Literacy UKLA

Exploring practices of multiliteracies pedagogy through digital technologies: a narrative inquiry

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Abstract

Digital technologies have fast become integral within literacy learning and teaching across contexts as students engage with a variety of digital and multimodal texts. While teachers in New Zealand schools have a high degree of autonomy in the design and planning of literacy programs, little is currently known about how they understand and enact multiliteracies pedagogy (MLP). Using data gathered via interviews and classroom observations in an intermediate school in New Zealand, this article adopts a narrative inquiry approach to explore one teacher's approaches to using digital technologies and texts within literacy instruction. We explore in particular the ways in which MLP may be enacted *implicitly* rather than explicitly, within the complex matrix of teachers' personal beliefs and learning experiences, the perceived learning needs of students, and the school curriculum. We conclude with a call for the conscious and purposeful teaching of MLP, focusing on synaesthesia and the semiotic functions of texts.

Key words: literacy teaching and learning, digital technologies, multiliteracies, semiotic synaesthesia, multiliteracies pedagogy, narrative inquiry

Introduction

Literacy is multifaceted. Previous understandings of literacy as unidimensional, cognitive (Cope et al., 2018) and unitary (Bull and Anstey, 2019) have been superseded in favour of casting literacy as *multiple*, *layered* and *social* (Dobinson and Dunworth, 2019; Street, 2017). Street's work has been instrumental in shifting the focus of literacy research from individual cognitive processes to the broader social and cultural contexts in which literacy is situated. Street's book 'Literacy in Theory and Practice', first published in 1984, argues that literacy is not a neutral skill, but rather a socially and culturally embedded practice that varies across different contexts and communities (Street, 2003). Consequently, Bull and Anstey (2019) contend that literacy should be regarded both as a psychological process and a social practice that 'requires the acquisition and use of a variety of literacies and the associated behaviours, to be used in a range of social and cultural settings' (p. 6).

The shift to normalise literacy as *multiliteracies* is reinforced in the classroom, where the infiltration of digital technologies has prompted new literacy practices. Practices to create meaning (through speaking, writing and presenting) and make meaning (through listening, reading and viewing) have become inherently dynamic, multimodal and, in many contexts, culturally diverse (Stornaiuolo and LeBlanc, 2016). Unsurprisingly, digital and multimodal literacies are hot topics, attracting ongoing attention within academic research as well as teacher professional development (Cassidy et al., 2021). Despite this, Cassidy et al. (2021) argue that 'they often remain implemented in piecemeal ways' (p. 7), as teachers face challenges with the effective integration of technology into literacy lessons, including understanding what constitutes effective pedagogy (Christ et al., 2019).

Adopting a multiliteracies frame has significant implications for literacy teaching and learning practices. In their seminal work on multiliteracies pedagogy (MLP), the New London Group (NLG, 1996) argues that 'literacy education must account for the burgeoning variety of text forms associated with information and multimedia technologies' (p. 61). Leander et al. (2017) affirm that contemporary literacy is embedded within new technologies. They explain that 'increasing access to and usage of Internet-networked tools around the world continue to shape and change literacy practices within social and educational contexts'. (p. 43). Consequently, literacy teaching and learning practices need to develop the necessary multiliteracies skills that enable learners to participate as productive and capable members of society. Research also has a task to do in 'making visible the complexity of local, everyday, community literacy practices' (Street, 2017, p. 4).

Following the increasing access to digital technologies in educational settings, they have become an

integral part of literacy learning and teaching in schools. While collecting the data that inform this article, both the amount of class time students spent using devices for writing and research, and the teachers' frequent use of multimodal digital texts such as websites and videos were apparent. Knobel and Lankshear (2014) explain that these texts are often 'interactive, hypertextual, hypermedia, and hyperlinked' (p. 98). However, despite the differences in modalities, there are pedagogic parallels with more traditional literacy instructions; for instance, online videos can be deconstructed to elicit students' interpretations as meaningfully as more traditional print-texts such as a book or magazine article. However, and perhaps more importantly, literature suggests that little is known about how students are taught to 'filter through the abundance of information, to contest, to deconstruct, and critique in order to discover legitimate knowledge in these processes of digital production, consumption, and socialisation' (Darvin, 2017, p. 2). This raises the question of how we respond to the teaching of literacy through digital practices from a multiliteracies standpoint, including the implications for teachers' practices and professional learning, and the extent to which MLP is currently – either tacitly or explicitly – practiced.

In this article, we investigate practices of MLP via a case study of a practicing teacher (referred to by the pseudonym *Magnolia*) in New Zealand to explore *how* and *why* digital technologies and multimodal texts are used to facilitate literacy teaching and learning, and the extent to which current practices may reflect the principles of MLP. Magnolia was employed in an urban intermediate school and taught students aged 11 to 13 years. Students of this age-group are at a critical stage in their literacy development as they transition from 'learning-to-read-and-write to reading-and-writing-to-learn' (Henderson, 2012, p. 4). We use the narrative inquiry approach to better understand the constraints, opportunities, and conditions that Magnolia faced, and to explore how these intersected with her understandings and priorities concerning multiliteracies and digital technologies. Within this process, we recognise teachers' decision making occurs at the interface between cognition and conditions in classrooms which provide opportunities and constraints for practice. *Teacher cognition* is referred to as the 'unobservable cognitive dimension of teaching' that includes teachers' personal aspects of beliefs, feelings, perceptions, thoughts, and attitudes (Borg, 2003, p. 81, 2019). In other words, how teachers navigate their decision-making depends on their professional knowledge, which includes knowledge of educational contexts, content and pedagogical content, instruction, and curriculum, and what they believe, think and feel (Borg, 2003, 2019; Elbaz-Luwisch and Orland-Barak, 2013). As Borg (2019) explains, 'teaching is not a purely behavioural enterprise; in the same way that icebergs have an exposed surface beneath which lies a significant hidden mass, teachers' behaviours are also powerfully shaped by a complex range of unseen influences' (p. 1150).

