Article

"It is a skill everybody needs to learn": Australian teacher librarians steering secondary schools through shifting information landscapes

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Abstract

There is limited research available that investigates current information literacy (IL) needs of Australian secondary school students and teachers from the perspective of teacher librarians. This phenomenological research responds to this problem by exploring the perspectives of Australian secondary teacher librarians regarding the changing information landscape and its effects on supporting IL for students and teachers— *"a skill everybody needs to learn"* as our participant Mrs. M. highlighted. Data included from interviews with 19 secondary teacher librarians with varying years of teaching experience in different types of schools from across the country. Findings suggest the overwhelming amount of information available means users must develop better evaluation and selection skills in addition to an understanding of the differences among information sources like search engines, social media, and AI. The teacher librarians described similar issues for students and teachers, both struggling to keep up with the rate of changes and unaware of their knowledge gaps. At the same time, the shifting and expanding information environment presents opportunities for deeper discussion and engagement around issues like information ethics and copyright as well as the development of creative and critical thinking skills. This research contributes to a clearer understanding of the needs of secondary

students and teachers as information users and demonstrates the diverse approaches teacher librarians employ to foster IL amid a rapidly shifting and unprecedented information context.

Keywords
Australia; information literacy; phenomenology; school libraries; teacher librarian; teaching

1. Introduction

The changing information landscape resulting from technological developments and the digitisation of information has meant that students now engage with overwhelming amounts of information not only when researching and responding to assessments but also as participants in an information driven society. The main purpose of this study was to investigate the perspectives of Australian secondary teacher librarians (TLs) on the changing information landscape and how it is impacting the information literacy (IL) skills needed by students and teachers in their schools. Through this, the research examines and identifies the methods TLs are currently employing to support students and teachers in developing their IL, particularly in response to the new demands posed by evolving technologies and the digitisation of information. The study endeavours to recognise and further enhance the knowledge and expertise of TLs as they collaborate with their school communities to cultivate the general capabilities necessary for students to be effective learners and active participants in a democratic society. With this purpose in mind, the research seeks to contribute to the limited body of knowledge regarding how TLs in Australian secondary schools perceive the changing nature of IL.

1.1 Background of study

This is an extension of prior research (Oddone & Garrison, 2024) investigating the perspectives of Australian secondary TLs and their views on IL and its changing nature. In that study, Oddone & Garrison, (2024) analysed quantitative and qualitative survey responses from 117 secondary TLs across Australia and established that practicing TLs are mindful of changes in the information ecosystem that are impacting upon teachers and students, and regularly engage both groups in discussions regarding the influence of these impacts upon learning and teaching. It also revealed dedication for maintaining awareness of current developments in the information landscape through ongoing professional learning and a desire for greater recognition of the vital support they provide to both teachers and students (Oddone & Garrison, 2024). Participants from that study were offered the opportunity to engage in a second phase of this research through interviews.

The present qualitative study builds on that previous work by analysing more deeply the beliefs and experiences of interviewed TLs to gain further insight and investigate how they perceive the challenges presented by the changing information landscape and resulting changes for teaching IL. It does so by probing their perceptions of the ways in which teachers and students currently engage with information, and the strategies they employ to foster their capabilities. TLs were also asked about the connection between IL as an academic skill and its growing necessity for informed engagement in society, and their understandings of IL as an individual or social practice, particularly given the evolution of social media and its influences.

1.2 Research questions

In using a phenomenological approach, this study sought to explore the phenomenon of IL and the IL needs of students and teachers through the perceptions of TLs. With this in mind, our research questions included the following:

- What changes in the information landscape do Australian secondary teacher librarians identify and how have these influenced their beliefs about the purpose of information literacy?
- What are the information literacy understandings Australian secondary teacher librarians think students and teachers need today to navigate the information landscape?

2. Literature Review

Teaching and supporting the development of capabilities in IL does not occur in a vacuum. The ways in which TLs enact their role as leaders of IL within their school are significantly influenced by the rapidly changing educational and societal context. To clearly position our research within the existing body of work, this literature review explores how the information environment within which schools operate is evolving, changing perceptions of IL and the role of the TL. It also considers the consequent changing requirements for teachers and students as information users.

2.1 Shifting information and educational landscapes

Schools have not been immune to the impacts of digitisation and technological change that have transformed the information landscape. Digital information, characterised by persistence, replicability, scalability and searchability (boyd, 2011) has been freed from a static, physical location to become accessible anywhere at any time. This evolution has been further hastened by algorithms and platforms which push information in a variety of forms to users based upon their previous behaviours and interactions (Head et al., 2020; Hofer et al., 2019). A function of this information saturated context is that the ability to seek, evaluate, use and share credible and high-quality information has shifted from being viewed largely as an academic skill to become recognised as a crucial 21st century skill, needed for active and informed engagement not only in education but also in civic society (Dolničar et al., 2020; Polizzi, 2020; Shuhidan et al., 2021).

