction books, as this was not explicitly asked and was only revealed where teachers made a comment. The third largest group preferred ‘Web sites’ (15%), then ‘information professionals’ in fourth place with 12%. In the interview results, less diversity emerged, but more detail was revealed. Resources nominated as ‘first choice’ in the interviews were either print or digital, with the Internet dominating the latter group.

6.1.1.1 Interpersonal resources

In both the questionnaires and interviews, some teachers noted a strong preference for utilising interpersonal resources, specifically people who were valued as information experts. These included mentors (most often older teachers within the same department), family members, or library staff with whom the teacher had previously established a collegiate relationship based on ‘trust’ or a ‘shared vision’ (as described in different contexts in the literature, e.g., by Brown, 2004; Kinicki, 2008; Olsson, 2009, 2013; or Williamson et al., 2010). Mostly, the references were to meeting a specific need, perceived by individual teachers as important at that point in time. Interpersonal resources did not figure either as the most preferred resource in the survey results, or in any of the ‘first steps’ taken in the information journeys discussed in the interviews, although the advice and assistance rendered by specific individuals, including library staff from school and other libraries, attracted strong, positive comments from respondents, and proliferated throughout the interviews.

6.1.1.2 Resources other than ‘people’

In both the survey and interviews, the Internet and books emerged as popular preferences for different teachers from a wide range of subject areas, depending on the context of the search inquiry and the particular information needs and personal tastes of the individual. A valid role for both was evident, as with the example of two science teachers who nominated their textbook as their ‘first choice’, then subsequently discussed their preference for using the Internet for the majority of their research activities.
Although the survey data indicated that the Internet was the third most frequently chosen preferred resource (15%), the interviews indicated that 12 of the 27 teachers (44.4%) nominated the Internet as first preference, with seven selecting Google as their preferred search engine. Teachers who overwhelmingly chose resources (including discussion lists) from the Internet, also mentioned their reliance on textbooks from their personal collections. Both formats manifested as a common feature in recent research into teachers’ preferred resources (e.g., Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). The use of Internet resources matched the growing worldwide trend (De Rosa et al., 2005, 2010) towards preferences for digital information via personal computers and mobile technologies, which, by this time in schools, was shared by students (as in Herring, 2005), teachers and trainee-teachers, alike.

Printed resources (with ‘books by experts’ accounting for 23% of survey first preferences) came from personal collections, departmental collections and the school library, according to detail provided in subsequent interviews. Although printed books remained the preferred choice for a small majority of teachers, all teachers who expressed a preference for books also described using a range of digital resources, where appropriate. In the interviews, the choice of books was more clearly articulated than in the surveys, centring on factors such as the expressed sense of ownership and control over these portable items, the authority and accuracy in comparison to digital resources obtained via the Internet, plus aesthetic qualities such the tactile and sensory pleasures of ‘books’, described in loving detail by devotees.

Although books and the Internet understandably emerged as the leading contenders, other types of resources attracted mention. Periodicals, databases and videos appeared (along with Internet sites) to be popular with science teachers from the three schools investigated, as in Mardis and Hoffman's (2007) study, but were also popular with teachers from other subject areas, such as History and Religious Studies. Although e-books were not evident in the present study, electronic magazines and newspapers all had their devotees, albeit for use at specific times and places and often in conjunction with the paper copy.
6.1.2 Information locations

Preferred locations were investigated, as the literature had indicated that when searching for information with which to plan a student research task, most teachers’ first choice of information location was their own collections/personal libraries, which might include an eclectic mix of resources. Depending on the timeframe of individual studies, this might encompass a selection of textbooks, print and digital formats.

In the present study, ‘personal collections’ (i.e., a suite of resources under the direct control of the teacher, stored in the most convenient location) accounted for a total of 39% of survey choices. In the interviews, ‘personal collections’ were favoured as preferred locations by nine out of the 27 teachers interviewed (33.3%). ‘Departmental collections’ were the next most popular locations for printed resources, chosen by three teachers (11.1%). Two teachers favoured printed notes from the departmental collection, while another chose to use its collection of textbooks. Preferences for personal or departmental collections were reflected in the findings of recent literature relating to qualified and trainee teachers (e.g. Tanni, et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). However, teachers in both stages of the present study indicated a stronger awareness of libraries as information locations than that noted in the abovementioned studies. Even though the school library was not the first choice of teachers, they unanimously expected school libraries to provide a range of places and spaces to suit all legitimate needs of library patrons, irrespective of whether they subsequently indicated that they personally used the library, or interacted with librarians.

6.1.2.1 How teachers viewed the role of school library

Despite the majority of teachers indicating, in both survey and interviews, that they had a positive attitude towards the ‘concept’ of a school library, details from the interviews shed light on which functions and activities teachers particularly supported, approved, or criticised. A range of perspectives emerged, encompassing aspects of library design and layout, aesthetics, collections of resources (most teachers describing positive or negative
impressions of books in the collection) and easy access to desirable resources and facilities, including Internet access, comfortable study nooks, water features and ‘good coffee’ (in one instance). One area in which there was a significant degree of unanimity related to expectations of library staff, who were required to be unfailingly welcoming, professional and efficient.

In the survey, the school library itself was rated by 86% of participants as either ‘very important’ (51%) or ‘important’ (35%), with only 8% considering it to be ‘not very important’. No respondent nominated the school library as ‘irrelevant’, despite some attached comments indicating that they used it very little, in comparison to the Internet. One survey respondent commented that, although she had little use for the library, she counted one of the TLs as her primary resource.

In the interviews, one of the questions invited teachers to comment on features of real or hypothetical libraries that they considered to be ‘ideal’, given an unlimited budget. Notable consensus was recorded regarding features such as library aesthetics, functionality and facilities, complemented by the professional attitude and conduct of library staff and patrons. Eleven teachers interviewed (40.7%) expressed views indicating that a library environment should be a predominately ‘quiet’ sanctuary in which to read, work or hide away, with no intrusive invigilation or ‘shooshing’ by the librarian. As one teacher observed: “It’s almost universal, the rules of a library. That you’re quiet, there’s work there for you, if you need help [you] try and get help”. Another was even more expressive: “I think libraries are like churches in cities. You can go there and sit quietly on your own and nobody questions that you’re on your own”.

In contrast to this, some teachers thought that the school library should be a vibrant area for student activities and discussion, as opposed to the quiet study zone described above. For example, in Gamma library, one older English teacher wanted an area in which children were encouraged to “roam and adventure”, while a History teacher of similar age expressed a dislike of libraries where the TL had apparently “turned it into a circus” of children’s activities. Similarly, in Alpha library, one teacher strongly criticised the librarian for converting student ‘discussion rooms’ into rooms for silent study, policed by a stringent
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policy which would have drawn applause from certain teachers at Beta school, whose criticism of their library was that there was no policing of student or library staff chatter.

A variety of views thus emerged, irrespective of age group, gender or subject area. One thing became evident: there is no easy solution for the TL responsible for managing a school library in which silent study must coexist with group activities, unless sufficient space can be found to accommodate all activities deemed to be relevant by different teachers with different priorities and opinions. Awareness of these divergent views will permit TLs to at least be forewarned of areas that might attract more dissonance than consensus.

Although the image of the school library as a ‘building with books’ still dominated, it was evident that some subject areas, such as English and History, were better catered for within the various school libraries by print resources, while others, such as Science and PDHPE, were well suited to digital formats that could be updated more frequently. It can nevertheless be concluded that, in the minds of most teachers, the concept ‘librarians’ was still integrally linked with that of ‘libraries’: if you wanted to talk to a ‘librarian’, you went to a physical location called ‘the library’. The opposite was less evident, in that references to libraries were not automatically followed by descriptions of interactions with librarians. The ‘library brand’ apparently stood alone, independent of associations with library staff. Nonetheless, all teachers made it perfectly clear that school libraries that performed poorly were easily replaced by other options, including other libraries, other collections, and most significantly, by the Internet.

6.1.3 Perceptions of the school librarian

Teachers were keen to express, in both the survey and interviews, a positive attitude towards the idea of interaction with their TL, although the detail revealed that such engagements largely depended on the teacher’s perception of their available time, and the ‘approachability’ of the individual librarian. In the survey findings, the school librarian was considered to be either ‘very important’ or ‘important’ by 76% of survey respondents, with 72% of teachers indicating that they would consider consulting the librarian ‘before
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searching’ or ‘at the primary stages’, and 64% supporting the concept of using the librarian as a ‘partner in collaboration’ (a term that was left open to interpretation by the teachers). Only 8% of respondents deemed the school librarian to be either ‘not very important’ (4%) or ‘irrelevant’ (4%) in their research strategies, although a further 15% indicated that their perception of the importance of the school librarian ‘depended on the librarian’ in question.

The interviews revealed that teachers’ opinions were divided regarding the roles, functions and qualifications of school library staff. Most teachers opined that formal qualifications were less necessary in a TL than a professional and open attitude, in contrast to one teacher, who stated that he would be reluctant to collaborate with any TL who was not a qualified librarian.

Although most teachers agreed that the school library staff, as a whole, made an invaluable contribution to the effectiveness of teaching and learning at their school, the divergence of views is highlighted by the range of opinions expressed by different teachers towards the same library staff member. One librarian, who possessed qualifications in librarianship but not teaching, attracted as much praise as criticism from different teachers often as a result of performing the same functions. This suggests that the personalities of both TLs and teachers strongly contributed to the latters’ perceptions of whether a library staff member was an ‘asset’ or a ‘liability’ to the school. It is interesting to note that where the school library employed a number of different library staff, teachers demonstrated their ability to by-pass the potential for personality clashes that might otherwise act as a deterrent, by seeking out the library staff member with whom they felt most comfortable and avoiding those with whom they seemed to be less comfortable. It could therefore be argued that a diverse range of personality types amongst library staff could be a positive asset (as suggested by McKay-Lowndes, 2004) that enhanced prospects of collaborative interaction with teachers. TLs now, and in the future, must also exude a clear message of empathy towards their clients, as well as juggling the critical roles of efficient information manager, skilled researcher and ICT leader.
6.2 Research Question 2

“What factors motivated or deterred the exercise of preference for specific information resources and locations?”

The second research question sought to investigate what factors motivated or deterred the exercise of preference for particular information resources and locations. Three sub-questions specifically explored the influence of power and control, the impact of technological change, and the factors that encouraged or inhibited collaboration between teachers and school library staff. A multiplicity of perspectives also emerged from both surveys and interviews. Insights from theory are discussed towards the end of this chapter, although the empirical findings are included, below, with relevant factors that influenced preferences.

6.2.1 Factors that motivated or deterred preferences

Factors that perceptibly motivated the expression of preferences included time, access, aesthetics, personality traits, perceptions of power and control in the school workplace and response to technological change, the last two of which relate to specific sub-questions and emerged from the interviews as strong influences. However, it is evident that some motivators or deterrents were more or less of an issue with different teachers, as discussed below.

6.2.1.1 Time

Time was mentioned in the literature as the factor that most frequently motivated (or deterred) teachers to select particular information resources or locations (e.g., Tanni et al., 2008; Diekema and Olsen, 2011; Tanni, 2012).

Although the survey comments made a small number of references to ‘time saved’ or ‘time wasted’ in connection with certain activities (see Appendix E), the most valuable data were
obtained from the interviews. Of the 70 references specific to ‘time’ in the interview conversations, 37 related to the perception of time ‘saved’, and 33 to time being ‘wasted’. Consensus among teachers was evident, albeit with some teachers expressing more concern about issues relating to ‘time’, than others.

The most common complaint about ‘time’ related to the perception of a decreasing amount of time available to teachers, whose teaching loads left them with little time for research, either to prepare for an assessment task, or to work with their students and the TL in the library. However it was observed (by four teachers) that early discussions with the TL and other library staff were a good investment, in that they resulted in overall time saved, through the streamlining of access and process. However, time spent ‘chatting’ with library staff was the subject of conflicting perspectives: one group of teachers appeared to view this as time wasted in idle gossip, while another saw this as time invested in constructive team-building, and the sharing of common interests.

‘Time’ was definitely of the essence for teachers, strongly influencing preferences for one type of resource over another. The availability of access to the Internet was seen by some teachers to save them valuable time, as well as facilitating access to desirable resources. The fact that it brought independence from having to utilise the resources of the school library and TLs supported Herring’s (2005) view that the advent of the Internet threatened to make the role of the TL increasingly redundant.

6.2.1.2 Access

Access to relevant library resources, facilities and services, including ICTs and human expertise, appeared in the literature as a major influence on teachers’ choices (e.g., Mardis, 2005; Mardis & Hoffman, 2007; Montiel-Overall 2008). Within the non-teaching literature, ease of access to specific resources or services was also considered an important factor in the expression of preferences, regardless of whether these were interpersonal, print or digital (e.g., Harris & Dewdney, 1994; Nicholas & Williams, 1999; van de Wijngaert, 1999; Gorman, Yao & Seshadri, 2004; Williamson and Kingsford Smith, 2010).
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Plentiful references were made in questionnaires and interviews to ‘access’, which seemed to be inexorably linked with ‘time’, in the minds of the teachers. The Internet was seen by over 40% of teachers as facilitating faster access to resources than the alternative of going to the library and/or using books. Conversely, the Internet was perceived by around 20% as ‘good, but time consuming’, either when accessing information using a slow or inadequate network, or navigating the ‘information overload’ of data received from a ‘Googled’ search that was too broad.

While some teachers perceived the Internet as providing access to a wider range of information than either books or magazines, others regarded it as providing less reliable access. Some teachers rated their personal and departmental collections of print resources as more ‘accessible’ than those to be found on the Internet, since the former had been chosen by the teachers on the grounds of reliability and quality of content, and were (most often) close at hand. Other teachers held the view that the school library’s collection of books was more accessible, and definitely more reliable, than dubious information obtained from the Internet, but only if the books could be located via an efficient library management system, then successfully retrieved from the shelf.

6.2.1.3 Aesthetics

Unexpectedly emerging from over 50% of the interviews were factors that could only be described as ‘aesthetic’ in nature, as they related to individual descriptions of emotional and/or sensory gratification, repugnance or stimulation, evoked by engagement with particular information resources or visits to specific information locations. These descriptions of what emerged as an unexpected side of information behaviour fill a significant gap in the literature, which had previously provided sparse evidence for aesthetic factors that might influence preference. However, what provided aesthetic gratification for some teachers could equally repel others.

Books and the Internet both had their devotees, for reasons that appeared unrelated to other factors (as described above). For example, a quarter of teachers described it as more gratifying to use books (often from their own collection), than to sit at a computer and...
access the Internet, similar to one lawyer in Kuhlthau and Tama’s study (2001). Some teachers recounted their sensory pleasure when they handled physical books, in comparison with the ‘dispassionate’ relationship (so described by one survey respondent) associated with digital media. Two teachers described the pleasurable smell of books, as did one of the respondents in the OCLC study (De Rosa, et al., 2005). Alternately, other teachers spoke of their distaste for handling books that were old, torn or dirty, infinitely preferring the swift, almost clinical access to digital resources located via the Internet.

Around one-third of teachers described library locations that evoked pleasurable associations with ambient sounds, scents, aromas (ranging from potpourri to coffee) and images of opulence conveyed by roof gardens and water features, to the extent that utilising the relevant information resources (ostensibly the purpose of the library visit) appeared to be almost secondary. For some teachers, aesthetic sensibilities emerged as a stronger influence on the choice of information resources or locations than either the quality or quantity of the resources themselves.

6.2.1.4 Personalities

Personality traits were considered in the literature to be one significant factor in determining the likelihood of successful collaborative relationships between teachers and TLs (e.g., Montgomery, 1991; Immroth and Lukenbill, 2007; Montiel-Overall, 2008, 2009). Not surprisingly, the impact of personalities (both of teachers and library staff) was found to exert a major influence on the teachers’ expression of preference for interpersonal resources (i.e., particular people whom they sought out or avoided, as already discussed). Examples of teachers appearing to be resisting change (a personality feature described by Oreg, 2003) were also evident in the findings, as was Wenger’s (1998) prediction of a “fair share of tensions and conflicts” (p. 77) in the workplace. In cases of negative personalities like the TLs Beverley and Geraldine, some teachers described actively avoiding the library itself, if they could not find a more amiable library staff member on the premises.

McKay-Lowndes (2004) had pointed out that there was room in the school library for personalities of different types to complement those diverse personalities to be found in
any staffroom. This especially seemed to be the case in Alpha library, where the greater number of library staff appeared to find a match for most (if not all) of the diverse personalities of the teachers.

The literature indicated that affect was another factor that appeared to influence preferences for seeking information (e.g., Kuhlthau, 1991, 2004; Miwa, 2000; Mills, 2003), although there was no predictable pattern linking expressions of strong affect with particular personality traits. Elements of positive and negative affect emerged from the interviews, relating to different aspects of seeking and utilising information resources, dealing with specific library staff, or visiting different locations. In a small number of instances, expressions of like or dislike of particular library staff (suggesting personality clashes) or information locations appeared to be more linked to articulated perceptions of power and control. These are discussed in the next section.

6.2.2 The influence of power and control

The relationship between power and control and information-seeking preferences formed the first of the sub-questions following Research Question 2. Competition for power and control, involving schools and/or libraries, has been well documented, especially in the earlier literature (e.g., Hodge, 1993; Gibson-Langford, 2007; Groundwater-Smith, et al., 2007). Power and control were factors discussed in situations in which the library client might avoid engagements with the librarian for ‘fear of feeling stupid’ (Radford & Radford, 1997) or appearing less than in control of the knowledge process (Tuominen, 1997; Mills, 2003).

Perceptions of power and control emerged as a strong influence on preferences for resources amongst teachers in the study. Given the availability of useful theory in the literature, it became one of the theoretical strands in the thesis and is discussed later in the chapter. Although all 27 interviewees demonstrated individual differences, the need for personal ownership and control of their information environments emerged as a common motivator, albeit expressed more adamantly by some teachers than by others. Additionally, manifestations of the need were varied, including the desire to use their own expertise, to
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own and control their resources (including technology), or to be in control of the teaching and learning process, presenting situations in which some library staff were seen as a challenge or potential threat, by some teachers. For example, quotations in Chapter 5 indicated that one teacher felt threatened because her dyslexia made her feel powerless and stupid, particularly in front of younger library staff. Another older teacher commented that the library manager’s continual emphasis on the importance of computer technology made her feel increasingly disempowered, since her academic authority stemmed from her expertise with books.

A paramount concern was control over information resources, including how they should be utilised by teachers, or by students in their classes. As previously mentioned, 21 of the survey respondents (28%) nominated their own expertise as their most preferred resource option. This was the largest number and percentage for any resource. There was also considerable emphasis on ‘personal collections’ amongst interviewees, as well as preference for their own ‘space’ in which to work. It was evident that teachers felt that resources were more accessible and manageable when there was no need to rely on others. For some, these resources were predominantly in print, meaning that copies could be underlined and annotated. For others there was a sense of freedom and independence emanating from access to Internet resources, though there were also expressions of vulnerability at the inability, of most teachers interviewed, to exert more control over the vagaries of technology. Technology occasioned several indications of ‘control’ issues, including the relative unreliability of Internet access within the library or classroom, compared to that of more tangible formats, such as textbooks. As mentioned previously, one teacher felt a loss of academic authority due to the perceived dominance of computers in schools, which she saw as diminishing the power she had built up through her mastery over print-based learning, while others perceived technology as a positive, liberating factor, conferring a higher degree of control over their teaching practices.

In relation to the teaching and learning process, there were many examples of teachers needing to feel ‘in control’. Teachers did not want to have their authority as teachers challenged by other teachers or library staff. One vociferous interviewee railed against lesser-qualified library staff who wanted to take on the role of ‘teacher’, which she
described as a “power thing”. The study indicates that, if TLs want collaboration of any kind with teachers, especially high-end collaboration, then tact and diplomacy are required, as well as flexibility and empathy. It was evident that library staff who were perceived by teachers to be pursuing an agenda that clashed with their own would be rejected as preferred resources.

6.2.3 Impact of technological change

The impact of technological change on the information-seeking preference of teachers formed the second sub-question of Research Question 2. The present study was undertaken early in the 21st century, at a time of significant technological change in workplace practices. Such changes affected teachers and non-teachers alike, impacting on the use of libraries as traditional locations for information, and challenging the position of the printed book as the authoritative source of knowledge (De Rosa, et al., 2005, 2010; Herring, 2005; Haigh, 2006). The impact of the forces of continuity and change on the information-seeking preferences of teachers formed a strong theme running though the present study, insights from which are discussed later in the chapter.

