

Creating a culture of transfer for information literacy skills in schools

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Abstract

This paper reports the findings of a study which focused on identifying factors which might contribute to the creation of a culture of transfer of information literacy skills, across time and across subjects, in a primary school. The study took place in a NSW independent primary school where the NSW information literacy model was used by the teacher librarian and by teachers. The study sought to identify teachers' understanding of information literacy skills and of transfer, as well as examining teachers' observation of the transfer of information literacy skills in the classroom. Data was gathered through two sets of interviews with teachers and constructivist grounded analysis was used to analyse the data. The key findings of the study were that some teachers had limited understanding of information literacy and of transfer, and that the teachers had no common terminology in relation to information literacy or transfer. When teachers agreed to use the NSW model, their understanding of information literacy improved and when asked to focus on transfer of skills, the teachers' understanding of transfer improved. The interpretation of the data showed that teachers valued a common information literacy model as it provided a common terminology for information literacy skills across the school. The teachers also valued the model as it could form the basis of the reinforcement of information literacy skills. All teachers valued the establishment of a culture of transfer and identified key factors in creating this culture, including embedding the information literacy model and a focus on transfer into the school curriculum, an agreed terminology, support from school management, and staff training. The paper concludes with potential implications for teacher librarians: having a greater focus on information literacy skills and transfer; discussing skills transfer with teachers; and becoming involved in the development of a culture of transfer in the school.

Introduction

This study took place in an independent girls' primary school in Sydney, Australia. The school has approximately 320 students, 25 staff and the school library staffing consists of one teacher librarian and one part time clerical assistant. The school curriculum adheres to the NSW Board of Studies documents. Specialist staff include French, Speech and Drama, Music, P.E., Special Needs, Library and Art.

The key research questions posed by the authors were:

- How did teachers in the school interpret the term 'transfer' in the learning and teaching context of the school?
- What were the teachers' expectations of students in relation to transferring information literacy skills?
- What factors were likely to affect the establishment of a whole school culture of transfer of information literacy skills?
- What might be the implications for a teacher librarian seeking to contribute to the establishment of a whole school culture of transfer of information literacy skills?

Literature review

Information literacy in schools

The term 'information literacy' was first used in the 1970s by Zurkowski (1974) but it was not until the 1990s that the term became more generally used. This section of the literature review will examine definitions of information literacy, information literacy models and research in information literacy.

Definitions of information literacy

There is no one agreed definition of information literacy in the schools sector and Langford's (1998) questions about whether information literacy is a concept or a process or a teaching strategy remain relevant today. Doyle's (1994) list of attributes of an information literate person is perhaps the most cited, specifying attributes such as recognising an information need, formulating questions, developing search strategies and evaluating information. However, Doyle's (1994, pp. 2-3) list includes additional aspects such as 'recognises that accurate and complete information is the basis for intelligent decision making' which may make the list less suitable for school age children. More recent definitions include Abilock (2004, p. 1) who takes a wide view of information literacy, arguing that information literate learners will 'use information in various forms to create for personal, social or global purposes.' Herring and Tarter (2007, p. 3) include transfer and argue that an information literate student will be able to

- transfer information skills across subjects and year levels in the school
- transfer relevant information skills from school to further/higher education and to the workplace
- learn and adapt to new information skills required in many workplace settings.

While definitions of information literacy may enhance teacher librarians' ability to think about developing information literate students, creating a personal definition of information literacy within a particular school context is an extremely useful exercise.

Information literacy models

The model used in this study was the 'information process' as defined by the New South Wales Department of Education and Training (NSW DET 2007). This model was already used by the teacher librarian in the school, and teachers agreed to use the model in the classroom. The steps in this model are *Defining, Locating, Selecting, Organising, Presenting and Assessing*. It is noted that each step will involve students in using a number of different skills. Many information literacy models are based on Marland's (1981) model which included 9 steps. The most widely used model in North America and some other countries is *The Big 6* (Eisenberg and Berkovitz 1990; *The Big 6* 2009). This model includes six steps from *Task Definition* through to *Evaluation*. In Australia, Ryan and Capra's (2001) model *ILPO* is also widely used, and is almost identical to the NSW DET model (2007), with the exception of the *Assessing* stage which Ryan and Capra (2001) refer to as *Evaluating*. In the UK, Herring's (1996, 2004) *PLUS* model has been adopted by a range of schools and features four steps – *Purpose, Location, Use* and *Self Evaluation*.

