Transformative Learning: The Impact of Deeper Learning Approaches in Enhancing the Transversal Competencies

Di Ruffles
Director of Library Services,
Melbourne Grammar School
dmruffles@mgs.vic.edu.au

Introduction

There is an increasing body of research that emphasises the importance of deeper learning approaches to encourage students to develop skills and competencies for lifelong learning (Abbott, 2015; Binkley et al., 2012; Global Education Leaders' Partnership, 2016; Organisation for Economic Co-operation and Development, 2019; Partnership for 21st century learning, 2019). These deeper learning approaches are encapsulated in many school vision statements and reflected in both national and international curriculum frameworks, including the General Capabilities of the Australian Curriculum (Australian Curriculum Assessment and Reporting Authority, 2022), Victorian Curriculum (Victorian Curriculum and Assessment Authority, 2018) , Partnership for 21st learning (Partnership for 21st century learning, 2019), Common Core standards (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010), the ISTE (International Standards for Technology in Education) standards (International Society for Technology in Education, 2016b) and the National School Library Standards (American Association of School Librarians, 2018).

The deeper learning approaches are recognised as a set of six competencies that students need to succeed in and out of the classroom, including:

- Applying content knowledge

- Critical thinking and problem solving
- Communicating clearly
- Working collaboratively
- Learning independently
- Positive mindsets

(Huberman, Bitter, Anthony, & O'Day, 2016; William and Flora Hewlett Foundation, 2013)

My study intends to focus on guided inquiry learning which is embodied in the deeper learning approaches and how this pedagogical approach enhances the transversal competencies, including critical and creative thinking, in young adult learners.

Statement of the Research Problem

There is limited research worldwide and few Australian based studies that foreground student voice in considering how guided inquiry learning can enhance 21st century skills or the transversal competencies in young adult learners (Buchanan, Harlan, Bruce, & Edwards, 2016; Moyle, Wijngaards, & Owen, 2012). This research seeks to rectify this oversight and is particularly relevant in the light of the national and international emphasis on enhancing skills in digital literacy and critical and creative thinking so young people can be creative, innovative, enterprising and adaptable as they can participate and respond to the complex environmental, social and economic challenges of the 21st century (Fraillon, Ainley, Schulz, Friedman, & Duckworth, 2020; McIlvenny, 2019; Organisation for Economic Co-operation and Development, 2016; Torii & O'Connell, 2017).

Literature Review

Transversal Competencies or 21st Century Learning Skills

Underpinning a range of educational policy statements, both in Australia and overseas, is the recognition that young people require a set of general skills or capabilities to have a successful life and to contribute to economic, social and individual wellbeing. Even as we move into a third decade in the 21st century, education systems around the world continue to debate the merits and implementation of transversal competencies or 21st century skills (Abbott, 2015; Binkley et al., 2012; Global Education Leaders' Partnership, 2016; Partnership for 21st century learning, 2019). The *Future of Education and Skills 2030: Schools*

Conceptual Learning Framework (Organisation for Economic Co-operation and Development, 2019) emphasises the importance of cognitive, metacognitive, social, emotional, practical and physical skills:

> Thus, to remain competitive workers will need to acquire new skills continually, which requires flexibility, a positive attitude towards lifelong learning and curiosity…education should focus on imparting "fusion skills" …the combination of creative, entrepreneurial and technical skills that enable workers to shift into new occupations as they emerge. (p. 8)

In Australia, from the 1990s, a range of statements, competencies and declarations highlighted the view that the work of schools is to cultivate students with a high level of skill in creativity, problem solving and self-directed lifelong learning (Mayer, 1992; Ministerial Council on Education Employment Training and Youth Affairs, 1999, 2008). The need for changes in the competencies acquired by students at school is further generally linked to the recognition of the importance of ensuring nations have the type of workforce necessary to enable them to be competitive in the global economy.

