This is the author's accepted manuscript (post-print) of a work that was accepted for publication in the following source:

Notice: Changes introduced as a result of publishing processes such as copy-editing and formatting may not be reflected in this document. For a definitive version of this work, please refer to the published source.

The Influence of Individual and Contextual Variables on Teachers' Understanding and Classroom Practice of Media Literacy

Csilla Weninger, Guangwei Hu and Suzanne S. Choo

National Institute of Education, Nanyang Technological University, Singapore

ABSTRACT

Media literacy has become a central concern for educators and researchers in many different contexts around the globe. While researchers have produced a growing number of situated accounts of teachers' media literacy instruction, few studies have examined the impact of a range of factors on teacher beliefs and professional practice. Drawing on quantitative survey data from 200 Singapore teachers, this article discusses how teachers' beliefs, media use and aspects of their pedagogic practice interact with key individual and contextual variables and thus impact how media literacy is taught in classrooms, with implications for policy and practice.

1. Introduction

While media literacy has had a long history, dating back to the emergence of motion pictures and their use in classrooms (Hobbs & Jensen, 2009), it has received additional impetus in the last two decades with the proliferation of new, increasingly digital forms of media that seem to pervade many people's lives. As a result, there has been greater recognition by scholars, educators, and policymakers of the importance of incorporating media education and media/digital literacy in schools. Correspondingly, the last fifteen years have seen the emergence of theoretically informed instructional practices for school-based media literacy education. Media literacy is understood here as the ability of a person to access and critically evaluate media texts as well as engage in the cultural production of media texts as a member of participatory communities, orienting to the ethics of those communities

(Hobbs, 2007, 2011a). Media/literacy education is now integrated into the formal school curriculum in many countries including the United Kingdom (Hart & Hicks, 2002), the United States (Baker, n.d.; Kellner & Share, 2005; NAMLE, 2014), Australia (Curriculum Council, 2010), and Canada (MediaSmarts, n.d.).

Curricular approaches to media literacy take a constructivist approach to both text and learning, and advocate learner-centered pedagogies that draw on students' everyday understanding, experience, and use of media in and out of school (Hobbs, 2011b). Much research on media literacy has focused on students' learning experiences in community or school-based projects (e.g., Morrell et al., 2013; Share, 2009), with significantly less empirical attention given to how teachers' knowledge, disposition or use of media may impact their understanding and teaching of media literacy, especially in a formal school environment. That teachers play a central role in creating conducive learning environments to foster young people's digital and media literacy is certainly acknowledged (e.g., Greenhow, Robelia & Hughes, 2009; Owston, 2009), yet studies that explicitly focus on teachers' role have remained scarce within the extensive literature on school-based media literacy instruction.

Two types of teacher education research relevant to media literacy seem to have flourished in the last fifteen years; one that has viewed the digital 'upskilling' (Knobel & Kalman, 2016a) of teachers as a key avenue to create technology-rich classrooms, and the other comprising small-scale, in-depth studies of teacher professional practice and learning in relation to digital literacies. While these two strands are markedly different in emphasis (one on technology and the other on teacher learning), they both view teachers as the main locus of agency and change vis-à-vis new media and digital literacy. Similarly, as noted by Burn et al. (2010), in the media literacy literature, teachers are often assumed to be ignorant of youth media culture, which is then thought to act as a barrier to bringing media literacy into the

classroom. In a way, these trends stem from a general development in many educational systems in the last fifteen years toward placing accountability for educational outcomes squarely on teachers' shoulders (Knobel & Kalman, 2016a). Yet this intense focus on teacher 'capacity building' risks sidelining the need for careful analyses of the complex interplay of factors, many beyond teachers' immediate control, that ultimately shape what happens in classrooms.

This paper examines teachers' role in media literacy education by taking into account a number of factors that may shape teachers' professional practice. Specifically, it reports on a quantitative survey study of 202 English teachers in Singapore secondary schools that aimed to gather data on teacher beliefs, teacher media use, and teacher pedagogy in relation to media literacy education. The article focuses on key descriptive and inferential statistical findings from the survey, highlighting how teacher beliefs, media use, and classroom practice are influenced by both individual and contextual variables such as teaching level, teachers' educational background, and positions within the school. While the focus of the study is on teachers, a key argument made is that teachers' professional practice of media literacy instruction must be examined with reference to the institutional and larger policy context which set the basic parameters for curriculum enactment.

2. Literature review

As mentioned above, there are few large-scale, quantitatively-oriented empirical studies that examine teachers' professional practice specifically in relation to media literacy. As such, the section below is framed with reference to broader debates about the role of teachers that have emerged in conjunction with the rapid new media and technological developments of the last fifteen years and the question of how educators should respond to the changed social realities and practices of these new times.

2.1. Teachers' role in media literacy education

Discussions about teachers' role in both media and new literacy education became dominated in the early 2000s by arguments about the digital divide that existed between media and net-savvy children and their much less competent teachers. This argument was most famously popularized by Marc Prensky's (2001) thesis that juxtaposed today's 'digital native' students with their 'digital immigrant' teachers and instructors. This deficit view of teachers set a powerful tone for ensuing discussions in scholarship and practice, setting a research agenda for upgrading teachers' technological skills at the expense of a more situated understanding of teacher professional development in relation to technology and media (Hutchinson, 2012). With critical assessments of the digital divide thesis (e.g., Selwyn, 2009) came also more nuanced investigations of teacher professional development in digital media in the last several years, with studies providing in-depth qualitative examinations of teachers' learning experiences with and about new/digital media and literacy (e.g., Hagood, 2011, 2012; Knobel & Kaplan, 2016b; Miller, 2007, 2008; Zhang, Li, Liu & Miao, 2016). While these studies corroborate to some extent earlier claims about teacher anxieties in relation to using new media in the classroom, the researchers' emphasis is clearly on nuanced descriptions of individual teachers' learning experiences and their positive outcomes for both teachers and their students.