Continuity of some established practices was also strongly evident, flourishing within the maelstrom of technological change. During the interviews, it became evident that, despite generational change within the English department at Gamma, continuity in teaching and learning was being provided via the active mentoring of younger teachers by older staff members, especially the faculty coordinator. The practice of handing down an ‘information heritage’ (Diekema & Olsen, 2011) of teaching notes that the coordinator kept in the departmental filing cabinet in the staffroom not only saved the younger teachers time and effort, but subsequently became a departmental tradition. This ‘heritage’ was regularly energised whenever teachers found relevant notes on the Internet (the digital resources of which were perceived by many younger teachers as more easily accessible), printed them (perpetuating a traditional practice of conserving resources in the coordinator’s favourite ‘in-hand’ print format) and added them to the English departmental collection, as well as to their personal collections. This practice additionally served to reinforce the coordinator’s authority and control over the information practices of her department.
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Personal collections (emphasising continuity in terms of continuing popularity) emerged from the interviews as the most popular location for resources, whether for books, copies of articles from magazines, web links or printouts from the Internet. Continuity was thus demonstrated with the paper-based and textbook-heavy personal collections noted in Holmes’s (1992) study and evident in more recent research (e.g., Tanni et al., 2008; Diekema & Olsen, 2011; Tanni, 2012). The emergence of aesthetics as a strong motivational influence on the exercise of preferences (noted previously) provided a powerful demonstration of continuity of choice, and the obduracy of established habits (Harris & Dewdney, 1994; Savolainen, 1999; Mills, 2003; De Rosa et al., 2010). This is demonstrated in the number of teachers who, despite affirming their use of the Internet, still emerged as strong advocates for their favourite, books. Comments relating to the pleasure in contemplating or browsing collections of books (both their own, and in a library), in the scent of books, or the pleasure in handling a new book, explain some of the reasons why the sales of printed books are still strong, despite the impact of e-books (Lovett, 2012; Rainie et al., 2012; Carroll & Morris, 2013).

Continuity of information practices was also a factor strongly represented in interviews with several teachers, who followed the pattern of Nicholas and Williams’s (1999) journalists: “When given the powerful, comprehensive, freely available ultimate end user tool – the Internet, the tendency is to stick to what you know, what is familiar ... and do just the simple things ...” (p. 451). Individual comments indicated that prior experiences (both positive and negative) and a familiarity with particular resources or locations had influenced the preference for continuity of practice, for some teachers. Continuity can also be seen in the reaffirmation of the ‘school library brand’ as a ‘building with books’. Despite the appreciation of the benefits of technological change in the form of untrammelled access to the resources of the Internet, for the majority of teachers in this investigation, the ‘primary brand’ was still predominantly ‘books’ when it came to a perception of libraries, regardless of the inroads created by the Internet. These findings were similar to those found in the OCLC surveys of library use (De Rosa, et al., 2005, 2010).
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Nevertheless, it is clear that changes in technology were reshaping some, but not all, of the information-seeking preferences of teachers in the present study. Embracing change was not just the prerogative of younger teachers. This can be seen in the example of an older teacher of Religious Studies, who, having accepted that technology was going to join print resources as a part of his teaching repertoire, expressed more confidence in using the Internet to locate information, to the extent of asking his favourite TL for assistance with choosing and utilising search engines. For teachers of all age groups, gender and faculty affiliation, the Internet, whether accessed from home or via the school computers, was perceptibly replacing library resources as the more convenient vade mecum for the 21st century teacher wishing to plan a new unit of work. This was particularly evident with (but not restricted to) science teachers from all three schools, a feature noted in other studies (e.g., Mardis & Hoffman, 2007; Tanni, 2012).

Many of the complaints of teachers in the study related to perceptions of slow/unreliable Internet access. Despite technological enhancements in the past decade, similar complaints are still evident in schools today. Although the relative speed of the Internet has increased significantly since the time of the study, so has the volume of data that now forms the majority of Internet traffic. The increasing popularity of Internet access, combined with the greater file size of multimedia formats, has resulted in Australia remaining at the “low end” of Internet connectivity, according to a recent report by Akamai Technologies (2013, p. 25). Despite an annual increase of around 10%, Internet speed was less that half the average speed enjoyed in, e.g., South Korea, ranking Australia at 50th amongst other Asia-Pacific countries (p. 25). Many schools (including Gamma) are still reliant on variable ADSL connections. A study by Gish and Robertson (2013) further suggests that reliable and fast Internet access should not be taken for granted, particularly outside urban areas. It would appear that although the technology has changed, the challenges of obtaining fast, reliable access to Internet resources remain the same for teachers today, as in the present study.
6.2.4 Factors facilitating collaboration between teachers and teacher-librarians

This area of interest formed the third sub-question to Research Question 2, which investigated factors that appeared to encourage or inhibit collaboration between teachers and the school librarians who were a potential information resource.

This question arose following the analysis of the survey results, when it became clear that there was no common understanding, amongst respondents, of the meaning of ‘collaboration’. Although the word had been used in one of the survey questions, it was answered by respondents with reference to any type of interaction that involved a discussion, however brief, with library staff. Interest in this issue was sparked by the survey responses, to the extent that collaboration became one of the theoretical strands that underpinned the study, with an exploration of the nature of collaborative engagements within the three schools a key research objective followed up in the interviews.

In keeping with the findings of Immroth & Lukenbill (2007), a wide variation in teacher perceptions of the nature of the collaborative process was revealed during the interviews. These perceptions were inconsistent with those defined in the literature of teacher-librarianship (e.g., by Montiel-Overall, 2005b). Only one (science) teacher discussed facets of a ‘shared vision’ and other essential attributes described by Montiel-Overall as necessary for teachers and librarians who engaged in ‘high-end’ collaboration. Nevertheless, over two-thirds of the teachers mentioned selecting specific TLs with whom they liked to collaborate, albeit at Montiel-Overall’s (2005a, 2005b, 2008, 2009) low-to-medium levels. As Montiel-Overall (2009) cautions, a proliferation of lower-level activities does not discount the possibility that higher-level collaboration may be occurring in situations that were not specifically observed or recorded. Evidence from the literature additionally suggests that, where higher levels of collaboration occur (Montiel-Overall, 2008, 2009; Williamson et al., 2010; Fitzgerald, 2012), academic benefits flow to the students of participating teachers.
As discussed previously, the literature identified a number of factors that contributed to the likelihood of collaboration. These included time and access (e.g., Tallman & van Deusen, 1994; Haycock, 1998; Bishop & Larimer, 1999; Callison, 1999; McCracken, 2000; Kuhlthau, 2004; Mardis & Hoffman, 2007; Montiel-Overall, 2008), and a range of personalities to accommodate harmonious matches with teachers’ diverse natures and interests (McKay-Lowndes, 2004). These factors were evident in the findings of the present study. The most positive descriptions of collaborative exchanges, at any level, came from Alpha, where there were higher numbers of library staff members who additionally had no classroom teaching loads to inhibit access by busy teachers. For example, the teacher:library staff ratio at Alpha (16:1) is more generous than at Gamma school (21:1), where the paucity of access to library support was compounded by the fact that there was only one, part-time librarian available at the time of the interviews. Because there were more library staff available, there were also more personality traits represented at Alpha, enhancing the prospect that harmonious, professional and collaborative relationships could develop over time, with teachers of like-mind.

Both building trust and developing a shared vision takes time and feeds on small successes. The literature indicates the importance of interpersonal communication (e.g., Kinicki, 2008, Olsson, 2009, McKenzie, 2010) in forging bonds that develop into trust, shared vision and arguably, subsequent collaboration of the type described by one science teacher as the most professionally rewarding. Gibson-Langford (2007) cautioned that the TL had to be sensitive to the ‘collaborative moment’, the chances of which increase with the availability of time and access for teachers to meet with TLs and plan teaching programs that involve collaborative strategies such as those described in the Guided Inquiry process (Kuhlthau et al., 2007, 2012). With this in mind, it might be possible to develop, over time, strong and effective working relationships that include commonly understood goals, including working towards ‘high-level’ collaboration despite the economic constraints on school budgets.

As discussed in earlier chapters, support from the school principal was flagged in the literature as a significant factor in collaboration. This factor could not be explored in the present study, as no references specific to the school principal emerged from any
conversations regarding motivators or deterrents to seeking information. Nonetheless, there are important stakeholders apart from the principal within the school community, including teachers, parents and students, whose views have potential to influence the debate not only on the value of TLC but also on the value of the TL and school library as a catalyst for positive change. Positive comments from participants\(^7\) in the *Pennsylvania School Library Project* focus groups (Everhart & Mardis, 2014) echoed those of the teachers in this study, whose support for the work of the library and its staff was, for the most part, very positive.

6.3 Insights from the theory

Four theoretical themes emerged from the study and came to underpin this thesis: constructivism, which emphasised the multiple perspectives of the teachers themselves, the role of power and control in the exercise of preferences, the nature of collaboration, and, overarching all, the impact of continuity and change in the school workplace of the 21\(^{st}\) century. These were all areas where theory was available that could shed light on the study findings. In the beginning, they were separate theoretical strands, useful in their own right. When woven together, these themes were even more valuable in providing an understanding of some of the information choices made by teachers in the study. It is worth reflecting on specific insights gleaned from each theoretical strand, as well as the overall implications for teacher-librarianship in the future.

6.3.1 Multiple perspectives

As mooted in Chapters 4 and 5, a range of perspectives on most issues emerged, firstly from the comments attached to the questionnaires, but more significantly, from the interviews. This was not surprising, given that this outcome had been facilitated by the adoption of an interpretivist/constructivist framework for the study. As outlined in Chapter 3, this theory builds on the belief that there is no single, privileged way of viewing the world, but rather ‘multiple realities’ (Kelly, 1963) that can be explored by investigators and respondents co-creating mutually understood ‘world views’ (Denzin & Lincoln, 2005).

\(^7\) Recruited from a range of school stakeholders, including, e.g., parents, students, teachers and school leaders.
INFORMATION-SEEKING PREFERENCES: TEACHERS

In the present study, two types of constructivist theory were identified as contributing to this understanding: personal construct theory and social construct theory (outlined in Chapter 3, Box 3.1). Personal construct theory is attributed to George Kelly (1963), who posited that ‘multiple realities’ were the consequence of individuals constantly constructing their own personal perspectives of reality, in order to make sense of their world. Events, people and specific situations are therefore subject to personal interpretation, which may be in stark contrast to (or may be in accord with) another individuals’ perspective on the same situation. Personal construct theory thus privileges each individual’s personal account, or construction, of the situation (Reynolds, 2013).

Social construct theory posits a complementary view, holding that individuals construct reality as a consequence of the social norms influencing their ‘life world’ (Schütz, 1962). Berger & Luckmann (1967) further opined that shared social interactions, workplace history, culture and language all contribute to the construction of an individual’s ‘world view’, which was best understood from the perspective of their social context (Garrick, 2000). According to Talja, Tuominen and Savolainen (2005), “cultural meanings are shared by a group and eventually internalised by the individual … In the process both the individual and the environment are changed” (p. 85).

Although constructivist theory was very valuable in shedding light on the findings of the study, it is difficult to know the extent to which viewpoints expressed in the comments and interviews were individually or socially constructed, or where workplace history and/or school culture had exerted a strong influence. On the one hand, it was clear that there were some quite ‘individual’ perspectives, especially those revealed in interviews where more detail could be obtained than in the survey comments. For example, the two computer studies teachers at Alpha demonstrated very different viewpoints about working with library staff to prepare for a research project: one teacher waxed enthusiastic about the level of support received from ‘older librarians’, in particular, while the other derisively criticised any resources or assistance that might be found via library channels. Similarly, two teachers from Gamma demonstrated opposing viewpoints about the role of the school library in the teaching/learning process: one English teacher expressing her approval for libraries where exuberant student activities were encouraged, while her History colleague castigated libraries where the TL had ‘turned it into a circus’, claiming that, in her opinion,
a quiet library was the preferred standard. On the other hand, there were many examples of shared meanings amongst participants, apparently resulting from previous workplace history, or school cultural practices shaped over time. For example, with regard to two young English teachers at Gamma, the information preferences and practices of their mentor had a profound impact that appeared to result in the process becoming ‘internalised’ (Talja, Tuominen & Savolainen, 2005), effectively reshaping their preferences for the collecting, storing and utilising a departmental ‘information heritage’ (Diekema & Olsen, 2011) of desirable resources.

There were a number of teachers who recounted strong, affective impressions (both positive and negative) of libraries and library staff, apparently gained when they were younger students or trainee teachers. It is worth reflecting on the extent to which these affective memories of past experiences with school libraries and TLs might have influenced their constructs about the school library and its staff. Throughout the interviews, it was demonstrated that sensitively conducted interactions between TLs and teachers could transform a teacher’s initial sense of powerlessness, when seeking information about a topic with which they were unfamiliar, to one of being ‘in control’. Alternately, insensitively conducted transactions might turn another teacher’s initial sense of confidence into a sense of powerlessness, with negative consequences for future TLC. Insights from constructivist theory enhanced the importance of listening to the viewpoints and voices of the individual teachers, rather than observing and interpreting their information-seeking preferences and practices from the perspective of a TL.

It was rewarding to discover that the constructive approach chosen to conduct this investigation facilitated the emergence of multiple perspectives. These provided new and refreshing insights (as described in Chapter 5) into teachers’ complex motivations for preferring to use particular information resources and locations. There was richness in the data that revealed diversity and dissonance, as well as consensus and ‘shared meanings’.
6.3.2 Power and control

Theories relating to manifestations of power and control within the workplace emerged as a dominant theme throughout the study. As discussed in Chapter 2, theorists whose work provided insights into the factors motivating the exercise of preferences included Giddens (1979), Habermas (1984, 1987), Foucault (1986), Bijker (1995), and Radford & Radford (1997).

Foucault’s (1986) notion of the library as a ‘panopticon’, presenting a ‘labyrinth of texts’ conveying ‘power’ and ‘control’ via the utilisation of certain privileged ‘discourse’, was carried a step further by Radford (1992) and Radford & Radford (1997) who described additional artifacts of power and control, such as the dominant library circulation desk staffed by the invigilating figure of the ‘female librarian’. These theories played out in many of the interviews, where a situation that exposed lack of research expertise might invoke the ‘fear of feeling stupid’ (Radford & Radford, 1997) in some teachers, who were clearly more sensitive to this fear than others. This fear directed preferences for seeking information, and restricted the number of people from whom teachers would be willing to seek help. This group was limited to those library staff who would not give them a feeling of powerlessness, but might alternatively leave them with feelings of enhanced self-esteem, being respected as a teacher, and being in control of their teaching environment. It was, indeed, about whom you could ‘trust’ (Kinicki, 2008), as both the survey and interviews consistently demonstrated. TLs might take encouragement from insights found in this theory to focus on building ‘shared vision’ and ‘trust’ with teachers, leveraging on the many instances of low-to-medium levels of collaboration that seemed to be the norm in the three schools studied.

Leveraging on Habermas’s theory that a power relationship exists between language and the context of its use, Giddens’ (1979) described the power interrelationships inherent in the discourse between members of various social groups as a “dialectic of control … an intrinsic relation between agency and power” (p. 6), despite the potential for having a ‘transformative capacity’ on the lives of the various social actors.
INFORMATION-SEEKING PREFERENCES: TEACHERS

Bijker (1995) extrapolated aspects of the above theories, relating to power and control within communities, to develop a *theory of sociotechnological change* which provided further insight into the manifestations of power and control that proliferated in some of the more passionate discussions in the interviews, many of which involved the use of technology deemed (by different individuals) to be either ‘appropriate’ or ‘inappropriate’ for research purposes in a ‘modern’ school. Bijker’s statement that power is “ubiquitous and present in all relations and interactions” (p. 262) was amply demonstrated in examples of disagreement between individual teachers, whether with colleagues from the same department, a different department, or from the library. Bijker (1995) further argued that ‘sociotechnical change’ ushered in a ‘new order’, integrally interwoven with aspects of power and control. This theory enables us to better comprehend the aggressive expressions of territoriality revealed in the interview with one Alpha teacher, in reaction to an offer of research assistance from a library staff member who possessed the requisite expertise in computer technology but was not a fellow teacher. Similarly, there is the example of the teacher at Beta, who perceived that her existing authority depended on the privileging of her recognised mastery of the written word and who described her distress at seeing this power base perceptibly eroded by the transcendence of computer technology in her school.

Our understanding of findings such as these are further enhanced by insights from the theories of Foucault (1986), who posited the concept that power and control were integral features of all social relationships, and that people seek refuge in situations over which they could conceivably exercise the most direct control, and avoid those in which they felt disempowered.

The interviews revealed that the choice of books and the Internet as preferred information resources, demonstrated levels of complexity previously untapped in the literature. These formats symbolised more than ‘convenience’ or ‘accessibility’ of attractively-packaged information, but resonated, with some teachers, as symbols of power and control over the teaching and learning process in an ‘age of technology’. Bijker (1995) opined that ‘sociotechnical change’ conferred various ‘artifacts’ with power when their devotees were in ascendance, or disenfranchised them when the ‘old order’ was superseded (as discussed above). This theoretical principle was evident, when devotees of books and the Internet
INFORMATION-SEEKING PREFERENCES: TEACHERS

took pains to describe how their chosen medium was advantageous, with a sub-text implying that it conferred the requisite authority, power or control over their classroom domain (see Chapter 5). The themes of ‘power and control’ and ‘continuity and change’ in an ‘age of technology’ were closely intertwined, as is further discussed later in this chapter.

Hall and Hord’s (1987) Concerns-Based Adoption Model of change in the school workplace was a useful lens for gaining a perspective on the myriad of reasons why some teachers appeared to be more or less responsive to the suggestion of change. In the context of the present study, this would include consideration of the merits of a digital or print solution, or entertaining the notion of collaboration with a TL. While it can be argued that demonstrations of overt ‘territorial’ behaviour seemed to be more associated with teachers in their later career-phase, no evidence emerged from the present study that conclusively demonstrated a link between specific stages in a teacher’s career and openness to change, which appeared to have been predicated on other factors such as the teacher’s personality, prior positive or negative experiences or mindset at the time of decision-making.

6.3.3 Collaboration

Within the context of this study, an understanding of TLC is based on the contributions of Montiel-Overall (2005b, 2006, 2008, 2009), whose studies provided both definitions and nascent theory.

As delineated in Chapter 2, Montiel-Overall’s (2005b) definition of TLC involves components such as a mutually trusting, working relationship between two or more individuals who share a common vision to improve the learning experiences of their students. Strategies include shared planning, integrating subject content and information literacy skills into an instructional process appropriate to all curriculum areas. The TLC model (Montiel-Overall, 2008), which incorporates aspects of Loertscher’s (2000) earlier taxonomy, comprises four facets: Facet A: Coordination (i.e., low levels of collaboration, encompassing so-called ‘traditional’ levels of teacher/librarian cooperation such as ‘running the library’ and ordering in materials); Facet B: Cooperation (i.e., medium levels of collaboration, including putting together boxes of books, or special collections for
teachers to use in joint ‘library research lessons’); Facet C: Integrated instruction (comprising high levels of collaboration, including the full gamut of cooperative planning, development and implementation of instructional modules, produced jointly by a teacher/librarian partnership); and Facet D: Integrated curriculum (the highest level, where Facet C’s integrated instruction occurs as policy throughout the entire school). Facets C and D would fit the Guided Enquiry model proposed by Kuhlthau et al. (2007, 2012).

As with other issues explored in this thesis, the attitudes expressed about collaboration revealed a multiplicity of individual perspectives. Despite the paucity of examples from the present study of what Montiel-Overall might describe as ‘high-level’ collaboration, it was rewarding to reflect on the many examples of positive interaction and trusting, professional relationships developed between teachers and library staff in the three schools studied, as they engaged in what would be described as ‘low-medium’ levels of collaboration. Plentiful examples emerged of resources swiftly obtained by library staff for teachers planning a new unit of work, of IT support and research assistance provided by library staff who were described as being willing to ‘drop everything’ to help a teacher, or appearing to be equally happy to discuss the latest books, or to recommend useful Internet sites. Montiel-Overall (2008) had stressed that collaboration is feasible in schools where at least one individual who is deeply committed to the concept of working with others is also committed to becoming a ‘catalyst for collaboration’.

The definitions of collaboration provided by Montiel-Overall (2005a, 2005b, 2008) provided a framework which was useful for analysing the activities which teachers saw as ‘collaboration’ during the interviews (see Chapter 5, Table 22). For example, ‘Low level: Coordination’ would include examples of teachers from all three schools asking TLs to set aside resources for use with their classes in the library. ‘Medium level: Cooperation’ would include, for example, the religious studies teacher who asked an Alpha TL to purchase resources for a planned unit of work, or the TLs who prepared web sites and exemplars ready for the Alpha science teachers. ‘High level: Integrated instruction’ would be the description most appropriate for the Beta science teacher’s references to jointly planning, constructing and implementing research activities for her classes, with two different TLs,
over time. However, as mentioned previously, the interviews did not reveal any examples of the ‘Highest: Integrated curriculum’ level of TLC.

Nonetheless, as already stated, every example of ‘low-level’ collaboration is a potential building block towards more comprehensive, higher levels of collaborative activity, with benefits for students that can be communicated throughout the whole school community. Ways in which TLs might leverage on these insights are discussed at the end of this chapter.

6.3.4 Continuity and change in an ‘age of technology’

The impact of continuity and change on the information-seeking preferences of teachers in an age of technological transition was a pervasive theme that overarched all areas of this study. Within this context, relevant theories that enhance our understanding of the interplay between these opposing forces included those of Giddens (1979), Habermas (1984, 1987) and Bijker (1995), whose contributions to a greater understanding of power and control within the present study have been discussed previously. Rogers’s (2010) theory of the diffusion of innovations was also relevant in suggesting ways in which teachers might variously respond to changes in technology, as was Hall and Hord’s (1987) Concerns-Based Adoption Model.

