
“They Should be Called Guiders”: Teachers and Teacher Librarians Developing Inquiry Learners

Kasey L. Garrison
Charles Sturt University, Australia

Lee FitzGerald
Charles Sturt University, Australia

Alinda Sheerman
Broughton Anglican College, Australia

Today's educators maintain a difficult balance covering growing amounts of curriculum content, managing accountability standards, and developing independent, creative learners with 21st Century skills and dispositions. Inquiry pedagogies like Guided Inquiry (GI) offer a framework to support teachers and teacher librarians working together to support these goals. This research uses the American Association of School Librarians' National School Library Standards for Learners (2018c) to investigate students' research process in a collaborative GI unit with teachers and teacher librarians. Findings indicate students want more teacher guidance, but also recognize the importance of developing their own information literacy and research skills independently.

Introduction

The educational authorities and employers recognize that 21st Century learners need to develop unique, high-level skills to be able to find pathways through the information landscape of today ranging from fake news to authoritative sources (Robinson & Aronica, 2015). Learners must think critically and creatively, collaborate in teams, and exercise ingenuity and empathy in the pursuit of knowledge and understanding. They need to bend the power of technology– to use it in an intrinsic, ethical fashion, in the process of learning and creating. In his blog, Marc Tucker (2014), president of the American National Center on Education and the Economy, notes “Schools and teachers are no longer the only sources of knowledge...Students should become active learners, teachers should become learning facilitators, technologies should help liberate learners and schools should become an environment conducive to genuine learning.”

However, at the same time, standardized testing on international and national scales is endemic in education systems around the world and in direct contrast to these higher level 21st Century skills. Globally, it is vital to countries to appear to be “doing well” on international tests like the Programme for International Student Assessment (PISA) administered triennially by the Organisation for Economic Cooperation and Development (OECD) “which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students” (OECD,

2018). Domestically, it is vital that schools are accountable and performing as more content is being added to the curriculum. In the Australian context, teachers and principals have the added pressures of accreditation and being rated through standards from the Australian Institute for Teaching and School Leadership (AITSL, 2017). Educators are accountable in processes which absorb more time to fulfil and are in opposition to the need for the higher-level skills necessary to navigate today's information landscape.

Teachers and teacher librarians can work together to overcome these contrasting issues by using an inquiry pedagogy like Guided Inquiry (GI). GI is grounded in the Information Search Process (ISP), a research-based information literacy model identified by Kuhlthau (1985; 1988a; 1988b; 1989) and operationalized by the Guided Inquiry Design (GID) process from Kuhlthau, Maniotes, and Caspari (2007; 2012; 2015). Fundamental aspects of GI encourage the development of 21st Century skills through the focus on independent inquiry, choice in inquiry topics, and creativity and collaboration in developing final products to showcase learning. Using this model, teachers and teacher librarians become more like "guiders" as our study participant Amy mused.

In this research, we sought to investigate how GI supports students' information literacy skills in a collaborative GI unit where they pursued their own research topics and interests. Further, we were interested in the students' voice in this process and what they found easy and difficult in doing research and developing their information literacy skills. Our research questions included:

1. How does GI support (or not) students' information literacy skills when engaged in a research project?
2. What do students find easy when doing research?
3. What do students find difficult when doing research?

The second and third research questions are important components of the School Library Impact Measure (SLIM) Toolkit which was developed by Todd, Kuhlthau, and Heinström (2005) to help practicing teacher librarians assess students in their research process while working on an inquiry unit. The SLIM Toolkit was an important guide for our research in constructing our survey questionnaires and focus group guides and led us to use as our lens of analysis the new standard developed by the American Association of School Librarians, the *National School Library Standards for Learners, School Librarians, and School Libraries* (AASL, 2018c). We will discuss this development further in our methods section, but first, will continue to set the context for our study as we explore the literature around the partnering role of the teacher and teacher librarian in inquiry learning.

Review of Literature

Allied to the pressures of covering content and accountability is student and teacher perception of the teacher's role in inquiry learning. The research of Schultz-Jones, et al. (2018) has early findings on the actions of teachers which best encourage learning. They describe practices such as using constructivist approaches, making connections with new and prior knowledge, blending group activities with direct instruction, asking "deep-level" questions, using hands-on, real world experiences, considering metacognitive skills, giving constant feedback, supporting reflection, and using visual representations (Schultz-Jones, et al., 2018). These teaching practices are also central to inquiry learning and the partnership teachers and teacher librarians develop in planning, delivering and implementing inquiry units.