Green (2004, p. 70) is critical of information literacy models and argues that the use of such models with students ensures 'individuality is overlooked'. Green believes students may focus too much on the end product, for example, the assignment, as opposed to what they are learning and, importantly, how they are learning. While Green's criticisms are relevant, there is evidence from research studies on information

literacy models (see below) that providing students with a model can improve students' effective use of information resources.

Information literacy research

There have been a growing number of research studies relating to information literacy in schools in recent years. Kuhlthau, Maniotes and Caspari (2007) focus on guided inquiry and present research related to information literacy including examples of Kuhlthau's own (2004) research focus on the affective aspects of information literacy. Limberg (2005, p. 47) conducted research into students' information seeking and concluded that information literacy teaching in schools should be aimed at 'students developing a *repertoire* of understandings of information seeking and use' and not merely at students learning a process.

Research in information literacy in schools was also carried out by Farmer (2005) on social-emotional behaviour, Barranoik (2001) on students' personal interest in assignments, Ryan and Hudson (2003) on embedding information literacy skills in the curriculum and Bilal, Sarangthem and Bachir (2008) on students' information seeking behaviour. Research into information literacy models has been reported by Herring and Tarter (2007) on the *PLUS* model. The authors indicate that most students saw the model as enabling them to better define the aims of their assignment, to enhance their information seeking skills, to structure their assignments more carefully and to reflect on their own learning style. Wolfe (2003) evaluated the use of the *Big 6* model. The results of the study revealed that using a model could improve students' ability to take a more metacognitive approach.

A significant gap in the professional and research literature on information literacy is related to the question of whether students are likely to transfer skills across subjects and across time.

Transfer

For over a century, researchers have investigated a range of issues related to the transfer of learning. Royer, Mestre, and Dufresne (2005) argue that discovering the mechanisms of transfer and how to develop transfer amongst students are key aspects of education. As with information literacy, there is little agreement about how transfer might be defined, the extent to which students will transfer, what types of transfer exist and how transfer can be encouraged in schools. Detterman (1993) is often cited in the literature and argues that extensive transfer amongst students is not common. Other researchers take a different view. Royer, Mestre, and Dufresne (2005) suggest that what is needed is a more sociocultural approach to transfer. This approach considers the learner's environment and social aspects of student learning such as interaction with others. A constructivist view of transfer is taken by Lobato (2003, p.17) who defines transfer as 'The personal construction of similarities across activities, i.e., seeing situations as the same.'

There is also no agreement in the literature about how to encourage transfer amongst students or what factors militate against the transfer of learning or skills. Volet (1999) argues that transfer should be viewed socioculturally, meaning a student's personal

motivation, emotional state and expectations of his or her learning environment are key factors in determining whether transfer will occur. Haskell (2001) argues that unless there is a culture of transfer in a learning environment such as a school, transfer is unlikely to take place in any other setting. The exact conditions under which a culture of transfer will exist are not agreed on in the literature but Haskell (2001) and Volet (1999) imply that factors such as the learning, teaching and social context of a school, students' and teachers' attitudes to transfer, formal discussion of transfer in a school, and the practices of students and staff in relation to transfer, will be crucial.

Methodology

The research method adopted for this study was constructivist grounded analysis. A constructivist approach implies that the researchers view knowledge and data collection and analysis as being constructed by individuals (Phillips 1995), and that the researchers interpret the constructions of reality presented by the research participants. Grounded analysis is part of the wider grounded theory method. Grounded theory was originally designed by Glaser and Strauss (1967) but has since been developed by others, including Strauss and Corbin (1998) and Charmaz (2006). The present researchers have adopted the approach recommended by Charmaz (2006, p. 9) who argues that 'We *construct* our grounded theories through our past and present involvements and interactions with people, perspectives and research practices.'

Data collection was done in two sets of interviews with teachers, at the end of Terms 2 and 3 of the school year. During Term 2, the teachers used the NSW model with support from the teacher librarian, who had outlined the model and its potential use in a training session. Teachers agreed to use the model when students were preparing for existing assignments. In Term 3, teachers agreed to look for evidence of the transfer of skills amongst students. The teachers were selected using convenience sampling (Johnson and Christensen 2007), which in practice meant that 6 teachers who were available and willing to participate in the study, took part in the interviews. The teachers who participated were two Year 3 teachers, one Year 4 teacher, one Year 5 teacher and two Year 6 teachers. Patton (2002) argues that interviewing is an excellent technique for acquiring meaningful data from participants. Data analysis was done using grounded analysis which implies that the researchers approach the collected data with minimal preconceptions. Using grounded analysis, the researchers coded the Term 2 interview data and identified potential categories within the data (Pidgeon and Henwood 2004). The Term 3 interview data was then coded and categorised, and the researchers returned to the Term 2 interviews to compare categories before establishing the final categories. In grounded theory (Charmaz 2006), categorisation leads to the development of theory but the restricted size of the present study means that it is not possible to develop theory.