The emergence of generative artificial intelligence (GAI) has sharpened the focus on the need for information and digital literacies, as schools grapple with the potentials of the platforms as well as the academic and ethical challenges (Grassini, 2023). Traditional learning experiences focused on information seeking, analysis, and communication are challenged by technology that can imitate student responses (Weber-Wulff et al., 2023). In response, some researchers suggest a shift away from content knowledge, towards a focus on the process of learning and the development of 21st century skills (Cao & Dede, 2023; Carvalho et al., 2022). These skills, also known as transversal skills, are embodied in the General Capabilities in the Australian Curriculum, and include creativity, critical thinking, complex problem solving and information and digital literacies (Australian Curriculum Assessment and Reporting Authority (ACARA), 2024; Ruffles, 2023; Scoular, 2018; Thornhill-Miller et al., 2023). TLs have the skills and expertise required to support teachers to recognise the value of fostering of these capabilities and to assist them to embed their development into learning and teaching (Garrison et al., 2019; McIlvenny, 2019; Oddone et al., 2023; Ruffles, 2023).

In Australia, the redesign of the General Capability Information and Communication Technology (ICT) to become Digital Literacy and the implementation of the Information Fluency Framework (IFF) highlight the value that TLs can bring to learning and teaching (ACARA, 2023; Wall, 2022). These developments underscore the increasing impact of technological change on education, and the ways in which TLs can support teachers to embed them within the curriculum. The General Capability Digital Literacy was redesigned for clarity and closer alignment to content and context (ACARA, 2023). In the shift from the term ICT to Digital Literacy, there has been a transition from focusing on technical utilisation to appreciating the importance of the essential knowledge and skills that support the effective use of technology. The IFF was collaboratively developed by TLs in the New South Wales Department of Education. It maps learning outcomes to the curriculum through the lens of information use as a creator and a consumer (Wall, 2022). Information fluency is defined as "the ability to critically think while engaging with, creating and utilising information and technology, regardless of the information platform or medium" (New South Wales Department of Education, 2022, p. 4). Through expanding the notion of IL, the framework underscores the foundational nature of this capability through connections across the Australian curriculum, positioning TLs as instructional leaders (Wall, 2022).

2.2 IL needs of school students and their teachers

Despite the shift envisioned by the IFF, research exploring the IL needs of school students and their teachers is narrow in focus. Available research exploring the needs of students primarily examines technical skill levels of high school students using a variety of data collection methods. Some studies, conducted in diverse countries including Kuwait, Ghana, Thailand, and Singapore, used survey methods to gather students' opinions regarding their levels of IL (Al-Qallaf & Aljiran, 2022; Kankam, 2023; Moto et al., 2018; Majid et al., 2020). Each of these studies acknowledged the critical role of IL skills in academic success, however, factors such as high-speed internet access, the currency of the school curriculum, and teachers' competence with IL influenced the results. Regardless of student outcomes, there was agreement across this research that students' levels of IL could be improved; while students were easily able to access information and frequently turned to the internet as a key source, they were generally limited in advanced searching skills and the capacity to synthesise their findings in ways that responded to the task. These overall findings were similar to research conducted by Dipetso and Moahi (2021), who used an embedded approach to data collection, evaluating students' performance on a task designed using the Big 6 model and interviewing students about their progress. This study provided evidence of how students can be overwhelmed when they encounter different sources of information, and the impact this has on their ability to synthesise and use information to respond to a task. A contrasting data collection approach which surveyed and interviewed high school library staff regarding their perceptions of high school students' IL skills confirms that in general, the capacity of students to conduct advanced searching, and to critically evaluate and use multiple sources is less than proficient (Correll, 2019).

Although there is consensus on the importance of IL for informed participation in democratic society and for navigating environments filled with misinformation and disinformation (Jones-Jang et al., 2021; Lupien & Rourke, 2021; Polizzi, 2020), there is a dearth of research investigating how secondary school teachers understand this concept and what supports they require to teach about it (Fernández-Otoya et al., 2024; Taylor & DiGiacomo, 2023). As the concept of IL continues to defy clear definition (Lloyd, 2017), it is not surprising that in the limited research conducted, teachers are unclear about what IL entails and tend to overestimate

their knowledge and skills in this area (Shannon et al., 2019; Smith, 2013). Compounding this situation is the constant digital transformation which requires teachers to navigate a complex and changing landscape of literacies (Fernández-Otoya et al., 2024; Narey & Kerry-Moran, 2021). Studies confirm that teachers' own lack of skills in IL may limit students' learning experiences (Correll, 2019; Shannon et al., 2019), and almost all of the research encourages direct teaching of IL skills, and collaboration between teachers, students and school library staff (Al-Qallaf & Aljiran, 2022; Correll, 2019; Dipetso & Moahi, 2021; Majid et al., 2020). Despite this support for collaboration to embed IL skills into the curriculum, there is also evidence that this occurs rarely in practice (Garrison & FitzGerald, 2022; Mardis, 2016; Merga et al., 2021). Therefore, this research contributes to a significant gap in understanding how TLs address the changing nature of IL, and what they perceive as the needs of students and teachers in the rapidly shifting and dynamic information landscape.