Habermas’s (1984, 1987) theory of communicative action explains the response by some individuals to significant change in their lives. He posited that an individual’s ‘lifeworld’ (or common values and epistemes) became disenfranchised when ‘colonised’ by ‘systems’ with competing agendas. In the context of the present study, competing agendas might include new types of information resources, available due to changes in technology, that were now competing for teachers’ attention when they began to research or teach a new topic. As a consequence of this perceived disenfranchisement, Habermas posited that stakeholders were impelled to take back control and ownership of the systems via ‘communicative action’, in order to reassert a sense of continuity within their world. An understanding of this theory helped explain why some authoritarian teachers demonstrated, through their dialogue, their need to have elements of their ‘lifeworld’ continually
reaffirmed via ‘communicative action’. It would appear to account, for example, for the aggressive comments about library staff who were perceived to challenge ‘ownership’ of the ‘systems’ that defined the teachers’ power base. This response was arguably generated by the teachers’ desire to reassert their influence and to reaffirm their authority, a situation that, as discussed previously, was as evident in the Alpha computer studies teacher’s complaints about ‘interfering’ library staff as it was for the Beta English teacher who believed that the library manager was deliberately disrespecting her authority, which had been gained via the ‘old’ technology of the printed book.

Further insight was gained from an understanding of Bijker’s (1995) theory of socio-technical change, which emphasises the distinction between the ‘artifacts’ of technology (such as the Internet, in the present study) and the ‘relative flexibility’ of the various social meanings attributed by teachers, who were members of the ‘social groups’ that interacted with these ‘artifacts’ over time. To some teachers, the Internet was construed as liberating, empowering and beneficial as a chosen information resource, while to another teacher, it spelled the demise of her traditional power base, built on the ostensibly redundant ‘artifact’ signifying yesterday’s technology: the printed book. Many teachers apparently felt compelled to provide detail justifying the continuity of their preference for books as information resources (but with ‘no apologies’ needed, according to one Alpha science teacher), by explaining that they were also critical users of the Internet.

Continuity of preference for some forms of information, in the face of technological change, is also partly explained by reference to Giddens’ (1979) theory of structuration, which describes the “duality of structure, which relates to the fundamentally recursive character of social life, and expresses the mutual dependence of structure and agency” (p. 69). His view that rapid change will inevitably be accompanied by the “sedimentation of institutional reforms” (p. 7) reinforces the notion of ‘reflexivity’ within workplace practices, where new techniques and technologies will be incorporated into existing practices. Within the three schools studied, it can be seen that established traditions such as choosing books from the school library or personal collections, due to their perceived authority and reliability co-existed alongside elements of new technologies, such as the use of the Internet as an accessible, and relatively convenient, personal research tool. Giddens’ theory provides insight into the mutual dependence between the established structures of
information seeking (such as the teachers’ preferences) and agents of change, such as the technological innovations that inform choice and perceptibly empower, or threaten to disempower, the users. Comments relating to implicit or explicit pressure to abandon old-fashioned formats such as the printed book, and convert to technological resources, were similarly accompanied by an element of resistance in the discourse: enforced change in teachers’ information-seeking behaviour would not be acceptable simply because the technology was new, expensive and had, like the Internet, become a ‘technological artifact’ that was “dominant across all relevant social groups” (Bijker, 1995, p. 271). The findings indicated that aspects of continuity and change were both present in the process of ‘reflexivity’.

Rogers’ (2010) model of technology adoption also contributed to an understanding of the findings of the present study, particularly those focussing on teachers’ responses to changes in the availability of information resources occasioned by new technologies. The theory provided insight into recognising and understanding manifestation of all categories of technological adoption. For example, the Alpha computer studies teacher was undoubtedly a leader in technology, while the Beta science teacher who collaborated with the TL to devise web pages to communicate the research task could be described as an innovator. The Gamma history teacher and the Beta religious studies teacher who described their enthusiastic use of the Internet for research might be described as early adopters, while the early majority might include the staff from the Alpha Religious Studies and Science departments who all relied heavily on Internet resources for their preparation. The term later majority could be applied to the Beta English teacher and the two Alpha history teachers, who had incorporated Internet resources into their repertoire of preferences, along with their favourite books. The label laggards, i.e., those teachers who appeared to be more resistant to change, especially if perceived to be ‘for change’s sake’ could be applied to the English coordinator at Gamma and the English teacher at Alpha, who expressed a strong preference for print, rather than Internet resources. However, Roger’s description of laggards as ‘advanced in age’ did not comfortably fit the two oldest science teachers in the study (from Beta and Gamma), who were among the most enthusiastic advocates of the benefits of technological change.
Hall and Hord’s (1987) Concerns-Based Adoption Model of change in the school workplace was also useful for gaining a perspective on the myriad of reasons why some teachers appeared to be more or less responsive to the suggestion of change, whether considering a digital solution or the mere notion of collaboration with a TL, as the openness to change would have been predicated on the teacher’s personal mindset at that time.

The major theories underpinning this thesis therefore contributed insight into the study findings, revealing that the information seeking preferences of secondary school teachers are far more complex than originally thought at the commencement of the study.

6.4 Limitations of the study

There are three areas in which this study is limited. One is the restriction on the size and scope of the study, which contained a relatively small number of teachers from three independent Sydney schools during the years 2001–2005. Generalisations cannot be made either about information-seeking preferences of teachers in other schools, or information behaviour within each school. Nonetheless, a depth of detail was gleaned from teachers from a range of age groups and faculty areas, not only providing some answers to the question of why teachers might make such choices, but also suggesting avenues for further research.

The second limitation is due to the fact that I played two roles in the research, as both interviewer and potential information resource for the teachers with whom I shared a workplace. As one of their TLs (and in Gamma school, the only TL), I juggled the roles of ‘insider/outsider’ (Sherry, 2008) in the research process. There is always the concern that teachers tempered their views to their audience, despite concerted efforts to capture the voices of participants while taking as much care as possible that the personal views of the researcher did not influence interpretation, or bias the results. As can be seen in the findings, there were ample encounters with a range of librarians that occupied the discourse, without teachers needing to refer to the researcher. In hindsight, the benefits of receiving the confidences of these teachers, as a privileged ‘insider/outsider’ were
perceived to far outweigh any disadvantages, as Yakushko, Badiee, Malory, and Wang (2011) revealed.

The third limitation is the age of the data, which were collected between 2001 and 2005, but only published in full in this thesis. This time-lapse limits comparisons between the information preferences of contemporary teachers and those in the present study. Some of the technological formats (e.g., CD-ROMS) are no longer used as a primary multimedia platform. However, teachers are still facing the challenges of adapting classroom practices in a changing world, in which increasing pressure to produce results appears to be the only constant. One of the key findings is that continuity of information practices played as great a part as technological change in influencing the information-seeking choices of teachers in the present study. Technological change is a constant, and the findings fill a significant gap that will assist TLs in planning strategies to meet the needs of contemporary teachers.

A deeper regret is that my findings were not available earlier to the researchers whose own works proved to be so valuable to me in gaining a perspective on aspects of the information-seeking preferences of teachers, in the years following my own data collection. This thesis now slots into the timeframe of the early years of the 21st century and, as a ‘point-in-time’ study, offers a ‘set of snapshots’ of the perspectives of these Sydney teachers for the inspection of my teacher-librarian colleagues.

6.5 Suggestions and implications for future research

This study fills some of the gaps in our knowledge of the information-seeking preferences of secondary school teachers, but also raises a number of issues that could be answered by further research. These include three questions of special interest:

1. Are the findings of the present study exclusive to the three schools studied, or are aspects applicable to other types of school, as well as to other independent schools?

This study sheds light on the interplay between elements of continuity and change that influenced the information-seeking preferences and practices of teachers, but the results are
INFORMATION-SEEKING PREFERENCES: TEACHERS

limited to participants from these three schools, within a restricted timeframe. Studies are needed on the information-seeking preferences of teachers from the wider community, including single sex and co-educational schools from a range of geographical and demographic areas. Casting the net as widely as possible would strengthen the findings and increase their value.

2. Have the information-seeking preferences of the teachers in the present study changed over the past decade, or have some aspects stayed the same?

This question could be answered by a longitudinal study of teachers’ information-seeking preferences a decade after the present study, revisiting the perspectives of selected teachers still working in the three schools sampled. Such an investigation would shed light on how the forces of continuity and change (especially sociotechnical change) have shaped their preferences in the second decade of the 21st century. For example, one feature that emerged from this investigation, and was supported by the literature, was the preference shown for a teacher’s own collection of information resources. From the viewpoint of the user, the accessibility, ease of use and personalised collections offered by the current explosion of mobile, web-based technologies will be of continued interest to teachers (e.g. Tanni, 2012), offering the positive sense of ownership and control that emerged as a strong, theoretical thread throughout this investigation. Similarly, the mentored sharing of ideas within faculty areas, a strong feature in the English department at Gamma, would arguably be facilitated by contemporary social networking technologies.

Lessons to be learned from these findings include the importance of maintaining a library collection that includes both print and digital versions of key resources, where possible. Individual teachers may prefer the same text in either or both formats, suggesting that TLs who succumb to the pressure to denude their libraries of books, on the grounds that ‘everything is now on the Internet’, face losing the patronage (and trust) of a large proportion of their teacher-clientele. Similarly, if an Internet connection is offered to teachers or students, it must be seen to work effectively, or risk likely exclusion from the repertoire of resources preferred by ‘time poor’ teachers, a message as relevant to TLs today as in the time of the study.
6.6 Reflection: ‘sharing the vision’

With a renewed political focus on delivering key educational outcomes and increased accountability for academic performance in schools, the recommendation in Softlink’s (2012) survey of Australian school libraries, that “continued investment in school libraries is integral to delivering the Australian curriculum as a world-class curriculum” (p. 12), becomes a rallying-call to school libraries, nationwide.

The literature suggests that some librarians have risen to this challenge by re-imaging the school library as a vibrant ‘iCentre’ staffed by tech-savvy TLs (Hay, 2010a; 2010b; Hay & Todd 2010; Lee & Twomey 2011), focusing on collection development that incorporates digital formats and e-learning centres with multimedia capabilities controlled from iPads or interactive whiteboards. In some contemporary school libraries, the non-fiction ‘book’ is considered to be redundant (Sargeant and Collins 2007), with shelving being replaced by extended areas for Internet access and/or recreational facilities for library patrons.

One of the biggest challenges to the future of the ‘school library brand’ is the perception by teachers of the library environment, facilities and staff. The ‘library brand’ as a ‘building with books’ (De Rosa, et al., 2005, 2010) was a concept confirmed by the majority of teachers in the present study. This presents a paradox for TLs, as the growth of web technologies and digital formats, may render obsolete the need for a physical library space replete with shelves of books. Another paradox is presented by the concept of the vibrant, multifunctional library space, where group activities and sharing of information via mobile devices proliferate; an image that is at odds with the concept of the ‘quiet library’ so revered by some teachers. Another challenge relates to the ways in which teachers and library staff view each others’ roles. The McKenzie report (2011) indicated that two of the issues of major concern to teachers were the feeling that they lacked both respect as a profession and access to relevant support. Newly qualified teachers were particularly vulnerable to these concerns.

The literature had indicated that beneficial academic outcomes for students were enhanced when teachers and TLs work collaboratively to develop and deliver meaningful student
INFORMATION-SEEKING PREFERENCES: TEACHERS

research projects. The support of key stakeholders (including, but not limited to, the school principal) was deemed to be of critical importance, with evidence from the findings that such support could be built up over time, leveraging on positive recollections by students of rewarding interactions with libraries and librarians, supplemented by constructive advocacy conducted by library staff, either as part of everyday professional practice or as a constructive campaign to raise awareness amongst stakeholders (Everhart & Mardis, 2014).

There is also a practical component of this approach: that of facilitating collaboration as a vital component of the support provided by TLs to their teacher-colleagues, thereby conserving the investment in teacher-training that would otherwise be dissipated as teachers increasingly leave the profession before retirement. For example, 9.7% of secondary teachers surveyed by McKenzie, et al. (2011, p. 87) clearly indicated that they planned to leave the profession prior to retirement. The most important factors in their decision to permanently leave were “the workload is too heavy” (50.1%) followed by “dissatisfaction with teaching” (42.5), “better opportunities outside of schools” (39.2%) and “insufficient support staff” (30.8%).

Although the training and qualifications of TLs ideally positions them to support their teaching colleagues in collaboratively planning and delivering teaching and learning, these professionals are not always the primary source of research support. Indeed, the McKenzie et al. (2011) survey results indicate that the ‘library’ is one of the two secondary subject areas in which relatively high proportions of schools reported unfilled vacancies at the time of the survey. In the light of this seemingly disheartening scenario, it is worthwhile recognizing that there is still potential for TLs to leverage on opportunities for collaboration with secondary school teachers. Thus, when viewed through the lenses of literature and theory, the present study points to opportunities for TLs to develop three new roles: two that would demonstrate both their respect for the contribution of classroom teachers and their own value and relevance to them as supportive peers, and a third role that would implement a training model designed to facilitate the closer collaboration of young teachers and TLs, during their individual tertiary training schedules. These roles are as follows:
The role of TL as ‘research mentor’ would see the incumbent TL as a mentor who would empower young and ‘New Scheme’ teachers to refine their own research skills, and develop personal collections of resources in their preferred formats. Not only would this level of research support benefit new teachers in preparing engaging and relevant lessons but would also expedite the time taken to create the ‘portfolios’ mandated by BOSTES, the professional authority responsible for teacher accreditation. A supportive and mentoring TL could become the ‘New Scheme’ teacher’s ‘best friend’.

This role assumes greater significance when considering the information preferences and research needs of teachers in remote (i.e., ‘outback’) communities. These teachers have one of the most challenging and isolated jobs in the teaching profession and are likely to find themselves more marginalised than their metropolitan colleagues with respect to interpersonal, collaborative contact with professional mentoring and research support.

As McKenzie et al. (2011, p. 86) indicated, these ‘remote area’ teachers had the highest proportion of ‘early career’ teachers (24%), were younger on average than their metropolitan or provincial peers, were less likely to remain within the teaching profession (62.2%) (p. 89), and were teaching in rural/remote Australian schools where access to the resources of large, well-stocked libraries (like those in the present study) would be unlikely.

In addition, staff were more likely to experience heavier teaching loads, as secondary principals expressed more instances of ‘major difficulties’ in filling teaching vacancies in remote schools (23.2%), compared with provincial (14.7%) and metropolitan schools (5.8%) (p. 184). It is not surprising that all of the above problems in attracting and retaining teachers were exacerbated in those schools with a higher proportion of indigenous students, especially in those schools designated as having ‘special needs’ (p. 192).

Although the majority of these ‘remote area’ teachers were born in Australia (80%), most are ‘city trained’, and accustomed (like the teachers in the present study) to accessing information resources via the Internet, or accessibly-located library services. Although the
resources currently at their disposal would not be in the same league as those in the three Sydney schools studied, these ‘remote area’ teachers must still teach under the same BOSTES regulations and have to produce student research tasks. A study that investigates the specific information needs, priorities and preferences of teachers in remote school communities would make a valuable contribution towards improving the quality and level of support available for these teachers who are engaged in personal or class research. It would particularly benefit ‘early career’ teachers who do not have the background or classroom experience of their more established peers, but whose more recent teacher training would have included extensive exposure to contemporary teaching and learning technologies. Advances in Web 2.0 technologies such as fast broadband, data visualisation, collaborative workspaces and personal mobile devices, make the design, customisation and delivery of personalised services an achievable ‘vision’ that would be facilitated via collaborative, online conversations between teachers and their TL colleagues. These opportunities are considered in more detail in the following section.

- The teacher-librarian as ‘heritage collection development mentor’

In this role, TLs would encourage and support young or ‘new’ teachers to contribute to building and/or extending their departmental ‘information heritage’ (Diekema & Olsen, 2011). The interviews revealed that young teachers particularly appreciated this activity, normally orchestrated by existing mentors who were older teachers or departmental heads. In adopting this role, care must be taken by the TL not to inadvertently offend the departmental head by seeming to be encroaching on departmental ‘territory’, a situation encountered in more than one department, in the three schools participating in the present study.

With regard to the ‘early career’ and ‘remote area’ teachers mentioned in the previous section, it is worthwhile considering what might constitute their vision of the ‘ideal’ departmental or school library collection. As O’Connell and Groom (2010) comment, Web 2.0 technologies now encourage and facilitate the collaborative construction of teaching resources within “an open collaborative curriculum and resource development framework”
INFORMATION-SEEKING PREFERENCES: TEACHERS

(p. 36). With specific reference to a group of English teachers planning to develop a collection of poetry resources (the type of task that can lead to the development of ‘heritage collections’ in a range of formats, as with the Gamma English department in the present study), O’Connell and Groom recommend the development of a poetry wiki, emphasizing that “any curriculum area lends itself to online collaboration within and beyond the school, and in a Web 2.0 world, becomes more powerful than the ‘walled garden’ of a content management system” (p. 36), such as the print-based formats that constituted the most common type of departmental collections described in the present study.

Successful online enterprises tend to be driven by interactive participation of collaborating beneficiaries, rather than by authoritarian diktats, suggesting that the role for TLs must be that of a proactive, collaborative peer, a fellow-teacher with high-level expertise both in information management and ICT skills. Reflecting that information management is a professional task traditionally, and still most appropriately, mastered by librarians, O’Connell and Groom (2010) posit that in the schools of the 21st century, “school libraries should become as full of bespoke digital information resources as they once were in their bibliographic heyday” (p. 49).

One of the most desirable features of the TL’s role lies in the non-parochial scope of their professional ‘library’ services, which must remain separate from any other ‘hats’ they might wear as, e.g., a classroom teacher in a particular department or subject area. The “contextual digital resources” mentioned by O’Connell and Groom (2010, p. 49) would arguably mandate a series of customized interfaces that present to departmental users as their own recognizable ‘heritage collection’, stepping away from the uniform, homogenised interface beloved of the corporatised school environment. The astute TL whose collection development brief has made them a ‘citizen of the world’ of global information is particularly well placed to mentor ‘New Scheme’ teachers in the development and management of such collections, as well as providing personalised training and discreet support for those teachers less experienced in contemporary ICTs.
INFORMATION-SEEKING PREFERENCES: TEACHERS

Teacher-librarians and trainee teachers as ‘collaborative peers’

Although it is evident that technology has altered the parameters for teaching and learning in 21st century secondary schools, the pedagogical goals of numeracy, language literacy and information literacy are still recognizable, albeit facilitated using an expanded educational ‘toolkit’. As Wall and Ryan (2010) observe, information is increasingly “obtained by discussion with peers and sharing information”, ideally emanating from “a constructivist, self-paced, self-directed” learning environment that is best supported when “collaboration takes place between all teaching staff” (p. 28). The literature has demonstrated that collaboration is more likely to recur when the various stakeholders find the collaborative experience rewarding (Meyers et al., 2006), arguably as a result of having developed a working relationship over time based on trust, mutual respect a commitment to common goals and a ‘shared vision’ (as described by, e.g., Brown, 2004; Montiel-Overall, 2005a; Kinecki, 2008, Olsson, 2009; Williamson, Archibald & McGregor, 2010). The question then arises: in a time-poor school workplace, how can teachers and TLs find time within their overloaded schedules to develop this collaborative culture?

At present, the tertiary training of secondary school teachers and TLs tends to occur as academically independent strands, with this separation highlighted by the different courses and degrees attained. In most cases, TL qualifications are a post-graduate degree or diploma undertaken following an initial teaching qualification. While this is appropriate to the area of specialization, it further emphasises the segregation between ‘classroom teachers’ and those with more focused skills and academic proclivities; areas which might also accommodate teachers specializing in students with ‘special needs’, as much as those who aspire to be TLs. This sense of segregation is heightened by the automatic association of TLs with physically separate entities called ‘school libraries’, a mindset reflected in the literature and prevalent throughout the present study. It is this mindset of segregation that appears to be a major barrier to the development of collaborative relationships.

It would appear to be imperative to foster a school environment that fosters a culture of integration, rather than segregation. Given the well-documented constraints of ‘lack of
time’ and limited access to collaborative opportunities for classroom teachers and TLs to develop long-term collegiate relationships based on mutual trust and professional respect, it would seem logical to mandate an environment in which this relationship developed from necessity, rather than as an afterthought. What better scenario that to integrate, rather than segregate, the *practicum* component that forms a critical (and nerve-wracking) feature of the tertiary training of both trainee teachers and TLs?