The relationship between teacher cognition and practice is not a straightforward one, as it is shaped by both contextual factors and the daily pressures which influence moment-to-moment decision-making. Furthermore, it is not possible to predict changes in practice based on changes in cognition (e.g., beliefs and attitudes), and vice versa (Borg, 2006). However, teacher cognition is considered to be an important construct in understanding what teachers do, and it has been investigated in relation to many different aspects of education (Borg, 2003; Wei and Cao, 2020). Furthermore, it can help us to explore perceived gaps between what teachers know and what they do, the extent to which teachers' practices are constrained or facilitated within their classrooms, and what causes this. Against this backdrop, exploring Magnolia's literacy teaching practices in relation to MLP, we illustrate the ways in which literacy teaching may be strongly instinctive, informed by personal beliefs and learning experiences, the perceived learning needs of students, and the school curriculum. Drawing on our discussion of Magnolia's case, we argue for the strengthening of deliberate teaching of MLP, with principles that might be considered for pre-service teacher education and in-service professional development.

Literature review

The principles of MLP emphasise the importance of understanding and engaging with a range of different literacies in the classroom, including diverse modes of communication and representation, in order to support student learning and critical thinking. Given the profound impact digital technologies have on communication and learning, research has explored the ways in which they can be integrated into MLP to enhance student literacy learning and engagement. Below, we provide detail concerning the uptake of digital technologies in schools, before connecting digital technologies with MLP.

The uptake and use of digital technologies in schools

Olofsson et al.'s (2015) systematic review of international research on digital technologies in schools identifies four factors that influence their uptake and use. These are policy, school organisation and school

leadership, teachers and teachers' professional development, and students (p. 108). However, Olofsson et al. (2015) also caution that it is important for teachers and policymakers not to treat new digital technologies as 'unproblematic innovations' that will somehow lead to enhanced learning and 'replace' older and existing technologies (p. 109). What this suggests is that the uptake of digital technologies in schools is not always clear, and outcomes are far from straightforward. For example, the school in which this study was based encouraged the use of digital technologies in classrooms for teaching and learning, and provided the resources to allow students and teachers to do this. However, teachers were expected to exercise their judgement on activities and materials to include, and determine how they lead to student learning and development of literacy skills. This phenomenon supports Pettersson's (2021) observation that research on the subject has yet to convincingly demonstrate that the implementation of digital technologies in schools actually leads to 'pedagogical and organisational change' (p. 187). Nonetheless, the Organisation for Economic and Co-Development [OECD] (2020) suggests that digital technologies have substantial influence on teaching and learning in primary and secondary schools. They have also profoundly shifted the ways we learn, practice and talk about literacies.

Digital technologies, multiliteracies and contemporary literacy pedagogy

Digital technologies, in this context, refers to information and communication technology, learning management systems, and digital media such as social media and online search engines (Davies and Merchant, 2009). These key terms have also grown alongside recent discussions about literacy, including multiliteracies and multimodality (Anstey and Bull, 2018; Cope and Kalantzis, 2020). Multiliteracies refers to the multiple literacies – written, visual, technological – used to communicate within diverse cultural and social settings, as well as multiple modes of delivery (Cope and Kalantzis, 2015; Healy, 2008). Fellowes and Oakley's (2014) definition of multiliteracies foregrounds this intersection: 'the communicative practices of diverse cultures – the role of technology is foregrounded' (p. 4). Multimodality, per Cope and Kalantzis (2020), describes the composition of texts. Semiotic modes, which can be linguistic, visual, auditory, spatial and gestural, are 'a socially organized set of semiotic resources for making meaning' (Kress and van Leeuwen, 2020, p. 79). Modes can be interrelated in meaning construction (Jewitt and Kress, 2003). Reading this work together, we highlight (1) the *variability* of meaning-making in different cultural, social or domain-specific contexts and (2) the *multimodality* of meaning-making, which is particularly evident today in digital information and communications media. Based on these premises, multimodality and digital technologies become key components of MLP (Cope and Kalantzis, 2020; Jacobs, 2013).

The NLG (1996) frames pedagogy critically, as a relationship that 'creates the potential for building learning conditions leading to full and equitable social participation' (p. 60). Literacy pedagogy plays an essential role in achieving this goal. According to Cope and Kalantzis (2015), foundational tenets of literacy pedagogy include differentiating to engage, acknowledging the different dimensions of the production of meaning, and making appropriate and purposeful teaching choices. The NLG's (1996) work remains relevant today, as the increasing variety of text forms linked to information and multimedia technologies has great implications for teaching literacy. In proposing MLP, the NLG articulates *critical framing* as an important objective. Through this pedagogical move, learners are able to link *situated practice* and *overt instruction* to the 'historical, social, cultural, political, ideological, and value-centred relations of particular systems of knowledge and social practice' (p. 34). Briefly, situated practice prioritises authenticity and immersion by positioning students as the providers of knowledge and acknowledging that meaning making is unique to their contexts. Overt instruction involves the explicit teaching of metalanguage to allow students to describe language in precise ways. The goal of MLP is a *transformed practice* in which students transfer and re-create various modes of meaning from one context to another (NLG, 1996, p. 31), or making texts and putting them to use in communicative action.