The priorities of the various national policy statements including the Adelaide and Melbourne Declarations (Ministerial Council on Education Employment Training and Youth Affairs, 1999, 2008) were consistent with national and international directions taken by many countries around the world including members of the Organisation for Economic Development (OECD). The common theme reflected in the international literature (Care & Luo, 2016; Organisation for Economic Co-operation and Development, 2019; Redecker et al., 2011; Voogt & Roblin, 2012) is the importance of preparing students with transversal competencies or 21st century learning skills and capabilities. Furthermore, these two terms are used interchangeably within the literature to represent a cluster of 'soft skills' or key competencies to describe employability and entrepreneurial skills as 'every student needs to be equipped with the skills and knowledge to navigate a rapidly changing world' (Gonski, 2018, p. 36) . Evident in the national policies of many countries (Care & Luo, 2016; Chalkiadaki, 2018; Gonski, 2018; Partnership for 21st century learning, 2019) is the premise that innovative, knowledge based economies driven by talent and creativity are the way to build sustainable societies in the future. In order to improve their countries' international competitiveness and respond to the challenges of our time – the global financial crisis, climate change, demographic changes, increasing energy and food prices, countries in the

OECD such as Australia have argued that innovation, technologies and education are fundamental to generating sustainable, productive and competitive national economies.

Standards and skills reflecting the recognition of the importance and significance of knowledge construction, collaboration, and critical thinking that are congruent with the transversal competencies or 21st century skills have been produced by several other stakeholders including the International Society for Technology in Education (ISTE) have produced standards for innovation and excellence in learning, teaching and leading (International Society for Technology in Education, 2016a). The ISTE standards emphasise improving information and digital literacy skills in student-centred, project-based and online learning environments with a view to preparing students for a future competitive global job market. Similar standards and skills have been articulated by the American Association of School Librarians (AASL) (2018) and the U.S. advocacy group *Partnership for 21st Century Learning* or *P21*. *P21* maintains that for student success, mastery of subject content and 21st century learning skills are essential. Students of today need to be critical thinkers, problem solvers, communicators and collaborators who are proficient in both core subjects and new, 21st century learning and innovation skills (Partnership for 21st century learning, 2019). These new skills include learning and thinking skills, information-and-communications-technology literacy skills and life skills as students enter an increasingly globalised and technological world. The work environment requires great communicators and collaborators, the ability for self-management and interpersonal and project management skills that demand teamwork and leadership. Reinforcing the alignment with 21st century learning and transversal competencies is the most recent iteration of the *AASL standards framework* (American Association of School Librarians, 2018). The six shared foundations – Inquire, Include, Collaborate, Curate, Explore and Engage – highlight the core educational concepts and reflect a holistic approach to teaching and learning as they connect learners, school library professional and library standards. These interdisciplinary standards have resonance with the other models described of 21st century learning skills and drew significantly from the *Standards for the 21st Century Learner Common Beliefs* (American Association of School Librarians, 2009b) and *Empowering Learners: Guidelines for School Library Programs (American Association of School Librarians, 2009a)* .

Worldwide, as education systems move towards changing pedagogy and curriculum to foster 21st century learning skills, Australia developed the ATC21S skills (Care, Griffin, & McGaw, 2012). These skills are closely aligned to the emphasis highlighted in the international curriculum documents of transforming the education system from the industrial model of public education to a model that recognises the paradigm shift of a globalised and technological world (Robinson, 2011) and prepares students accordingly.

General Capabilities in the Australian Curriculum and OECD

As highlighted, the principle of nurturing creative, self-directed learners is enshrined in national and international educational policies (American Association of School Librarians, 2018; Bradley, Noonan, Nugent, & Scales, 2008; Care et al., 2012; International Society for Technology in Education, 2016a; Mayer, 1992; Ministerial Council on Education Employment Training and Youth Affairs, 1999, 2008; Partnership for 21st century learning, 2019). It underpins the general capabilities of the Australian curriculum. The Australian Curriculum emphasises the essential development of the dual priorities of students acquiring discipline knowledge and developing general capabilities such as critical and creative thinking, ICT and innovative capabilities, independent and interdependent skills, intercultural understanding, and ethical and informed social understandings.