Behrenbruch (2012) described the impact of teachers working in an International Baccalaureate school in Australia and the teachers' strong understanding and endorsement of

inquiry learning. In this study, students noted what they find essential in an inquiry classroom including:

[The students'] voices were respected as independent learners. They valued time with their teachers and peers to learn together and to build relationships. They understood and expected teachers to demonstrate a range of roles, sometimes guide, sometimes supporter, sometimes co-learner, sometimes expert, but not "controller". All of these roles supported the centrality of formative assessment with students taking an active, not a passive role in the assessment process. (Behrenbruch, 2012, p. 79)

Findings on what teachers found essential were time, discourse and relationships, all tightly interwoven into common processes, including planning and developing student inquiries, assessing, and working in teams with other teachers. These findings demonstrate similar understanding to the teaching practices described by Schultz-Jones, et al. (2018) which foster learning and understanding in their students. However, Behrenbruch's teachers do not discuss the teacher librarian's involvement in their inquiry units, nor do they discuss how they will help their students with seeking and using information, which is so much part of the teacher librarian's role in inquiry learning (2012). The partnership of the teacher and teacher librarian is absent here.

Another study by Dobber, Zwart, Tanis, and van Oers (2017) looked at teaching strategies used by K-12 teachers when promoting inquiry-based education in the classroom and noted that many teachers find inquiry stressful. In this literature review, Dobber, et al. (2017) examined 186 studies investigating different ways in which teachers promote inquiry-based education. Some of these were teacher-directed, student-directed or a mixture of these methods, and included developing thinking and research skills, directing concept formation, providing information, managing social interaction, organizing groups and facilitating collaboration, and addressing the needs of high and low achievers. However, in this, as with Behrenbruch's study (2012), there is no mention of the role of the teacher librarian in inquiry learning and minimal reference to information literacy skills needed throughout the inquiry process.

Further, Smith (2013) studied teachers' understandings and involvement in information literacy teaching. This research found that teacher assumptions regarding student need and ability inform information literacy instruction and that information literacy development is assumed by teachers to be passive and the responsibility of the student. However, in this study, student participants were unfamiliar with the phrase information literacy and its scope in their learning, and thus, struggled with the development of these skills.

Additional studies note teachers do not demonstrate much understanding of information literacy or the role of the teacher librarian in inquiry learning. Probert (2009) reported on teacher understanding of information literacy and their practices, finding that some teachers had a relatively good understanding of information literacy, but that very few reported trying to develop these skills in their students. Warren (2018) also showed low levels of teacher awareness of information literacy and the role of the teacher librarian in information literacy. Almost completely absent in this literature review was mention of the teacher librarian's role in information literacy and inquiry learning and the potential for collaboration with teachers.

Methodology

This study used a mixed-methods design and was set in a K-12 private suburban school that has a strong culture of inquiry learning and, specifically, using GI. We invited the entire Year 9 (approximately 100 students) and 22 students (approximately 20%) volunteered to participate in our study. These students are divided into four classes by ability and our participants came from the three highest-achieving classes. In Year 9, the students engaged in two GI units in the beginning and

end of the 2017 school year and we are reporting here on their experiences in the second unit. (For an analysis of the first unit, please see Garrison, FitzGerald, & Sheerman, 2018.)

All of Year 9 engaged in this GI unit studying the Industrial Revolution and investigating the inquiry question: Did the Industrial Revolution make a better world? Students were tasked with gaining an overview of the period from 1750-1918, examining its causes and effects as well as the nature and significance of the time. Then, as an important part of GI is narrowing the broad topic into a smaller topic of personal interest, students were able to choose to further research three subtopics: 1)Inventions leading to industrialization in Britain and Australia like the steam engine; 2)Experiences and way of life for men, women, and children during the time; or 3)Short and long term effects of the Industrial Revolution in Britain and Australia. For the final product, students worked together to create a collaborative newspaper with articles they wrote individually about their topics. Data sources for our study included these student-created artefacts, process journals documenting their research process, surveys about using GI before, during, and after the unit, and 30-minute focus group interviews after the unit. The focus groups were the only difference between our 22 students who volunteered to participate in the study and their classmates; we only investigated those consenting students' work and survey responses.