Within media literacy, the notion of teachers' technological deficit has been less pronounced, probably due to the fact that media literacy encompasses both new and older forms of media (e.g., newspapers, television), the latter of which most teachers are familiar with. The concern in media literacy has mainly rested on a purported divide between teachers' and students' media cultures, though based on the limited available empirical evidence the validity of such arguments is questionable (Burn et al., 2010). Nevertheless,

given the central position accorded to media literacy in global and national education policy, more research is needed that examines the links between teacher practice, beliefs and context through a quantitative design. Such research complements in-depth qualitative studies by zooming out the lens of investigation in order to tease out relationships between variables assumed to impact practice. Such zooming out is further warranted by a lack of attention to context that has also been noted about the related and much more voluminous field of educational technology research (Garrison & Bromley, 2004; Rosenberg & Koehler, 2015) despite evidence affirming the crucial influence of institutional variables on teacher practice (e.g., Somekh, 2008; Ertmer & Ottenbreit-Leftwich, 2010). Therefore the present research aims to take a quantitative look at media literacy beliefs and practice and in doing so hopes to inform future qualitative inquiries as well as curriculum and teaching.

2.2. Media literacy: Protectionist vs. empowerment traditions

Media literacy within the broader discipline of media and communication studies has its roots in concerns over the effects of various communication technologies on readers/viewers. The predominant conceptual vocabulary for investigating these effects has centered on reception and audience (Livingstone, 2004), reflecting the nature of audiovisual/mass media as one-to-many media of communication. Despite the emergence of social media and the reconceptualization of the Internet as a networked, citizen-centered public sphere, the tradition of conceptualizing media literacy primarily with reference to audience effect has not disappeared. For instance, scholars in media studies and health education often investigate the effects of media messages on various audiences and highlight the need for media literacy as critical viewing skills to counter potentially harmful media influences (Bergsma, 2011). Due to its focus on countering negative media effects and a somewhat passive conception of audiences, this research has been infused with a protectionist educational ethos.

A different line of scholarship on media literacy has also developed, influenced by conceptualizations of media use as a complex social activity through which people engage with various media as part of a participatory culture (Buckingham, 2003). In this understanding, sometimes labelled the 'empowerment' perspective, media literacy is seen not only as a way to counter negative media influences but rather as involving an active process of reflective analysis, evaluation and purposeful creation of media texts. This departure from a focus on audiences (Livingstone, 2008) has engendered educational and curricular initiatives that promote skills of access, critical multimodal analysis and creation as well as students' reflective and evaluative capacities (Hobbs, 2011b; Livingstone, 2004). These skills are fostered not simply to enhance students' communicative competence but in order to provide youth with foundational competencies and knowledge to participate in a mediated civic and political life (Bennett, 2008; Jenkins et al., 2009).

2.3. Key pedagogic tenets of media literacy education

While media literacy curricula vary based on local contextual exigencies, several key pedagogic tenets have emerged that characterize classroom implementation. Critical analysis of media texts and content has been a central component of most media literacy programs whereby students examine how ideologies or biased representations are communicated through the textual/visual/multimodal components of texts (e.g., Hobbs, 2007, 2011a). Some scholars and educators argue that text-level critique needs to be couched within a larger framework that acknowledges the social and economic forces shaping text production (Luke, 1997; Kellner & Share, 2005). More recent approaches have incorporated media production into media literacy education (Hobbs, 2011a; Morrell et al., 2013; Pangrazio, 2016). This has been prompted by a shift away from the protectionist ethos toward a focus on youth as active users of media (Buckingham, 2002). In fact, some scholars (Kellner & Share, 2005; Morrell

et al., 2013; Share, 2009) have argued that engaging students in the production of counter-cultural texts should be part of a "pedagogy of participatory media" (Garcia & Morrell, 2013) within a media literacy education committed to social justice.

These recent developments in school-based media literacy education are influenced by the democratic and emancipatory potential of participatory media (e.g., Bennett, 2008; Bennett, Freelon, & Wells, 2010). An important aspect of online civic participation is ethics, and media literacy education thus needs "to encourage young people to become more reflective about the ethical choices they make as participants and communicators and about the impact they have on others" (Jenkins et al., 2009, p. 26). Developing such ethical understanding entails reflection – to prompt students to take multiple perspectives, to think about the consequences of their (communicative) actions, and to understand the linkages between power, status, and communicative practices (Hobbs, 2011a). Finally, one aspect of media literacy that has received much less attention is the aesthetic – the emotive-sensory, embodied dimension of media text production and consumption. Yet, much of how we experience media and media texts centers on pleasure and play. Media literacy education should thus facilitate a complex approach that explores experiences of pleasure, desire, alignment as well as disengagement, dissonance and resistance (Alvermann & Hagood, 2000; Gainer, 2007).

2.4. Media literacy education in Singapore

Compared with the United States or the UK, media literacy education has been less systematically introduced in primary and secondary schools in Singapore. This is surprising, given that it is well represented at the post-secondary level, prompted by the Singapore government's efforts to brand Singapore as a "global media city" (MDA, 2003, p. 1). Yet media education is at a nascent stage in Singapore schools, with Media Studies introduced as

an examinable subject in 2009 to only three secondary schools, and subsequently expanded to two more. The study of media texts is not infused in other subjects such as Literature, which continues to focus on the three traditional genres – poetry, prose, and drama – to the exclusion of other genres such as film and the graphic novel.