The general capabilities of the Australian Curriculum are recognised as 21st century learning skills and acknowledge that learning no longer fits into a curriculum organised only along the lines of subject disciplines. In an age where knowledge is constantly growing and evolving, students need a raft of skills, behaviours and dispositions that apply across the curriculum and that help them to become lifelong learners. These general capabilities evident in the Australian curriculum are intended to prepare students to be able to live and work successfully in the diverse world of the 21st century (Australian Curriculum Assessment and Reporting Authority, 2022:1).

Given the focus of this research on 21st century learning skills, these general capabilities are of particular interest and relevance to this study exploring guided inquiry learning and critical and creative thinking and further positions the significance of the research within the current educational policy context. In particular, this research has direct implications for the capabilities of "critical and creative thinking" and "information and

communication capability" as well as pedagogical implications for several other general capabilities.

This research explores the student experience to capture their voice around the guided inquiry learning approach. Research in inquiry based learning highlights positive academic and achievement outcomes for students but there is a lack of qualitative research which particularly focuses on the learner experience of inquiry based learning models and overall benefits for learner development (Buchanan et al., 2016). Furthermore, although there are several articles which are very positive about the benefits of guided inquiry and guided inquiry design (FitzGerald, 2015a, 2015b, 2019; FitzGerald, Garrison, & Sheerman, 2018; Sheerman, Little, & Breward, 2011), there is a dearth of empirical research which focuses on the experience of users and student voice in guided inquiry encounters (Garrison & FitzGerald, 2019).

There is growing recognition in the research literature (Gonski, 2018; Partnership for 21st century learning, 2019; Robinson & Aronica, 2016; Zhao, 2012) that creativity and innovation are essential skills to build success in the new economy, however, our current schooling systems are not preparing students adequately to be entrepreneurial and innovative. Our schooling systems are yet to produce the creative thinkers and innovators able to successfully engage in the diverse and complex environments required in the future (Robinson & Aronica, 2016; Zhao, 2012). Several educational theorists maintain that inquiry approaches have the potential to create satisfied future adult citizens and the innovators we need to face the challenges of tomorrow (Wagner, 2012). Kim (2011) declares a creativity crisis which begins in young children and "is especially concerning as it stunts abilities which are supposed to mature over a lifetime" (p. 293). Kim (2011) further argues that the academic focus on high stakes testing leaves little time for more holistic, immersive learning opportunities, designed to spark "imagination, scholarship, critical or creative thinking, and problem solving" (p. 293). These findings in the literature suggest educators need to provide increased opportunities for students to engage in instructional models such as guided inquiry learning to encourage deeper learning and maximise creativity.

OECD 2014 report further highlights the importance of nurturing problem-solving competencies in a wide range of subjects and pedagogical approaches such as problem based learning, inquiry based learning and individual and collaborative learning opportunities, to

enhance deep understanding (Organisation for Economic Co-operation and Development, 2014). Students are also encouraged to apply and transfer their knowledge to different situations they may encounter and thus develop their thinking dispositions and 21st century learning skills. According to the report, good teaching leads to the development of self-regulated learners who have strong metacognitive strategies and the ability to better understand themselves as learners and to identify when and how to use particular strategies for learning or to solve problems (Organisation for Economic Co-operation and Development, 2014).