The focus of our analysis in this article is students' responses in our focus group interviews and two particular questions from their surveys. The 22 students were divided into four focus groups, two groups of five and two groups of six students. The interviews were semi-structured and creation of the interview guide included some of the students' survey responses as well as questions from the SLIM Toolkit (Todd, Kuhlthau, & Heinström, 2005). Specifically, we used question four (What do you generally find easy when you do research?) and five (What do you generally find difficult when you do research?) Academic studies using SLIM were carried out by Todd (2006, 2011a) which showed how knowledge changed in amount and structure throughout a GI unit using SLIM analysis methods. The SLIM Toolkit has been used in many practitioner studies, particularly in Australia. Todd (2011b) supervised practitioner action research in Australian schools demonstrating factors involved in the growth to deep knowledge of students engaged in GI units. In analyzing these two SLIM questions about what students find easy and difficult when researching, the SLIM Toolkit creators used the *Information Literacy Standards for Student Learning* developed by AASL and the Association for Educational Communications and Technology published in *Information Power* in 1998. Since then, AASL's *Standards for the 21st-Century Learner* (2007) and now the *National School Library Standards for Learners, School Librarians, and School Libraries* (2018c) have surpassed these initial standards and incorporated other important elements like the role of the teacher librarian and technology.

Before progressing on our methods discussion, it is important to understand some of the context behind the creation of the *National School Library Standards for Learners, School Librarians, and School Libraries* (AASL, 2018c). Firstly, they were created after much consultation with stakeholders including administrators, students, teachers, and the school community over a period of time. [For a full history with videos, audio and testimonials about the process, visit the website at <https://standards.aasl.org>.] The past year has seen many articles written about the *National School Library Standards for Learners, School Librarians, and School Libraries* (2018c). Many of this support the Standards' implementation, but two articles were more critical criticisms. Loertscher and Harlan (2017) found that the overabundance of educational terms and jargon used throughout the *Standards* was complex and confusing. Loertscher (2018) reviewed the *Standards* as too focused on inquiry learning, ignoring other aspects of the teacher librarian role, and lacking enough focus on the place of technology in learning. Others regard the focus on inquiry as a strength, in that they cover all

aspects of inquiry learning and can be used to ensure that all aspects are covered through a range of inquiry units. Burns (2018) wrote about the important role of reflection in the *Standards* and how to model it with students. Lechtenberg and Philips (2018) discussed how the *Standards* are a blueprint for fostering equity in inquiry learning. Burns and Mardis (2018) wrote about the innovative and rigorous phased process used to create the *Standards* and discussed best practices in implementing them. Gregory (2018) used the *Standards* as rationale in aligning information literacy across the disciplines with GI. Rinio (2018) discussed how the *Standards* make a call for trust between teachers and teacher librarians, between teachers and students, and between teacher librarians and students as a fundamental impetus to the kinds of collaboration needed in inquiry learning. The *Standards* are indeed a blueprint for inquiry learning which is a strong pedagogy in supporting 21st Century skills and very relevant to the research we present in this article.

Thus, we use the 2017 standards as our new lens of analysis in investigating information literacy skills and what students find easy and difficult when doing research. Further, as previously noted in the literature review, scholars identified a strong emphasis on inquiry learning within these standards (Loertscher, 2018) which make them an especially good tool for this study. As we are focused on the student voice here and the new standards in their entirety are much more complex than the 1998 standards used by the SLIM Toolkit, we decided to concentrate on the standards for *learners* only and not those focused on the teacher librarian and school library. We used all 68 *Learner Standards* across the six Shared Foundations (Inquire, Include, Collaborate, Curate, Explore, and Engage) and the four domains (Think, Create, Share, and Grow). [See the *AASL Standards Framework for Learners* (2018b) for a visual representation.]

Before beginning the content analysis of our focus group transcripts using the *Learner Standards*, it was important to consider the Australian context and important trends happening in our educational system. In 2010, the Australian Curriculum, Assessment, and Reporting Authority (ACARA) answered the call for embedding 21st Century skills into the national curriculum for learners by creating the General Capabilities, which consist of Literacy, Numeracy, Information and Communication Technology Capability; Personal and Social Capability; Critical and Creative Thinking (CCT) and Ethical Understanding (ACARA, 2010). The CCT elements particularly have a strong focus on inquiry and higher order skills like reflection, synthesizing, and evaluating. Further, given the focus on inquiry noted by scholars studying the *Standards*, we thought it was also critical to map important skills specific to GI and where these occurred in the seven stages of the GID process. From this exercise, we found strong connections between the *Learner Standards* and the CCT elements of the Australian curriculum as well as the presence of important skills across the GID stages from beginning to end. As these two frameworks made up the structure of the Industrial Revolution unit, we are confident in using the *Learner Standards* as our lens of analysis. To investigate what the students found easy and difficult from the focus group transcripts, we did a content analysis using the *Learner Standards* as our framework, recording frequencies of each standard and the Shared Foundation as well as taking note of specific quotes students gave related to those standards. Next, we present our findings broadly with the frequencies and then in more detail using the students' perspectives.