The MLP framework's approaches to teaching literacy also acknowledge the increasing complexity of communication in contemporary society. Two key components of this framework are *synaesthesia* and interrogating the *semiotic functions of texts*. Synaesthesia refers to 'the representational processes of reframing a meaning from one meaning form to another' (Cope and Kalantzis, 2020, p. 34). This is made possible by the representational parallelism between linguistic and visual modes, which allows 'the same thing to be depicted in different modes' (p. 179). This concept has been increasingly used in the study of literature to explore the ways in which language and sensory perception intersect. The semiotic functions of texts refer to the multiple ways in which meaning is created through the use of different signs and symbols in texts, including visual, aural, and linguistic elements. This aspect of the MLP framework emphasises the importance of understanding how texts work together to convey meaning, and how different audiences

interpret texts in different ways (Gee, 2015; NLG, 1996). Incorporating synaesthesia and semiotic analysis into literacy teaching and learning can encourage students to engage with texts in more creative and critical ways, and to develop a richer understanding of how meaning is constructed in different contexts.

Digital technologies and multiliteracies pedagogy

The usefulness of MLP in practice is increasingly well documented. Studies on and by teachers have included experimental projects implementing elements of MLP to inform critical and creative pedagogical approaches (see, e.g., Cordero et al., 2018; Healey, 2016; Holloway and Gouthro, 2020; Kim et al., 2021; Warren and Ward, 2019; Yelland, 2018). These studies promote MLP in their respective contexts and represent a noticeable shift towards discussing the role of digital technologies in promoting multimodal literacies. For example, in trialling the pedagogical moves suggested by MLP, Healey (2016) used videos and encouraged her students to search for information online. Kim et al. (2021) explored how teachers could integrate digital technologies to promote multimodal meaning-making among culturally and linguistically diverse children. Warren and Ward (2019) employed digital technologies in students' creation of autobiographical graphic novels. Thibaut and Curwood (2018), discussing multiliteracies from a text-level perspective, argue that 'multimodal practices offer students complex and versatile ways to communicate and allow the viewer or reader to interpret the text in multiple ways, not restricted from left to right or to decode words' (p. 52). Overall, the integration of digital technologies into MLP offers promising opportunities for enhancing student learning and promoting critical digital literacy (Gee, 2015; Knobel and Lankshear, 2006).

However, one potential gap in the literature pertaining to digital technologies and MLP in literacy teaching and learning concerns issues of equity and social justice. While digital technologies have the potential to enhance student learning and engagement, they also have the potential to perpetuate and exacerbate existing inequalities. For example, students from low-income backgrounds or who lack access to reliable technology may be left behind in classrooms that heavily rely on digital tools (Calderon Gomez, 2021). Additionally, the use of digital tools may reproduce dominant cultural and linguistic norms and exclude diverse perspectives and experiences (Sharma, 2020). These instances support Selwyn and Facer's (2013) argument that the potential of digital technologies and MLP to enhance educational equity has not yet been fully realised.

Taken together, with digital technologies giving rise to a wealth of new texts and resources, MLP exhorts teachers to be aware of new literacy practices in classrooms by creating opportunities for students to explore various texts and become engaged in a variety of literacies. MLP prioritises the development of strategies to assist learners to effectively and critically read the new and unfamiliar, in whatever forms they encounter them, and to become active communicators through 'a different kind of pedagogy, one in which language and other modes of meaning are dynamic representational resources, constantly being remade by their users as they work to achieve their various cultural purposes' (NLG, 1996, p. 64; see also Cooper, et al., 2013). Furthermore, it is imperative that digital technologies are integrated into MLP in ways that promote equity and social justice. This present study responds to this need by engaging the MLP framework to investigate how digital technologies influence teachers' literacy teaching beliefs and practices in the classrooms.

The New Zealand context

English-medium intermediate schools in New Zealand, including that in which our participant was employed, follow the New Zealand Curriculum for English-medium teaching and learning in Years 1–13 [NZC]. The NZC describes itself as an outcomes-based and future-focused curriculum that responds to the increasing diversity of New Zealand's population, sophistication of technologies, and complexity of workplaces (Ministry of Education [MOE], 2007, p. 4). The NZC gives schools the 'flexibility and authority to shape their curriculum so that teaching and learning [are] beneficial to their particular communities of students' (p. 37) around eight learning areas. In 2018, MOE revised the learning area of 'technology' to emphasise the importance of digital technologies and teaching technological skills in schools to develop digitally capable individuals.