In all OECD countries, there is a significant recognition that critical and creative thinking skills are crucial abilities in innovation driven societies and economies and therefore the development of these skills is included in curriculum frameworks as expected learning outcomes. Research also further confirms their importance in education, including higher education as an expected learning outcome and the expectation that schools will foster students to become independent thinkers (Fullan, 2018; Lucas & Spencer, 2017; Newton & Newton, 2014). Critical and creative thinking are key skills for employment in the digital age and contribute significantly to personal and social well-being. Positive psychologists emphasise the feeling of focus and well-being and the state of "flow" that can be generated by immersion in a challenging task that demands creativity (Csikszentmihalyi, 1991, 1996). In their research, Schneider, Krajcik, Lavonen, Salmela-Aro, and Geller (2020) further expanded on this concept to highlight that quality curriculum resources can lead to "optimal learning moments" that enhance a feeling of well-being. Creativity is further linked in the literature to positive emotional states that may also be sustained long-term and contribute to both individual and society's wellbeing (Conner, DeYoung, & Silvia, 2018; Kaufman, 2018; Perach & Wisman, 2019).

The OECD reports emphasise both the importance of equipping people to become innovators, creators and entrepreneurs as well as the skills to adapt to changes as a result of innovation (Organisation for Economic Co-ooperation and Development, 2010, 2015). Creativity and critical thinking along with social-emotional intelligence are highlighted in an increasingly digital age as higher order skills that are difficult to automate and in high demand according to a succession of world economic forum surveys on the future of work (World Economic Forum, 2018, 2020). Other economic forecasting reports further confirm

creativity and critical thinking as crucial for the foreseeable future in our professional lives and in high demand in the labour market.

Inquiry Learning & Guided Inquiry Learning

The *General Capabilities* of the *Australian Curriculum* (Australian Curriculum Assessment and Reporting Authority, 2022) bring a structured approach to 21st century skills or the transversal competencies (Gonski, 2018; UNESCO, 2015; Voogt & Roblin, 2012), and resonate significantly with the frameworks from other successful OECD jurisdictions. In particular, and of most relevance to this study, the critical and creative thinking capability, includes organising elements which align closely to the skills of guided inquiry. The common elements in inquiry models include activating prior knowledge, formulating questions, locating, gathering and analysing information, synthesising, reflecting and applying learning. Prolific researcher in inquiry models, Murdoch (2021) emphasises that, of most significance, is how teachers teach and cites the quality of teaching as the most influential factor in determining learners' success (Hattie, 2004; Organisation for Economic Co-operation and Development, 2005). Research indicates that the teacher not only influences learner achievement but also shapes the way learners think about themselves as learners and the way they think about the nature of learning itself (Claxton, 2018; Johnston, 2012). Rather than inquiry learning experiences providing minimal teacher guidance, "teaching for inquiry requires a sophisticated, varied repertoire of pedagogical practices that includes explanation, demonstration, clarification and scaffolding alongside questioning, observation, listening and analysing" (Murdoch, 2021, p.40). Murdoch advocates for a pedagogy of inquiry which is active, intentional and guided to create learners who will flourish as agentic inquirers.

Guided inquiry learning is a further enhancement to inquiry learning and is a constructivist and student centred model (Kuhlthau, Maniotes, & Caspari, 2015) credited for leveraging positive shifts in learning achievement and student motivation through its grounding in authentic student-driven challenges (Deci & Ryan, 2016). Guided Inquiry (GI) is defined as "a way of thinking, learning and teaching that changes the culture of the school into a collaborative inquiry community" (Maniotes, 2016, p. xiii). GI is a developing educational practice that is grounded in the Information Search Process (ISP) based on Carol Kuhlthau's well documented research studies of information behaviour (Kuhlthau, 1989b,

1991, 1994, 2004, 2010, 2018; Kuhlthau & Cole, 2012; Kuhlthau, Heinstroem, & Todd, 2008; Kuhlthau, Maniotes, & Caspari, 2012; Kuhlthau et al., 2015). The ISP describes students' thoughts, actions and feelings as they undertake school research projects and process their learning from a variety of information sources to culminate in a presentation of the student's new perspective on the topic (Kuhlthau, 1989b; Kuhlthau et al., 2012, 2015). GI further extends the study of the third space (Maniotes, 2005) that highlights the intersection of the impact of the students' real-world experience outside of school with their school-based curriculum learning. Kuhlthau's has drawn from the educational theory of psychologist Lev Vygotsky (1978) and his theory of the zone of proximal development (ZPD). ZPD is a theory that describes the distance between a student's developmental level and what they could achieve at a higher level when supported by others. Kuhlthau defines a zone of intervention as "when a person can do with assistance what he or she cannot do alone" (Kuhlthau, 1994, p.63). Kuhlthau's ISP has a strong body of research supporting its practice in information seeking behaviours (Kuhlthau, 1988, 1989a, 1991, 1993, 1994; Kuhlthau et al., 2008) and is further enhanced in the complementary stages of the Guided Inquiry Design (GID) model.