Integrated, rather than segregated practicums in secondary schools would provide the most effective pathway to enhance early career teachers’ perceptions of the TL as their ‘collaborative peer’. It is also the most radical, in that it would endeavour to change the ways in which the institutions that train both teachers and TLs approach the *practicum* that is an integral part of the initial teacher/TL training at tertiary level. Currently, the practicum is most commonly overseen by the relevant, often separate tertiary institutions: one being responsible for the training and placement of classroom teachers, another for TLs. There is no formal role for the incumbent TL at individual schools charged with the responsibility for overseeing new teachers during their practicum period: the ‘coalface’ of classroom practice. However, under this alternative model, the relevant tertiary institutions would themselves collaborate to provide integrated situations in which both trainee teachers and trainee TLs would engage in collaboration at all levels, prior to and including their first day in the classroom. They would then work together during their practicum, to plan, create and deliver meaningful classroom programs including student research activities, under the joint oversight of their supervising teachers and TLs.

The theory and empirical literature of collaboration indicates that a ‘shared vision’ and common ‘world view’, based on mutual respect and trust, is integral to collaboration between teachers and library staff. As suggested above, it could be expected that professionally beneficial relationships would flourish in such a young team environment, inculcating a culture of ‘communities of practice’ and collaboration that would make these notions commonplace for the new generation of teachers within each school community. The ultimate achievement would be to have all teachers echoing the conviction: “How did I live without library collaboration?” (Everhart & Mardis, 2014, p. 6).
INFORMATION-SEEKING PREFERENCES: TEACHERS

The continuing challenge for TLs is to make such a vision a part of the ‘shared world view’ within a school community that brings together key stakeholders, including teachers and TLs, with the support of the school hierarchy, as ‘true believers’ in the collaborative process. Only when teachers’ voices join those of the TL community, and clamour for the resources of a well-stocked school library (be it physical or virtual) and the professional services of a fully-qualified TL, will such positive cultural change be possible in schools of the 21st century.
References


INFORMATION-SEEKING PREFERENCES: TEACHERS

(Eds.), *New Directions in information behaviour* (pp. 127-158). Bingley, UK: Emerald Group Publishing.


INFORMATION-SEEKING PREFERENCES: TEACHERS


INFORMATION-SEEKING PREFERENCES: TEACHERS


INFORMATION-SEEKING PREFERENCES: TEACHERS

(HJ 554 171).


Hipwell, P. (2006). We’re all teachers of literacy ... so what? The New South Wales Education Magazine, Term 4, 12.


Hughes, H. (2013). Gold Coast study links school libraries and teacher librarians to
literacy. *Connections*, 87(4), 4-7.


INFORMATION-SEEKING PREFERENCES: TEACHERS


INFORMATION-SEEKING PREFERENCES: TEACHERS


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Montgomery, P. (1991). Cognitive style and the level of cooperation between the library


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INFORMATION-SEEKING PREFERENCES: TEACHERS


INFORMATION-SEEKING PREFERENCES: TEACHERS


INFORMATION-SEEKING PREFERENCES: TEACHERS


Appendix A

Survey Component (Self-Administering Questionnaire)

Doctoral Research

To:- Potential Questionnaire Respondents, XXXXXXXXX 7-12 teaching staff

From:- Mrs. Julia Bale, XXXXXX Librarian

Subject:- The information seeking preferences of secondary school teachers

Dear Colleague,

I am currently enrolled in a doctoral research program at Charles Sturt University, where the focus of my study is the information seeking preferences of secondary school teachers. In order to complement the findings of the literature in this area, I am conducting a survey of the information seeking preferences of the teachers at XXXXXXXX. I invite you to participate in this study.

Should you agree to participate, I can assure you that your response to all survey questions will remain completely confidential. At no time will you be identified by name, or by any details that may reveal your identity within the XXXXXX teaching community. The survey records will be stored securely, while conventions for maintaining anonymity will be used in the writing of the thesis and any related publications.

This survey will take approximately 20 minutes to complete. By completing the survey, you are agreeing to participate in the research. A plain envelope has been attached, to facilitate the confidentiality of your reply. The completed surveys can be sealed in this envelope and placed inside one of the specially marked boxes that have also been placed in the XXXX Library and in the two main staff rooms.

In addition, I would like to interview about 20 of the survey respondents, in depth, at a later time. Should you be willing to sacrifice more of your valuable time by such participation, I would be grateful if you could indicate this fact by filling in the section provided for contact details, which follows after the survey. Your actual name will not be linked to the collated survey results, but will be translated into code, to maintain confidentiality. Your cooperation is highly regarded and of immense value to me. Please be assured that the resulting interview will be scheduled to minimise any inconvenience.

If you have any additional questions regarding this study, please feel free to contact either myself or my supervisor, Dr. XXXXXXX (see contact details, below).

Yours sincerely,

Principal Supervisor,
Dr. XXXXXX,
School of Information Studies
INFORMATION-SEEKING PREFERENCES: TEACHERS

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Survey ID No. ______________

Research Topic:
An investigation into the information seeking preferences of secondary school teachers

A study conducted by J. Bale, PH.D. candidate at Charles Sturt University

Please tick the box in which the answer corresponds most closely to you or your situation. You may tick more than one box per question, if more than one answer is applicable.

A: You & your professional background / experience

1.0 Gender
☐ Male ☐ Female

2.0 Age grouping
☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61+

3.0 Academic qualifications
☐ Teachers' college (non-university) ☐ Diploma (non-university)
☐ Bachelor degree (pass) ☐ Bachelor degree (honours)
☐ Diploma ☐ second or subsequent diplomas ☐ Masters ☐ Ph.D.
☐ Other academic or vocational qualifications (please specify) __________

4.0 Industry qualifications & experience (i.e. outside the educational sector)

Do you have any qualifications in areas other than teaching?
☐ No ☐ Yes (please specify) __________________________

4.1 Have you ever worked in any area other than teaching?
☐ No ☐ Yes (please specify, including number of years) ______________

4.2 Have you ever received any vocational training in areas other than teaching?
☐ No ☐ Yes (please specify) __________________________

5.0 Have you received any formal teacher training?
INFORMATION-SEEKING PREFERENCES: TEACHERS

☐ No  (Please go to Question 6.0)

☐ Yes

5.1 If so, what teacher training did you receive and of what type?)
____________________________________________________________________

5.2 In what curriculum area(s) / KLAs did you receive your training?

☐ Art  ☐ Music  ☐ Maths  ☐ English  ☐ Science
☐ LOTE (please specify) ________________________________________________
☐ PDHPE  ☐ History  ☐ Geography  ☐ TAS (excluding, Computer Studies)
☐ Computer Studies  ☐ Religious Studies  ☐ Other (please specify) __________

6.0 Teaching experience

6.1 How many years, in total, have you been teaching?

☐ 1-5 yrs  ☐ 6-10 yrs  ☐ 11-15 yrs  ☐ 16-20 yrs  ☐ 21-25 yrs  ☐ 26-30 yrs
☐ 31-35 yrs  ☐ 36+ yrs

6.2 What are the curriculum areas in which you are currently teaching? (i.e. in 2001)

☐ Art  ☐ Music  ☐ Maths  ☐ English  ☐ Science
☐ LOTE (please specify) ________________________________________________
☐ PDHPE  ☐ History  ☐ Geography  ☐ TAS (excluding, Computer Studies)
☐ Computer Studies  ☐ Religious Studies  ☐ Other (please specify) __________

6.3 In which other curriculum areas have you taught, during your teaching career?

☐ Art  ☐ Music  ☐ Maths  ☐ English  ☐ Science
☐ LOTE (please specify) ________________________________________________
☐ PDHPE  ☐ History  ☐ Geography  ☐ TAS (excluding, Computer Studies)
☐ Computer Studies  ☐ Religious Studies  ☐ Other (please specify) __________


6.4 What is the longest time that you have taught within any one curriculum area?

☐ 1-5 yrs  ☐ 6-10 yrs  ☐ 11-15 yrs  ☐ 16-20 yrs  ☐ 21-25 yrs  ☐ 26-30 yrs
☐ 31-35 yrs  ☐ 36+ yrs

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6.5 Which curriculum area would this be? (Please tick)

- Art
- Music
- Maths
- English
- Science

- LOTE (please specify) ________________________________
- PDHPE
- History
- Geography
- TAS (excluding Computer Studies)
- Computer Studies
- Religious Studies
- Other (please specify) ________________________________

6.6 Is this the same curriculum area in which you are currently teaching, at least for the majority of your time? (i.e. the option nominated in Q.6.5 remains your MAJOR TEACHING AREA in 2001)

Either:-

6.61 Yes, this is the same curriculum area in which I am currently teaching, at least for the majority of my time (i.e. this currently is my MAJOR TEACHING AREA). (If you select this option, please proceed to Q. 6.8)

Or:-

6.62 No, I am now teaching in a different curriculum area, for the majority of my time (i.e. a different MAJOR TEACHING AREA to that nominated in Q. 6.5) (please specify the curriculum area) ________________________________

6.7 For how long have you taught in this latter area?

- < 1 yr
- 1-2 yrs
- 3-5 yrs
- 6-10 yrs
- 11-15 yrs
- 16-20 yrs
- 21-25 yrs
- 26-30 yrs
- 31-35 yrs
- 36+ yrs

6.8 In your current MAJOR TEACHING AREA, do you plan units of work for your students that require a formal research component (i.e. researching the topic and presenting a written or other method of presentation)?

- No - not required
- Rarely
- From time to time
- Frequently

- Very frequently
- Other ________________________________

B: The information seeking preferences of secondary school teachers

Context of survey:- The changing needs of the curriculum (e.g. the introduction of the new H.S.C. syllabi) require that teachers must include a range of independent research projects within their teaching programs.

During the curriculum planning process, teachers will exercise individual preferences, when seeking out information on various topics suitable for student research projects.

The next section of the survey is intended to collect data about your information seeking preferences. Please focus your answers on each information seeking task that confronts you when you are planning &/or preparing for an independent research project, intended for students in your current MAJOR TEACHING AREA, (i.e. the one that you have nominated in Q.6.6, previously).
INFORMATION-SEEKING PREFERENCES: TEACHERS

7.0 Your information seeking preferences: PEOPLE

7.1 The following list includes a selection of people (including yourself) whose advice or expertise you may seek or rely upon, when gathering information for your project. The type of contact might be "real" (i.e. interpersonal communication) or "virtual" (via a favourite author or an expert on the Internet, etc.)

Please allocate, to each item on the following list, the numbers "1" through "7" (or "8", if you use the "Other" option), with:

"1" given to the choice that is **Most Preferred**, and "7" (or "8") given to the choice that is **Least Preferred**.

__ Your own wealth of subject expertise  
__ Colleagues at school  
__ Colleagues not from this school  
__ Books written by renowned experts on your topic  
__ Web sites from the Internet  
__ Information professionals e.g. the school librarian  
__ Experts on your topic  
__ Other (specify ______________________________________)

7.2 Look at the option in the above list to which you allocated "1" (i.e. the option considered to be the **Most Preferred**, when seeking information from "people").

*Please record this option here _______________________________________

Look at the descriptions below. What **emotions** do you recall **"feeling"** when you last used your **Most preferred** option? Please tick as many of the boxes below that are relevant.

- confidence  
- frustration  
- certainty  
- other ___________________

- confusion  
- optimism  
- uncertainty  
- other ___________________

- disappointment  
- relief  
- being in control  
- other ___________________

- doubt  
- satisfaction  
- anxiety  
- other ___________________

7.3 Look at the option in the Q.7.1 list to which you allocated "7" or "8", (i.e. the option considered to be the **Least Preferred**, when seeking information from "people").

*Please record this option here _______________________________________

Look at the descriptions below. What **emotions** do you recall **"feeling"** when you were last obliged to use your **Least preferred** option? Please check as many of the boxes below that are relevant.

- confidence  
- frustration  
- certainty  
- other ___________________

- confusion  
- optimism  
- uncertainty  
- other ___________________

- disappointment  
- relief  
- being in control  
- other ___________________

- doubt  
- satisfaction  
- anxiety  
- other ___________________

7.4 The role of the SCHOOL LIBRARIAN during the information seeking process.

During the process of seeking information for your project, how **important** do you consider the services provided by the **SCHOOL LIBRARIAN**? Please circle the most appropriate response:-

Very Important | Important | Not very important | Irrelevant | "Depends on the individual librarian…”

*(please comment briefly)____________________________________
INFORMATION-SEEKING PREFERENCES: TEACHERS

7.5 Would you seek out the services of the SCHOOL LIBRARIAN to assist with any of the information seeking activities listed below?

Please write, in the space provided, the letter that corresponds with your preference, i.e. :-

Y for "Yes"    N for "No"    M for "Maybe"

__ At the primary stages of the research project
__ For brainstorming suggestions
__ To stimulate creative thought
__ Before searching for information
__ As a partner in professional collaboration
__ "Just in case" (i.e. as an insurance only)
__ Only if needed
__ To cross-check the results of your search
__ As your first choice
__ When all else fails

8.0 Your information seeking preferences:- PLACES

8.1 The following list includes a selection of places (both "real" and "virtual") in which the information that you are seeking may be located.

Please allocate, to each item on the following list, the numbers "1" through "13" (or "14", if you use the "Other" option), with:-

"1" given to the choice that is Most Preferred, and "13" (or "14") given to the choice that is Least Preferred.

__ Your own wealth of expertise (stored inside your head)
__ Own collection of resources, kept at work e.g. in staff room
__ Own collection of resources, kept at home
__ Departmental collection, e.g. in staff room
__ School library collection
__ Local library collection
__ University library collection
__ Special collection (describe _____________________________________)
__ Place where the subject experts get together
__ The professional "grapevine", via telephone
__ The professional "grapevine", via email
__ Internet site
__ Computer-accessible resource (describe ____________________________________) 
__ Other (specify ______________________________________________________)

8.2 Look at the option in the above list to which you allocated "1" (i.e. the option considered to be the Most Preferred, when seeking information from various "places").

Please record this option here ________________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you last used your Most preferred option? Please tick as many of the boxes below that are relevant.

☐ confidence      ☐ confusion      ☐ disappointment      ☐ doubt
☐ frustration     ☐ optimism       ☐ relief              ☐ satisfaction 
☐ certainty       ☐ uncertainty     ☐ being in control    ☐ anxiety
☐ other ____________________

8.3 Look at the option in the Q.8.1 list to which you allocated "13" or "14", (i.e. the option considered to be the Least Preferred, when seeking information from "places").
INFORMATION-SEEKING PREFERENCES: TEACHERS

Please record this option here ________________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you were last obliged to use your Least preferred option? Please check as many of the boxes below that are relevant.

- confidence  - confusion  - disappointment  - doubt
- frustration  - optimism  - relief  - satisfaction
- certainty  - uncertainty  - being in control  - anxiety
- other _____________________

8.4 The role of the SCHOOL LIBRARY during the information seeking process.

During the process of seeking information for your project, how important to you are the resources provided by the SCHOOL LIBRARY? Please circle the most appropriate response:-

Very Important | Important | Not very important | Irrelevant | "Depends on the resource…"(please comment briefly)________________________________________  
_____________________________________________________________________

8.5 At what stage might you prefer to use the resources of the SCHOOL LIBRARY?

Please write, in the space provided, the letter that corresponds with your preference, i.e. :-

Y for "Yes"  N for "No"  M for "Maybe"

__ At the primary stages of the research project
__ For brainstorming suggestions
__ To stimulate creative thought
__ Before searching for information
__ "Just in case" (i.e. as an insurance only)
__ Only if needed
__ To cross-check the results of your search
__ As your first choice
__ When all else fails

9.0 Your information seeking preferences: THINGS

From your experience of looking for information, you will be aware that information resources come in a variety of formats. I would like you to consider your preferences for utilising different types of resources.

9.1 Searching for Information

Imagine that you are at that stage of the information seeking process where you are busy searching for (as opposed to actually collecting and utilising) good sources of information for that research topic in your MAJOR TEACHING AREA.

Please allocate to each type of resource format the numbers "1" through "7" (or "8", if you use the "Other" option), with:-

"1" given to the choice that is Most Preferred, and "7" (or "8") given to the choice that is Least Preferred.

__ Books
__ Magazines / serials
__ Paper printouts (from computer originals)
__ Indexes (paper format)
INFORMATION-SEEKING PREFERENCES: TEACHERS

__ Indexes (electronic format, via computer)
__ Computer-accessible resources
__ Internet sources
__ Other (specify ________________________________)

9.2 Look at the option in the above list to which you allocated "1" (i.e. the option considered to be the Most Preferred format, when seeking this type of information).

Please record this option here _____________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you last used your Most preferred option? Please tick as many of the boxes below that are relevant.

☐ confidence  ☐ confusion  ☐ disappointment  ☐ doubt
☐ frustration  ☐ optimism  ☐ relief  ☐ satisfaction
☐ certainty  ☐ uncertainty  ☐ being in control  ☐ anxiety
☐ other _____________________

9.3 Look at the option in the Q.9.1 list to which you allocated "7" or "8", (i.e. the option considered to be the Least Preferred type of format, when seeking this type of information)

Please record this option here _____________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you were last obliged to use your Least preferred option? Please check as many of the boxes below that are relevant.

☐ confidence  ☐ confusion  ☐ disappointment  ☐ doubt
☐ frustration  ☐ optimism  ☐ relief  ☐ satisfaction
☐ certainty  ☐ uncertainty  ☐ being in control  ☐ anxiety
☐ other _____________________

9.4 Retrieval, Collation & Utilisation of Information Resources

When you have located a number of suitable resources, in what formats do you prefer to collect and utilise them?

Please allocate to each type of format the numbers "1" through "7" (or "8", if you use the "Other" option), with:

"1" given to the choice that is Most Preferred, and "7" (or "8") given to the choice that is Least Preferred.

__ Books
__ Magazines / serials
__ Paper printouts (from computer originals)
__ Indexes (paper format)
__ Indexes (electronic format, via computer)
__ Computer-accessible resources
__ Internet
__ Other (specify ________________________________)

9.5 Look at the option in the above list to which you allocated "1" (i.e. the option considered to be the Most Preferred format, when collecting and utilising this type of information).

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INFORMATION-SEEKING PREFERENCES: TEACHERS

Please record this option here ________________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you last used your Most preferred option? Please tick as many of the boxes below that are relevant.

☐ confidence ☐ confusion ☐ disappointment ☐ doubt
☐ frustration ☐ optimism ☐ relief ☐ satisfaction
☐ certainty ☐ uncertainty ☐ being in control ☐ anxiety
☐ other _____________________

9.6 Look at the option in the Q.9.4 list to which you allocated "7" or "8", (i.e. the option considered to be the Least Preferred type of format, when collecting and utilising this type of information)

Please record this option here ________________________________________________

Look at the descriptions below. What emotions do you recall "feeling" when you were last obliged to use your Least preferred option? Please check as many of the boxes below that are relevant.

☐ confidence ☐ confusion ☐ disappointment ☐ doubt
☐ frustration ☐ optimism ☐ relief ☐ satisfaction
☐ certainty ☐ uncertainty ☐ being in control ☐ anxiety
☐ other _____________________

9.7 The role of BOOKS in your preferences for seeking information.

During the process of seeking information for your research project, how important to you are BOOKS?

Please circle the most appropriate response:

- Very Important  |  Important  |  Not very important  |  Irrelevant  | "Depends on the book…"…"(please comment briefly) ____________________________

9.7.1 At what stages in the information seeking process might you consider using BOOKS?

Please write, in the space provided, the letter that corresponds with your preference, i.e. :-

Y for "Yes"  N for "No"  M for "Maybe"

__ At the primary stages of the research project
__ For brainstorming ideas
__ For background material
__ To stimulate creative thought
__ For convenience
__ For reliability
__ For authority &/or credibility of sources
__ To cross-check the results of your other searches
__ As your first choice
__ When all else fails

9.8 The role of the INTERNET in your preferences for seeking information.

During the process of seeking information for your research project, how important to you is the INTERNET?

Please circle the most appropriate response:-
INFORMATION-SEEKING PREFERENCES: TEACHERS

9.8.1 At what stages in the information seeking process might you consider using the INTERNET?

Please write, in the space provided, the letter that corresponds with your preference, i.e. :-

Y for "Yes"    N for "No"    M for "Maybe"

__ At the primary stages of the research project
__ For brainstorming ideas
__ For background material
__ To stimulate creative thought
__ For convenience
__ For reliability
__ For authority &/or credibility of sources
__ To cross-check the results of your other searches
__ As your first choice
__ When all else fails

Many thanks for your time and effort!

Your cooperation in filling out this survey is greatly appreciated. You may choose to remain completely anonymous, if you wish.

However, should you be willing to allow me to interview you in more depth, at a time to suit your convenience, please fill out the contact details below:-

Name: __________________________________________

Contact details: __________________________________

Kind regards,

Julia Bale
x. 7660
jbale.XXX@XXX.nsw.edu.au
Appendix B

B1: Interview Component: Consent Form, Customised For Each School

**Doctoral Research - Interview Consent Briefing**

**Research Topic:** The information seeking preferences of secondary school teachers

Dear Colleague,

I am currently enrolled in a doctoral research program at Charles Sturt University, where the focus of my study is the information seeking preferences of secondary school teachers. In order to complement the findings of an earlier, self-administered questionnaire, I invite you to participate in this interview, which will contribute towards the qualitative component of the study.