Findings

While the richness of our data is in the voice of our student participants, it is interesting to note the frequency counts for the *Learner Standards* (AASL, 2018c) across the Shared Foundations and Domains to consider what this means in the context of this GI unit. Our broad findings matched up to each of the standards is shown quantitatively in Table 1 listing frequency counts for what the

students noted as being easy and difficult when doing research. The Key Commitments underlying the Shared Foundations are also included for deeper context.

Table 1. Frequency Counts for the National School Library Standards for Learner Across the Shared Foundations and Domains

<i>National School Library Standards for Learners</i>		Frequency Counts	
Shared Foundations	Domains	Easy	Difficult
I. Inquire- Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.	Think	11	20
	Create	22	12
	Share	1	2
	Grow	7	0
	Inquire Totals	41	34
II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.	Think	0	0
	Create	0	0
	Share	1	0
	Grow	0	0
	Include Totals	1	0
III. Collaborate- Work effectively with others to broaden perspectives and work toward common goals.	Think	4	9
	Create	1	3
	Share	0	0
	Grow	2	1
	Collaborate Totals	7	13

IV. Curate- Make meaning for oneself and others by collecting, organizing, and sharing resources of personal relevance.	Think	15	23
	Create	11	19
	Share	0	0
	Grow	1	0
	Curate Totals	27	52
V. Explore- Discover and innovate in a growth mindset developed through experience and reflection.	Think	3	5
	Create	1	4
	Share	5	0
	Grow	2	6
	Explore Totals	11	15
VI. Engage- Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.	Think	0	1
	Create	1	1
	Share	0	0
	Grow	0	0
	Engage Totals	1	2
OVERALL TOTALS		88	116

As shown in Table 1, there is slightly more noted by the students as being difficult than easy, especially in “Curate” which is focused on the research process itself, finding, using, and evaluating information. The students note more ease in “Inquire” which is promising as that addresses more of the higher level 21st Century skills like being creative and critical. The other four Shared Foundations, Include, Collaborate, Explore, and Engage, were much sparser in representation. This is surprising considering the strong focus on collaboration in GI and that the students’ final product was a collaborative newspaper they created together in small groups. Also, in a research project like this, it would seem elements of Engage, focused on intellectual property and citing sources, should have a stronger presence than the three counts noted here. The remainder of the findings discussion

focuses more deeply on the highest noted standards within the Shared Foundations, Inquire and Curate, and the students' reflections around first what they find easy and then what they find difficult in those areas.

“What do you find easy when doing research?”

The first standards in the Shared Foundation Inquire across the Think Domain focus on curiosity in new learning as well as connecting prior learning. Standard I.A.1, which notes that “Learners display curiosity and initiative by formulating questions about a personal interest or a curricular topic” (AASL, 2018c, p. 34), was recorded six times. This focus on personal interest is an important facet of GI where students choose their own topic of research. Our student participants noted the importance of this choice in helping them to maintain motivation to research and learn skills while also enjoying the process. Esteban described it as a progression where, “the more choices we get, the more fun we have, the more work we do.” Jeff41 also alluded to the initiative and development choice can create in regards to using GI when he said, “Like we actually learn from [GI] and not just learn about the topic, but learn different skills from it such as researching on our own.” Amy agreed that “it is also a good skill to be able to research and like go out and do it yourself instead of just being told what you need to do.”

Standard I.A.2 states “Learners display curiosity and initiative by recalling prior and background knowledge as context for new meaning” and was recorded 22 times in our data (AASL, 2018c, p. 34). These instances relate back to the students' prior use of GI in previous research projects and how they have internalized the steps, making it much easier for them to follow the process. At the same time, this also made the process seem long and arduous to them being so “experienced”; they identified it as being more appropriate for younger students and inexperienced researchers. As Katniss noted “because like going into high school, everything was new and stuff like that so I found it really helpful to know, hey this is how you should probably do your research and so you get it structured.” Jughead felt the same and described a foundation GI created for him, that “after you have been introduced to GI, it sort of like leaves that pathway open for you in future learning.” In Inquire's Create Domain, the second standard, I.B.2 “Learners engage with new knowledge by following a process that includes devising and implementing a plan to fill knowledge gaps,” is very connected to GI and this research and was identified 16 times in the transcripts (AASL, 2018c, p. 34). This related to using the process for our students who think this makes researching easier for them and that it comes “naturally” the more you do it as Katniss says. The students noted the utility of the GI stages and breaking things down into steps. C.E.M. said “The part I find easy is how it is laid out and not having to do it in all one go, it's all in different weeks like how you do the stages and all that.” Emperor thinks “it's an effective time management process” by going through the stages week to week. Dinkie said the process as dictated in the students' process journals documenting their research helped him to write up his final product as well. Jeff41 noted its utility across tasks when he reflected that “the actual process that [GI] goes through is what you would do for any task.” It was clear for this standard that following a process like GI was helpful for these students while doing their inquiry research.