However, precise definitions of literacy are absent from the NZC. The closest approximation is found in the learning area of English, where it is claimed that 'literacy in English gives students access to the understanding, knowledge, and skills they need to participate fully in the social, cultural, political, and economic life of New Zealand and the wider world' (p. 18). The NZC further describes the subject of English as 'the study, use, and enjoyment of the English language and its literature, communicated orally, visually, and in writing, for a range of purposes and audiences and in a variety of text forms' (p. 18). Additionally, the MOE's (2010) Literacy Learning Progressions (LLP), a tool provided to teachers to support the teaching of

the NZC, casts literacy as a social practice and encourages teachers to 'actively seek opportunities to build on the skills and experiences their students bring to the classroom' (p. 7). Furthermore, despite the revision to the technology learning area, the preparation of teachers to respond to this mandate is unclear. In the school in which this study was undertaken, technology teaching and learning were led by the homeroom teachers, as appointed by school management.

While no direct reference to MLP is made by the NZC or LLP, their inclusion of oral, visual and linguistic elements alludes to multimodality. As Yelland (2018) argues, 'being able to select the most effective modalities to represent your idea or communicate your findings is an essential component of being multiliterate in contemporary times' (p. 856). The LLP's recognition of literacy as a sociocultural practice is also reflective of the MLP principle of diversity. In order to enable students to 'integrate their own culture, language, and identity' (MOE, 2010, p. 7), teachers are tasked with planning activities and materials that reinforce their students' lived experiences. These curriculum documents, alongside the common use of digital technologies in classrooms (Bolstad, 2017), are potentially generative of multiliteracies practices in classrooms, despite the lack of acknowledgment of MLP.

Research questions

In New Zealand, there is a growing emphasis on developing teacher knowledge of literacy and literacy strategy, and students' 21st century learning skills of communication, collaboration, collaboration, creative and critical thinking. While the use of digital technologies in classrooms is becoming more prevalent, there is no official and explicit adoption of multiliteracies teaching and MLP framework in New Zealand's curriculum. This study explores a teacher's experiences of literacy teaching and learning through the lens of MLP. The following research questions were formulated to guide it:

1 What literacy teaching practices do teachers of intermediate-year learners engage with in their classrooms in relation to their beliefs of LTL?
2 How do the teachers' literacy teaching practices reflect the three main principles of the MLP framework?

Research design

Narrative inquiry

In order to make sense of teachers' understandings of and experiences with MLP, we utilise a narrative inquiry approach that embeds 'a strong active collaboration between the researchers and participants' (Creswell and Poth, 2018, p. 69). Narrative inquirers assert that knowledge is narratively composed, embodied, and expressed in practice (Clandinin and Connelly, 2000). According to Moen (2006), the three basic claims of narrative research are that we, as humans, make sense of our lives and experiences through narrative; that the stories we tell are responsive to our knowledge, experiences, and personal attributes; and that narratives connect us to social contexts. During the research process, the narrative inquirer seeks to move inward – towards the participants' feelings, hopes, reactions – and then outward to understand their 'existential conditions, that is, the environment' (Clandinin and Connelly, 2000, p. 50). Moving backward and forward to address temporal matters is also taken into account. In this regard, we seek to not only inquire into experience, but also to conceive and honour teachers' lived experience as a source of important knowledge and understanding (Clandinin, 2013). Therefore, in our study, we collected data through narrative semi-structured interviews, classroom observations, and post-observation conversations to construct a narrative account of the teachers' literacy teaching and learning experiences and practices.

Narrative inquiry, which emphasises the use of stories to understand and communicate experience, aligns well with MLP research because it allows for the exploration and integration of diverse perspectives and modes of communication. However, few studies in literacy research have adopted narrative inquiry. To address this gap, recent studies have explored the potential of narrative inquiry for enhancing MLP. For example, Sjostrom and McCoyne (2017) use narrative inquiry to explore the role of digital technologies in shaping student literacy practices, while Magne et al. (2019) employ narrative inquiry to examine the experiences of multilingual learners in a multiliteracies classroom. Our study similarly embraces the potential of narrative inquiry for advancing MLP and offer insights into how narrative inquiry can be used to promote equity and social justice in literacy teaching and learning, focusing on the practitioners' perspectives.

Ethical considerations

The narrative research project was conducted with ethical considerations in mind. The study reported in this paper is part of a larger study involving several teachers across a number of schools. Before approaching potential participants, ethics approval was obtained from our institutional ethics committee

Informed consent was sought from the participants before collecting any data. The participants were informed about the purpose of the research, how the data would be collected and used, and their right to withdraw at any time without consequence. Any identifying information has been removed from the data to protect participants' identities. We have also strived to present the findings responsibly, in an accurate and unbiased way.

Participant and school context

In this paper, we have chosen to foreground one teacher, Magnolia, as a narrative case study to allow deeper exploration of her lived experiences, teaching practices, understandings and beliefs (Barkhuizen, 2014; Clandinin, 2020). Magnolia, at the time of data collection, worked at an urban English-medium state intermediate school and was in her fourth year of teaching. She had also worked in the hospitality industry for almost a decade before taking up teaching. After graduating with a teaching degree, Magnolia started out as a beginning teacher at the school in which she was still employed, and per New Zealand requirements, she was assigned a mentor teacher for her first 2 years. The school delivered the NZC through the International Baccalaureate programme that emphasised two key components – conceptual inquiry and transdisciplinary learning – which underpinned Magnolia's practices. Conceptual inquiry was represented as a process of students asking (inquiry), thinking (reflection) and doing (action). Transdisciplinary learning involved students transferring new knowledge and understandings across all curriculum areas. Additionally, the school was well-equipped with technological resources. The use of digital technologies for teaching and learning was strongly encouraged. Magnolia demonstrated careful consideration of using these technologies in the classroom. While she expressed concerns about becoming dependent on devices, she encouraged her students' use and uptake to support their literacy learning experiences.