Studies particularly of note to this research which utilised Kuhlthau's ISP model researching information seeking with young people are: Gordon (2000), Broch (2000), Harada (2002), Holliday and Li (2004), Heinström (2006) and Hyldegard (2009). Studies such as Branch (2003) and Little (2012) found that the ISP model was a successful instructional model for guiding searching activities and as an intervention model for pinpointing students' instructional needs however improved access to digital sources has changed students' conceptions of the research process, in that they expect to find information quickly and without effort" (Kuhlthau et al., 2008, p.45). A further study by Colón-Aguirre and Fleming-May (2012) confirmed that unless instructed otherwise students were more likely to apply little effort when searching for information and rely on free online websites that they located using a search engine. Todorinova (2015) maintained that the teacher librarian must be an information literacy educator to ensure students have the skills needed to determine the credibility of online resources (Todorinova, 2015, p.211). Wittebols (2016) further confirms the importance of developing good habits in young people to read sources strategically so as to become critical consumers of information ensuring that when students access websites and news media in our information saturated world (Wittebols, 2016, p.11)

rather than only draw upon sources which support one's pre-existing beliefs and biases, they recognise both political and confirmation biases.

Guided inquiry learning moves the teaching of information literacy to a higher level, scaffolding students to go beyond managing and analysing information to the transformative level of understanding as highlighted by (Heinström, 2006). Todd and Kuhlthau (2005) maintain that in guided inquiry "students actively engage with diverse and often conflicting sources of information and ideas to discover new ones, to build new understandings, and to develop personal viewpoints and perspectives." A qualitative study by Garrison, FitzGerald, and Sheerman (2018) explored student's perceptions of the guided inquiry process and indicated that students liked the engagement and "independent nature, structure and pace, and focus on choice" (Garrison et al., 2018, p.15). Students further indicated that although they liked the independence, they still wanted the teacher and teacher librarian to guide the inquiry so they conducted their research correctly. This study confirmed that young researchers were anxious and felt unsure of their inquiry skills and the direction of their research projects. This study further maintains the importance for students "to progress at their own rates" (Garrison et al., 2018, p.17) when undertaking guided inquiry.

Methodology

A mixed methods research design (Tashakkori & Teddlie, 2016, 2003) was selected for this research, drawing upon aspects of phenomenography, grounded theory and case study. All of these research practices provide important insights and knowledge for this research. The exploration of the perceived qualities of a phenomenon through the rich description and analysis of classroom learning activity articulated by students, teachers and teacher-librarians renders this study as phenomenography. Data collected in the study and analysed using the 'constant comparison method' (Flick, 2002, 2006; Strauss & Corbin, 1998) which consists of comparing one segment of data with another to determine similarities and differences and thus build patterns in the data from the ground up, designates grounded theory methodology. The "intensive descriptions and analyses of a single unit or bounded system" (Merriam, 1998:19) in the investigation in a real-life context and its drawing of data from multiple

sources further define the research as a case study (Cresswell, 1998; Merriam, 1998; Yin, 2003; Yin & Campbell, 2018).