Getting into the Shared Foundation Curate brings us a deeper into the GI stages focusing on the Immerse and Gather stages. In the second standard of the Think Domain, “Learners act on an information need by identifying possible sources of information,” our students noted this as being easy 15 times (AASL, 2018c, p. 37). As Dom put it, “just gathering information [is] easy because [the Industrial Revolution] is such a massive topic.” Jughead happily chimed in, “you can find like

everything on the Internet!" However, Dylan's comment, "I generally find it easy to find the information, just a bit more difficult to validate it, to make sure it's true", alludes to an issue we will get into the next half of our findings discussion.

In Curate's Create Domain, the first standard IV.B.1 "Learners gather information appropriate to the task by seeking a variety of sources," was noted 11 times in the transcripts (AASL, 2018c, p. 37). In this area, students noted specific sources and areas to research. Susie noted books as a useful source for this topic. Jeff⁴¹ identified ".gov and .org and .edu sites" as "a lot easier to come by, especially because it is such a well-known and essential topic in school." Chuck noticed a difference from doing research two years prior in Year 7 to now in that "there's a lot more like information out there like on the web." He "found tons of YouTube videos by like historians on the Industrial Revolution" to reference his product. While it is promising that the students are finding information, their carefree attitude to sources like YouTube is a bit worrisome and also tackled in the next section about what they find difficult when doing research.

"What do you find difficult when doing research?"

The Think and Create Domains noted above in Inquire and Curate as being easy, were also those noted most as being difficult which supports the dichotomy of learning and the cognitive dissonance learners experience when engaging in inquiry and independent learning. In Inquire's Think Domain, standard I.A.1 focuses on the curiosity students show when they study something of personal interest; this was identified 20 times as difficult in the focus group transcripts. This may be related to two reasons specific to the Industrial Revolution topic: 1) the students were given a list of subtopics to choose and had to choose those different from the other members of their small group making the collaborative newspaper; and 2) the Industrial Revolution topic itself. Firstly, some students noted that classmates in their groups had already chosen topics they were most interested in so they were forced to take the leftover topics of less interest to them. In regards to the second reason, Esteban gives some context:

At the start, we were watching videos on the Industrial Revolution and Miss kept saying "do something that you are interested in" and I just didn't find anything interesting. (laughs)...I think it was pretty cool how the Industrial Revolution based our society on what it is now. But it gets annoying when you don't know what you want or you are interested in.

His comment makes a good point that even when educators use some technology or media to motivate students, it can still be hard for them to choose an interest and get intrinsically excited about certain topics enough to begin.

As a GI unit is very focused on student-led learning and independence, this can be even harder. Dinkie noted that he tends to get "distracted" with this type of learning and Amy, a student from the highest achieving class, said that "instead of like you researching it and finding it out for yourself, I like having the teacher telling you things." Even Esteban who noted the progression in the easy findings discussion of more choice equals more fun equals more work, agreed that he "want(s) choice, but [he] also want(s) the teacher there because really, it's hard to find that balance." We will return to this balance of student and teacher-led learning, but it is notable that while the students like that element of choice in what they are researching, they also find it difficult to manage.

Inquire's second standard in the Create Domain stresses using a "plan to fill knowledge gaps" which equates well with GI, but students noted this as being difficult 12 separate times (AASL, 2018c, p. 34). These were almost exclusively related to their use of the process journal which helped them to document their research process, take notes, keep track of sources, and was monitored by the teacher librarian and teacher throughout the process. Students like Emperor found it "tedious"

having done it “multiple times since Year 7.” Pablo found it “a bit more restrictive” as you get older and start to get so accustomed to the process. Mynamajeff thinks the focus should shift from the process journal and GI stages to it being “more like an indirect influence of how you research...especially in the older years.” His comments show an advanced view of his own learning, but are in stark contrast to some of the comments from his classmates indicating a preference to a more teacher-led model.

As previously alluded to in the easy findings discussion focusing on Curate’s Think Domain where “Learners act on an information need”, our students found this as difficult as they did easy (AASL, 2018c, p. 36). Standard IV.A.2 focuses on “identifying possible sources of information” while IV.A.3 stresses “making critical choices about information sources to use” (AASL, 2018c, p. 36). This is where our students had trouble as they could find a lot of information about the Industrial Revolution as a whole, but they had more difficulty finding information about their specific subtopics like Kinsley who lamented, “there’s not like anything on chimney sweeps!” She wanted to go to Wikipedia as “they have like stacks of information that you just want to use, but you can’t, because like it’s probably wrong and like twisted a little bit.” The students also had a hard time determining the reliability and validity of their information sources. Dylan described an instance where he found contrasting information on two sites and had to keep digging until he was able to find a third site validating one of the first. These students definitely felt information overload as they reflected back on the process of gathering information.