Promisingly, in 2010, the Ministry of Education began to more intentionally infuse media literacy through English Language, which is a compulsory first language subject in all primary and secondary schools in Singapore. First, one of the core guiding principles in the most recent English Language Syllabus is that teaching will be enriched through "the use of a variety of print and non-print resources that provides authentic contexts for incorporating the development of information, media and visual literacy skills in the teaching of listening, reading, viewing, speaking, writing, and representing" (Ministry of Education, 2008, p. 9). In line with international scholarship, the syllabus defines media literacy as "the ability to access, analyse, evaluate and create information in a variety of forms and media" (Ministry of Education, 2008, p. 129). Further, media literacy is incorporated to different degrees in the first four out of six areas of language learning – listening and viewing; reading and viewing; speaking and representing; writing and representing; grammar; and vocabulary.

Parallel to the curricular emphasis, there has been significant investment in public education programs in media literacy. In 2013 the Media Literacy Council (MLC) was set up in order to foster "discerning Singaporeans who are able to evaluate media content effectively, and to use, create and share content safely and responsibly" (Media Literacy Council, n.d.). In addition, there are regular government-backed public media outreach and community initiatives aimed at promoting media production (e.g., video competitions) among Singaporeans. It should be noted that, public education initiatives such as the work of the MLC have clear protectionist overtones (Author, Year), providing information primarily on responsible media use at the expense of emphasizing cultural creation in participatory spaces,

while media production initiatives tend to be technicist, focusing on skills rather than creative expression (Lim, Nekmat, & Vadrevu, 2011).

The present study aims to examine school-based media literacy education in Singapore against the backdrop of this curricular and policy context. In order to move beyond a focus on individual teacher 'capacity' and to complement the primarily qualitative investigations of teacher learning in relation to digital media, the study employed a survey design to map teachers' understanding and current pedagogic practice of media literacy and to identify key factors influencing those. While the research was carried out in Singapore, and the results will be discussed with reference to the local context, we discuss their implications for teachers and teaching more generally. Perhaps most significantly, we hope to contribute to moving the discussion of teacher education in media/digital literacy further away from a focus on teacher capacity toward an evidence-based study that takes full account of the 'situatedness' (Knobel & Kalman, 2016a) of teaching and learning.

3. The study

3.1. Aims

The survey was designed and administered as the first phase in a research project that also aimed to develop a pedagogic framework for infusing media literacy in the teaching of English in Singapore. The primary goal of the survey was to gather data on secondary-school English teachers' understanding and current pedagogic practice of media literacy. In the subsequent two phases of the project the research team worked with two secondary schools to develop and implement teaching units based on the framework. In this paper, we will only focus and report on the survey phase, which was guided by the following questions:

RQ1: What are Singapore English teachers' personal media habits, understanding and pedagogic practice of media literacy?

RQ2: What variables may influence teachers' understanding and pedagogic practice [as indicated by their text selection and assessment practices] of media literacy, as well as their personal media habits?

3.2. Theoretical frameworks informing the survey's construction

3.2.1. Media literacy

In line with the literature reviewed above, media literacy was conceptualized as entailing four components, each applicable to both the reception and production of media texts/content: (a) *functional component* (the notion of access to meaning and information); (b) *critical component* (awareness of purpose, audience and style and ability to analyse and critique); (c) *ethical component* (empathetic perspective-taking, social sensitivity and responsible participation); (d) *aesthetic component* (sensory, affective and creative response). While each component is important for a holistic conception of media literacy, the functional and critical can be conceptualized as text-level aspects of literacy while the ethical and aesthetic components move beyond the immediacy of texts and view them as elements of political and socio-cultural practices, thus representing an extended notion of literacy.

3.2.2. Teacher beliefs

There is a significant body of literature documenting the impact of teacher beliefs/knowledge on various aspects of instructional practice (Borg, 2009; Flores, 2001; Hermans et al., 2008). Borg (2003) uses the more general term teacher cognition "to embrace the complexity of teachers' mental lives" (p. 86) where seemingly separate components such

as beliefs, knowledge and intuitions are in fact closely intertwined (Verloop et al., 2001). In this study, teacher beliefs were conceptualized more specifically as teachers' understandings of media literacy. This is guided by research specific to the subject area of literacy that has shown how teachers' theoretical beliefs about literacy have significant influence over the pedagogic approach they take to literacy instruction (Beach, 1994; Grisham, 2001; Maloch et al., 2003). Thus the survey aimed to capture teachers' conceptual understandings of media literacy, with reference to the key dimensions of media literacy explained above.

3.3. Pilot survey

The initial survey consisted of six sections that aimed to collect information on teachers' understandings of media literacy education (11 items), media habits (40 items), pedagogy and instructional strategies (42 items), assessment of media literacy (24 items), personal views about the teaching of media literacy in Singapore (2 open-ended questions), and demographic variables (12 items). As the first step in the survey validation process, think-aloud procedures were conducted with two individuals while they were completing the survey to identify areas of concern. Based on the identified areas of concern, which mainly had to do with clarity of wording and understanding the task, necessary changes were made to the draft survey instrument.

As the next step, pilot participants were recruited primarily through convenience sampling. The survey was then administered to the recruited participants on an online survey platform (Qualtrics). In all, 50 valid responses were gathered. To establish the construct validity of the multi-scale survey, a number of principal component analyses (PCA) with direct oblimin rotation were run on the pertinent items in the first four sections of the instrument outlined above. PCA was chosen because it is "a psychometrically sound procedure" (Field, 2009, p.638) for instrument development. To select only items that were

unambiguously loaded on a factor and to alleviate the problem of giving equal weight to items whose loadings varied much, the cutoff value for factor loadings was set at .50. The PCAs identified 11 distinct factors (i.e., scales), and Cronbach's α coefficients ranged from high .80s (for 5 scales) to .70s (for 3 scales) to .60s (for 3 scales). Based on the results of the PCAs, the survey was revised, and the items that were not loaded on the 11 scales were removed from the final version of the instrument.