Should you agree to participate, I can assure you that your response to all interview questions will remain completely confidential. At no time will you be identified by name, or by any details that may reveal your identity within the XXXXXX teaching community. The interview tapes and transcripts will be stored securely, while conventions for maintaining anonymity will be used in the writing of the thesis and any related publications.

This interview will take a minimum of 20 minutes to complete and will be based on the attached sheet of Focus Questions, although additional questions may arise, time permitting. By agreeing to participate in this interview, you are agreeing to participate in the research. Please feel free to indicate if at any time you wish to terminate the interview, feel uncomfortable with any questions or direction in which the interview may be heading, or wish to withdraw your interview record from the collated data.

Your cooperation is highly regarded and of immense value to me.

If you have any additional questions regarding this study, please feel free to contact either myself or my supervisor, Dr. XXXXXXXX (see contact details, below).

Yours sincerely,

Principal Supervisor,  
Dr. XXXXXXXX,  
School of Information Studies  
Charles Sturt University  
Tel: +61 0409440XXX  
Fax: +61 2 69332733  
Locked Bag 675, Wagga Wagga  
NSW 2678, AUSTRALIA  
Email: XXXXX@csu.edu.au

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Date of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Admin</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
B2: Ethics Consent: Copy Of Original Form

Ms J Bale
PO Box 582
Collaroy Beach, NSW 2097

13 April 1999

Dear Ms Bale,

The Ethics in Human Research Committee has approved your proposal “An Investigation into the Information Seeking Preferences of Secondary School Teachers” for the period July 1999 to July 2002.

The protocol number issued with respect to this project is 99029.

You must notify the Committee immediately should your research differ in any way from that proposed.

You are also required to complete the attached Report form and return it on completion of your research or by 31 July 2000 if your research has not been completed by that date.

Please don’t hesitate to contact Mrs Kaye Price on telephone (02) 6338 4200 if you have any enquiries about this matter.

Yours sincerely,

Kaye Price

Bernadette Denman
Executive Officer
Ethics in Human Research Committee
INFORMATION-SEEKING PREFERENCES: TEACHERS

B3: Interview Focus Questions

Focus Area: A Specific Incident Recalled from Memory.
Please reflect on a specific incident in which you needed to set up a research task for your students in an area of the syllabus that was unfamiliar to you. What information pathways did you follow? What did you do when you first realised that you needed to expand on your knowledge base regarding this topic?
- Where did you go?
- What did you do?
- Whom did you consult?
- What did you retrieve?
- What did you produce?

Focus Area: Information-seeking outside working hours:
- Do you read for pleasure?
- Use computers for recreation?
- Use libraries outside school needs?
- Ask librarians for information in areas other than related to school needs?

Focus Area: Instances of positive & negative encounters / incidents:
Please try to recall an occasion in which you used a library and came away with feelings that could be remembered as POSITIVE (could be current school library, a previous school, university, college, local library, etc.)
- What were you looking for?
- Did you come away with what you were seeking?
- How did you feel about the incident?
Please try to recall an occasion in which you used the services of a librarian and came away with feelings that could be remembered as POSITIVE.
- What were you looking for?
- Did you come away with what you were seeking?
- How did you feel about the incident?
Please try to recall an occasion in which you used a library and came away with feelings that could be remembered as NEGATIVE (could be current school library, a previous school, university, college, local library, etc.)
- What were you looking for?
- Did you come away with what you were seeking?
- How did you feel about the incident?
Please try to recall an occasion in which you used the services of a librarian and came away with feelings that could be remembered as NEGATIVE.
- What were you looking for?
- Did you come away with what you were seeking?
- How did you feel about the incident?

Focus Area: The Ideal Library – your ‘wish-list”
If you had an unlimited budget, what are some of the things that you would like to see in your vision of the ‘ideal’ school library?

NB. These questions were used as guidelines only.
Appendix C

Stages Of Data Processing Before & After Analysis With Nvivo® Software

Contents:

C1: Examples of notes taken during interviews
C2: Guidelines for transcription, as established with the transcriber
C3: Process developed for preparing interview data for coding in Nvivo®
C4: Section of interview with “Susan” – from “raw” transcript, unedited
C5: Section of interview with “Susan” – data retrieved from NVivo®
C6: Section of interview with “Susan” – data analysed and prepared for integration
C7: Evidence describing a preference for a ‘quiet library’
As well as taping the interviews, the researcher recorded the following types of notes:

a) **Handwritten field notes taken at time of interview.**

The following is an example of the page of notes taken during Jason’s (TA-RS) interview, with identifying details removed:
b) **Typing up of notes, post-interview:**
These handwritten notes taken during Jason’s interview were typed up into MS Word file format and annotated to enhance the researcher’s understanding, while context was fresh. Identifying characteristics were removed to preserve confidentiality.

c) **Further review of notes:**
During processing and analysis of Jason’s interview transcript, the typed notes were reviewed in the light of the transcript, further annotated (if necessary), marked with the date of interview and converted to .rtf file format, for insertion into NVivo®. The following is an example of such annotations:

<table>
<thead>
<tr>
<th>Example of post tape analysis:- &lt;Jason&gt;, interviewed 25/10/04:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information seeking for pleasure:</strong>– “I get pleasure from seeking information – the searching process, as opposed to the mere result. It’s a personality factor”.</td>
</tr>
<tr>
<td><strong>Helpfulness and friendliness of the library staff</strong> (e.g., &lt;Peta&gt;, from AV) is a positive feature:- “the positive vibes increase with the re-visits”. Commented that here the female library staff engaged in “social banter which some may consider time wasting, but here has a social purpose”. Noted that “Monday morning solution” “only possible due to prior professional relationship built up with library staff”, which “overarches all personal constructs”. &lt;Miranda&gt; helpful for seeking out and ordering hard to find books from overseas suppliers for extension classes; &lt;Caroline&gt; for “tracking down information on the internet,” after being given a key list.</td>
</tr>
<tr>
<td><strong>Mixed gender environment</strong> facilitates collaboration and “sense of collegiality”:- “An all male working environment tends to be hierarchical. Where I worked previously, men on staff didn’t like to ask questions, maybe fearing that this demonstrated ignorance and lack of control”. “Feeling secure in one’s own department – within one’s own job, is very significant … The working environment at &lt;Alpha school&gt; is a haven of calm and security”.</td>
</tr>
</tbody>
</table>
| **Ideal school library:**- “a communication think-tank and ideas melting pot, with a nice feel and welcoming environment”.

308
d) **Within NVivo®:**

These field notes were linked to the relevant sections of the transcript to retain context. Further comments or observations were added in NVivo® as ‘memos’, if required, as with the following example from Jason’s interview, referring to issues relating to working in an all-male environment:

```
11: “An all male working environment tends to be hierarchical. Where I worked previously, men on staff didn’t like to ask questions, maybe fearing that this demonstrated ignorance and lack of control”.
```
C2: Guidelines for Transcription, as Established with the Transcriber

- Email of transcribed interviews to be in .doc and .rtf formats.
- Arial font in size 14.
- Use of a header to indicate interviewee and interview date, and a footer to indicate page count.
- Ellipses used to signify a pause in speech or unfinished word or sentence, e.g., ‘....’.
- Bracketed dots used to signify a passage that the transcriber was unable to decipher, e.g., ‘[...]’.
- Use of empty square brackets for a passage which is unclear to the transcriber, but an interpretation can reasonably be ventured, e.g., [ ].
- Concluding question marks used when transcriber is unfamiliar with a word or phrase, e.g. Spidess???? Catalogue
INFORMATION-SEEKING PREFERENCES: TEACHERS

C3: Process Developed for Preparing Interview Data for Coding in NVivo®

a) Receive transcriptions of interviews via email
   1) Collate all emailed files (sent in RTF version after initial problems with compatibility of Word file versions between transcriber’s and researcher’s computers) and save into “RAW” folder.
   2) From RAW folder, open RTF versions in Word, then Save As .doc files.

b) DOC files
   1) Copy all doc files in RAW folder into “Transcribed” folder.
   2) For each file:
      3) Rename with Alias_ instead of JB_.
      4) Edit each, removing spurious characters, grunting, corroborations, vocal blocks; correcting spelling, etc.
      5) Change refs of ‘net’ or ‘internet’ to ‘Internet’
      6) Change all names to aliases / generics (including identifying suburb, schools, etc.)
      7) Change heading to <school ID letter>: <ALIAS> [<Subject>] <interview date>
      8) Insert Qn: 1 – <Chapter titles> in front of Questions
      9) Shrink right margin to 12.0
     10) Save As:- RTF file into Transcribed folder,

c) RTF files
   1) Copy all amended RTF files in Transcribed folder into NVivo®_Ready folder.
   2) Add School ID name and removing interviewee name from file name.
   3) For each file if needed:-(only for Alpha RTFs)
      • Find_Replace Names with “p”pNames (to reintroduce paragraph breaks)

d) Import into NVivo®
   1) Import one record as a test case, on which to create initial coding
   2) Set title to be H1, if not already
   3) Introduce section coding for Topic Questions – set at H2
   4) Ditto for Alias names to be H3 if relevant comments re. Question
   5) Create SETS for each type of school, subject, gender and age
   6) Create attributes for documents
   7) Node coding:-
      a. Create Tree node for questions: (address 10)
         i. Select Code Documents by Section
      b. Create Tree nodes for topics
      c. Create Free nodes (via Search) for mediator names
INFORMATION-SEEKING PREFERENCES: TEACHERS

C4: Section of Interview with “Susan” – from “Raw” Transcript, Unedited

NB. At this stage, pseudonym has not been applied, so for publication here, the name of the participant has been replaced by “XXXX”’s and any librarian’s name by “YYYY”’s.

XXXXXXX - And we did acquire a bit of stuff on the net. Um, and one of the research assignments that we set them on, we set the students on the Red Guard, um, they actually did, um, largely from the net. Um, and, um, oh and also looking at Chinese propaganda and so on. All that, that kind of came into the Red Guard.

Julia - Hmm.

XXXXXXX - Um, we did that on the net as well. And, we actually asked, um, the [librarian] ‘...’. I don’t even know, what, what, was after you’d gone I think maybe. Now I can’t remember ‘...’.

Julia - Yes, I don’t remember the Cultural Revolution.

XXXXXXX - We normally ask, um ‘...’.

Julia - We did the First Emperor, when I was here.

XXXXXXX - Hmm.

Julia - And we had the students building up their topical interest areas on the laptops.

XXXXXXX - Hmm. Hmm. Hmm.

Julia - And some very exciting projects.

XXXXXXX - Hmm. Hmm.

Julia - And ah, it was just, the year I’d left that, um, I came back and helped you at the Power House, remember that?

XXXXXXX - Hmm. That’s right. That’s right.

Julia - As the girls were doing their presentations. So ‘...’.

XXXXXXX - Yeah, yeah, that was Year 9.

Julia - Yes.

XXXXXXX - So I think we may have asked somebody like YYYYY, 

Julia - Hmm Hmm.

XXXXXXX - and I can’t remember. To actually search out some sites for us.

Julia - Hmm hmmm.

XXXXXXX - Um, for the, ah, for the Cultural Revolution and particularly for the Red Guard. But the girls found more themselves,

Julia - Hmm.

XXXXXXX - um, and so we had some stuff bookmarked on the intranet, but the girls, um, they, they, they’re really good at advanced searches and that sort of thing.

Julia - Hmm.

XXXXXXX - You know, better than we are. Um, so they got in and found quite a lot of stuff, um, themselves. And since it was a piece, since it was something that was basically dealing with propaganda, it didn’t matter that they were getting into sites that were just pure propaganda.

Julia - Hmm. Hmm.
INFORMATION-SEEKING PREFERENCES: TEACHERS

XXXXXXX - Because that was the whole, point. Um, but, you, you know where it’s a danger, is where they get into sites that are pure propaganda and they take it as gospel.
In this example, the category focus “Most preferred places – Internet” centres on Susan’s preference for using the Internet with her classes, as a location for information considered by Susan to be most appropriate for the specific research task. Two sections of the interview have been tagged as relevant to this category:

13: Susan - And we did acquire a bit of stuff on the Internet. And one of the research assignments that we set them on, we set the students on the Red Guard, they actually did, largely from the Internet. And, oh and also looking at Chinese propaganda and so on. All that, that kind of came into the Red Guard.

21: But the girls found more themselves, and so we had some stuff bookmarked on the intranet, but the girls, they, they, they’re really good at advanced searches and that sort of thing. You know, better than we are. so they got in and found quite a lot of stuff, themselves. And since it was a piece, since it was something that was basically dealing with propaganda, it didn’t matter that they were getting into sites that were just pure propaganda. Because that was the whole, point. But, you, you know where it’s a danger, is where they get into sites that are pure propaganda and they take it as gospel.
Susan, the senior history teacher at Alpha, found the internet a valuable source for preparation for a topic on the Cultural Revolution, but is also aware of some of the problems inherent in the credibility and authenticity of information from the Net, especially when the students strayed away from the sites that had been bookmarked for them: “We did acquire a bit of [information via] the Internet. And one of the research assignments that we set we set the students on the Red Guard, they actually [completed] largely from the Internet. And also looking at Chinese propaganda and so on”, which came up on the Internet as an unintended consequence of the searches relating to the Red Guard. “But the girls found more themselves, and so we had some stuff bookmarked on the intranet. But the girls, [are] really good at advanced searches and that sort of thing – you know, better than we are – got in and found quite a lot of stuff by themselves. And since it was a [unit of research] that was basically dealing with propaganda, it didn’t matter that they were getting into sites that were just pure propaganda. Because that was the whole, point. But the danger is where they get into sites that are pure propaganda and they take it as gospel.”

It was evident that Susan found the Internet a location that she preferred to use with a class of students, rather than as the preferred location for researching the topic herself.
C7: Evidence to Support a Strong Preference for a ‘Quiet Library’

Analysis of the data using NVivo® permitted the recognition of new categories that emerged from the data, as well as the identification and linking of recognised node attributes. The following is a version of the NVivo® node coding report for the emerging category that was allocated the label “Library Canon”, used to tag expressions of preference for a quiet library environment. This version has been abbreviated and edited for purposes of clarity.

NODE CODING REPORT
Text Search: text matching the pattern ‘canon’
Result is a node coding all the finds: (3 2 9) /Motivators/P_Cognitive/P_Canon (n)
Document finds are spread to enclosing paragraphs. Node finds are spread to enclosing paragraphs.

306: Christopher – And, and they’ll get stuff. So, so they have no problem with that. And the Year 12s and things I think have grown out of some of their girls’ world stuff, and are moving into you know, being more focused instead of on their relationships to be actually focused on their studies. And I think you know, you actually see some of the girls that may not have come to the library in younger years and studying in the Year 11s and 12s it becomes, you know it is a quiet place. It is a haven.

307:

65: David – I think, I think libraries by their nature are very effective for quiet sort of learning. Whether it’s using library resources or not, I think libraries are places that are quiet. I think that’s really conducive to being able to sort of concentrate and to be able to effectively assimilate whatever you’re doing.

66:

73: David – Well I don’t need to here, but I can escape in my own little, little area. But, if my area wasn’t suitable, I think I’d use the library for that purpose as well. I think, when thinking about University stuff, Masters Degrees and stuff like that where I thought the library was a great place to go because it was always somewhere quiet, unlike at home where you’d be interrupted with things. You could always go and work quietly in the library and that’s because the nature of libraries and you can, you can sort of focus on what you’re doing rather than all the distractions.

74:

167: Matthew – I think to me, a Library is a quiet place, and I think that’s helpful. There’s a lot of distractions. If I’m in my staff room working which is where I do most of my work, there are always distractions. The phone is a major problem for me. Incoming calls as well as outgoing and who I’ve got to speak to. and there are other things happening, so I think the Library for me is a positive place in that there are resources there at my fingertips. There are people who can help me if I need to be helped. But it’s also a place where I can
almost hide.

168:

223: Matthew – I can’t really think of a negative at the moment because I think the, it’s almost universal, the rules of a Library. That you’re quiet, there’s work there for you, if you need help try and get help. If for some reason I didn’t get help, well that would be a negative. But I can’t think of, I can’t of one at the moment.

224:

228: William – Oh just I don’t know. I just ‘...’. I don’t know, College it was always good to go and, it, there was always somewhere quiet to go and study and so towards the end I did actually find the Library, I think in the last six months of being at Uni., I sort of went and just locked myself in, like the little study areas that you go to, and stay and go, go down there all day and that was good.

229:

343: William – Oh the feeling that they’re being watched. That you know, you sit in the Library, I mean it’s supposed to be, you’re supposed to be able to go there for peace and quiet sometimes and you’ve got ‘...’.

344:

322: Donna – But some Libraries that have moved from where they were, like [a local library] moved from where it was which was a very small environment to a much larger environment, has a much, you know better lighting now. Some of the books could be upgraded. But it does have a section that is a, a quiet section where people can work quietly and I think that’s important. I also think it would be good if there was space for there to be rooms for discussion. So the basic Library area ‘...’.

323:

Researcher’s notes: -

1: Contradiction / Issue - Donna is one of several teachers who have firm views on what are the appropriate attributes of a library or librarian. It is as if there is an accepted, but unofficial standard on what is Canon or non-Canon.

2: Librarians can venture outside the perimeters of the Canon, as long as the basics of the Canon are observed.

144: Nancy – Well the first Library that I ever knew as a child was in the most gorgeous old colonial American house. And it was run by two maiden ladies. Oh that’s what they were called. Now I can’t remember their names, but, I loved the smell of it because it smelled of, I didn’t know it was called potpourri there but they made their own. And it had lots of books and it was really quiet[1] because, as a child grew up in a family of four girls, and two of them weren’t readers and they were very noisy people. I really enjoyed that quiet aspect of a Library. So that was a really positive thing. Just the quietness of a Library. And the fact that you had so much choice. I love Libraries that have heaps of choice and they, they don’t set books out on display that ‘...’.

145:

[1] Researcher’s notes: -
INFORMATION-SEEKING PREFERENCES: TEACHERS

Internal DB: A particular scent made this library memorably positive to Nancy, along with the books and the quietness.

156: Nancy – I can understand reference books of course, but ‘...’. So yeah, other positive as ‘...’, aspects of Library. Oh there’s so many of them. Like Libraries that you can go ‘...’. I think Libraries are like Church’s in cities. You can go there and sit quietly on your own and nobody questions that you’re on your own. In this world that you’re supposed be an individual but also be with other people all the time. You know there’s this weird dichotomy that we run in our society[2], So yeah I think that they, they’re places that ‘...’. And in School, I think they, I think it’s lovely to see kids in Year, in Year 7 and 8 be Library Monitors. The little quiet kids that they get a bit scared at lunch time and they come and put books back for the Librarian, and they have their day to put them back and, they learn to, where everything is. And they’re kids that escape the playground. I think Libraries are nice like that for, especially for our Junior kids.

157:

[2] Researcher’s notes: -
Internal DB: Another element of the Library Canon – the quiet library where one can escape into solitude.

165: Nancy – I really do think that if you’ve got a big enough Library you can have room for the story telling and all that kind of stuff. And somebody reading a story. But in School Libraries particularly they just don’t have those kind of rooms. So what they’re trying to do is put the new ideas of having a lot of things going on in a Library in a Library that’s still the Library that was built for individual work, for Librarians quietly helping, for students working on their own. That’s what I think about it. Like you get, I mean I’ve been in Libraries where they’re, where they’re making posters and you know nobody’s quiet when they’re making a poster. And they say well, “that it’s all about books.” And you say well, “take it to a class room or something, I’m trying to find something for a Senior student.” And you know, that kind of thing.