They also had an interesting discussion about the use of primary and secondary sources which was an important part of this unit. Taylor thinks “it’s better if you use primary sources, but they’re like a lot harder to find.” Annie agreed:

Secondary sources are so much easier to find, because they've been like, published and gone through everyone else... first-hand data is so much better because it's like as if you were there, primary is more reliable, so that's why it's a lot harder, and why there's not much out there.

Conversely, Mynamajeff described the “grey area in terms of the difference between a primary and secondary source” and that a primary source should not be “always trusted.” Pablo showed developed thinking on this subject as well in his discussion about the complexity of a photograph with a caption as a primary source:

It's a bit hard when you are studying the Industrial Revolution because they didn't have Internet back then (laughing) and they only had photography. So like at best, you would probably find a website which had a few photos on it and maybe you could use those but even when you use the photos, you have to put in your own information or whatever the description is given to that photo already, and that description is already going to be secondary.

It is clear from the discussions in the focus groups that students find it challenging to navigate today’s information world and think critically about how they find, evaluate, and use information.

Limitations of Standards

As previously stated, not many of the *Standards* (AASL, 2018c) within the Include, Collaborate, Explore or Engage Shared Foundations were identified in this research and the other two Shared Foundations, Inquire and Curate, were noted both as being easy and difficult. This may be related to the nature of this GI unit and the task students were asked to complete as well. Not every unit or task can address every standard and some may be important to focus on more than others, but future

research should investigate these other areas further to see how they can be better incorporated into inquiry learning experiences.

Conclusions

Through the voices of our student participants, our findings suggest different perspectives in how they approach research and inquiry. There is a clear conflict within the students of wanting to be able to research and complete an assignment their own way - utilizing choice and the strategies they find most effective - to also wanting to have their teacher beside them giving them constant and consistent guidance along the way. There was evidence in our research that students wanted teachers to assume a more active role in their inquiry, and to jump back and forth from the roles of being a guide to directly teaching. The literature review reveals a spectrum of understanding of teachers' roles in inquiry learning from deeply engaged in the process to confused about what is their role in information seeking and use of information by students. They are confused about the teacher librarian's role in inquiry learning and some chose to not take any part at all in the inquiry of students, truly regarding it as "independent." Our students called out for more involvement from the teachers, and often felt lost and alone.

In our analysis and use of the *Standards* (AASL, 2018c) to look at the experiences of secondary students in GI, we found that coverage of how educators can work with teacher librarians in inquiry learning is covered by the *Standards* (e.g., [A Guide for Educators and Classroom Teachers: What School Library Standards Mean to Educators](#), AASL, 2018a). However, we found little reference to classroom teachers' understanding and teaching of inquiry despite the focus on inquiry in the *Standards* (Loertscher, 2018). The role of the teacher in inquiry was a theme in our focus groups that came up repeatedly, as is suggested by the title of this article stated by our student participant Amy. Inspired by Amy's comment, Dinkie agreed that Year 10-12 teachers should be referred to as "guiders" while "Year 7-9 teachers should be called teachers." The students showed frustration and cognitive dissonance in taking on the independence and responsibility of their own learning, a strong component of inquiry learning and skills identified in the literature about 21st Century learning. While they are past needing the "sage on the stage" model, they may also not quite be ready to take on the autonomy inherent in the "guide on the side" version. We propose a combination of the two, a "meddler in the middle" if you will.

Further, both students and teachers in our research felt the pressures of content and accountability – students to get through content and gain good marks and teachers fearful that all the content would not be covered by inquiry resulting in students performing poorly in their school examinations. Participant Susie had an interesting perspective related to this as she was a new student to this school and used GI just once earlier in the year in our first study (Garrison, FitzGerald, & Sheerman, 2018). She recalled having learned about the Industrial Revolution "the normal way" at her old school and thinks that it is best to have a teacher teach it that way to make sure everything is covered and then go off to do the small group projects. The teacher librarian involved in this research noted that some of the classroom teachers felt the same way.

It is clear that there is a strong need to develop teacher understanding and involvement in inquiry learning, especially in the information literacy skills involved as well as their understanding of collaborating with the teacher librarian. The OECD offers a conclusion here in concurrence with the research of Schultz-Jones, et al. (2018), that there is no single best method of teaching:

...that is even more true in the 21st century than in the past. Teachers today need to know how to combine "guided discovery" with "direct instruction" methods, depending on the individual students, the context of instruction and the aims of the teaching. (Schleicher, 2012, p. 47)

Teaching today is as complex and demanding as ever. It can only be a good thing that more overloaded teachers pressed by the triple pressures of accountability, content delivery and 21st Century skills turn to the teacher librarian to foster information literacy through inquiry learning and develop stronger partnerships.