3.4. Main survey

The finalized survey was administered to participants in the main study via Qualtrics. The sampling frame for the main survey was the list of 162 Singapore secondary schools available on the Ministry of Education's website. The decision to sample schools rather than teachers was made as no reliable sampling frame could be established for English teachers in Singapore. The main consideration for sampling was to include schools with a range of school achievement backgrounds, as gauged by the Primary School Leaving Examination aggregate score that is published for each secondary school. This score represents the lowest score that a given secondary school uses as the cut-off point for admission into its various streams. As such, it is used as a proxy measure for school academic achievement in the absence of any other publically available data that compares schools based on academic achievement. The 162 schools were then divided into three bands, and from each band six schools were selected randomly. The 18 selected schools were then contacted via email, and information sheets and consent forms were distributed. If a randomly selected school declined to participate, a new school was then selected using the same procedure, until all three bands had six schools participating. From each school we requested that at least 75% of their English teachers take the survey, and reminders were sent out until that threshold was reached. Due to the difficulties getting the requisite number of participants, the survey period

spanned five months. In the end, 202 respondents completed the survey. Figure 1 gives a breakdown of key demographic features of the teacher respondents.

Figure 1. (see Appendix)

Following Hopwood and Donnellan's (2010) recommendation about the need to cross-validate factor structures with multiple samples, the data collected from the main study were subjected to a number of PCAs. The analyses yielded identical factor solutions except for two factors identified with the pilot sample, each of which split into two factors. Thus, the factor solutions were essentially cross-validated in the two samples, providing good evidence of the construct validity of the survey. Tables 1-4 in the Findings section present the 13 scales with their constituent items and Cronbach's α coefficients. These reliability indices are comparable to those obtained in the pilot survey and are acceptable for an exploratory study like the present one.

3.5. Data analysis

To map out the participating teachers' understandings of media literacy, habits of media use, pedagogical strategies and assessment practices, both scale- and item-level descriptive statistics were computed for each of the aforementioned 13 scales. To explore what factors might be related to the teachers' beliefs, habits, and practices, inferential statistical analyses were conducted to determine if the teachers differed in their scale scores when they were grouped according to the banding (i.e., Bands 1-3) of their schools, gender, age range (i.e., < 30, 30-39, 40-49, 50-59, and >59), bachelor degree specialization (4 categories: Arts & Social Sciences/Media/Communication Studies; English Language/Applied Linguistics/English Language Education; English Literature/English Literature Education; Others), masters specialization, level of education attained (i.e., bachelor degree, master degree or above, no bachelor degree), leadership position (i.e., key

appointment holder, middle management, regular teacher, other positions), and level of teaching (i.e., lower secondary, upper secondary, both lower and upper secondary). Only statistically significant results are reported in the following section.

4. Findings

Throughout this section, statistical results for related scales are reported together, and descriptive statistics are presented before inferential statistics. Discussion of findings follows immediately after the presentation of results for each section.

4.1. Teachers' understanding of media literacy

As can be seen from Table 1, teachers' responses to questions about media literacy and media literacy education indicated a good understanding of key principles. However, there seemed to be stronger support for a traditional conceptualization of media literacy; i.e., that media literacy is about the critical evaluation of media texts, with a concern with their impact on audiences. The mean score for the extended understanding of media literacy/education indicated that teachers were less in agreement with notions that go beyond a narrower scope, i.e., that media literacy education should encompass a wide range of texts (including literary texts), involve production and an awareness of students' media habits. It is worth noting that teachers were least agreeable to production being a part of media literacy (Q1) and the idea that media literacy education should be part of the subject English (extending the notion of literacy) elicited only moderate agreement (Q3).

A between-groups one-way ANOVA revealed a significant difference in the traditional understanding of media literacy education (MLE) between teachers holding different leadership positions, $F(3, 198)=4.83$, $p=.003$, $\eta_p^2= .068$. Post hoc comparisons (the Bonferroni method) found that both key appointment holders (M=1.52; SD=0.52) and those

holding middle management positions (M=1.60; SD=0.62) were more inclined to a traditional understanding of MLE than were teachers in the "Others" category[1] (M=2.24; SD= 0.32). In addition, those holding middle management positions also agreed more with a traditional understanding of MLE than ordinary teachers (M=1.89; SD=0.56). The partial eta squared indicates a medium effect size. Finally, teachers teaching different levels were also found to differ in their scale scores for "extended understanding of MLE", $F(2, 199)=3.22$, $p=.042$, $\eta_p^2= .031$. Those who were teaching only lower secondary students (M=2.21; SD=0.51) agreed more with an extended understanding of MLE than those teaching both lower and upper secondary students (M=2.4; SD=0.57).

Table 1. (see Appendix)

These results indicate that while teachers seemed in general more inclined toward a narrower view of media literacy, their understanding and beliefs about media literacy were linked mainly to institutional factors. In terms of institutional context, higher level leadership positions as well as teaching higher years were linked to a traditional view of media literacy. We believe this may be due to influence of examinations on teacher beliefs, mediated by school administrative culture. First, key appointment holders in Singapore schools are held responsible for school examination results, with pressure increasing in the upper secondary years as students prepare for the high-stakes Singapore-Cambridge O-level exams, taken during the final year of secondary school. The written examination focuses heavily on the functional and critical aspects of literacy, which is emphasized in the traditional conceptualization. Thus it is possible that key appointment holders, concerned with examinations and the types of literacy they assess, are therefore more inclined toward the traditional conceptualization. Second, much of the third and fourth year (i.e., upper years) of

---

[1] Inferential results pertaining to 'Others' in the category of Leadership positions are reported but not discussed, since there were only seven respondents (comprising mostly adjunct teachers) in this category and the statistical results may not be robust.

secondary school is focused on revision and preparation for these high-stakes examinations. In contrast, the lower secondary years entail a broader set of teaching and learning activities with teachers more engaged in pedagogical innovations. Such innovations are often seen as potential risk-factors by teachers teaching in the upper secondary years, since they take time away from revision and examination preparation. This preoccupation may thus shape their beliefs about media literacy more generally.