3. Methods

This research employed a phenomenological approach and thematic analysis to investigate the changes in the information landscape identified by Australian secondary TLs and how those perceptions have impacted their beliefs, knowledge, and teaching methods around IL for students and teachers. In using a phenomenological approach, we saw the concept of IL as the phenomenon under study with the changing information landscape acting as a catalyst of change in the TL participants' experiences with IL. We examined that phenomenon (i.e., IL) using the experiences of the TLs as a lens. At the foundation of phenomenology is a focus around "how human beings make sense of experience and transform experience into consciousness, both individually and as shared meaning" (Patton, 2002, p. 104). In essence, we were interested in the participants' "lived experience" as Australian TLs working with young adults and teachers during a transformative time in relation to the IL skills needed to access, interpret, and use information.

3.1 Participants

In our prior study in early 2023, we surveyed 117 secondary Australian TLs on this topic and included a question asking for volunteers to be interviewed for follow-up research (Oddone & Garrison, 2024). Our original goal was to interview 10 TLs, but many more volunteered so we ended up with 19 TL participants for this phase, representing a broad range of years of experience as a TL, school level and type, and geographic location. The 19 volunteers are described in Table 1 and were interviewed for 30–60 minutes by zoom in mid-2023.

Table 1: Study participants and characteristics

Participant Pseudonym	Years of TL Experience	School Level	School Type	Australian State/ Territory
Anna	0–2 years	P/K–12	Public	Australian Capital Territory
Dlys	0–2 years	7–12	Public	New South Wales
Nickki	0–2 years	7–12	Private	Victoria
Matt	0–2 years	11–12	Public	Tasmania
Darcey	3–5 years	P/K–12	Private	Queensland
Bec	3–5 years	P/K–12	Private	Western Australia
Elizabeth	6–10 years	7–12	Private	New South Wales
Ngaire	6–10 years	7–12	Public	New South Wales
Mrs. M.	6–10 years	7–12	Private	New South Wales
Maree	11–20 years	7–12	Private	Australian Capital Territory
Ms H	11–20 years	7–12	Private	Victoria
Monica	20+ years	9–12	Public	Victoria
Deb	20+ years	7–12	Private	Queensland
Joyful	20+ years	P/K–12	Private	Queensland
Lincoln	20+ years	7–12	Private	New South Wales
Mrs. T.M.	20+ years	7–12	Private	New South Wales
LibraryLink	20+ years	P/K–12	Private	Victoria
Gabrielle	20+ years	7–12	Private	Queensland
Nell	20+ years	P/K–12	Private	Queensland

As shown in Table 1, our participants represent a range of school types although most do come from private schools. They come from six of the eight states and territories in Australia (excluding the Northern Territory and South Australia). Over half have eleven or more years of experience as a TL, with eight noting more than twenty years. Given our study's focus in looking at the changes in the information landscape over time, this was an important attribute for our participants; however, we thought it was also important to get the perspectives of TLs with less experience to establish a grounding on what are current understandings for newer TLs and to give strong context for the changes identified by the more experienced TLs. We also sought participants who had TL qualifications as dictated by the Australian Library and Information Association (ALIA) which states that a properly qualified TL has qualifications in both education and librarianship. This means that all of the TLs have experience in education (or at least the

degree) prior to studying to be a TL. Lincoln is the only exception to this, with a Bachelor of Arts and a Diploma in Education but given her extensive years of experience and interest in the study, we chose to include her perspective.

3.2 Ethics protocols

After reviewing the literature and designing the study approach and methodology, the next step was attaining ethics approval from our university to engage with practicing TLs (Charles Sturt University Ethics Protocol Number H22388). This process includes a comprehensive application with all the data collecting instruments, participant information sheets, and consent forms. Protection of participant identities was achieved by keeping the survey anonymous and deidentifying interview data after collection. Participants were able to choose their own pseudonyms as well.

3.3 Data analysis

In keeping with our phenomenological approach, we used semi-structured interviews with questions targeting the participants' personal understandings of IL and their perceptions on the information needs of students and teachers (see Appendix A for questions.) The interview questions were developed using a multi-pronged approach. First, we noted key areas missing in the research literature including the TL's perceptions of IL and the IL needs of students and teachers. Given that the TL is likely the only educator in the school with information qualifications, it is important to understand their perspective on this. We also drew from the recent curricular developments described in the literature review including the language shift in the Australian Curriculum's General Capability from ICT to Digital Literacy skills as well as the creation of the IFF. Further to that, we wanted to gather data on changing approaches to teaching IL given the increasing need for IL skills across school and everyday life. During the interviews, we also brought in some of the responses to the survey questions the participants had shared a few months prior to elucidate those ideas further. After the interviews were transcribed by the researchers, we used a thematic analysis approach to examine the transcripts (Braun & Clark, 2012) and each separately developed our own preliminary codebooks of themes emerging from the data. Next, we read through both codebooks and refined these two versions into one version. Then, we tested our new codebook by each coding the same four transcripts and then meeting to measure our interrater reliability before proceeding to code the remaining fifteen interviews. Our resulting codes connected to our two research questions and are described in Table 2. The themes emerging through the data analysis form the subtitles in our findings and discussion section.