166:

1: Researcher’s notes: -
Interesting – Nancy has strong views on what constitutes Library Canonical behaviour – a quiet place for working and solitude is a high priority. Quietness is an overriding theme of the ideal library of her youth. In this section of the interview, Nancy appears to blame the librarian for violating the Canon, even though this type of library use may be ‘popular’ with students or other teachers.
INFORMATION-SEEKING PREFERENCES: TEACHERS

Appendix D

Profiles: Three Independent Secondary Schools Involved in Both Stages of the Study

<table>
<thead>
<tr>
<th>School Profile (in Year of Survey)</th>
<th>Alpha, 2001</th>
<th>Beta, 2002</th>
<th>Gamma, 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households in postcode area with weekly incomes $ \geq $2000, as per 2001 census (ABS)</td>
<td>34%</td>
<td>15%</td>
<td>6%</td>
</tr>
<tr>
<td>Main language spoken at home, as per 2001 census (ABS)</td>
<td>English – 82.5%</td>
<td>English – 76.4%</td>
<td>English – 26%</td>
</tr>
<tr>
<td>Persons using a computer at home, as per 2001 census (ABS)</td>
<td>66%</td>
<td>44%</td>
<td>29%</td>
</tr>
<tr>
<td>Households with an internet connection, as per 2006 census (ABS) - 1st census data available</td>
<td>85%</td>
<td>68%</td>
<td>54%</td>
</tr>
<tr>
<td>Student population (secondary school)</td>
<td>c. 1400 students – single sex (female)</td>
<td>c. 500 students – co-educational</td>
<td>c. 320 students – co-educational</td>
</tr>
<tr>
<td>Total no. of teachers (secondary)</td>
<td>131 (including F/T &amp; P/T)</td>
<td>40 (including F/T &amp; P/T)</td>
<td>31 (including F/T &amp; P/T)</td>
</tr>
<tr>
<td>No. of respondents to survey</td>
<td>47</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>No. of qualified librarians employed in secondary school library at time of survey (excluding ancillary staff such as IT support and library assistants)</td>
<td>4 F/T (2 fully qualified TLs; 1 teacher commencing library training; 1 staffer – library qualifications only)</td>
<td>2 F/T TLs (1 TL also employed as ICT Coordinator i/c IT training)</td>
<td>0.5 F/T, dual qualified TL (only at school for 2.5 days per week)</td>
</tr>
<tr>
<td>No. of ancillary staff available as ‘library assistants’</td>
<td>4 F/T, 3 having library technician qualifications (2 devoted to the library AV/Print room services; 2 as general library assistants)</td>
<td>2 F/T (1 primarily in AV; 1 as general library assistant but with duties shared with Junior School Library)</td>
<td>1 F/T, all duties</td>
</tr>
<tr>
<td>No. of non-library staff available for IT support / training (shared with Junior School)</td>
<td>3 F/T (2 IT/laptop support; 1 IT/laptop training)</td>
<td>1.5 F/T (IT support only; NB. IT training via ICT Coordinator)</td>
<td>1 F/T, all duties</td>
</tr>
<tr>
<td>Approx. number of computers available for patron use, in senior library area</td>
<td>&gt;150 laptop connection points, plus 4 PCs as library catalogues/word processing etc.</td>
<td>14 computers, plus 4 PCs as library catalogues. NB. These needed to be shared with Junior Library users, as required.</td>
<td>3 computers plus 1 PC as library catalogue</td>
</tr>
<tr>
<td>Official school laptop policy</td>
<td>Laptop program (commenced for students in primary Year 5) in its 7th year, during survey year 2001. Most teachers issued with laptop</td>
<td>No official laptop policy. Expansion of ICT facilities &amp; support commenced during survey year 2002</td>
<td>No laptop policy. Limited numbers of computers throughout school. ICT expansion commencing in survey year 2004</td>
</tr>
</tbody>
</table>
INFORMATION-SEEKING PREFERENCES: TEACHERS

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>No. of participants interviewed in-depth (qualitative) – c. 75% of all interviewees also completed survey</td>
<td>12</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Time lapse between survey and interview</td>
<td>3 years</td>
<td>3 years</td>
<td>1 year</td>
</tr>
</tbody>
</table>

Note. Figures for computer and/or Internet use were not directly comparable with the other figures from the Australian Bureau of Statistics (ABS), due to changes in the way data were collated in the 2001 and 2006 censuses.

Background: Alpha, Beta and Gamma Schools at the Time of the Survey

Alpha is a well-established college for girls, situated on Sydney’s North Shore. Its excellent facilities and strong academic ethos were reflected in the prominent position consistently maintained in the NSW Higher School Certificate (HSC) academic achievement lists. The Alpha school library had built up, over eight decades, an enviable print collection that was complemented by streamlined, online access to a cutting-edge suite of electronic resources; showcased in a two-storey, elegant, award-winning, fully ‘wired’ library complex that provided separate areas for classroom research activities, seminar rooms for small group work and quiet carrels for private study. Within the library, Alpha employed four full-time librarians, two of whom were teacher-librarians (TLs). In addition, four full-time ancillary staff were available as ‘library assistants’, three being qualified library technicians.

Beta school was a grammar school located on Sydney’s Northern Beaches, celebrating over a decade of co-education at the time of the survey. It also enjoyed the range of print and electronic resources available from a newly constructed, ‘wired’ library that was a combined junior/senior school facility. Although intended by the architects to be a private study area, the library’s mezzanine level remained largely under-utilised as a library space, due to the problems of ensuring adequate staff supervision. However, teachers could book this space for smaller classes and seminar groups. As the area available for senior library use was constrained both by a smaller floor space (i.e., only a quarter of the area available in the Alpha library) plus the necessity to share the area and relevant facilities with the junior school library, this impacted particularly on the range of print resources and the numbers of computer access points that could be made available, at any time, to senior classes in the library for ‘research lessons’. Fourteen desktop computers were available for individual use or could be booked by classes, plus an adjacent computer room with 31
INFORMATION-SEEKING PREFERENCES: TEACHERS

computers. This facility was planned to support online research activities under the auspices of the senior library, rather than being merely another ‘computer room’.
Unfortunately, due to architectural and design constraints, this room was not directly accessible from the library itself, but was located a short distance away. At the time of the survey, support and training for users of this facility was provided by a TL who had been employed specifically as the Information and Communications Technologies (ICT) Coordinator. Although not in the academic league of Alpha, Beta students consistently appeared on the HSC list of top performing schools in the local area. As can be seen from the preceding table, Beta was relatively well-resourced with library staff comprising two full-time TLs (one of whom was ICT Coordinator), plus two full-time library assistants who were split between the senior and junior school libraries.

Gamma school is a co-educational grammar school, established in the south west of Sydney over a decade before the survey. It also enjoyed the facilities of a senior library that was around 10 years old at the time. This library had been constructed as a multifunctional facility, being regularly used as a venue for student examinations, school meetings and social events, as well as a senior library and study facility. Due to the confined space available for fixtures such as shelving and desktop computers, only three of the latter were available at this time for staff or student use, while the basic shelving accommodated a ‘developing’ fiction collection, a small print reference section and a largely out-dated non-fiction section, located in separate zones which could accommodate either two booked classes, or one booked class and any senior students who came to the library for independent study periods. Teachers requiring class access to electronic information resources were obliged to compete for bookings for the single computer room, which, at the time of the survey, featured only 21 computers, located in a separate building some distance from the library. Despite the relatively modest resources and with a significantly lower academic profile than either Alpha or Beta schools, Gamma nevertheless featured a growing number of students listed on the annual HSC academic achievers’ list, including some who achieved first place in the state in their subject.
Appendix E

Questionnaire: Information Sources – Comments by Respondents

The following comments were contributed by teachers who responded to the relevant sections of the questionnaire, generally as a response to the option marked “Other”, or in the “Comments” field supplied.

The teachers’ comments are in italics, to distinguish them from the researcher’s contextualising remarks or paraphrasing. Schools are indicated by the following designation:-

AA – Alpha School
BB – Beta School
GG – Gamma School

The following tables contain the questionnaire comments relating to information resources, formats and locations, respectively.
### Table E1: Questionnaire Comments Relating to Interpersonal Information Resources

<table>
<thead>
<tr>
<th>Comment</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>“They (i.e., librarians) short circuit the time wasted in research by directing one to information”</td>
<td>AA</td>
</tr>
<tr>
<td>“If a teacher has the time to seek information, then I would rate the school librarian as Very Important”.</td>
<td>AA</td>
</tr>
<tr>
<td>“The preferences are related to time – these choices give the fastest access”</td>
<td>BB</td>
</tr>
<tr>
<td>To use resources other than their own expertise “is time wasting. When I rely on myself this doesn’t happen”.</td>
<td>GG</td>
</tr>
<tr>
<td>Voted collaboration with school librarian as very important but recognised “need to have the resources available before setting an assignment”.</td>
<td>GG</td>
</tr>
<tr>
<td>One male Geography teacher nominated “speaking with the librarian” as the most preferred format when seeking information.</td>
<td>AA</td>
</tr>
<tr>
<td>One teacher rated the services of the librarian as “Not very important, as there is not enough time to consult”.</td>
<td>AA</td>
</tr>
<tr>
<td>“The library staff are wonderful” ... “because their role is not limited to books – they assist students in learning research strategies”.</td>
<td>GG</td>
</tr>
<tr>
<td>“Librarians are in charge of information processes”</td>
<td>BB</td>
</tr>
<tr>
<td>“The school librarian is the corner stone of any school”</td>
<td>BB</td>
</tr>
<tr>
<td>“I find the school librarians an excellent point of contact to help with sources and advice on options for research assignments”, commented one respondent</td>
<td>BB</td>
</tr>
<tr>
<td>One teacher noted that “A good librarian helps in working out a pathfinder to the topic”.</td>
<td>AA</td>
</tr>
<tr>
<td>“Also important” noted one teacher who nominated videos as a preferred source of information, “are the video specialists, computer and internet specialists”.</td>
<td>AA</td>
</tr>
<tr>
<td>“The librarian is very important (only) when they understand what you are looking for and are able to access that information” added another respondent.</td>
<td>AA</td>
</tr>
<tr>
<td>Librarians were voted as Very Important, “but some are a great help, others are not”.</td>
<td>BB</td>
</tr>
<tr>
<td>“Some are more efficient and helpful than others”.</td>
<td>BB</td>
</tr>
<tr>
<td>The value of the school librarian “depends on the expertise and interest of the individual librarian”, noted one teacher.</td>
<td>BB</td>
</tr>
<tr>
<td>One history teacher noted that her most preferred source was her husband, criticizing “colleagues not from her school” as “lacking in interest and/or motivation”.</td>
<td>BB</td>
</tr>
<tr>
<td>For many teachers, the least preferred sources were colleagues from outside the school, viz. it is “Too difficult to find people who have the time to commit to another school”</td>
<td>BB</td>
</tr>
<tr>
<td>One English teacher commented that “ETA conferences ... are infrequent so I don’t use (the expert speakers as information sources) as much”.</td>
<td>BB</td>
</tr>
<tr>
<td>One history teacher noted that her most preferred source was her husband, criticising colleagues not from her school as “lacking in interest and/or motivation”.</td>
<td>BB</td>
</tr>
</tbody>
</table>
The self-confidence of the teacher was also seen to impact on the rating accorded the school librarian, with one teacher commenting that the latter was “Not as relevant if I have a good grip on the research task”. – BB

Again, the subject knowledge and skills of the individual librarian were considered significant in the rating of their relative importance to teachers. As one teacher explained, “The importance depends on the varying expertise of the individual librarian – some have particular skills relevant to particular projects” – AA

“It depends on the expertise and interest of the individual” librarian. – BB

While another added that librarians are “Only important if the librarian has an understanding of the subject and topic”. – AA

While comments on this aspect of collaboration were largely positive, some concern was expressed regarding the ability of the school librarian to laterally range over a sufficiently wide subject area to suit the collaborative needs of all teachers. “It is hard when the information (sources) are in (a foreign language) and the librarian is not familiar with the content and how suitable it is for students”, noted one younger (21-30) teacher, – GG

Others were more forthright in rejection of the concept of collaboration. “Some librarians are better suited to a specific KLA (and lack) the lateral thinking skills needed to brainstorm”, lamented one teacher. – GG

Another teacher stated plainly that they “would not consider using the librarian for brainstorming or as a collaborative partner unless they were a specialist librarian”. – GG

“I now know who to go to – she (i.e., the librarian) always will help and always finds information”. – AA

“An effective librarian marshals a range of resources appropriate to the area of study” [and] “is helpful, ‘user-friendly’, experienced, knowledgeable ...”. – BB

“They (i.e., librarians) educate me on the latest resources available ... [are] ...in touch with literature and technology [and]... have sources of information and suggestions at their fingertips”. – AA

“They are always reliable, helpful and I feel confident in their knowledge”. – AA

Librarians “must be approachable, incisive and useful” declared another. – AA

“Some librarians are more efficient and helpful than others”. – BB

“Some are a great help – but others are not”. – BB

“Librarians can often be more concerned with the ‘collection’ than with helping people”, reported one disgruntled teacher. – GG
### Table E2: Questionnaire Comments Relating to Information Formats

| Preferred books as “hands on – easier for me to take notes, etc.”. – GG |
| LOTE teacher voted the internet as “always the 1st source, (as it is) convenient, rapid, up to date with most recent information”. – AA |
| Internet used as convenience by maths teacher “to stay up to date with BOS etc. and also to research for the sake of research”. – AA |
| One music teacher commented on preferred sources:- “Most of what I use are the primary sources – the music or CD”. – BB |
| Sophisticated discrimination between preferred formats for different purposes:- One English / History teacher specified books as the preferred format for locating resources, then photocopies for collating and utilising the information therein. – BB; a maths teacher rated books as very important “good for mathematicians and other texts for reference”, while the internet was important as “good to keep up with what software (for mathematics) was available”. – GG |
| One science teacher’s shared preference for own resources, the internet and computer resources on CD ROM “very much related to ‘time’ to go out and get resources”. – BB |
| Another science teacher preferred to make copies of relevant sections of books and print off internet pages, “so I can piece them together”. – AA |
| Internet less dependable as “at this stage I’ve found some information incorrect and unreliable”. – GG |
| Some books are “very useful but usually not available in our school library (and are) too expensive to buy”. – AA computer studies teacher. |
| “Books are the most reliable resource, but they are not always available”. – AA history teacher. |
| “Using magazines / serials can be more time consuming when you don’t have a lot of time available”. – AA |
| TAS teacher least preferred magazines, as “not easy to collate and utilise”. – BB |
| Books & internet both seen as very important – Books: “tangible, edited, general high quality content, reliable source”, while internet “good for current / contemporary context and fringe issues”. – GG |
| Books deemed important as “information is precise and geared to the level of students but could be outdated”, while the internet “provides a variety of sources and it is easy to find current information”. – AA |
| Computer studies teacher found “web sites provide more current, relevant information”, but noted that they “always needed validation” – AA |
| Critical selection of internet sites for this computer studies teacher: “the URL will most likely validate authenticity of material. Always needs validation”. – AA |
| Science teacher preferred magazines and serials over books, as books were “very good for basic information but the research is usually out of date”. – AA |
| Books “good for an overview and as a first start”. – history teacher AA |
| One art teacher stated that she changed preferred sources according to the needs of the project, topic or student, rating the use of books as Very Important, viz. “Tangible, edited, general high quality content” & “reliable sources”; whereas the internet was noted as Very Important as “good for current / contemporary
### INFORMATION-SEEKING PREFERENCES: TEACHERS

<table>
<thead>
<tr>
<th>Teacher 50+</th>
<th>Appreciated different roles for books and the internet: - Books rated important, particularly “current books on critical theory and film studies are very important as background reading”, but the internet rated very important, - “vital – especially as most of the BOS information is being updated all the time”. – BB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books voted very important by female LOTE teacher – “Books are very useful when the information needed is not dated. If information on current trends is needed, then the internet can be invaluable”. – BB</td>
<td></td>
</tr>
<tr>
<td>“Some internet sites are junk”. – highly qualified GG science teacher</td>
<td></td>
</tr>
<tr>
<td>Books “usually printed too long ago to be relevant” to a computer studies teacher. – AA</td>
<td></td>
</tr>
<tr>
<td>The internet is “useful for more recent material but reliability is much more of a problem”. – AA history teacher</td>
<td></td>
</tr>
<tr>
<td>One teacher said of the internet, “There is obviously a wealth of good information out there – it just takes a long time for me to find anything”. – AA</td>
<td></td>
</tr>
<tr>
<td>Internet rated as not very important by LOTE teacher – “I don’t use it at all but the students are free to do so”. – BB</td>
<td></td>
</tr>
<tr>
<td>Books preferred because “I like to read” – GG</td>
<td></td>
</tr>
<tr>
<td>Geography teacher preferred videos as a teaching aid – AA</td>
<td></td>
</tr>
<tr>
<td>One male Geography teacher nominated “speaking with the librarian” as the most preferred format when seeking information. – AA</td>
<td></td>
</tr>
<tr>
<td>Prefers books, as “more familiar with this method – technology often frustrating”. – AA</td>
<td></td>
</tr>
<tr>
<td>English teacher stated: “(Books) are a pleasure to work with. I enjoy the feel and structure of books”. GG</td>
<td></td>
</tr>
<tr>
<td>Art teacher added the emotions “Pleasure” &amp; “order” to those associated with the use of books. – GG</td>
<td></td>
</tr>
<tr>
<td>“If I don’t like a source, I don’t use it at all”. – AA</td>
<td></td>
</tr>
<tr>
<td>One teacher voted the internet the least preferred, as “it is hard to find information”. – BB.</td>
<td></td>
</tr>
<tr>
<td>Another LOTE teacher stated that the internet was “too frustrating and time consuming”, preferring “books and photocopies”. – AA</td>
<td></td>
</tr>
<tr>
<td>Rated internet as important, but with proviso “I do not have enough confidence with it; I often find it slow and frustrating”. – AA</td>
<td></td>
</tr>
<tr>
<td>One young (21–30) teacher rated internet as least preferred, as “I usually can’t find what I’m looking for and if I do, it is very brief and not necessarily written by experts”. – GG</td>
<td></td>
</tr>
<tr>
<td>English teacher was frustrated with lists of hits retrieved from the internet: “There are usually so many of them and it’s impossible to know which will be useful. It takes ages to trawl through them when refined search options are exhausted”. – GG</td>
<td></td>
</tr>
<tr>
<td>Art teacher added “Dispassionate, alienated and removed” to the list of negative emotions associated with the use of electronic indexes. – GG</td>
<td></td>
</tr>
</tbody>
</table>
### Table E3: Questionnaire Comments Relating to Information Locations

<table>
<thead>
<tr>
<th>Comment</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>School library is &quot;Vitally important, as it is convenient and well equipped&quot;</td>
<td>AA</td>
</tr>
<tr>
<td>School library important as “library holds a diverse range of extremely useful resources”</td>
<td>AA</td>
</tr>
<tr>
<td>School library Very Important as I can “usually find information either ‘printed’ or pointers to internet information of a relevant nature” (i.e. intranet-based pathfinders)</td>
<td>AA</td>
</tr>
<tr>
<td>School library important as “it has a good collection of up-to-date information in journals etc. relevant to my subject area”</td>
<td>AA</td>
</tr>
<tr>
<td>School library is very important because it is “close by, easily accessible and (one of the librarians) is very approachable”</td>
<td>AA</td>
</tr>
<tr>
<td>School library “great for research tasks for students, and for the video collection ” but no mention of use for teacher</td>
<td>AA</td>
</tr>
<tr>
<td>The school library is very important “for information not kept/ not obtainable by the individual”.</td>
<td>AA</td>
</tr>
<tr>
<td>School library very important – “Vital – especially for the ETA publications, specialist publications and video collections”.</td>
<td>BB</td>
</tr>
<tr>
<td>School library seen as “VITAL – convenient and well equipped”.</td>
<td>AA</td>
</tr>
<tr>
<td>“As the collection is improving” the school library “is becoming more important”.</td>
<td>AA</td>
</tr>
<tr>
<td>The school library’s modest but intact collection of newspapers was considered to be of use to one teacher, who used them because of the perceived lack of an “accessible, internet-based repository of feature stories from major newspapers ... I tend to rely on the school library as a source of these feature stories”.</td>
<td>GG</td>
</tr>
<tr>
<td>Another criticised their school library as being “poorly resourced, (requiring them to) use the Sydney University library occasionally” – a further encroachment on their time.</td>
<td>GG</td>
</tr>
<tr>
<td>Another teacher named the university library as Least Preferred, as it was deemed to be “too time consuming” to visit.</td>
<td>GG</td>
</tr>
<tr>
<td>School library seen as not very important as the resources “are often out of date”.</td>
<td>AA</td>
</tr>
<tr>
<td>The local library was criticised by one teacher as being “so limited, (with resources) missing or destroyed”.</td>
<td>GG</td>
</tr>
<tr>
<td>“I rely almost entirely on the library keeping up-to-date with the latest resources and new materials”.</td>
<td>AA</td>
</tr>
<tr>
<td>“Always my first port of call” – AA</td>
<td>AA</td>
</tr>
<tr>
<td>Important – as “students spend time researching in the library” for their once a year assignment for LOTE subject.</td>
<td>BB</td>
</tr>
<tr>
<td>School library voted Very Important:- “Student need an initial source which is readily available to them and which will give them the basic knowledge to branch out and to use resources elsewhere. It is good if it is in the school as they can also use staff expertise and advice”.</td>
<td>BB</td>
</tr>
<tr>
<td>Furthermore, the school library “is very important as it is the link between the task and the student”.</td>
<td>GG</td>
</tr>
</tbody>
</table>
School library less likely to be used by computer studies teacher in comparison to internet, as “most research that I do would be on new and emerging technologies and I know how and where to search for relevant information”. – AA

School library voted ‘not very important’, “unless a research task for students. Then it becomes very important”. – BB

Importance of the school library “does vary with the project and the outcomes being targeted”. – AA

School library not very important to a computer studies teacher, as “most research that I do would be on new and emerging technologies and I know how and where to search (on the internet) for relevant information”. – AA

“I would count (one of the librarians) as my resource – I don’t like to use the library” – AA

NB. One teacher who named the school library as the “Least Preferred” information place, nevertheless named the library as Important for students to use, but not for this teacher. – AA
## Appendix F