4.2. Teachers' media use

Results in Table 2 indicate that teachers used digital/electronic and print media for non-work purposes with similar frequency, with mean scores of 4.63 and 4.54 respectively, which indicate moderate or rare use (once a week or once every two weeks) of these various media types. There was notable variation though within each scale. Regarding digital and electronic media, social networking sites and other websites appeared to be used the most frequently, with respective mean values of 2.78 and 2.76 (daily use), while games seemed to be a type of media that teachers utilized the least, particularly non-mobile games (desktop or console games), with mean values of 6.72 and 7.15, which roughly correspond to the frequency of 'once a month' and 'few times a year'. In terms of print media, teachers reported reading print newspapers quite frequently (2-3 times a week), more so than fiction and non-fiction as well as magazines, which were used by teachers somewhat less frequently.

An independent-samples t-test found that male teachers (M=4.22; SD=1.23) reported using digital and electronic media significantly more frequently than their female counterparts (M=4.74; SD=1.15), $t(200)=-2.64$, $p=.009$, $d=.44$. Cohen's d indicates a medium effect size.

Table 2. (see Appendix)

The dominant teacher profile emerging from these findings depicts one who uses a range of different types of media regularly, with clear preference for social media, the internet as well as print newspapers. Perhaps surprisingly, age did not correlate with any aspect of teacher media use, which may have something to do with the extremely high rates of internet and media use among Singapore's population. In 2015, 88% of all households had broadband internet access and 72% of adults aged 50-59 used a smartphone (Infocomm Media Development Authority, 2017). At the same time, gender emerged as the only significant factor in teachers' media use, particularly in relation to digital and electronic media. This is in line with research that has shown a persistent gender gap in access and use of particularly online media (Bode, 2017; Drabowicz, 2014).

4.3. Teachers' use of media texts

Table 3 shows results relating to teachers' use of media texts as materials for teaching media literacy in English. As can be seen, teachers used a wide range of audiovisual and linguistic texts with regular frequency, including newspapers, visual and audiovisual texts as well as videos and material from websites. Somewhat less frequent was their incorporation of audio sources (e.g., radio broadcast, music) as well as content from social media into their English classes. Teachers also reported more frequent use of static media such as posters, newspaper articles or images as materials in their teaching as compared to dynamic forms of media such as movies or music as well as social media. The frequency of teachers' use of literary texts and books was comparable to their usage of static media in the classroom.

Inferential statistics found a significant relationship between teachers' current positions and their use of print and audiovisual media/texts, $F(3, 198)=5.03$, $p=.002$, $\eta_p^2=.071$, indicating that teachers in the "Others" category (M=2.46; SD=0.38) used such media/texts less frequently than key appointment holders (M=1.88; SD=0.40), those holding

middle management positions (M=1.79; SD=0.44), and teachers holding no management positions (M=1.94; SD=0.42). Another one-way ANOVA also revealed that level of education attained was associated with the use of print and audiovisual media/texts, $F(2, 199)=3.09$, $p=.047$, $\eta_p^2= .030$. Both teachers with a bachelor degree (M=1.93; SD=0.42) and those with a postgraduate degree (M=1.87; SD=0.48) reported using such media/texts more frequently than those without a bachelor degree (M=2.44; SD=0.46). Teachers with a postgraduate degree (M=2.54; SD= 0.77) were also found to use audio and social media/texts more frequently than their counterparts with a bachelor degree only (M=2.81; SD=0.50), $F(2, 199)=3.13$, $p=.046$, $\eta_p^2= .031$. A t-test revealed that male participants (M=2.81; SD=0.70) used static media/texts more frequently than female participants (M=2.54; SD=0.69), $t(200)=2.28$, $p=.024$, $d=.39$. A between-groups one-way ANOVA also found a significant difference in the use of literary texts/books by teachers with different bachelor degree specializations, $F(3, 198)=5.51$, $p=.001$, $\eta_p^2= .077$. Post hoc comparisons with the Bonferroni correction showed that teachers specializing in English Literature/English Literature Education (M=2.16; SD=0.89) used literary texts/books more frequently than teachers specializing in Arts and Social Sciences/Media/Communication Studies (M=2.70; SD=0.82), English Language/Applied Linguistics/English Language Education (M=2.72; SD=0.79), and Others (M=2.93; SD=0.79).

Table 3. (see Appendix)

The results point to a preference among Singapore English teachers for static and print media text, at the expense of audio, social or digital media. On the one hand, this confirms Bazalgette and Buckingham's (2013) critique that classrooms continue to neglect deep engagement with moving image and media. On the other hand, the preference may be also attributed to the backwash effect of national, pen-and-paper examinations focused exclusively on print literacy (see Ratnam-Lim & Tan, 2015). Recently, the English Language

secondary level national examination, titled GCE 'Ordinary' level, has begun to feature questions related to a static visual text (typically a webpage) in the reading comprehension paper. This new segment is meant to fulfil one of the key aims of the 2010 syllabus which is to "teach pupils to think critically and reflect on what they read and/or view to become critical readers and viewers" (MOE, 2008, p. 29). The inclusion of this new section may help explain why teachers reported regular use of visual texts and websites in their teaching of media literacy, thus signalling the influence of national curriculum on teaching practice.