Table 2: Codes with descriptions and relevant research questions

Research Questions	Code	Description
1. What changes in the information landscape do Australian secondary teacher librarians identify and how have these influenced their beliefs about the purpose of information literacy?	Changes in information landscape	Changes impacting on the way we engage with information or on our information behaviour including discussions of GAI and how its development is impacting IL
	Social nature of IL	Statements regarding the social nature of IL and any impacts this might have on how IL is taught or understood, including how social media impacts on or is used in IL by students.
2. What are the information literacy understandings Australian secondary teacher librarians think students and teachers need today to navigate the information landscape?	Understandings and needs of students	TL perceptions of how students experience and engage with information, the way they learn, and what instructional resources and learning opportunities the students need to achieve IL
	Understandings and needs of teachers	TL perceptions of what teachers are like, their understanding of or approach to teaching IL, their general impression of teachers' role today and what the teachers need themselves to support the students in understanding IL

4. Results & Discussion

This section presents the results and shares discussion around these. It explores the themes emerging from our codes as shown in Table 2 relating to our two research questions. The first section focuses on the changes in the information landscape identified by TL participants and integrates the shifting aspects of the social nature of IL. This section discusses the influence of these changes on TLs' perceptions of IL. The second section explores the specific IL understandings and needs of teachers and students as perceived by our TL participants. These findings are presented alongside a discussion about the ways in which TLs support teachers and students to develop IL capabilities. The results and discussion are aligned with relevant literature and are presented together for meaning and contextualisation and include practical implications for the teaching of IL in schools.

4.1 Evolving perceptions of IL in transformative times

In describing their perceptions of IL, The TL participants described many changes in the information landscape which impact their teaching around IL. They also related these changes to the evolving social nature of IL through elements of social media. One significant observation was the availability of overwhelming amounts of information; and the corresponding urgency for students and teachers to build their skills in information navigation and critical evaluation. Lincoln noted that, *"the issue isn't in finding information anymore. It's actually finding the best*

quality information and strategies for saving time while you're searching." Some other TLs furthered this idea, making the connection between the harvesting of personal information and the resulting influence upon the type of information presented to us. LibraryLink noted that *"we get this surface bit of information that's designed to have people to get eyes on screens, to sell advertising, particularly on commercial networks rather than hav(ing) a depth of understanding of any sort of issue."* Elizabeth went on:

> It just brings to the forefront that like, not every single piece of information that I might come in contact with is accurate. So just that notion of questioning information… there's information bubbles, and you know that you're just getting fed the information that you want.

These perceptions underscore the changing nature of information, from a relatively limited physical resource that had to be sought out, into a digitised, almost ubiquitous form, which is selectively pushed into individual's awareness by algorithms tailored by previous behaviours and interactions (boyd, 2011; Head et al., 2020). With so much information apparently available, much of it received rather than sought, students and teachers may take access for granted, and underestimate the skills to identify and select what is high quality, credible and relevant to their needs.

LibraryLink described reading the newspaper as a teenager which gave her the opportunity to develop *"a really broad understanding of the world and what was going on with it, whereas I don't know that kids have that opportunity."* Ms H. echoed that in noting how her students today seem to know less about current events than students 12 years ago and cited the lack of *"family news program screening"* and no *"hard copies of newspapers at home."* These are interesting statements considering the wealth of information accessible today in comparison to the contents of one news program or a newspaper, whether it be local or national, 20 years ago. The information overload and skills needed to navigate the changing information landscape seems to be overtaking these secondary students as described by their TLs, leaving them ironically less informed in a time of information glut.

Another change identified by several of the TLs was that the seemingly easy access to and availability of so much information online is affecting student motivation to engage. Ms. TM said, *"It's hard for them to stay focused and feel that what they're doing is worthwhile… So, the content, even it [can] be found easily. And everything is googleable…there's nothing that they need to keep in their head permanently anymore."* Ngaire's comment echoed that in asking, *"Everything's online. It's at the tip of their fingers. Why do they have to remember?"* This apparent lack of motivation may in fact be students responding to information overload, which has been found to lead to procrastination and passivity, as well as reduced capacity to focus and direct attention (Aadland & Heinström, 2024; Bawden & Robinson, 2009; Stanić et al., 2021). The overwhelming amount of information available as well as the rate of change in the information landscape was identified as being challenging even for the TLs interviewed. Dlys noted that *"having to keep your eye on all of those different things, having to keep your finger on all of the different pulses that are changing and pulsating at different rates"* was *"really, really tough"* for her in teaching IL. At the same time, LibraryLink recognised an imbalance in the level of resources to support IL for her students which is not helping. She said, *"The shame of it is that publishers aren't producing much for secondary schools anymore. It's all primary-based."* This points to a misunderstanding of the information needs of secondary school students; the

assumption may be made that with access to the internet, everything students need is available, however TLs are finding that the sheer amount of unfiltered information is in fact limiting students' motivation and capacity to engage meaningfully and build the skills needed to navigate.