Magnolia's unique perspectives and insights into the use of digital technologies in classroom settings make her a compelling research participant and literacy teacher. Despite reservations about the extent to which devices should be integrated into literacy instruction, Magnolia demonstrated a marked proclivity for utilising these tools in her pedagogical approach and actively encouraged her students to engage with them during learning activities. Moreover, her teaching background, which comprises 2 years as a novice educator and 2 years as a fully certified practitioner, enabled her to exercise greater confidence and agency in determining the course and manner of her instructional practices.

Data and analysis

Data were gathered via an introductory narrative interview, four classroom observations, and four post-observation conversations. The study began with the introductory interview to explore Magnolia's path to becoming a teacher, her experiences throughout her years of practice, and her personal philosophies of teaching. *Narrative interviewing* was employed as it encourages and invites *stories*; rather than interpreting them as 'digressions' (Riessman, 2011, p. 315), the narrative approach shifts away from the 'emphasis on a question-answer format' to provide 'an opportunity for participants to narrate their experiences' (Kartch, 2017, p. 1073). Following this, the first author conducted four full-day, non-participant, closed classroom observations to become immersed in Magnolia's work with her students. What this means is that they did not participate in the teacher's teaching and learning activities (Hennink et al., 2020), and the observations involved the use of observation schedules with predefined categories (De Costa et al., 2017). The approach of observing without participation enabled the author to conduct the multitasks of *watching*, *listening* and *recording* field notes freely and attentively. The observations focused on Magnolia's literacy teaching and learning practices, and field notes were taken to record her instructions, interactions with the students, learning and teaching activities and materials, classroom layout and design, and other relevant matters. Conversations with Magnolia about her literacy practices followed each day's observation. These audio-recorded conversations focused on her perspectives on literacy teaching and learning; her classroom practices, including literacy strategies and activities; and the factors she considered to influence her literacy teaching, such as the school curriculum or professional learning. As Magnolia commented, these informal conversations also became a reflective space for her to look back on her day's literacy teaching.

The interviews and post-observation conversations were transcribed verbatim for analysis, along with field notes from classroom observations, after data collection. Polkinghorne's (1995) narrative analysis method was used to synthesise and reconstruct the fragmented data into an explanatory narrative. The steps involved (1) identifying significant events or experiences related to the research question, (2) organising these events into a temporal sequence or causal chain, (3) considering the context and culture

surrounding the events, (4) interpreting the narrative through the lens of the research questions and (5) presenting the narrative in a clear and coherent manner. In accordance with Riessman's (2008) principles of narrative-under-analysis, the researchers adopted a storyteller-stance to make sense of and represent Magnolia's story, which involved ethical and relational considerations such as fictionalising and blurring identities to ensure anonymity and confidentiality, and taking into account the social, cultural, and institutional spaces of Magnolia's work. The result of this narrative analysis was a retrospective explanation that allowed for a rich and nuanced understanding of Magnolia's teaching experiences and practices. This approach emphasises narrative structure and coherence, facilitating a holistic understanding of the phenomena under study, and prioritises the researcher's engagement with the data, encouraging a deep exploration of the multiple meanings and interpretations embedded in the narrative.

In recognition of the fact that the narrative serves as a representation of Magnolia's storied literacy teaching practices, the transcripts and composed narrative were shared and negotiated with her, a process that spanned 9 months and involved regular communication. This approach was taken to ensure that Magnolia was actively involved at various stages of the research, including reviewing, providing additional information, and verifying the accuracy of the transcripts and interpretations, as advocated by Barkhuizen (2014). In telling Magnolia's story, we have used vignettes, which are recognised to be a useful and methodologically powerful means of examining the complexity of a subject in narrative inquiry (Clandinin and Connelly, 2000; Riessman, 2008). Vignettes are defined as 'short, impressionistic stories that describe a person, place, or situation' (Riessman, 2008, p. 3). We use vignettes, drawing on excerpts from interviews and post-observation conversations, to share our findings and support our interpretations. We draw on vignettes that best reflect the focus of the paper – digital technologies and literacy teaching practices. These vignettes are presented in the subsequent sections of the paper, with the headings acting as content organisers.

It is important to note that the MLP framework had not been officially adopted in New Zealand and is not commonly used in schools. Therefore, the interviews and conversations with teachers were conducted using terminology found in the NZC and related documents on literacy. To identify and analyse the teachers' use and understandings of MLP, we map the narrative findings to the components of the MLP framework and present them in the Discussion section.

Magnolia's story: literacy beliefs, knowledge and practices

Literacy beliefs informed by past and present experiences

As a teacher, Magnolia contrasted her literacy practices with those she had experienced as a student. She described her early literacy learning as 'sit in a circle, read a little bit, move onto the next person', and 'lots of writing about what we do on the weekend'. She felt that such reading and writing activities did little to generate interest in literacy, much less to encourage critical and creative thinking. With her 4 years of teaching experience, she had adopted the school's approaches to learning – in particular, transdisciplinary and conceptual inquiry – and applied them in her literacy teaching. Magnolia believed that these approaches benefitted 'those students that are quite vibrant and hard to settle', as they encouraged students to do their own inquiry. Additionally, she was heartened to see students developing their collaborative skills to complete assignments and felt that transdisciplinary teaching could connect in-class learning to real-life contexts, allowing literacy to manifest in various forms.