Results

The findings of the study are outlined below under the following headings:

- teachers' definitions of transfer in the context of teaching
- teachers' definitions of transfer in the learning context
- teachers' expectations of transfer from one term to another
- teachers' observations of the transfer of information literacy skills by students
- teachers' views on the establishment of a culture of transfer in the school.

The description of the findings will be followed by a discussion of the categories identified by the researchers, according to their interpretation of the data.

Teachers' definitions of transfer in the context of teaching

In the first interviews, teachers were asked what they understood by the term 'transfer' in relation to teaching in a primary school. Not all teachers showed a clear understanding of transfer, with 2 out of the 6 teachers defining transfer as imparting knowledge/information from the teacher to the student. Other teachers were clearer on what transfer meant and referred to the transfer of knowledge by students ('It's all about applying what they are learning') or the transfer of skills. The Year 5 teacher stated 'Transfer, from what I understand, is the students being able to transfer skills they've learnt from one situation to another situation.' When asked about transfer in relation to teaching, teachers were clearer and most saw themselves as teaching knowledge and/or skills which students could learn and then transfer to other learning situations. A Year 3 teacher commented, 'Well again it comes down to teaching a skill and then they can transfer that skill into different situations as needed.' The other teachers agreed that teaching for transfer should be one of the key aspects of teaching, although the teachers appeared to believe this more in principle than in practice. Only the Year 4 teacher related transfer to the school as a whole, stating 'It gives the school an overall structure so we are all speaking the same language so students from grade to grade can transfer the strategies.' All the other teachers appeared to have much narrower interpretations of transfer.

In the interviews at the end of Term 3, it was evident that all teachers had a much clearer understanding of the meaning of transfer and how transfer could be situated in the teaching process. This was due to their discussions with the teacher librarian and their experience of transfer in the classroom. The teachers cited information literacy skills such as defining, locating and selecting which they had taught the students to use or had reinforced skills introduced by the teacher librarian. The key difference between the Term 2 interviews and the Term 3 interviews was that by Term 3, teachers clearly assumed that teaching the students information literacy skills would result in transfer, at least amongst some students.

Teachers' definitions of transfer in the learning context

There was a mixed response from the teachers when they were asked, in the Term 2 interviews, to consider transfer in the learning context. Both the Year 3 teachers had a limited view of transfer and saw transfer more in terms of the students being able to receive information or guidance from the teacher and then being able to apply that to a learning situation. The Year 3 teachers therefore focused on transfer between the

teacher and the students. The other teachers had a greater understanding of transfer and focused on the students' ability to transfer. The Year 4 teacher commented 'It means that once they have the basic skills they can apply it in any new situation without assistance' and the Year 5 teacher referred to students' transferring knowledge and skills 'without teacher prompting.' The Year 6 teachers referred to students transferring knowledge and skills from one 'task' to another.

Teachers' expectations of transfer from one term to another

All of the teachers interviewed at the end of Term 2 were confident, to some extent, that some students would transfer some aspects of the information literacy model from one term to another. None of the teachers were completely confident that students would transfer all the steps in the model and the teachers cited a number of limiting factors. The Year 4 and Year 6 teachers and one of the Year 3 teachers noted that student transfer was unlikely to happen without reinforcement by the teacher and a Year 3 teacher noted 'OK, I think it will only work if once again the teacher really supports that and monitors what's going on and keeps referring back to the model.' The other Year 3 teacher commented that having a poster of the model in the classroom would help students to transfer the skills.

A second limiting factor cited by the teachers was that, while the more able students in the classes were likely to transfer information literacy skills, less able students might not. One of the Year 6 teachers summed this up, stating that 'I think they [most of the class] will transfer the Locate stage to Select stage, because they can do the concept map and put their questions, but I doubt that there would be much success or any further improvement'. The third limiting factor suggested by some of the teachers was that student attitudes to completing their project and reaching the Present stage of the model would inhibit student reflection on their information literacy skills. Thus while there was some level of expectation amongst the teachers that the students would transfer some information literacy skills, there was no overwhelming confidence amongst teachers about the likelihood of transfer.