Many of our TL participants made references to GAI as a notable change in the information landscape and something they are tackling with students and teachers. As Elizabeth noted, *"I don't think you'd be doing a job as a teacher librarian if you were not aware [GAI] is something that's happening, and that's something that students are using."* Bec described GAI as *"the elephant in the room,"* acknowledging that although students are not "*technically supposed to use it*", due to the terms and conditions at time of the interview limiting access to those over age 18, *"but they're using it. So, we've got to talk about how to use it."* Darcey said *"[ChatGPT]'s already becoming a habit for them finding information."* Elizabeth went on in her interview to explain a detailed conversation she had with students about why Chat GPT was not an information source, but how it could be used to help get them started on some research. Nickki talked about her students' use of Rewordify and the ethical implications around it:

> in some subjects they're encouraged to use it to increase their vocabulary and all that type of thing. But then they need to realize that even though they've changed a couple of things, that's still plagiarism, and they're still going to get caught out later in life, and it's just not right.

It was clear to these TLs that the introduction of GAI meant they need to more clearly address paraphrasing, referencing and copyright issues in their school which is discussed in more detail under the *IL needs of students and teachers* heading.

At the same time, changes in IL through GAI are presenting an opportunity for the development of deeper IL skills. Darcey talked about how her school started changing its approach to IL a few years ago, ditching *"those old models and those acronyms"* and using strategies *"more applicable to technology that isn't static",* like GAI. *"So, you know, you're not just evaluating a website anymore. You're looking further afield."* Ms. TM described what GAI offers to teachers and students: *"there's a lot of potential with this idea of AI to have a social discussion about…And the idea of judgement and making an evaluation that only you can do personally, suddenly has a bit more value."* This focus on the social nature of information and IL leads into the next theme coded under this research question.

The TLs identified and described the social nature of IL which is a distinct shift in the traditional aspects of IL, generally more focused around research and skills as a personal practice. Some of these social IL skills were focused around "*collaborating"* as Joyful noted, *"in the school we are enriched by how others see information, maybe from a different perspective or a different viewpoint so it just helps us grow as information users."* LibraryLink endorsed a similar position: *"it's very social and getting kids to work together to collect information is hugely powerful."* Ngaire made a good point about using prior learning and experiences to support IL skills: *"a good solid part of the lesson is discussing what experiences we've all had, learning from each other, and learning from what's happened, and kids are really good like that."* This observation is an example of how "the practice and performance of IL is deeply enmeshed in the site of the social' (Lloyd, 2024, p. 23), and reinforces the need for greater opportunities for TLs to spend time developing students' IL understandings through guided discussions and real-life examples.

Without these opportunities, it may remain challenging for TLs to shift their pedagogical approach from a narrow academic focus toward a general capability essential for engagement in modern civic life (Lloyd, 2024; Polizzi, 2020; Shuhidan et al., 2021).

At the same time, the TLs described how social media has raised a plethora of issues for students when understanding and navigating the information landscape. Several noted how students are using platforms like Instagram and Tik Tok for news and current events, and possibly only those sources. Mrs TM said, *"If they can't see it on Tik Tok, what's it gotta do with them?"* Anna talked about how her students use social media to keep up to date:

> They just don't want to miss out on the flow of information, so much so that they've even suggested that they didn't want like AI intervention to mediate bullying comments because they would rather have the good, the bad, and the ugly.

This intense focus on social media has posed new challenges for people working with young adults like TLs and teachers. Gabrielle recognised that the students do not fully understand the different and evolving terms and conditions for use across many different platforms: *"They really just are constantly trying to learn how to manage…what they're allowed to look at."* Bec noted that at her school, teachers and students are *"constantly having those conversations"* and that *"it opens up a whole other level of kind of parenting as a teacher that you weren't normally or previously having to do."* Darcey described a situation at her school where a student was sharing a popular energy drink promoted on TikTok which had been identified as dangerous for the health of young people (Proto et al., 2023). This created opportunity for a conversation to discuss where the students had accessed (misleading) information regarding its safety and how they might find credible information about the dangers of these types of drinks. As Bec said, *"someone's got to be a bit of an information gatekeeper to help kind of guide them through all of that."* These situations highlight the shift from educators focusing solely on information access for assessments to addressing a range of health and wellbeing needs. It emphasises the growing importance for students and teachers to collaborate with a TL who has expertise in building IL for various purposes (Oddone & Garrison, 2024).