The impact of teachers' educational background on media text selection is significant and has not been discussed in previous research on media literacy. While the finding that higher levels of education correlate with the inclusion of a broader repertoire of texts may not be entirely surprising, it provides empirical evidence concerning the influence of formal educational training on teacher practice in the area of media literacy. The differences between teachers with a literature background versus those with other degree specializations similarly confirms this influence and also problematizes the institutional compartmentalization of English language and Literature as school subjects in Singapore. More specifically, if media literacy is to encompass a wide variety of old and new media including film and literary texts, then its teaching in schools through English or language arts should be done by teachers with a training in both language and literature.

4.4. Teachers' assessment of media literacy

Table 4 summarizes results about teachers' assessment practices in relation to media literacy, concerning the type of assessment as well as what aspects of media literacy teachers were likely to assess. Alternative (i.e., non-exam) forms of assessment were reportedly used somewhat rarely, although student presentations appeared to be utilized with more frequency when compared to others such as portfolio or digital production, which were rarely

employed. In terms of what facets of media literacy teachers were likely to assess, results indicate that functional-critical aspects – those associated with understanding texts in relation to their purpose, audience and point of view – were frequently targeted in teachers' assessment practices with the most likely question being, 'What is the purpose of this website'. Ethical and aesthetic dimensions of media literacy, i.e., engaging with notions of aesthetic design and response, as well as empathetic perspective-taking, on the other hand, were less likely to be assessed by teachers.

Inferential statistics identified significant differences in assessment practices, too. Respondents' current positions were significantly related to their engagement in alternative assessment, $F(3, 198)=3.190$, $p=.025$, $\eta_p^2= .046$, with ordinary teachers (M=3.69; SD=0.87) and teachers holding middle management positions (M=3.78; SD=1.02) being more likely to use such assessment than teachers in the "Others" category (M=4.79; SD=1.23). The type of school where participating teachers were working was found to be related to the tendency to assess the functional-critical aspects of media literacy, $F(2, 199)=6.150$, $p=.003$, $\eta_p^2= .058$. Teachers from Band-1 (i.e., high-achieving; M=1.60; SD=0.59) and Band-2 (M=1.62; SD=0.55) schools were more likely to engage in functional-critical assessment than those from Band-3 schools (M=1.92; SD=0.62). A similar pattern was found in the assessment of ethical-aesthetic aspects of media literacy, $F(2, 199)=4.204$, $p=.016$, $\eta_p^2= .041$, showing that teachers from Band-2 schools (M=2.16; SD=0.75) were more likely to assess these aspects than their colleagues from Band-3 schools (M=2.51; S=0.69). Age was also related to ethical-aesthetic assessment, $F(4, 197)=2.544$, $p=.041$, $\eta_p^2= .049$. Teachers in the 50-59 range (M=1.99; SD=0.62) were more likely to adopt such assessment than those who were below 30 years of age (M=2.51; SD=0.75). Teachers' bachelor degree specializations were also significantly associated with likelihood to assess critical-ethical aspects of media literacy, $F(3, 198)=2.987$, $p=.032$, $\eta_p^2= .043$, with teachers specializing in English Literature/English

Literature Education (M=2.13; SD=0.83) more likely to engage in such assessment than those specializing in English Language/Applied Linguistics/English Language Education (M=2.72; SD=0.98).

Table 4. (see Appendix)

Institutional factors, namely the academic banding of the school where teachers were employed, seemed to have a significant impact on assessment. This was somewhat surprising to us, given that schools in especially Band 1 are thought to be 'elite' with a more holistic and cosmopolitan education (Authors, YEAR). Yet in light of the fact that the national examinations mainly test functional and critical skills, it is perhaps not surprising to find that in academically high-achieving schools there is more focus on assessing skills that are featured in high-stakes assessment. Notably though, no significant difference was found across school bands in teachers' understanding of media literacy (section 4.1.); i.e., that Band-1 teachers were perhaps more likely to have an extended understanding that aligns with a holistic view of education that characterizes elite schools. Similarly, school bands did not have a significant effect on use of media texts (section 4.3). The effects (and lack thereof) found in relation to assessment therefore underscores the fundamental influence of an examination culture even in relation to media literacy.

As for individual variables, a surprising finding emerged concerning age, since older teachers (50-59) were more likely to assess extended aspects of media literacy including ethics and aesthetics than teachers below 30 years of age. This goes against the popular but often unconfirmed assumption about younger teachers being more pedagogically innovative. Presuming that age can be used as a proxy for educational experience, these results echo findings from Blackwell et al.'s (2015) recent study. In a quantitative examination of factors impacting early childhood educators' use of digital technology in teaching, they unexpectedly found that teachers with more experience used technology more. As such, these findings

indicate that 'intuitive' assumptions about the relationship between age, media habits and teaching (about) media/technology ought to be rethought and given more empirical grounding.

Finally, the relationship between a literature degree specialization and assessing critical-ethical aspects of media literacy is noteworthy and may be explained by the infusion of literary theory and cultural studies in Literature undergraduate courses alongside traditional close reading of texts in universities since the 1970s (Bernheimer, 1995; Rorty, 2006). As such, it is likely that these teachers would have had greater exposure to questions about the politics of literary and media texts as well as their philosophical, social, and ethical concerns. Moreover, teachers with a Literature degree would typically also teach English Literature in schools in Singapore. Unlike the English Language curriculum, the English Literature curriculum encourages broader engagements with texts so that through "reading and responding critically and personally to literary texts, students actively construct meaning and in the process make connections between the texts, their lives and the world" (Ministry of Education, 2013, p. 2). Given that questions asked in the English Literature examination require students to elaborate at length on the text's aesthetic qualities and its thematic issues, these teachers would also have had prior experience in crafting and assessing such questions in relation to media texts.