References

- American Association of School Librarians. (2007). *Standards for the 21st-Century Learner*. Chicago: ALA Editions.
- American Association of School Librarians. (2017-2018). *American Association of School Librarians: Transforming Learning- Home Page*. Retrieved April 24, 2019, <https://standards.aasl.org>
- American Association of School Librarians. (2018a). *A guide for educators and classroom teachers: What school library standards mean to educators*. Retrieved April 24, 2019, from https://standards.aasl.org/wp-content/uploads/2017/11/AASL_Educator_OnePager_2017.pdf
- American Association of School Librarians. (2018b). *AASL Standards Framework for Learners*. Retrieved April 24, 2019, from <https://standards.aasl.org/wp-content/uploads/2018/08/180206-AASL-framework-for-learners-2.pdf>
- American Association of School Librarians. (2018c). *National School Library Standards for Learners, School Librarians, and School Libraries*. Chicago: ALA Editions.
- American Association of School Librarians and Association for Educational Communications and Technology. (1998). *Information power: Building partnerships for learning*. Chicago: ALA Editions.
- Australian Curriculum, Assessment and Reporting Authority. (2010). *Critical and Creative Thinking*. Retrieved April 24, 2019, from <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/critical-and-creative-thinking/>
- Australian Institute for Teaching and School Leadership. (2017). *Australian Institute for Teaching and School Leadership Home Page*. Retrieved April 24, 2019, from <https://www.aitsl.edu.au/>
- Behrenbruch, M. (2012). *Dancing in the light: Teachers' perspectives on inquiry*. Rotterdam, The Netherlands: SensePublishers.
- Burns, E. (2018). School librarian as inquisitor of practice: Reimagine, reflect, and react with the new Standards. *Knowledge Quest*, 46(4), 54-58.
- Burns, E., & Mardis, M. (2018). The researchers' perspective for and by the community: Processes and practices from the development of *National School Library Standards*. *School Libraries Worldwide*, 24(1), 118-125.
- Dobber, M., Zwart, R., Tanis, M., & van Oers, B. (2017). Literature review: The role of the teacher in inquiry-based education. *Educational Research Review*, 22, 194-214.
- Garrison, K.L., FitzGerald, L., & Sheerman, A. (2018). "Just let me go at it": Exploring students' use and perceptions of guided inquiry. *School Library Research*, 21. Retrieved August 13, 2019, from http://www.ala.org/aasl/sites/ala.org.aasl/files/content/aaslpubsandjournals/slr/vol21/SLR_JustLetMeGoAtIt_V21.pdf
- Gregory, J. (2018). The information literate student: Embedding information literacy across disciplines with GI. *Teacher Librarian*, 45(5), 27-31, 34.
- Kuhlthau, C.C. (1985). A process approach to library skills instruction. *School Library Media Quarterly*, 13(1), 35-40.
- Kuhlthau, C.C. (1988a). Longitudinal case studies of the information search process of users in libraries. *Library and Information Science Research*, 10, 257-304.
- Kuhlthau, C.C. (1988b). Perceptions of the Information Search Process in libraries: A study of changes from high school through college. *Information Processing and Management*, 24, 419-427.
- Kuhlthau, C.C. (1989). The Information Search Process of high-, middle- and low-achieving high school seniors. *School Library Media Quarterly*, 17, 224-226.
- Kuhlthau, C.C., Maniotes, L., & Caspari, A. (2007). *GI: Learning in the 21st Century*. Santa Barbara, CA: Libraries Unlimited.