4.2 Supporting students and teachers to build IL skills

The TL participants identified the IL needs of students and teachers both explicitly and implicitly. They explicitly described specific IL skills, knowledge, and understandings, and implicitly shared their perceptions of IL in students and teachers. They directly compared the two groups and outlined the challenges each faces in developing essential IL knowledge and skills for mastering today's information landscape.

Overwhelmingly, the TL participants in this study were not confident in the IL skills of their secondary students, identifying a general lack of IL skills and expressing an underlying tone of concern about this. Ms. H. who has taught in a variety of schools across 11-20 years of TL experience said:

> I already noticed a decline in the general level of information literacy of the students that I was working with…. I reckon their digital skills have declined … It's a really poor assumption that because young people spend so much time online that they are savvy

users of information and savvy about even using technology…I think that the skills of students are worse than they've ever been.

Ngaire further noted that her students are overly confident in their knowledge of the internet. She referred to the myth of the digital native, saying that she believes a lot of teachers buy into the myth, and therefore do not give students enough support. Anna echoed students demonstrating a lack of IT skills *"because there's just an assumption that they're good at it. Because they are really comfortable clicking on things."* Research findings support the TLs' observations: individuals tend to overestimate their IL abilities, communicating higher levels of skill than they can actually demonstrate (Dann et al., 2022; Mahmood, 2016). In time poor settings such as the modern classroom, it is possible to see how teachers' observations of students confidently engaging with digital technologies and students' apparent preference for using digital technologies could lead to the assumption that they are more able to navigate complex digital information environments than they actually are. This is particularly likely if teachers themselves have a limited understanding of what IL actually entails and the value of seeking information sources beyond Google (McKeever et al., 2017; Shannon et al., 2019; Smith, 2013).

As well as digital skills, being able to effectively deal with the constant barrage of various types of information across a range of information sources requires students develop additional IL skills. Deb identified the *"lateral reading skills"* needed when describing the importance of *"evaluation and synthesis of information and the ability to discern what is important and what's accurate and what's reliable in terms of the information [students are] being exposed to."* The need for these skills was further echoed by several of the TLs in terms of developing students' understanding of how they are being marketed to online and how their personal information is being collected from websites and social media platforms like Facebook and Tik Tok. Nickki noted that although they are considered *"digital natives",* student's knowledge in these areas is lacking, while Ngaire said *"financial safety"* was another key skill frequently overlooked. Anna and Ngaire described an overall *"lack of stamina"* or *"curiosity"* in *"wrestling with something"* and finding *"the best answer".* To respond to this need, Darcey noted that her school is working to develop students as *"creative critical thinkers"* who ask questions and do not believe everything promoted to them online or by influencers. Many of the TLs lamented a lack of time to engage with teachers to collaboratively develop learning experiences to meet this clear and present need among the students. In a crowded curriculum, with teachers already overwhelmed with subject requirements the TL could play a vital role in embedding general capabilities into current programs, supporting students' information and digital literacy development across subjects and year levels.

Although Bec noted that her students are *"very savvy"* and that we *"don't give them as much credit as they sometimes need"*, she recognised *"a bit of a disparity…in that they are very switched on in terms of the Internet and what's kind of out there, but they can't do the basics."* This is where the TL can really make a difference. Lincoln highlighted this in terms of search strategies, noting that *"There's very little use of advanced search methods…students are impatient. So, you know, they're not prepared to even go to the actual website or spend time developing a good search strategy."* She described how her students' search skills included Googling something, taking the information from the few sentences included on the search results page, and using *"Google"* as the referenced source, indicating a clear misunderstanding of what Google is. These findings are further complicated by the evolution of Generative AI, and

its undeniable impact upon the ways in which students now and in the future will access, navigate, evaluate and use quality information (Hirvonen, 2024). The TL, in collaboration with classroom teachers, could provide the pedagogical support needed to encourage greater questioning, critical thinking and deeper understandings about the ethical use of information; although this may require a clarification of the role of the TL, and a shift in the value placed upon developing transversal skills rather than the current focus on content acquisition (Hutchinson, 2024).

Nell identified that *"our major challenge is getting kids to understand that they need the information."* Keeping young adults motivated is nothing new in education but many of the TLs expressed frustration at this. Ngaire claimed they have the *"attention span of a peanut"* while Darcey concurred that *"their ability to concentrate and even digest longer forms or more complex forms of information is basically nothing."* Nickki noted at her boys' school *"we're finding if we make something look more like it's gamified or more like that sort of social media sort of button type thing that they used to seeing. That's when we seem to start to get results."* This supports that idea that while the information landscape is changing, it is important for the way we teach to change with it.