This is the preliminary stage of this research so the data collection methods selected are influenced by the nature of the research question and informed by the research literature relevant to how guided inquiry approaches can enhance transversal competencies such as critical and creative thinking in young adult learners. The data collection techniques planned for the study are listed in the following table:

Table 1. *Data collection methods planned for the research*

Students	Technique	Timeframe
Data Collection 1	Self –reflection – on-line journal	Beginning, Middle, End
Data Collection 2	Semi-structured interviews – using a card sorting activity for cues	Completion of task
Data Collection 3	Rubric applied to student work	Completion of task
Data Collection 4	On-line forum with a focus group from the class	Completion of task
Teachers		
Data Collection 5	Self-reflection – on-line journal	Beginning, End of task
Data Collection 6	Interviews - questionnaire	Completion of task

Teachers and teacher librarians involved in the study are invited to participate in the research based on their interest in implementing guided inquiry units in their teaching and learning programs.

Students will be prompted to respond in their online journals to prompts drawn from the OECD CERI project on fostering and assessing creativity and critical thinking skills (Vincent-Lancrin et al., 2019) and the Australian Curriculum Critical and Creative Thinking capability (Australian Curriculum Assessment and Reporting Authority, 2022). Quantitative methods will be utilised in the initial analysis of the student reflective journals before the application of qualitative methods. Similarly, the initial analysis of some aspects of the interviews conducted with the students will employ quantitative analysis, prior to the application of qualitative measures to the interview transcripts. Thirdly, quantitative methods

will be utilised in the initial examination of the samples of student work from the students involved in the study prior to further analysis with qualitative methods and the OECD assessment rubric for critical and creative thinking applied to these samples (Vincent-Lancrin et al., 2019).

Given the inclusion of both quantitative and qualitative questions in the self-reflection, interviews and examination of the student samples, it is anticipated that basic descriptive statistics will be used to analyse the quantitative data in the survey. The qualitative data will be subject to an inductive content analysis to allow patterns to emerge themselves from the data rather than the application of predetermined categories (Patton, 2015).

Preliminary Findings & Discussion

As my research is only preliminary at this stage, my findings are drawn from my literature review. Inquiry based learning methods are currently emphasised in curriculum framework documents and national educational standards throughout the world (American Association of School Librarians, 2018; Australian Curriculum Assessment and Reporting Authority, 2022; Organisation for Economic Co-ooperation and Development, 2021; Organisation for Economic Co-operation and Development, 2022) in line with the major focus on 21st century skills or transversal competencies and the embedding of technology in learning (Pelletier et al., 2021). Research in inquiry based learning highlights positive academic and achievement outcomes for students but there is a lack of qualitative research which particularly focuses on the learner experience of inquiry based learning models and overall benefits for learner development (Buchanan et al., 2016).

There is further evidence in the literature that students involved in inquiry learning projects experience engagement through feelings of choice and agency and the knowledge that their project has real relevance in their lives and in the lives of others (Deci & Ryan, 2016). Students undertaking inquiry learning projects have opportunities for greater autonomy, independence and choice which means the required decision making is more likely to involve students deeply with content that encourages thinking (Lewis, Simmons, & Maniotes, 2018; Ritchhart, 2002). Students' independence, risk-taking and curiosity can be nurtured by the opportunity for autonomy and choice which is an important aspect of inquiry

learning (Ritchhart, 2002). Autonomy also fulfils a human need in directing one's life and for creativity to rethink how one can create a better world (Pink, 2009).

Educators implementing these variations of inquiry learning models share the tightly held conviction that these approaches foster young people who are critical and creative thinkers, who are enterprising, innovative and ready to meet the challenges of the future (Barron & Darling-Hammond, 2008; Buchanan et al., 2016; Robinson & Aronica, 2016; Saltman, 2012; Wagner & Dintersmith, 2015).