5. Discussion and Implications

This paper is premised on the argument that quantitatively-oriented studies can contribute to a complex understanding of teachers' role in media literacy education through identifying factors, both institutional and individual, that impact teacher beliefs and professional practice. The analysis of survey results presented in the previous section highlighted significant correlations between teachers' understanding, aspects of their

pedagogic practice and some key variables such as school type, position held, educational background, age and gender. Here we would like to discuss the implications of these findings first for Singapore's media literacy and teacher education and then for media literacy education across contexts.

The study indicated that Singapore teachers tended to subscribe to a narrower, more traditional notion of media literacy that focused on critical analysis and audience effect. This is despite the fact that teachers proved to be active users of media themselves with no statistical differences across age groups. It was also revealing that teachers in management positions, those teaching higher secondary levels and those working in elite schools tended to orient to the narrower notion in regards to their beliefs and assessment. This is particularly noteworthy when set against the English syllabus which emphasizes a more extended notion that involves, among others, creative expression and production. Yet as mentioned before, media literacy as critical reading/viewing skills undergirds Singapore's broader policy for media education which takes a primarily protectionist approach (Author, Year; Lin, Mokhtar & Wang, 2015), stressing the need to shield Singapore' citizenry, particularly youth, from the potentially harmful effects of (especially new/digital) media. This protectionist message is also infused in the Ministry of Education's latest Masterplan for ICT in Education that aims to develop "future ready, *responsible* digital learners" (MOE, n.d., our emphasis). Broader, national policy priorities which are infused with national values (Somekh, 2008) therefore seem to considerably impact teachers' conceptualization.

The influence of a protectionist national policy is confounded by the effect of the 'subject culture'; "tools and resources; approaches to teaching and learning; curriculum practices; cultural values, expectations, and aims" (Hennessy, Ruthven & Brindley, 2005, p. 160) associated with a school subject and shared by its community of practitioners. In Singapore, there is a legacy of a structural emphasis in English language education (Rubdy,

2010; Kramer-Dahl, 2008) concerned with decontextualized language skills, rather than viewing language as social practice. Thus an emphasis on receptive skills, rather than a concern with how people use and create (media) texts as members of communities, is more closely aligned with the curricular and pedagogic traditions of English teaching in Singapore. In other words, understanding literacy (media or otherwise) as socially embedded cultural practice, presupposed by an extended conceptualization, is not widely shared by Singapore English teachers. Singapore's examination culture (Cheah, 1998) and the testing of largely print literacy in national exams reinforces narrow views of literacy and constrains the enactment of the 2010 syllabus.

This points to problems arising from selecting subject English as the key curricular vehicle for the enactment of media literacy education. Various scholars have discussed how in Singapore, an effective and proficient English-speaking populace has been seen as necessary for attracting foreign talent, international businesses and organizations, and for ultimately maintaining the country's competitive edge in the global economy (Author, Year; Lim, Pakir, & Wee, 2010; Silver, 2005). These instrumental underpinnings of the national syllabus are not only evident in its explicit aim to facilitate effective communication (MOE, 2008, p. 7). They are also apparent, on closer examination, in how the teaching of media literacy is subordinate to the overall goal of effective, impactful language use. For instance, even when students are encouraged to "produce a variety of texts for creative, personal, academic, and functional purposes," the focus is on accuracy and effectiveness of their communication "using appropriate register and tone" (MOE, 2008, p. 58). In short, while the incorporation of media literacy in English education has provided a liberating space allowing teachers to introduce a wide variety of multimodal texts, this utilitarian approach to teaching English neglects opportunities for students' aesthetic and ethical engagement with texts or production as a means for one's active participation in socio-political issues.

There is thus a need to more intentionally locate media literacy education beyond the goals of English Language and English Literature education, in Singapore and elsewhere. As Buckingham (2003) observes, English Language education tends to be conceptualized according to activities and skills (speaking, listening, reading and writing) whereas media education has traditionally focused on "key concepts" such as representation, bias, and credibility in examining texts. Meanwhile, English Literature education tends to prioritize passive aesthetic appreciation of texts and its ethical themes that then ignore more sociological analyses involving media production and media audiences. Given the limitations of both fields in adequately providing a holistic approach to engagement with media texts, media literacy should be taught as a distinctive component in English teachers' pre-service and professional development courses, emphasizing both the historical development of the field and its broader objectives beyond those articulated in the English Language syllabus. This imperative is supported by the findings of this study on the significant differences between teachers with literature versus language specialization degrees. A holistic perspective on media literacy that incorporates functional, critical, ethical and aesthetic elements necessitates the training of teachers in all areas of media literacy.

Our study's results also have wider implications for media literacy education in other contexts. We emphasized at the beginning the need to investigate more closely teachers' understanding and teaching practices of media literacy as both a matter of teacher capacity and as shaped by contextual factors. One key insight is that in the current study, only teacher's educational qualifications proved to be clearly linked to aspects of pedagogic practice, complementing findings from previous studies into the significant impact of subject-specific training on student performance (Hill, Rowan & Ball, 2005; Goldhaber & Brewer, 2000). Also significantly, age did not prove to be a key variable for this sample on most of the scales measured and generational differences in media habits were not confirmed. Gender

proved to be a significant factor only for teacher media habits and not for teacher beliefs or pedagogic practice. Overall, this warrants more investigation of how age, teaching experience, and gender impact the teaching of especially media and technology-related school subjects.