As previously noted, many of our interviewed TLs have extensive experience. This led to interesting observations about their teaching staff, including the fact that some younger teachers are considered more digitally literate, which in turn influences their IL skills. Gabrielle stated, *"they are different generations of people you're dealing with within your teaching profession, the first years, and the ones who are about to retire. But…the similarity between all of them is that they don't know what they don't know."* Darcey furthered this, saying *"a lot of them have gone through Uni or their study at different phases, and so how they access information is very different now."* Nonetheless, LibraryLink who has over 20 years of experience as a TL said, *"I think that many, many teachers are not information literate at all. Even though they've done the university course."*

At the same time, the TLs acknowledged a clear difference in the IL skills of their teachers as related to discipline. Mrs. TM said her staff teaching Personal Development, Health, and Physical Education (PDHPE):

> …are very humble in their knowledge of research practices. So, they're very willing to take advice…whereas I find the [Human Society and Its Environment] teachers, the geography and history teachers, are so well-versed in that space that they don't want to hear anything from me. They are professionals at finding quality sources already.

However, there are many others that do not ask for help and do not have developed IL skills, just like the students. Many teachers do not seem to understand *"how things work underneath"* search engines and websites using algorithms and formulas to affect search results. Like their students, they tend to use Google first, and therefore need to develop better searching skills. Ngaire voiced frustration in saying *"I see teachers here typing full sentences into search boxes, and I think, what can I do?"* Monica noted that *"we're teaching the teachers at the same time"* in library lessons with students. Mrs. M. shared the excitement her teachers have shown during lessons with students on how to Google responsibly and effectively, the teachers exclaiming, *"'I didn't know that!'"* The need for teachers to develop their own IL skills highlights the benefits that can be experienced when the TL and subject teacher plan and teach collaboratively, rather than

isolating the TL as a specialist role solely situated within the library context. Ideally, the TL is seen as a support for both teachers and students, complementing the work of the teacher and enriching the learning of the student.

A clear theme was the constraint of time and the TL participants showed empathy for their teacher colleagues' lack of time. They noted that this issue of being time poor leads teachers to squirrel up a set of long-used or just-in-time resources in their curriculum area that they do not have time to constantly update, or maybe even access ethically. Matthew says, *"they're disconnected from the ongoing development of new resources and disconnected from a live, a living research process."* Another issue here is related to academic integrity and copyright. Elizabeth voiced concerns with this in supporting time poor teachers but maintaining the ethical use of information: *"the desire to have the resource that you need or all the information that you need sometimes outweighs the implications of copying an entire textbook…it's about trying to provide ethical solutions to them, so that they're not breaching copyright."* In a related area of academic integrity, skills such as paraphrasing and referencing were identified as key areas where students required scaffolding, however it was also clear that these were areas teachers could benefit from further support in, with Gabrielle emphasising, *"every single one of us should be modelling referencing."* The development of a culture of academic integrity throughout the school goes beyond the remit of the TL, requiring support and modelling from school leadership and the teaching staff (Çelik & Razı, 2023). As teachers now face the challenges of designing assessments that require responses not easily generated through AI platforms, the focus on academic integrity and the values of honesty, trust, fairness, respect, responsibility, and courage as proposed by the International Centre for Academic Integrity (2021) may take on greater importance and prioritised as a focus worthy of teachers' time and energy.

Nickki noted library research guides as being a useful way to collate resources for time poor teachers but also said she wished they were involved in the development of assessment from the very beginning. This collaboration from curriculum development through to assessment is the 'holy grail' of TL and teacher collaboration but was not often experienced by our participants or identified in the published research on this topic (Montiel-Overall, 2005). Bec mused that *"most challenging thing is, I guess, deciding for that particular teacher what their priority is. And therefore, then what might the information literacy priority be that we want them to take away with them."* It is this guessing at the priority that might make the most impact, given the limited time and resources available to them that TLs seemed to spend most of their time doing. While time and money may always be in short supply, it is possible that the synergistic outputs achievable when TLs and teachers are able to work together may in fact save costs in the long run.

Working collaboratively with teachers to complement their subject matter expertise with enhanced IL could potentially save teachers time and improve the learning experience for students. However, the TLs in this study identified a siloing of disciplines and content areas, as exemplified by Maree's comment, *"it's also that sort of isolation in disciplines and being the king of your mountain in the classroom… they're the content specialists, and we're the info lit specialists."* Lincoln voiced that *"Teachers need to realise that teacher librarians are information literacy experts. TLs do not aim to be experts in specific subjects, so teachers shouldn't think that they can be experts in information literacy."* Ms. H. discussed that as she is in a new school and has been *"trying to change the mindset of staff"* as the library had been just a place for English classes to read. Motivating teachers, administrators, and the entire school community to understand the full extent of the TL role and to utilise the strengths of the TL are repeated

challenges identified in research on school libraries (Hughes et al., 2014; International Literacy Association, 2022; Lance & Kachel, 2018; Merga, 2021; Teravainen & Clark, 2017).