Educators (Buck Institute of Education (BIE), 2018; Cervantes, Hemmer, & Kouzekanani, 2015; Saunders-Stewart, Gyles, & Shore, 2012; Saunders-Stewart, Gyles, Shore, & Bracewell, 2015) maintain that learning that remains most significant for an individual is that which is most differentiated to their unique needs. In this respect, guided inquiry is a learning model that can be applied to scaffold an individual learner along the information literacy continuum. Kuhlthau et al. (2015) argue that guided inquiry approaches in learning engage, interest and challenge students to connect their world with the curriculum. Furthermore, the *Australian Curriculum* (Australian Curriculum Assessment and Reporting Authority (ACARA), 2015) and *Melbourne Declaration* (Ministerial Council on Education Employment Training and Youth Affairs, 2008) clearly emphasise the role of inquiry in the classroom as many *Australian Curriculum* Learning Areas are underpinned by an inquiry-based approach to learning and, indeed, this is most prominent in the Humanities, Social Sciences and Science Learning Areas from the *Australian Curriculum* (Bonanno, 2015; Lupton, 2014).

Guided inquiry learning utilises a constructivist approach where the overall goal is for students to make meaning by independently designing and directing their own learning. Teachers may guide and even facilitate the early stages of the inquiry but true inquiry is motivated and directed by the individual in a manner which builds upon their unique strengths and areas for development (Callison, 2015; Callison & Baker, 2014; Kuhlthau et al., 2015) .

This research is timely as it contributes to the debate on how deeper learning pedagogies such as guided inquiry learning can contribute to student achievement and engagement and how as educators, we can better design experiences for students that enhance

transversal competencies such as critical and creative thinking. This research further explores approaches in how to assess for deeper learning.

This study has further relevance to scholarship and professional teaching practice as it seeks to provide positive strategies and address concerns raised in reports that emphasise declining academic performance in Australian schools (Gonski, 2018; UNICEF Office of Research, 2017). My research therefore offers strategies and informs teaching practices to differentiate learning or stretch students by utilising guided inquiry learning approaches to ensure they achieve maximum learning growth.

As previously highlighted, recent research in guided inquiry based learning highlights positive academic and achievement outcomes for students but there is a lack of qualitative research which focuses on the learner experience of guided inquiry based learning models (Garrison et al., 2018; Garrison, FitzGerald, & Sheerman, 2019) and overall benefits for learner development (Buchanan et al., 2016). Furthermore, there is very little research in an Australian context which explores how guided inquiry learning models may enhance the development of the transversal competencies such as critical and creative thinking. Furthermore, as reported in the school library research literature, student participants and student voice are underrepresented with less than 30 percent of studies gathering data directly from school students (Morris & Cahill, 2017). My study therefore rectifies this gap in the research by examining the rich narrative of student voice as they undertake guided inquiry learning experiences.

Implications and Conclusions

Curriculum policy statements advocate the essential nature of well-developed 21st century or transversal skills for our students' success in today's world. Future employment, enjoyment, empowerment, and effective participation in society require these skills. The essential skills of digital literacy, communication, collaboration, critical and creative thinking are aspects of the deeper learning approaches such as guided inquiry learning that are explored in this study and are recognized as significant literacies in the information/knowledge economy and align with both the Australian and Victorian Curriculum (Australian Curriculum Assessment and Reporting Authority, 2022; Victorian Curriculum and Assessment Authority, 2018). It is hoped that my study, informed by the narrative of student voice on the experience of guided

inquiry learning, will further inform teaching practice for educators on how to design meaningful and powerful learning experiences that both engage students and improve student achievement by enhancing their critical and creative thinking. The research literature further highlights the need to develop assessments for Guided Inquiry, in particular, new assessment instruments to apply the transversal competencies in authentic contexts (Maniotes, 2019; McIlvenny, 2019) so my study seeks to fill this gap in the research.

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Biography

Dianne Ruffles has been a teacher-librarian and teacher for over 30 years, teaching in a range of secondary schools in both the government and non-government sectors in Australia. Di is the current Director of Library Services at Melbourne Grammar and leads a team of 10 qualified library professionals across the three Melbourne Grammar Campuses. Di is also a History teacher and passionate ICT educator and has presented at many state and national conferences. Di is currently undertaking further postgraduate study in deeper learning approaches using digital technologies and guided inquiry learning. Di is also the current President of the *School Library Association of Victoria (SLAV).*