- Kuhlthau, C.C., Maniotes, L., & Caspari, A. (2012). *GI design: A framework for inquiry in your school*. Santa Barbara, CA: Libraries Unlimited.
- Kuhlthau, C.C., Maniotes, L., & Caspari, A. (2015). *GI: Learning in the 21st Century*. (2nd ed.). Santa Barbara, CA: Libraries Unlimited.
- Lechtenberg, K., & Phillips, J. (2018). Speaking up for equity takes courage: But the *Standards* have your back. *Knowledge Quest*, 46(5), 56-63. Retrieved April 24, 2019, from https://knowledgequest.aasl.org/wp-content/uploads/2018/04/KNOW_46_5_Standards_56-63.pdf
- Loertscher, D.V. (2018). *National School Library Standards for Learners, School Librarians, and School Libraries: A review*. *Teacher Librarian*, 45(3), 36-48. Retrieved April 24, 2019, from <http://teacherlibrarian.com/wp-content/uploads/2018/02/Review-3.pdf>
- Loertscher, D.V., & Harlan, M.A. (2017). Design thinking and the new AASL *Standards*. *Teacher Librarian*, 45(2), 46-63.
- Organisation for Economic Cooperation and Development. (2018). *About PISA*. Retrieved April 24, 2019, from <http://www.oecd.org/pisa/aboutpisa/>
- Probert, E. (2009). Information literacy skills: Teacher understandings and practice. *Computers & Education*, 53(1), 24-33.
- Rinio, D. (2018). How understanding the nature of trust can help address the *Standards*. *Knowledge Quest*, 46(3), 44-48.
- Robinson, K., & Aronica, L. (2015). *Creative schools: The grassroots revolution that's transforming education*. New York: Viking.
- Schleicher, A. (2012). Ed., *Preparing teachers and developing school leaders for the 21st Century: Lessons from around the world*. OECD Publishing. Retrieved April 24, 2019, from <https://www.oecd.org/site/eduistp2012/49850576.pdf>
- Schultz-Jones, B., Kimmel, S.C., Mardis, M.A., Jones, F.R., Pribesh, S., & Pasquini, L. (2018). Evidence, standards and school librarianship: Prevailing policies, promising methods and progress on a research agenda. *School Libraries Worldwide*, 24(2), 17-29.
- Smith, J.K. (2013). Secondary teachers and information literacy (IL): Teacher understanding and perceptions of information literacy in the classroom. *Library & Information Science Research*, 35, 216-222.
- Todd, R.J. (2006). From information to knowledge: Charting and measuring changes in students' knowledge of a curriculum topic. *Information Research*, 11(4). Retrieved April 24, 2019, from <http://www.informationr.net/ir/11-4/paper264.html>
- Todd, R.J. (2011a). Charting student learning through inquiry. *School Library Monthly*, 28(3), 5-8.
- Todd, R.J. (2011b). From literacy to inquiry: A holistic approach to literacy development in selected Australian schools. International Federation of School Library Associations Conference, San Juan, Puerto Rico.
- Todd, R.J., Kuhlthau, C.C., & Heinström, J.E. (2005 January). *School Library Impact Measure (SLIM): A toolkit and handbook for tracking and assessing student learning outcomes of Guided Inquiry through the school library*. Center for International Scholarship in School Libraries, Rutgers University. Retrieved April 24, 2019, from https://www.researchgate.net/publication/278674274_School_Library_Impact_Measure_SLIM_A_Toolkit_and_Handbook_For_Tracking_and_Assessing_Student_Learning_Outcomes_Of_Guided_Inquiry_Through_The_School_Library
- Tucker, M.S. (2014, March 6). Kai-ming Cheng on Learning. *Tucker's Lens*. Retrieved April 24, 2019, from <http://www.ncee.org/2014/03/tuckers-lens-kai-ming-cheng-on-learning/>
- Warren, R. (2018). Low levels of teacher information literacy awareness and collaboration between librarians and teachers in information literacy. *Evidence Based Library and Information Practice*, 13(3), 51-68.

Author Notes

Kasey Garrison (kgarrison@csu.edu.au) is a lecturer in the Teacher Librarianship course and the coordinator of the Children's Librarianship Specialisation in the School of Information Studies at Charles Sturt University. Kasey has experience teaching in preschool through primary school as a special educator, Spanish teacher, and teacher librarian. Her research interests focus on diversity and social justice issues in youth literature as well as inquiry learning in the school library.

Lee FitzGerald (lefitzgerald@csu.edu.au) is an adjunct lecturer in Teacher Librarianship at Charles Sturt University and works part-time at St Andrews Cathedral school in Sydney, to set Guided Inquiry alongside the school's Middle Years Program of the International Baccalaureate. Lee has a passion for Guided Inquiry, having practiced as a teacher librarian and researcher. She is also interested in applying evidence-based practice to confirm the growth of deep learning through inquiry.

Alinda Sheerman (a.sheerman@broughton.nsw.edu.au) has been teaching in Primary and Secondary schools for 44 years; 19 of these years managing K-12 school libraries. Since 2004 she has worked at Broughton Anglican College (Menangle Park, NSW) as Head of Information Services and Teacher Librarian, a Prep – Year 12 school with around 1300 students. Alinda trains and supports the teachers and students in the use of Guided Inquiry and in the integration and application of online platforms and tools into the stages of this process. Alinda conducts action research regularly to assess learning and improve practice.

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.