4.3 Limitations

Limitations of this study relate to recruitment, participant characteristics, and methodology. Firstly, recruitment was through participants responding to an online survey which was shared on email lists, listservs, and newsletters of library associations. While recruiting in this way attracts a group obviously interested in professional development given their membership in these groups, it may also impact the generalisation of the findings. Also, as shown in Table 1 detailing the characteristics of study participants, approximately two-thirds of participants work in private schools which can be much different environments than the public sector. This should be considered when comparing the findings across other populations. Further, as previously noted, not all states and territories in Australia responded (i.e., Northern Territory and South Australia) so it does not represent a fully complete picture of the country. In relation to that, focusing solely on secondary TLs does not get at the nuanced approach to IL that primary school TLs may hold. Plans for future research examining their perspectives and comparing those with the secondary TLs presented here will allow for a deeper understanding on IL and the changing information landscape across different types of Australian school libraries.

5. Conclusions

This phenomenological research presents the perspectives of Australian secondary TLs concerning the evolving information landscape and its impact on supporting IL for students and teachers. Through interviews with 19 secondary TLs from various types of schools across Australia, the study highlights several key findings. Firstly, TLs shared that the overwhelming amount of available information necessitates enhanced evaluation and selection skills. Both students and teachers may feel overwhelmed by the sheer volume of information, leading to a surface-level approach to information engagement. Students appear to prefer quick solutions like Google, while teachers may rely upon reusing resources and may risk breaching copyright to manage their workload. The TLs interviewed indicated that students' practical IL skills seem to be declining as they seek fast and easy ways to utilise their existing knowledge instead of developing deeper skills. Teachers' IL may vary by discipline, but they face similar challenges and the TLs interviewed reported a lack of deeper IL awareness.

The findings underscore the need for a greater understanding of the differences among information sources, and strategies for keeping pace with the onslaught of information. However, this shifting information environment also presents opportunities for deeper engagement with issues such as information ethics, copyright, and the development of creative and critical thinking skills. These areas could be more effectively integrated into teaching and learning if teachers collaborated with TLs in planning, teaching, and assessment.

This study makes several unique contributions to our understanding of IL in Australian secondary schools. First, it reveals a critical disconnect between perceived and actual IL capabilities among both students and teachers, exacerbated by a poor overall understanding of the importance of spending time developing strong IL capabilities to respond to academic and everyday life information needs. Second, it demonstrates how Secondary TLs perceive the impact of the evolving information landscape on their school communities, revealing both

existing and emerging needs that require innovative pedagogical approaches, particularly in developing critical evaluation skills for digital information.

To address these challenges, there must be a clearer understanding of the role of TLs and the ways they can meet the evolving needs of information users. TLs can add significant value in several ways: by serving as digital and IL mentors who can guide both teachers and students in developing sophisticated information practices; by working collaboratively with teachers to guide the integration of IL skills within subject-specific contexts; and by facilitating professional learning communities focused on IL. As dual qualified teachers and information professionals, TLs are also instrumental in the development of hybrid collections and resource guides that align with the curriculum and meet the specific information needs of their school community.

TLs are aware of the potential they offer and employ diverse approaches to fostering IL; however, their efforts are often ad-hoc and limited by a lack of recognition and resources. Establishing a well-developed and resourced effort is crucial to providing students with the opportunity to become not only information literate but also information fluent—capable of transferring their knowledge across subjects and into their everyday lives. Ultimately, the role of the TL is no longer confined to academic support; it is now essential in equipping students and teachers with the sophisticated skills needed to navigate an information-saturated environment and become informed citizens in a democratic society.

Declarations

Ethics approval

This study was reviewed and approved by the Charles Sturt University Human Research Ethics Committee (Protocol Number H22388).

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AI-generated content

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Appendix A. Semi-Structured Interview Questions

Personal Understanding of Information Literacy
1. How do you keep up with changes in information systems and their impact on society?
2. Is there a difference in how these changes affect your work and your personal life?
3. What do you find most challenging about teaching information literacy in our current information environment?

Information Needs of Students
1. What do you consider to be the information needs of students for successful participation in school?
2. What do you consider to be the information needs of students for successful participation in everyday life?
3. How are these different/same?

Information Needs of Teachers
1. What do you consider to be the information needs of teachers for successful teaching?
2. What do you consider to be the information needs of teachers for successful participation in everyday life?
3. How are these different/same?

Other Potential Questions
1. How is information literacy integrated into everyday teaching and learning?
2. How is information literacy linked to students' lived experiences with information outside of school?
3. How can teacher librarians and educators help students develop an understanding of the social nature of knowledge?
4. Do you think of information literacy as a social or an individual practice?
5. Now think about your own pedagogy. Do you teach information literacy as a social or an individual practice?
6. What barriers hold students back from transferring information literacy strategies from their personal lives to their academic work and vice versa?
7. What techniques and routines do students use for seeking information to fulfil research requirements including their use of social media?
8. What difficulties arise for students during the different steps and stages of school related and everyday life research?