### Interview Component: Pseudonyms of Teachers and Library Staff

#### F1: Pseudonyms of Teachers

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Major Subject</th>
<th>Age Decile</th>
<th>Gender</th>
<th>Duration (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy (TA-CS)</td>
<td>Computer Studies</td>
<td>30s</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Barbara (TB-S)</td>
<td>Science</td>
<td>50+</td>
<td>F</td>
<td>20</td>
</tr>
<tr>
<td>Christopher (TA-RS)</td>
<td>Religious Studies</td>
<td>30s</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Cynthia (TG-E)</td>
<td>English</td>
<td>50+</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>David (TA-S)</td>
<td>Science</td>
<td>40s</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Deborah (TA-E)</td>
<td>English</td>
<td>50+</td>
<td>F</td>
<td>20</td>
</tr>
<tr>
<td>Donna (TG-H)</td>
<td>History</td>
<td>50+</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>James (TB-RS)</td>
<td>Religious Studies</td>
<td>50+</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Jason (TA-RS)</td>
<td>Religious Studies</td>
<td>30s</td>
<td>M</td>
<td>90</td>
</tr>
<tr>
<td>Jennifer (TA-S)</td>
<td>Science</td>
<td>30s</td>
<td>F</td>
<td>20</td>
</tr>
<tr>
<td>Jessica (TG-E)</td>
<td>English</td>
<td>20s</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Joshua (TG-E)</td>
<td>English</td>
<td>20s</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Karen (TB-E)</td>
<td>English</td>
<td>50+</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Linda (TA-CS)</td>
<td>Computer Studies</td>
<td>50+</td>
<td>F</td>
<td>45</td>
</tr>
<tr>
<td>Lisa (TA-H)</td>
<td>History</td>
<td>40s</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Mary (TA-S)</td>
<td>Science</td>
<td>50+</td>
<td>F</td>
<td>40</td>
</tr>
<tr>
<td>Matthew (TB-PD)</td>
<td>PDHPE</td>
<td>30s</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Melissa (TB-S)</td>
<td>Science</td>
<td>30s</td>
<td>F</td>
<td>20</td>
</tr>
<tr>
<td>Michael (TG-S)</td>
<td>Science</td>
<td>50+</td>
<td>M</td>
<td>30</td>
</tr>
<tr>
<td>Michelle (TB-E)</td>
<td>English</td>
<td>40s</td>
<td>F</td>
<td>40</td>
</tr>
<tr>
<td>Nancy (TG-H)</td>
<td>History</td>
<td>50+</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Patricia (TA-S)</td>
<td>Science</td>
<td>40s</td>
<td>F</td>
<td>45</td>
</tr>
<tr>
<td>Robert (TA-RS)</td>
<td>Religious Studies</td>
<td>50+</td>
<td>M</td>
<td>40</td>
</tr>
<tr>
<td>Stephanie (TG-LOTE)</td>
<td>LOTE</td>
<td>20s</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>Stephen (TG-H)</td>
<td>History</td>
<td>40s</td>
<td>M</td>
<td>40</td>
</tr>
<tr>
<td>Susan (TA-H)</td>
<td>History</td>
<td>50+</td>
<td>F</td>
<td>30</td>
</tr>
<tr>
<td>William (TB-G)</td>
<td>Geography</td>
<td>30s</td>
<td>M</td>
<td>20</td>
</tr>
</tbody>
</table>

*Brackets following the pseudonym indicate role within the school (e.g. T=teacher) the school at time of interview (e.g. A, B or G), followed by subject area chosen as primary focus (viz. "critical incident") for interview (e.g. CS=computer studies).*
F2: Subject Area Chosen by Participants for Research Task Focus – All Schools

<table>
<thead>
<tr>
<th>Subject area chosen by participants for research task focus</th>
<th>No. of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>7</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>History</td>
<td>5</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>4</td>
</tr>
<tr>
<td>Computer Studies</td>
<td>2</td>
</tr>
<tr>
<td>Geography</td>
<td>1</td>
</tr>
<tr>
<td>LOTE</td>
<td>1</td>
</tr>
<tr>
<td>PDHPE</td>
<td>1</td>
</tr>
</tbody>
</table>
**F3: Pseudonyms of Library and Support Staff Mentioned in Interviews**

<table>
<thead>
<tr>
<th>Library and support staff</th>
<th>Professional qualifications / Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide (CS-T)</td>
<td>Computer Support / Teacher</td>
</tr>
<tr>
<td>Beverley (L-TL-Unkn)</td>
<td>Teacher-librarian at a different school</td>
</tr>
<tr>
<td>Bill (CS-T)</td>
<td>Computer Support / Teacher</td>
</tr>
<tr>
<td>Caroline (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>Cassandra (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>Charles (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>Claire (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>Emma (L-A/LTech)</td>
<td>Library Assistant (Lib. Technician)</td>
</tr>
<tr>
<td>Geraldine (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
<tr>
<td>Leanne (L-A/LTech)</td>
<td>Library Assistant (Lib. Technician)</td>
</tr>
<tr>
<td>Louise (L-A)</td>
<td>Library Assistant</td>
</tr>
<tr>
<td>Lucy (L-TL-Unkn)</td>
<td>Teacher-librarian at a different school</td>
</tr>
<tr>
<td>Marguerite (L-TL-Unkn)</td>
<td>Teacher-librarian at a different school</td>
</tr>
<tr>
<td>Maurice (CS)</td>
<td>Computer Support</td>
</tr>
<tr>
<td>Miranda (L-L)</td>
<td>Librarian</td>
</tr>
<tr>
<td>Nicola (L-A)</td>
<td>Library Assistant</td>
</tr>
<tr>
<td>Peta (L-A/LTech)</td>
<td>Library Assistant (Lib. Technician)</td>
</tr>
<tr>
<td>Sylvie (L-L)</td>
<td>Librarian</td>
</tr>
<tr>
<td>Valerie (L-TL)</td>
<td>Teacher-librarian</td>
</tr>
</tbody>
</table>

*Brackets following the pseudonym indicate relevant school department in which staff member was employed (i.e. L=library; CS=IT department), followed by qualifications/training. (L-TL-Unkn) =a teacher-librarian, not from Alpha, Beta or Gamma schools.*
Appendix G

Analysis of Interview Data - Examples of NVivo® (Tree) Nodes

G1: Samples from a List of Emergent Motivators and Deterrents

<table>
<thead>
<tr>
<th>Situational</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Time - saves time</td>
<td>Time - insufficient</td>
</tr>
<tr>
<td></td>
<td>Access - easy</td>
<td>Access - inadequate</td>
</tr>
<tr>
<td></td>
<td>Access - fast</td>
<td>Access - slow</td>
</tr>
<tr>
<td></td>
<td>Physical features fac - facilities :Y</td>
<td>Physical features fac - facilities :N</td>
</tr>
<tr>
<td></td>
<td>Physical features con - content :Y</td>
<td>Physical features con - content :N</td>
</tr>
<tr>
<td></td>
<td>Service - delivered :Y</td>
<td>Service - delivered :N</td>
</tr>
<tr>
<td></td>
<td>Environmental features - quiet</td>
<td>Environmental features - disruptive</td>
</tr>
<tr>
<td></td>
<td>Environmental features - orderliness</td>
<td>Environmental features - untidiness</td>
</tr>
<tr>
<td></td>
<td>Environmental features - clean</td>
<td>Environmental features - dirt</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualificns /accreditation</td>
<td>qualified L</td>
</tr>
<tr>
<td>Qualificns /accreditation</td>
<td>qualified T</td>
</tr>
<tr>
<td>Qualificns /accreditation</td>
<td>subj expt</td>
</tr>
<tr>
<td>Role / scope</td>
<td>appropriate</td>
</tr>
<tr>
<td>Role / scope</td>
<td>adaptable</td>
</tr>
<tr>
<td>Role / scope</td>
<td>right amount</td>
</tr>
<tr>
<td>Role / scope</td>
<td>right skills</td>
</tr>
<tr>
<td>Role / scope</td>
<td>peer</td>
</tr>
<tr>
<td>Role / scope</td>
<td>classroom ex</td>
</tr>
<tr>
<td>Role / scope</td>
<td>prof expert</td>
</tr>
<tr>
<td>Role / scope</td>
<td>clear role</td>
</tr>
<tr>
<td>Role / scope</td>
<td>discourse: Y</td>
</tr>
</tbody>
</table>
INFORMATION-SEEKING PREFERENCES: TEACHERS

- Role / scope - work as team
- Role / scope - pos. attitude
- Negative - Qualifcn /accreditn - inappropriate
- Role / scope - inappropriate
- Role / scope - excessive
- Role / scope - insufficient
- Role / scope - lacking skills
- Role / scope - adaptable: N
- Role / scope - peer: N
- Role / scope - classroom ex: N
- Role / scope - prof expert: N
- Role / scope - role conflict
- Role / scope - discourse: N
- Role / scope - team discord
- Role / scope - neg. attitude

Affective

- Positive - Ambience
- Confidence
- Competence
- Comfortable
- Empowerment
- Excitement
- Familiarity
- Fulfilment
- Gratification
- In control
- Independence
- Optimism
- Ownership
- Relief
- Respect
- Satisfaction
- Self-worth
- Value added

- Negative - Alienation
- Anxiety
- Confusion
- Demarcation dispute
- Dependence
- Disappointment
- Discomfort
- Disempowerment
- Dissatisfaction
- Doubt
- Fear of exposing inner self
- Fear of seeming stupid
- Frustration
- Loss of assets

333
- Loss of control
- Overwhelmed
- Revulsion
- Threatened
INFORMATION-SEEKING PREFERENCES: TEACHERS

G2: NVivo® (Tree) Nodes Forming Emergent Themes and Categories

Nodes relating to themes &/or categories account for 94 nodes. The remainder relate to interview focus questions or names of teachers and library staff.

NVivo® revision 2.0.161
Project: Info_Prefs1 User: Administrator Date: 6/10/2008 - 10:23:07 AM

NODE LISTING

Nodes in Set: All Tree Nodes
Created: 7/10/2007 - 12:28:52 PM
Modified: 7/10/2007 - 12:28:52 PM
Number of Nodes: 130
1 (1) /Most Preferred
2 (1 1) /Most Preferred/M_People
3 (1 1 1) /Most Preferred/M_People/M_People_Self
4 (1 1 2) /Most Preferred/M_People/M_People_Mediators
5 (1 1 2 1) /Most Preferred/M_People/M_People_Mediators/M_Pe_Med_Formal
6 (1 1 2 2) /Most Preferred/M_People/M_People_Mediators/M_Pe_Med_Informal
7 (1 2) /Most Preferred/M_Places
8 (1 2 1) /Most Preferred/M_Places/M_Places_Self
9 (1 2 2) /Most Preferred/M_Places/M_PI_Dept Collection
10 (1 2 3) /Most Preferred/M_Places/M_PI_Library
11 (1 2 4) /Most Preferred/M_Places/M_PI_Internet
12 (1 2 5) /Most Preferred/M_Places/M_PI_Other
13 (1 3) /Most Preferred/M_Formats
14 (1 3 1) /Most Preferred/M_Formats/M_For_Paper
15 (1 3 1 1) /Most Preferred/M_Formats/M_For_Paper/M_For_Books
16 (1 3 1 2) /Most Preferred/M_Formats/M_For_Paper/M_For_Notes ~Clippings
17 (1 3 1 3) /Most Preferred/M_Formats/M_For_Paper/M_For_Magazines
18 (1 3 1 4) /Most Preferred/M_Formats/M_For_Paper/M_For_Pap_Other
19 (1 3 3) /Most Preferred/M_Formats/M_Personal
20 (1 3 3 1) /Most Preferred/M_Formats/M_Personal/M_Personal
21 (1 3 3 2) /Most Preferred/M_Formats/M_Personal/M_Personal
22 (1 3 3 3) /Most Preferred/M_Formats/M_Personal/M_Personal
23 (1 3 4) /Most Preferred/M_Formats/M_Personal
24 (1 4) /Most Preferred/M_First Choice
25 (1 4 1) /Most Preferred/M_First Choice/M_1st_For_self
26 (1 4 2) /Most Preferred/M_First Choice/M_1st_For_students
27 (2) /Least Preferred
28 (2 1) /Least Preferred/L_People
29 (2 1 1) /Least Preferred/L_People/L_Pe_Self
30 (2 1 2) /Least Preferred/L_People/L_Pe_Mediators
31 (2 1 2 1) /Least Preferred/L_People/L_Pe_Mediators/L_Pe_Med_Formal
32 (2 1 2 2) /Least Preferred/L_People/L_Pe_Mediators/L_Pe_Med_Informal
33 (2 2) /Least Preferred/L_Places
34 (2 2 1) /Least Preferred/L_Places/L_Pi_Self
35 (2 2 2) /Least Preferred/L_Places/L_Pi_Dept Collection
36 (2 2 3) /Least Preferred/L_Places/L_Pi_Library
37 (2 2 4) /Least Preferred/L_Places/L_Pi_Internet
INFORMATION-SEEKING PREFERENCES: TEACHERS
38
(2 2 5) /Least Preferred/L_Places/L_Pl_Other
39
(2 3) /Least Preferred/L_Formats
40
(2 3 1) /Least Preferred/L_Formats/L_For_Paper
41
(2 3 1 1) /Least Preferred/L_Formats/L_For_Paper/L_For_Books
42
(2 3 1 2) /Least Preferred/L_Formats/L_For_Paper/L_For_Notes ~ Clippings
43
(2 3 1 3) /Least Preferred/L_Formats/L_For_Paper/L_For_Magazines
44
(2 3 1 4) /Least Preferred/L_Formats/L_For_Paper/L_For_Pap__Other
45
(2 3 2) /Least Preferred/L_Formats/L_For_Computer
46
(2 3 2 1) /Least Preferred/L_Formats/L_For_Computer/L_For_Internet
47
(2 3 2 2) /Least Preferred/L_Formats/L_For_Computer/L_For_Library Catalog
48
(2 3 2 3) /Least Preferred/L_Formats/L_For_Computer/L_For_Com_Other
49
(2 3 3) /Least Preferred/L_Formats/L_Video
50
(2 4) /Least Preferred/Last Choice
51
(2 4 1) /Least Preferred/Last Choice/L_Zst_For self
52
(2 4 2) /Least Preferred/Last Choice/L_Zst_For students
53
(3) /Motivators
54
(3 1) /Motivators/P_Situational
55
(3 1 1) /Motivators/P_Situational/P_Time
56
(3 1 2) /Motivators/P_Situational/P_Access
57
(3 1 3) /Motivators/P_Situational/P_Physical features
58
(3 1 4) /Motivators/P_Situational/P_Service
59
(3 1 5) /Motivators/P_Situational/P_Environmental features
60
(3 2) /Motivators/P_Cognitive
61
(3 2 1) /Motivators/P_Cognitive/P_Qualifications ~ Accreditation
62
(3 2 2) /Motivators/P_Cognitive/P_Role ~ Scope
63
(3 2 9) /Motivators/P_Cognitive/P_Canon
Description:
Text Search: text matching the pattern 'canon'
Scope: { A_Amy_151104, A_Amy_151104 - Memo, A_Christopher_081104, A_Christopher_081104 Memo, A_Christopher_081104 - Memo 2, A_Christopher_081104 - Memo 3, A_Christopher_081104 Memo 4, A_David_161104, A_David_161104 - Memo, A_Deborah_161104, A_Jason_251004,
A_Linda_151104 - Memo 2, A_Linda_151104 - Memo 3, A_Lisa_161104, A_Lisa_161104 - Memo,
A_Mary_081104, A_Mary_081104 - Memo, A_Patricia_221104, A_Patricia_221104 - Memo,
A_Patricia_221104 - Memo 2, A_Robert_151104, A_Robert_151104 - Memo, A_Robert_151104 - Memo 2,
- Memo 6, A_Robert_151104 - Memo 7, A_Susan_161104, A_Susan_161104 - Memo, A_Susan_161104 Memo 2, A_Susan_161104 - Memo 3, A_Susan_161104 - Memo 4, AA_Field notes - Alpha,
B_Barbara_180405, B_Barbara_180405 - Memo, B_James_020505, B_James_020505 - Memo,
B_James_020505 - Memo 2, B_James_020505 - Memo 3, B_James_020505 - Memo 4, B_Karen_030505,
B_Matthew_020505 - Memo, B_Matthew_020505 - Memo 2, B_Matthew_020505 - Memo 3,
B_Matthew_020505 - Memo 4, B_Melissa_290305, B_Melissa_290305 - Memo, B_Melissa_290305 - Memo
2, B_Melissa_290305 - Memo 3, B_Melissa_290305 - Memo 4, B_Melissa_290305 - Memo 5,
B_Michelle_030505, B_Michelle_030505 - Memo, B_Michelle_030505 - Memo 2, B_Michelle_030505 Memo 3, B_William_280405, B_William_280405 - Memo, B_William_280405 - Memo 2, BB_Field notes
G_Donna_280705 - Memo 6, G_Donna_280705 - Memo 7, G_Jessica_270505, G_Jessica_270505 - Memo,
G_Jessica_270505 - Memo 2, G_Jessica_270505 - Memo 3, G_Jessica_270505 - Memo 4,
G_Joshua_010905, G_Joshua_010905 - Memo, G_Joshua_010905 - Memo 2, G_Joshua_010905 - Memo 3,
G_Nancy_290705, G_Nancy_290705 - Memo, G_Nancy_290705 - Memo 2, G_Nancy_290705 - Memo 3,
G_Nancy_290705 - Memo 4, G_Stephanie_090605, G_Stephanie_090605 - Memo, G_Stephanie_090605 -

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INFORMATION-SEEKING PREFERENCES: TEACHERS


Result is a node coding all the finds: (3 2 9) /Motivators/P_Cognitive/P_Canon (n)
Document finds are spread to enclosing paragraphs. Node finds are spread to enclosing paragraphs.

64 (3 3) /Motivators/P_Affective
65 (3 4) /Motivators/P_Bias
66 (4) /Demotivators
67 (4 1) /Demotivators/N_Situational
68 (4 1 1) /Demotivators/N_Situational/N_Time
69 (4 1 2) /Demotivators/N_Situational/N_Access
70 (4 1 3) /Demotivators/N_Situational/N_Physical features
71 (4 1 4) /Demotivators/N_Situational/N_Service
72 (4 1 5) /Demotivators/N_Situational/N_Environmental features
73 (4 2) /Demotivators/N_Cognitive
74 (4 2 1) /Demotivators/N_Cognitive/N_Qualifications ~ Accreditation
75 (4 2 2) /Demotivators/N_Cognitive/N_Role ~ Scope
76 (4 2 3) /Demotivators/N_Cognitive/N_Canon

Description:
Text Search: text matching the pattern 'canon'

Result is a node coding all the finds: (4 2 3) /Demotivators/N_Cognitive/N_Canon (n)

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INFORMATION-SEEKING PREFERENCES: TEACHERS

Document finds are spread to enclosing paragraphs. Node finds are spread to enclosing paragraphs.

77   (4 3) /Demotivators/N_Affective
78   (4 4) /Demotivators/N_Bias
79   (5) /Collaboration
80   (5 1) /Collaboration/PC_Active_Planned
81   (5 2) /Collaboration/PC_Inactive_Tokenism
82   (6) /Non Collaboration
83   (6 1) /Non Collaboration/NC_Inactive_Avoidance
84   (6 2) /Non Collaboration/NC_Active_Subversion_Circumvention
85   (7) /Nature of Information Interaction
86   (7 1) /Nature of Information Interaction/Work_teaching
87   (7 2) /Nature of Information Interaction/Non work_leisure
88   (8) /Techniques
89   (8 1) /Techniques/Browsing
90   (8 2) /Techniques/Searching
91   (8 3) /Techniques/Ask_a_Mediator
92   (8 4) /Techniques/Direct_Retrieval
93   (8 5) /Techniques/Via SDI_Alerts
94   (8 9) /Techniques/Purchase for self

Description:
Co-occurrence: text { text matching the pattern, 'purchase' } near { text matching the pattern, 'books' }


Result is a node coding all the finds: (8 9) /Techniques/Purchase for self (n)

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INFORMATION-SEEKING PREFERENCES: TEACHERS

Document finds are spread to enclosing paragraphs. Node finds are spread to enclosing paragraphs.