When asked to define literacy, Magnolia stated a comprehensive range of practices – 'writing, reading, speaking, viewing, and presenting' – which recalled the NZC's definition of literacy in English. She added that these practices were intertwined and reciprocal. Magnolia also balanced digital tools with physical books and other printed materials in her literacy lessons, demonstrating that digital technologies could *enhance* teaching and learning, rather than replacing 'traditional pedagogy' or old texts. As she elaborated:

> *[Being literate is] being able to express your ideas and your opinions that might be written or spoken, being able to read information and there's so much of it. That presenting and listening, it's all part of it – skills they need as an adult. Some will use writing more than others, texting, you know, like putting up social media posts – you can't escape it.*

Using technology to support and enhance literacy lessons

One day in class, as Magnolia's students were immersed in their devices, she was asked how students' literacy experiences and needs were changing with the infiltration of digital technologies into their daily lives. Magnolia responded that they were more

engaged in 'viewing' than 'reading', although 'they do pick up certain vocabulary from a range of people and presenters'. She acknowledged that technology had become 'very much a part of the students' world', and that it was important to 'accept that and work with it'. However, Magnolia was cautious about dependence on devices. She reflected that:

> *I try not to use [devices] too much, but I think most of them are just something I do naturally. Like, my writing and my maths are device-free. [In unit of inquiry activities] I do, not all the time though. We use it probably in the afternoon – I think it's distracting sometimes, and I don't think it's always on task.*

In the classroom, Magnolia mostly allocated device use with internet access to the recrafting and publication of students' writing – that is, after students had drafted pieces of writing by hand in their exercise books – and searching for information online. She understood that some students preferred watching videos to enhance their understanding of concepts, but she commented that 'you always have to have a follow-up literacy activity to go with it'. Using technologies and the internet, she believed, was 'where a lot of their learning comes from, but it's also making sure what they're seeing is educational'. Magnolia believed that literacy activities undertaken at school were more in-depth than those in which students took part at home. Students had more opportunity to read when at school because they were 'surrounded by that environment all the time', allowing them to acquire essential literacy skills such as generating ideas, appreciating the writing process of 'planning, drafting, editing or recrafting, publishing', learning and practicing reading comprehension strategies, and synthesising texts to paraphrase.

To show how Magnolia's 'intertwined literacy skills' manifested in practice, we present below two storied vignettes under the following themes: *balancing learning-to-write and writing-to-learn* and *moving from literacy learning to literacy practices*.

Vignette 1: balancing learning-to-write and writing-to-learn

As Magnolia's students followed her instruction to bring their unit of inquiry work, writing books and stationery to the mat, she accessed the school's cloud storage system – where all the teaching and learning materials were stored – and displayed the day's topic, 'paraphrasing', on the interactive touch screen panel. Prepared using slides, the layout was simple with a clean beige background which foregrounded the text. Font was sized to be clearly visible from the back of the classroom, and the main ideas were bolded and presented in bullet points. Each slide contained a question, with animated answers revealed upon clicks, to guide a whole-class discussion. An example is below:

Slide 1: What is paraphrasing?

- Rewriting of text in **your own words**
- Used to **clarify meaning**
- To **shorten** a longer statement
- Important to **keep the main ideas**

In response to the question in Slide 1 ('what is paraphrasing?'), the students offered answers. Magnolia then summed up the students' responses and reinforced the principal purposes of paraphrasing by going through her prepared answers. She explained to the students that the rationale for doing a paraphrasing workshop was that she had noticed a tendency to 'copy-and-paste all the information into your slides' when searching for information about topics. Magnolia added:

> *That's why we are doing a little workshop about paraphrasing today. This will be very helpful when you are doing your research and you are writing a description about your object or artifact. Also, it's a skill that you'll use for many, many years to come.*

Magnolia explained how to paraphrase, showing an example of a paraphrased paragraph. She distributed a printed handout to the students and modelled the steps on a slide: 'Read the text carefully, and decide on the main idea of the passage'. On the enlarged handout shown on the interactive touchscreen, she read the sample text aloud, asked students to identify the main ideas as a group, and highlighted these ideas using different-coloured highlighters to give it a 'colour code'. This helped to 'differentiate the various main ideas' that she was going to extract to paraphrase. Magnolia then proceeded to paraphrase the paragraph by rewriting it in her own words. Following this, the students practiced with another text about kangaroos and penguins. Magnolia concluded the session by inviting several students to share their work, praising them for their effort.

After the teacher-led learning-to-write workshop, the students moved onto writing-to-learn in the next learning block. In a student-led group activity, they worked with several materials – an online video, a text from a New Zealand educational publication, an enlarged laminated newspaper cutting, and a worksheet entitled 'I see, I think, I wonder' – on the topic of the moon landing. Their task was to work through the sources of information and complete a worksheet together. While they worked, Magnolia reminded them

to 'look at the graphics, the headings', and suggested they 'put yourselves in the shoes of the astronauts or citizens of the period'. Students were prompted to consider 'How would you feel if you were the astronauts? Would you be proud of the achievement?', and to note in their books 'While I'm doing my research, I wonder …'. Later, Magnolia shared that the main objective of giving those question-prompts was to develop the students' thinking skills and curiosity.