Teachers' observations of the transfer of information literacy skills by students

In the end of Term 3 interviews, the teachers were asked if they could provide specific examples of where they thought students had transferred information literacy skills that they taught in Term 2. There was a range of examples provided by the teachers. One of the Year 3 teachers commented that what most students had transferred was an understanding of the model and its stages and this teacher commented, 'I think the children do recognise each skill and they have some idea of the meaning of each one and they are able to use it in some instances as a basic framework.' The second Year 3 teacher identified the transfer of the ability to summarise the information which the students had read. The Year 4 teacher stated that the more able students appeared to have transferred most of the skills and all students had transferred the skill of Defining and that, for most students, this had resulted in more effective web searching.

For the Year 5 teacher, most students had transferred what the teacher termed *categorisation* and this focussed on the Defining stage. The teacher commented,

‘They had to figure out what it is they had to find out’ and the Year 5 students had shown that they could apply what they had been taught in Term 2 in relation to a new project. One of the Year 6 teachers stated that most students appeared to have transferred the skills inherent in the Define/Locate/Organise stages of the model.

Teachers’ views on the establishment of a culture of transfer in the school

At the end of Term 3, the teachers were asked what steps might be necessary to implement the information literacy model across the school. The term *culture of transfer* was deliberately not used by the researchers as this might be seen to be leading the teachers in a particular direction. From the teachers’ responses, there emerged a number of elements that clearly related to a culture of transfer. The teachers identified staff understanding of the model and of transfer as being an important prerequisite and one of the Year 6 teachers added to this, stating that ‘regular follow ups across staff ... a brief mention in the weekly meetings’ would be needed to reinforce this understanding of the model and of transfer. The Year 3 teachers and the Year 6 teacher noted the importance of having posters of the model in each classroom, so that that transfer would be encouraged amongst the students. The Year 6 teacher commented, ‘Make sure the charts are displayed and girls are consistently reminded of the process.’

The Year 3 teachers and one of the Year 6 teachers argued that embedding the model and the notion of transfer in the curriculum was a key factor. These teachers argued that having a clear notion of what students should be able to achieve, in relation to the learning and transfer of information literacy skills, at the end of Stages 1 and 2 (i.e. years 1-2 and years 3-4) was important for all staff to know. One of the year 3 teachers stated, ‘So you need to build it in ... where you expect them to be at the end of each Stage.’

The final element identified by 4 of the 6 teachers interviewed was an agreed approach to teaching information literacy skills and reinforcing the notion of transfer across the school. The teachers argued that staff should use a common terminology when teaching the skills and the Year 4 teacher summed this up, stating that the terminology of the model and of transfer should become ‘the common speak of the whole school.’

Discussion

The categories identified by the researchers from this study relate to teachers’ understanding of transfer; teachers valuing the information literacy model; teachers valuing transfer; and teachers valuing the development of a culture of transfer.

It was clear from the data that the teachers’ understanding of transfer was mixed in Term 2 but improved in Term 3. Royer, Mestre, and Dufresne (2005) argue that an agreed understanding of what constitutes transfer is a prerequisite for transfer development and in this study, it was clear that if all teachers in the school were to promote transfer in the future, an analysis of all teachers’ understanding of transfer would be needed.

There was little doubt that the teachers in this study valued the information literacy model used in the study as it either reinforced their existing teaching strategies or provided them with a new scaffold to use with students. Kuhlthau, Maniotes and Caspari (2007), Herring (2004) and Ryan and Capra (2001) stress that teachers' understanding of information literacy is vital. These authors also imply that, where teachers value methods of teaching information literacy, a whole school approach is more likely to succeed.

In the present study, the teachers were seen to value transfer in principle and saw transfer of information literacy skills as something that they wished to develop in their students. Valuing transfer is a useful first step (Haskell 2001) in developing transfer, but the evidence from this study shows that valuing transfer must be accompanied by action on transfer. The actions suggested by this study include reinforcement by teachers and the display of information literacy posters in all classrooms. Teachers' observations of transfer served to increase how they valued the transfer of information literacy skills. Therefore, encouraging teachers to observe transfer may encourage more action on transfer.

Teacher librarian and teacher collaboration in developing information literate students is recommended by Kuhlthau (2004) and Herring and Tarter (2007) and this level of collaboration in terms of transfer was valued by this study's participants. Persuading teachers to value the concept of a culture of transfer is an important step in developing the whole school approach to information literacy skills as recommended by some of the teachers in this study.

Conclusion: potential implications for teacher librarians

While no generalisations about the role of the teacher librarian and the transfer of information literacy skills can be made from this study, the *potential* implications for teacher librarians may include a need:

- to understand the theory and practice of the transfer of information literacy skills
- to explore and develop teachers' understandings of both information literacy and transfer
- to work with teachers to discover the extent to which students transfer information literacy skills
- to consider being involved in the development of a culture of transfer in the school.

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