95 (10) /InterviewQuestions
96 (10 3) /InterviewQuestions/Qn~ 1 - Critical incident 1
97 (10 4) /InterviewQuestions/Qn~ 2 - Steps in ISP 1a
98 (10 5) /InterviewQuestions/Qn~ 2 - Steps in ISP 1b
99 (10 6) /InterviewQuestions/Qn~ 1 - Critical incident 2
100 (10 7) /InterviewQuestions/Qn~ 2 - Steps in ISP 2a
101 (10 8) /InterviewQuestions/Qn~ 2 - Steps in ISP 2b
102 (10 9) /InterviewQuestions/Qn~ 8 - Positive librarian encount
103 (10 10) /InterviewQuestions/Qn~ 2 - Steps in ISP 2c
104 (10 11) /InterviewQuestions/Qn~ 2 - Steps in ISP 3
105 (10 12) /InterviewQuestions/Qn~ 4 - Using computers outside sch
106 (10 13) /InterviewQuestions/Qn~ 3 - Reading for pleasure
107 (10 14) /InterviewQuestions/Qn~ 7 - Positive library experience
108 (10 15) /InterviewQuestions/Qn~ 9 - Negative library experience
109 (10 16) /InterviewQuestions/Qn~ 10 - Negative librarian encount
110 (10 17) /InterviewQuestions/Qn~ 11 - Wish list
111 (10 21) /InterviewQuestions/Qn~ 2 - Steps in ISP 1c
112 (10 22) /InterviewQuestions/Qn~ 5 - Using libraries ~ collection
113 (10 24) /InterviewQuestions/Qn~ 2 - Steps in ISP 1
114 (10 25) /InterviewQuestions/Qn~ 2 - Steps in ISP 1d
115 (10 28) /InterviewQuestions/Qn~ 1 - Critical incident 3
116 (10 29) /InterviewQuestions/Qn~ 2 - Steps in ISP 3a
117 (10 30) /InterviewQuestions/Qn~ 2 - Steps in ISP 3b
118 (10 31) /InterviewQuestions/Qn~ 2 - Steps in ISP 3c
119 (10 32) /InterviewQuestions/Qn~ 2 - Steps in ISP 4
120 (10 34) /InterviewQuestions/Qn~ 2 - Steps in ISP 1e
121 (10 35) /InterviewQuestions/Qn~ 2 - Steps in ISP 1f
122 (10 40) /InterviewQuestions/Qn~ 1 - Critical incident 4
123 (10 41) /InterviewQuestions/Qn~ 2 - Steps in ISP 4a
124 (10 46) /InterviewQuestions/Qn~ 2 - Steps in ISP 2
125 (10 49) /InterviewQuestions/Qn~ 2 - Steps in ISP 1a 1b
126 (10 52) /InterviewQuestions/Qn~ 1 - Critical incident 1,2,3 etc
127 (10 53) /InterviewQuestions/Qn~ 2 - Steps in ISP 1 summary
128 (10 56) /InterviewQuestions/Qn~ 2 - Steps in ISP 2d
129 (10 57) /InterviewQuestions/Qn~ 2 - Steps in ISP 2e
Appendix H

List of Interview Documents Processed by NVivo® (Rev. 2.0.161)

Documents in Set: All Documents - 116 documents, including interview transcripts, associated memos and field notes. Teachers interviewed are tagged by Pseudonym, School ID, Gender, Age Decile and nominated subject area. It should be noted that many teachers also taught in a second major subject area and may make reference to this in their interview responses.

Number of Documents: 116
1 A_Amy_151104
   Description:
Amy Alpha school Female 30s Computer Studies
2 A_Amy_151104 - Memo
3 A_Christopher_081104
   Description:
Christopher Alpha school Male 30s Religious Studies
4 A_Christopher_081104 - Memo
5 A_Christopher_081104 - Memo 2
6 A_Christopher_081104 - Memo 3
7 A_Christopher_081104 - Memo 4
8 A_David_161104
   Description:
David Alpha school Male 40s Science
9 A_David_161104 - Memo
10 A_Deborah_161104
   Description:
Deborah Alpha school Female 50s English
11 A_Jason_251004
   Description:
Jason Alpha school Male 30s Religious Studies
12 A_Jason_251004 - Memo
13 A_Jason_251004 - Memo 2
14 A_Jason_251004 - Memo 3
15 A_Jason_251004 - Memo 4
16 A_Jason_251004 - Memo 5
17 A_Jennifer_161104
   Description:
Jennifer Alpha school Female 30s Science
18 A_Linda_151104
   Description:
INFORMATION-SEEKING PREFERENCES: TEACHERS

Linda Alpha school Female 50s Computer Studies
19 A_Linda_151104 - Memo
20 A_Linda_151104 - Memo 2
21 A_Linda_151104 - Memo 3
22 A_Lisa_161104
Description:

Lisa Alpha school Female 40s History
23 A_Lisa_161104 - Memo
24 A_Mary_081104
Description:

Mary Alpha school Female 50s Science
25 A_Mary_081104 - Memo
26 A_Patricia_221104
Description:

Patricia Alpha school Female 40s Science
27 A_Patricia_221104 - Memo
28 A_Patricia_221104 - Memo 2
29 A_Robert_151104
Description:

Robert Alpha school Male 50s Religious Studies
30 A_Robert_151104 - Memo
31 A_Robert_151104 - Memo 2
32 A_Robert_151104 - Memo 3
33 A_Robert_151104 - Memo 4
34 A_Robert_151104 - Memo 5
35 A_Robert_151104 - Memo 6
36 A_Robert_151104 - Memo 7
37 A_Susan_161104
Description:

Susan Alpha school Female 50s History
38 A_Susan_161104 - Memo
39 A_Susan_161104 - Memo 2
40 A_Susan_161104 - Memo 3
41 A_Susan_161104 - Memo 4
42 AA_Field notes - Alpha
Description:

Post tape afterthoughts:- <Jason>, 25/10/06
43 B_Barbara_180405
Description:

Barbara Beta school Female 50s Science
44 B_Barbara_180405 - Memo
45 B_James_020505
Description:

James Beta school Male 50s Religious Studies
46 B_James_020505 - Memo
47 B_James_020505 - Memo 2
48 B_James_020505 - Memo 3
49 B_James_020505 - Memo 4
50 B_Karen_030505
INFORMATION-SEEKING PREFERENCES: TEACHERS

Description:
Karen Beta school Female 50s English
51 B_Karen_030505 - Memo
52 B_Karen_030505 - Memo 2
53 B_Karen_030505 - Memo 3
54 B_Matthew_020505

Description:
Matthew Beta school Male 30s PDHPE
55 B_Matthew_020505 - Memo
56 B_Matthew_020505 - Memo 2
57 B_Matthew_020505 - Memo 3
58 B_Matthew_020505 - Memo 4
59 B_Melissa_290305

Description:
Melissa Beta school Female 30s Science
60 B_Melissa_290305 - Memo
61 B_Melissa_290305 - Memo 2
62 B_Melissa_290305 - Memo 3
63 B_Melissa_290305 - Memo 4
64 B_Melissa_290305 - Memo 5
65 B_Michelle_030505

Description:
Michelle Beta school Female 40s English
66 B_Michelle_030505 - Memo
67 B_Michelle_030505 - Memo 2
68 B_Michelle_030505 - Memo 3
69 B_William_280405

Description:
William Beta school Male 30s Geography
70 B_William_280405 - Memo
71 B_William_280405 - Memo 2
72 BB_Field notes Beta

Description:
Field notes - Beta
73 G_Cynthia_180805

Description:
Cynthia Gamma school Female 50s English
74 G_Cynthia_180805 - Memo
75 G_Cynthia_180805 - Memo 3
76 G_Cynthia_180805 - Memo 4
77 G_Cynthia_180805 - Memo 5
78 G_Donna_280705

Description:
Donna Gamma school Female 50s History
79 G_Donna_280705 - Memo
80 G_Donna_280705 - Memo 2
81 G_Donna_280705 - Memo 3
82 G_Donna_280705 - Memo 4
83 G_Donna_280705 - Memo 5
84 G_Donna_280705 - Memo 6
INFORMATION-SEEKING PREFERENCES: TEACHERS

Jessica Gamma school Female 20s English

87 G_Jessica_270505 - Memo
88 G_Jessica_270505 - Memo 2
89 G_Jessica_270505 - Memo 3
90 G_Jessica_270505 - Memo 4
91 G_Joshua_010905

Joshua Gamma school Male 20s English

92 G_Joshua_010905 - Memo
93 G_Joshua_010905 - Memo 2
94 G_Joshua_010905 - Memo 3
95 G_Joshua_010905 - Memo 4
96 G_Joshua_010905 - Memo 5
97 G_Michael_120505

Michael Gamma school Male 50s Science

98 G_Michael_120505 - Memo
99 G_Michael_120505 - Memo 2
100 G_Michael_120505 - Memo 3
101 G_Michael_120505 - Memo 4
102 G_Nancy_290705

Nancy Gamma school Female 50s History

103 G_Nancy_290705 - Memo
104 G_Nancy_290705 - Memo 2
105 G_Nancy_290705 - Memo 3
106 G_Nancy_290705 - Memo 4
107 G_Stephanie_090605

Stephanie Gamma school Female 20s LOTE

108 G_Stephanie_090605 - Memo
109 G_Stephanie_090605 - Memo 2
110 G_Stephen_050505

Stephen Gamma school Male 40s History

111 G_Stephen_050505 - Memo
112 G_Stephen_050505 - Memo 2
113 G_Stephen_050505 - Memo 3
114 G_Stephen_050505 - Memo 4
115 G_Stephen_050505 - Memo 5
116 GG_Field notes Gamma

Field notes - Gamma
Appendix I

II: Snapshot of Positive Behaviour and Attitudes Demonstrated by Librarians

<table>
<thead>
<tr>
<th>Caroline: positive characteristics</th>
<th>Representative comments by teacher/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-critical; Preserves teacher’s self-esteem</td>
<td>I wouldn’t mind like if they came, like Caroline, to do a lesson. And you know that she wouldn’t make you feel inadequate. – Amy</td>
</tr>
<tr>
<td>Professional discretion – respects client confidentiality</td>
<td>I know too that if you said … to Caroline, ‘I don’t know how to do this’ … she'd keep it to herself. – Amy</td>
</tr>
<tr>
<td>Consistently demonstrates positive attitude</td>
<td>Caroline is so positive and …so keen to help and to give you information and you're on a personal level – Amy</td>
</tr>
<tr>
<td>Shows personal interest</td>
<td>Caroline seemed to find the topic personally quite interesting. – Jason</td>
</tr>
<tr>
<td>Expertise in locating resources</td>
<td>Caroline's sort of good with sourcing resources. – David</td>
</tr>
<tr>
<td></td>
<td>She showed a real willingness to go the extra mile and find things. – Jason</td>
</tr>
<tr>
<td>Works effectively behind the scenes, to support teachers</td>
<td>I found Caroline very helpful when I was trying to do stuff on Detective fiction, with my Year 10 this year. – Deborah</td>
</tr>
<tr>
<td></td>
<td>Caroline's always been really, really helpful. Really on the ball. The work was all ready for me to use in class. – Mary</td>
</tr>
<tr>
<td>Proactive expertise in recommending books</td>
<td>It’s very important to me if I’m getting a recommendation that I feel that they’ve actually read it themselves or they're familiar with it, and I certainly feel that’s the case with Caroline. I think Caroline’s very familiar with her section of the library. – Mary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Claire: positive characteristics</th>
<th>Representative comments by teacher/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive expertise in recommending books</td>
<td>Claire actually knows my tastes in books and will alert me when I go over there, to books that I would that I would like to read. – Patricia</td>
</tr>
<tr>
<td>Consistently demonstrates positive attitude</td>
<td>I’ve got positive memories of Claire particularly. She was helpful, when I knew nothing about web engines. I remember Claire talked to me about Google. She was the first person to mention, &quot;Look, if you need a website, that’s the one to use&quot;. – Robert</td>
</tr>
<tr>
<td>Shows personal interest</td>
<td>Non-critical; Preserves teacher’s self-esteem</td>
</tr>
</tbody>
</table>
I2: Snapshot of a Librarian who Attracted Multiple Responses from Different Staff, Often as a Result of the Same Type of Interaction

<table>
<thead>
<tr>
<th>Perception by teachers of Positive factors</th>
<th>Perception by teachers of Negative factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sends regular stream of useful and relevant teaching material to teacher</td>
<td>Sending regular streams of teaching material can create ‘information overload’</td>
</tr>
<tr>
<td>But Miranda always sends me things … like computing oriented … [which] are really good, and some of them are so up to what we’re actually doing in class. – Amy</td>
<td>I have actually sort of looked at some of the WebQuest material that she sends. But it tends to go in the trash just because it’s constant, and get overlap. I subscribe to it myself. – Christopher</td>
</tr>
<tr>
<td>Offers helpful and supportive advice without belittling teacher</td>
<td>Engages in negative gossip</td>
</tr>
<tr>
<td>See I’d feel confident emailing Miranda or ringing Miranda and saying, “You know, I’m an idiot. How do you do this or how do I look up this or something like that”. There’s others here you wouldn’t. But Miranda is … not going to think you’re an idiot or and I always feel a bit like that, if you don’t know enough to, to ask anybody else here. But you know Miranda will always … look out for it as well. – Amy</td>
<td>Christopher notes that he tends to avoid the library as he fears that he will be drawn into gratuitous conversations that he views as time-wasting gossip, or a litany of negative complaints.</td>
</tr>
<tr>
<td>Maintains a Quiet Library in a discreet manner</td>
<td>Maintains a Quiet Library to the detriment of constructive discussion</td>
</tr>
<tr>
<td>Miranda has always taken a bit of a lower profile in that respect. And it’s only been when things have really got noisy and out of hand that she’s stepped in. But she was mostly more amenable. – Susan</td>
<td>The seminar rooms at the end [of the corridor] have all got “Silence, you can’t talk in here”, when they were actually designed to be discussion rooms. It’s because of the Librarian. You know, she doesn’t like students in the library … Girls can’t book the rooms … There are big signs in all those rooms if you go and have a look. “Silence, private” … Miranda would prefer that there were no kids in there. – Linda</td>
</tr>
</tbody>
</table>
### I3: Snapshot of Negative Behaviour and Attitudes Demonstrated by Librarians

<table>
<thead>
<tr>
<th>Geraldine: negative characteristics</th>
<th>Comments by teacher/s</th>
</tr>
</thead>
</table>
| Failure to maintain a quiet & efficient library | There’s a bit too much noise in the library. I think it’s important for a librarian to set the example. So if you are maintaining that it’s a quiet working place then that needs to be shown from the librarians as well. – Matthew  
Geraldine is just so loud that I can’t concentrate. I just want to talk about something and there’s just far too much ‘performance’ for me. I don’t think the librarians want anything to do with supervising and such things. They just would like a library with no one in it. – Karen  
You want to go to the library for a bit of peace and quiet but there’s noise while people are trying to work. It’s just a complete disruptive element & it’s just not supportive whatsoever. – William |
| Displays a negative attitude towards clientele; pursues an agenda perceived to be at odds with that of the teachers | Geraldine doesn’t have a great deal to do with the kids or with the staff except to stand up at staff meetings and say a few things and send a lot of emails to us. I’ve been used to working in much more a team-teaching style and a collaborative process than what’s currently happening. – Melissa  
People have the feeling they’re being watched by Geraldine; ‘Big Brother’ was watching all the time. – William |
| Failure to maintain a perceptibly useful collection | To me it seems like a fairly empty library. It just doesn’t seem to have all that much there, and I gather that it’s going to work like that more. See, I’m the old school that likes the book. – Karen  
I mean when I was at Uni, I had access to all these journals, whereas I don’t think the library here does that. It’s just the luck of the draw. – William |
| Challenging teachers’ professional authority | Why should I feel obliged to justify my pedagogical processes to Geraldine, who has demonstrated no understanding of the topic or its intellectual content? I sort of feel like there’s a police state operating in the school library. – Michelle |

<table>
<thead>
<tr>
<th>Beverley: negative characteristics</th>
<th>Comments by teacher/s</th>
</tr>
</thead>
</table>
| Displays a negative attitude towards her clientele | She was not interested and didn’t want her time interrupted. Not appropriate for a School Librarian. Not very helpful to the students. – Donna  
Both the ‘bad librarians’ were ex-teachers who wanted to get away from the kids, so they took up librarianship. – Nancy  
She was very rude, well not rude but ‘short’ with senior students. – Nancy  
She lorded it over the teaching staff and the Coordinators. She thought she should go to a Three Point Coordinator because she was the Librarian and all information was stored in her environment. – Donna |
| Failure to maintain perceptively useful collection | She didn’t want to spend money on new or updated material. – Donna  
She wasn’t a person that bought books for the collection. She was totally into internet and information, but she was working on that rather than assisting staff and students. – Nancy |
| Inaccessible to teachers | She ran the library from within the Librarians Room and you rarely saw her outside of that room. She wasn’t on time to work and she just said that she was too busy to assist. She’d say, “I haven’t got time” and stayed in the ‘cage’ all the time, in the Library ‘glass house’. – Nancy |
| Challenging teachers’ professional authority | She ended up alienating a lot of the staff because she would dictate to them how to teach their kids in the Library. – Donna |
## I4: Teachers’ Preferred Library Environment: A Snapshot

<table>
<thead>
<tr>
<th>Features</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>Open, well-lit spaces</td>
<td>Tightly stacked shelves that scarcely provided enough light to actually see the titles – Stephen</td>
</tr>
<tr>
<td></td>
<td>It’s open and airy – David</td>
<td>Not enough desks, not enough shelf space – Karen</td>
</tr>
<tr>
<td></td>
<td>Better lighting now – Donna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open spaces where you can sit down and spread books out, take notes – Stephen</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-functional areas</strong></td>
<td>It's a great multi-purpose centre – David</td>
<td>School libraries don’t have room for the [noisy] story telling and all that stuff. – Nancy</td>
</tr>
<tr>
<td></td>
<td>Rooms for discussion – Donna</td>
<td>They almost need to extend the coffee shop perhaps – Christopher</td>
</tr>
<tr>
<td></td>
<td>Little study areas that you go to – William</td>
<td>The print room creating a lot of noise – David</td>
</tr>
<tr>
<td></td>
<td>A place where I can almost hide – Matthew</td>
<td>Seniors and junior students creating a noisy environment not conducive to study – Karen</td>
</tr>
<tr>
<td></td>
<td>The library [is] for individual work, librarians quietly helping, students working – Nancy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It's good having the roof garden – David</td>
<td></td>
</tr>
<tr>
<td><strong>Aesthetics</strong></td>
<td>The library was a great place to go because it was always somewhere quiet – David</td>
<td>I’ve been in libraries they’re making posters and nobody’s quiet – Nancy</td>
</tr>
<tr>
<td></td>
<td>A quiet place … a haven – Christopher</td>
<td>People come up and ask you to do things when you have more important [tasks] – Stephen</td>
</tr>
<tr>
<td></td>
<td>A library is a quiet place – Matthew</td>
<td>The library itself wasn’t nice – Stephen</td>
</tr>
<tr>
<td></td>
<td>You’re supposed to be able to go there for peace and quiet – William</td>
<td>The library is sort of a nerd zone – Christopher</td>
</tr>
<tr>
<td></td>
<td>Where people can work quietly – Donna</td>
<td>Creating a lot of noise unnecessarily – David</td>
</tr>
<tr>
<td></td>
<td>Just the quietness of a library. You can go there and sit quietly on your own – Nancy</td>
<td>Go to our library and kids are talking – Karen</td>
</tr>
<tr>
<td></td>
<td>A library’s a refuge; a quiet place to go to escape; of contemplation – Stephen</td>
<td>There’s a bit too much noise in the library and it’s not just coming from the students – Matthew</td>
</tr>
<tr>
<td></td>
<td>A library is … a place for reading – Susan</td>
<td>Noisiest of all are the library staff – Karen</td>
</tr>
<tr>
<td><strong>Ambient surroundings</strong></td>
<td>Libraries are like churches in cities – Nancy</td>
<td>What disappointed me however was the rather sort of shabby physical environment – Stephen</td>
</tr>
<tr>
<td></td>
<td>Playing music … water features – Lisa</td>
<td>One thing I’ll criticise – pigeons! – David</td>
</tr>
<tr>
<td></td>
<td>A beautiful new, high tech library underneath it with a cafe attached … with coffee – Stephen</td>
<td>The library’ s a little bit unkempt and not tidy, the call numbers are not easily followed. – Stephanie</td>
</tr>
<tr>
<td></td>
<td>Colonial style with potpourri scent – Nancy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clean, spacious and light-filled – Jessica</td>
<td></td>
</tr>
<tr>
<td><strong>Staff</strong></td>
<td>Welcoming, helpful, friendly staff</td>
<td>Unwelcoming, unhelpful, negative staff</td>
</tr>
<tr>
<td></td>
<td>Amazing knowledge of the collection – Jason</td>
<td>Using software to spy on library users – Karen</td>
</tr>
<tr>
<td></td>
<td>There are people who can help me if I</td>
<td>She was very rude; never on time – Nancy</td>
</tr>
</tbody>
</table>
INFORMATION-SEEKING PREFERENCES: TEACHERS

<table>
<thead>
<tr>
<th>Print Resources</th>
<th>Faculties</th>
</tr>
</thead>
</table>
| need to be helped – Matthew  
The quality of the staff are of equal importance to the collection – Stephen  
Welcoming and friendly staff – Patricia | An atmosphere of not wanting people in there because they create noise – Susan  
I feel that the library staff would be happiest if no one ever used the library – Karen |
| I love heaps of choice [in books] – Nancy  
Love the feel of touching new books – Lisa  
It was pleasurable because the books were new; attractive; obviously recent – Stephen | A lot of the books are outdated – Matthew  
You can’t find something that you’re looking for and it’s on the catalogue, it should be on the shelf, but you can’t locate it. – Stephanie |
| Resources there at my fingertips – Matthew  
It was enjoyable having a cup of coffee beside you while you’re perusing a book – Stephen | Network point that [didn’t work] – Susan  
[Internet] broke down three times – Cynthia  
Computers that let you down – Stephanie |

Note. Quotes in the above three tables have been abbreviated / paraphrased.