Vignette 2: moving from literacy learning to literacy practices

Another literacy activity which took place in Magnolia's class was a student presentation focusing on the skills of researching and communicating. The presentations signalled a shift from literacy learning to literacy practice. The students were involved in reading-to-learn, discussion while researching for answers to complete the slides, and practicing their presentation skills.

Before beginning the activity, Magnolia engaged the students in a whole-class discussion about effective presentation skills, including pace and eye contact. When not presenting, students were encouraged to pay attention to the speaker, ask relevant questions, and respond appropriately so as to not disrupt the presenter's flow. Magnolia allocated 15 minutes for the students to practice presenting with slides in their groups. The presentation templates – each containing different pictures and question-prompts that depicted New Zealand historical events in sync with that term's theme of 'where we are in place and time' – had been prepared by Magnolia and two of her colleagues. The students were instructed to discuss their plans with each other, and then to go online and find information. Just before the presentations commenced, Magnolia reminded the class to 'be a wonderful audience' by respecting the presenters and giving feedback at the end of their classmates' presentations. Some students were visibly nervous to present in front of the class.

During the presentations, students used recent examples and evidence to support their arguments and opinions. For instance, one group incorporated current discussions of racism, drawing on George Floyd's case and the Black Lives Matter movement in the United States. The students took turns to share their views on the matter with their group members. While some of them supported the movement, others expressed that there were other ways to fight racism instead of staging demonstrations. The audience members were responsive, appeared to be excited for the presenters, and gave feedback that was constructive and encouraging. Magnolia was pleased with the presentations. Reflecting on the genesis and preparation for this activity, she commented:

> *Yeah, so [the students] started it and we spent a block on it, and then we stopped and I gave some examples, and spent quite a bit of time unpacking rather than it just being an inquiry where sometimes you just go over it. Then today they came back and I saw how they're going and what they needed support with. And it looks like they listened. It wasn't particularly planned either – the whole process of inquiry is like 'off you go and explore' and me walking around seeing where they're at, talking to them, conferencing and then coming back. Actually, I was quite pleased that they have gone deeper. It was a little bit apprehensive that they would but it was good. So yeah, supporting them with examples.*

Discussion

This section is divided into two sections. The first section aligns with the research questions and is titled 'Encouraging signs of MLP'. It explains how Magnolia showed her understanding of MLP and the practice of its elements, which are diversity, multimodality, and a range of pedagogical strategies. We then make suggestions for Initial Teacher Education and Professional Development programs that would enable the explicit implementation of MLP in the second section 'Towards explicit MLP'.

Encouraging signs of multiliteracies pedagogy

Given the prevalence of digital technology use among students in and outside classrooms (Mirra et al., 2018), there is growing consensus among literacy scholars that teachers should acknowledge students' new literacy practices in digital spaces (Aljanahi, 2019; Kalantzis and Cope, 2020). Furthermore, teachers should strive to incorporate students' experiences and interests in their literacy practice, and to use technologies in ways that promote multimodal meaning-making (Kim et al., 2021; Reyes-Torres and Raga, 2020; Yelland, 2018). Nonetheless, Cassidy et al. (2021) posit that, while 'digital and multimodal literacies can involve high-tech technologies, they can also be embraced in maker spaces, project-based learning, and low-tech environments' (p. 8). Magnolia's story exemplifies how, informed by her personal beliefs and learning experiences, students' perceived learning needs, and the school curriculum, she responded to these calls. Magnolia utilised digital technologies in her literacy teaching and learning to elevate

students' learning experiences. She also, at points in time not represented in the selected vignettes, integrated students' cultures and languages into her teaching practices, which are important aspects of MLP that recognises the diverse linguistic and cultural backgrounds of students (Garcia et al., 2018). Fenwick and Comber (2021) point out the value of literacy education that helps students build understanding about how the structure and language of texts are connected to cultural and/or social purposes.

In providing space for students to engage with new literacy practices and digital texts across learning areas, Magnolia's teaching addressed multimodality and multiple literacy skills, corresponding with the concept of multiliteracies that embeds new literacies and critical literacy. Students were engaged as active agents and meaning-makers, immersed in authentic literacy activities that used their prior knowledge while developing new knowledge (Kalantzis and Cope, 2015). The new knowledge supported students in thinking about, responding to, analysing, and questioning texts (Luke, 2012). For example, when Magnolia's students worked in groups to find information online, they critically discussed the trustworthiness of online resources and challenged each other's views. When they agreed on what to include in their presentations, they discussed how best to insert text and images into their slides. They also inserted hyperlinks and incorporated current issues and events. Facilitating such learning experiences requires an understanding of students' engagement with digital technologies as well as awareness of the salience of technology-mediated literacy practices. While Magnolia was somewhat wary of over-using digital technologies in class, reflecting that she had learned 'to work with it' despite finding devices 'distracting sometimes', her practices nonetheless align with MLP's principles of diversity and multimodality, and respond to Anstey and Bull's (2018) call to develop multiliterate individuals who 'have a repertoire of literacy knowledge and practices; understand and employ traditional and new communication technologies; and are critically literate' (p. 46).

Magnolia's instructional strategies for literacy prioritised scaffolds and support for students, including modelling, prompting, questioning, giving feedback, telling, explaining, and directing. Her planned literacy activities demonstrated her ability to weave 'backwards and forwards, across and between a repertoire of pedagogical moves' (Cope and Kalantzis, 2015, p. 4), which themselves aligned with situated practice, overt instruction, critical framing, and transformed practice of the MLP framework (NLG, 1996). Magnolia designed literacy activities that helped students navigate complex and diverse texts. These activities involved situating the text, deconstructing the text, reconstructing the text, and finally, composing a new text. Similar attempts of MLP have been recorded outside New Zealand. Kim et al. (2021) explored how teachers could integrate digital technologies to promote multimodal meaning-making among culturally and linguistically diverse children in Canada. Reyes-Torres and Raga (2020) deliberately planned for the four pedagogical moves in their teaching of English as a foreign language through picture books in Spain. Veliz and Hossein (2020) investigated teachers' experiences and readiness in implementing MLP with multilingual students in Australia. In these examples, the authors highlighted the plurality of literacies and also the lack of 'systematic promotion and inclusion of MLP in teacher preparation' (Veliz and Hossein, 2020, p. 68) as the biggest challenge to effectively implement the approach in classrooms.

Towards explicit multiliteracies pedagogy

Alongside the advancement of digital technologies, issues of economic inequality, social injustice, and cultural marginalisation persist. There is a need to continually engage with the cultural contexts and power implications around digital tools, and to critically interrogate the ideology and structural power of texts. This means that teachers should be supported to develop awareness of the cultural and linguistic resources that influence the students' literacy practices. They should also pay attention to various learning preferences, styles, interests, and cultural and linguistic identities. MLP is a useful framework that provides systematic ways to achieve these goals. To work towards promotion and inclusion of MLP, we support more comprehensive understandings of the semiotic functions of texts, as well as experimentation with practices such as synaesthesia.

Cope and Kalantzis (2009) suggest that, rather than approaching multimodality ad hoc, there is a need to encourage deliberate and conscious 'shifting between modes and re-representing the same thing from one mode to another' (p. 179) through synaesthesia. Further to this, Cope and Kalantzis (2000) and Kalantzis and Cope (2015) argue that digital technologies bring modes together for the production and transmission of meaning – for example, a social media post may simultaneously include written text, image, audio and video. Each mode is important in meaning construction (Jewitt and Kress, 2003). Therefore, Kalantzis and Cope (2015) highlight the need to interrogate the following functions when engaging with texts, which may or may not be carried across modes: (1) representational, concerning the meaning represented in the text; (2) social, or how those involved in the

construction of meaning are connected; (3) organisational, concerning how meaning hangs together; (4) contextual, in terms of how they fit into larger worlds of meaning and (5) ideological, which concerns the underlying and possibly hidden interests which are served by the meaning presented in the text. Addressing these functions deliberately allows readers to interrogate messages received in multimodal texts.

Newfield (2014) contends that synaesthetic semiotic activity, while pertinent and apparent in contemporary communicational landscapes, has been 'largely ignored in institutionalised education' (p. 102). Therefore, unsurprisingly, and despite the influence of the NLG's (1996) work in academia, its application in classrooms is less well known (Kiss and Mizusawa, 2018). To make MLP explicit for teaching professionals, these twin goals – to practice synaesthesia and unpack the semiotic functions of texts – could be addressed in pre-service teacher education and in-service professional development. Teachers' experiences as users and producers of multimodal texts – as knowing and knowledgeable (Clandinin, 2013) – may be harnessed as a starting point for more deliberate MLP. Johnson and Golombek (2002) highlight that professional development can only emerge from a process of 'reshaping teachers' existing knowledge, beliefs, and practices rather than simply imposing new theories, methods, or materials on teachers' (p. 2). Similarly, Kirsten (2019) notes that professional development that is only weakly connected with teachers' practices may result in 'implementation dip' (p. 380). Consequently, we would support an approach that considers teachers' existing beliefs, knowledge and experiences as starting points.

Conclusion

MLP is designed to engage learners and enable them to exercise agency. Cope and Kalantzis (2015) remind us that MLP does not replace the 'old basics', but supplements established literacy pedagogies. Magnolia's case, particularly her use of digital technologies in her literacy teaching practices, provides an entry point to consider how best to support teachers towards conscious and explicit MLP practice. The NZC prioritises the development of 'young people who will be confident, connected, actively involved, lifelong learners' and who hold the key competencies of 'thinking; using language, symbols, and texts; and participating and contributing' (MOE, 2007, p. 7). Sixteen years since its introduction – and following the rapid advancement of digital technologies – evolving notions of literacy and literacy practices need to be acknowledged and embraced to ensure the NZC's visions are met.

However, these matters are not just relevant to students in New Zealand. Palsa and Mertala (2020), in their study of the Finnish perspective of multiliteracies, reiterate how digitalisation has become a 'defining phenomenon of our contemporary world' (p. 17). International scholars working on the pedagogy of multiliteracies (see, e.g., Bull and Anstey, 2019; Cope and Kalantzis, 2020; Garcia et al., 2018) continue to advocate for literacy instruction and practices that will enable students to become designers of their social futures (NLG, 1996). In other words, as students become more immersed in a digital technology-mediated future, it is necessary to 'look into the cultural contexts and power implications around digital tools' (Garcia et al., 2018, p. 77). With the advent of powerful artificial intelligence entering the scene in late 2022, this is only likely to become more necessary and more urgent.

Conflict of interest statement

No potential conflict of interest was reported by the authors.

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