Results of the study underscore the importance of contextual factors on media literacy instruction both at the level of the school/subject culture and larger society. As noted previously, the impact of these contextual variables is often acknowledged but is rarely the explicit subject of research in media literacy education or more broadly educational technology (Garrison & Bromley, 2004) where the predominant focus of investigation is either the classroom or the teacher. Yet such a contextual understanding of in-school media literacy instruction is all the more important given the central position of media and digital literacy in many national curricula and global policy initiatives on '21st century skills' (e.g., Partnership for 21st Century Skills, 2015). Scholars have commented critically on the economic, instrumentalist rationale behind these initiatives whose main aim is to train agile and technologically savvy knowledge-workers (Ball, 2009). With regards to media literacy, Livingstone (2008) has warned against the appropriation of the term by governments as a focal policy tool in order to increase the technical skills of a country's populace. In other words, media literacy as an educational initiative is deployed within an economic logic that while evokes discourses of democracy also downplays "the conflicts and contradictions that the term all too clearly evokes" (Druick, 2016, p. 1128). Such policy framing at the global and national level can lead to media literacy instruction in schools that is not so much an avenue for individual civic and creative empowerment but rather focused on honing skills and attitudes (e.g, responsibility) desirable for a competent and compliant workforce.

What does this mean for research on teachers' professional practice of media literacy instruction? We recommend that investigations of teachers' role in media literacy education

be couched within a critical examination of institutional culture and broader policy priorities, in addition to focusing on teachers, as the former exert a significant mediating influence on teachers' beliefs and classroom practices. This is in line with recent calls for more complex and context-oriented examinations of teacher practice particularly in relation to new media and technology (Knobel & Kalman, 2016a; Rosenberg & Koehler, 2015). Such research should encompass both qualitative studies that provide rich accounts of teachers' experience as well as quantitatively-oriented investigations that can probe links between context and individual practice. As school curricula and public education more generally continue to be fashioned according to a human capital management model (Apple, 2005), there is increasing pressure on educators to adopt a narrower, skills-heavy notion of media literacy that prioritizes workforce readiness and downplays empowerment and agency. Research that is able to account for the complex interlinks of policy, institutional and individual factors is a prerequisite for articulating a progressive educational agenda for holistic media literacy instruction.

References

Alvermann, D. E., & Hagood, M. C. (2000). Critical media literacy: Research, theory, and practice in "new times". *The Journal of Educational Research, 93*, 193-205.

Apple, M. W. (2005). Doing things the 'right' way: Legitimating educational inequalities in conservative times. *Education Review, 57*(3), 271-293.

Baker, F. W. (n.d.). State standards of media literacy. Retrieved on 20 May, 2017 from http://frankwbaker.com/mlc/state-standards/

Ball, S. J. (2009). Privatising education, privatising education policy, privatising educational research: Network governance and the 'competition state'. *Journal of Education Policy, 24*(1), 83–99.

Bazalgette, C., & Buckingham, D. (2013). Literacy, media and multimodality: a critical response. *Literacy, 47*(2), 95-102.

Beach, S. A. (1994). Teachers' theories and classroom practice: Beliefs, knowledge or context? *Reading Psychology*, *15*, 189-96.

Bennett, L. W. (Ed.). (2008). *Civic life online: Learning how digital media can engage youth*. Cambridge, MA: MIT Press.

Bennett, L. W., Freelon, D., & Wells, C. (2010). Changing citizen identity and the rise of a participatory media culture. In L.R. Sherrod, J. Torney-Purta, & C.A. Flanagan (Eds.), *Handbook of research on civic engagement in youth* (pp. 393-424). Hoboken, NJ: Wiley.

Bergsma, L. (2011). Media literacy and health promotion for adolescents. *Journal of Media Literacy Education, 3*(1), 25-28.

Bernheimer, C. (Ed.). (1995). *Comparative literature in the age of multiculturalism*. Baltimore, MD: John Hopkins University Press.

Blackwell, C. K., Lauricella, A. R., & Wartella, E. (2015). Factors influencing digital technology use in early childhood education. *Computers and Education*, *77*, 82-90.

Bode, L. (2017). Closing the gap: Gender parity in political engagement on social media. *Information, Communication & Society, 20*(4), 587-603.

Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching, 36*, 81-109.

Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. *System, 37*, 380-390.

Buckingham, D. (2003). *Media education: Literacy, learning and contemporary culture*. Cambridge, UK: Polity.

Burn, A., Buckingham, D., Parry, B., & Powell M. (2010). Minding the gaps: Teachers' cultures, students' cultures. In D. Alvermann (Ed.), *Adolescents' online literacies: Connecting classrooms, media and paradigms* (pp.183-201). New York: Peter Lang.

Cheah, Y. M. (1998). The examination culture and its impact on literacy innovations: The case of Singapore. *Language and Education, 12*, 192-209.

Choo, S. S. (2014). Towards a cosmopolitan vision of English education in Singapore. *Discourse: Studies in the Cultural Politics of Education*, 35(5), 677-691.

Choo, S.S., & Weninger, C. (In press). Tensions and possibilities in developing cosmopolitan literacies through English education: Perspectives from two Singapore schools. In Hucks, D. C., Sealey-Ruiz, Y., Carothers, S. C., Showunmi, V., & Chance W. L. (Eds.), *Purposeful teaching and learning in diverse contexts: Implications for access, equity and achievement*. Charlotte, NC: Information Age Publishing.

Curriculum Council. (2010). *English syllabus*. Perth, Australia: School Curriculum and Standards Authority, Government of Western Australia.

Drabowicz, T. (2014). Gender and digital usage inequality among adolescents: A

    comparative study of 39 countries. *Computers and Education, 74*, 98-111.

Druick, Z. (2016). The myth of media literacy. *International Journal of Communication, 10,*

    1125-1144.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How

    knowledge, confidence, beliefs, and culture intersect. *Journal of Research on*

    Technology in Education, 42(3), 255-284.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). Thousand Oaks, CA: Sage.

Flores, B. B. (2001). Bilingual education teachers' beliefs and their relation to self-reported

    practices. *Bilingual Research Journal, 25*, 275-299.

Gainer, J. (2007). Social critique and pleasure: Critical media literacy with popular culture

    texts. *Language Arts, 85*, 106-114.

Garcia, E., & Morrell, E. (2013). Introduction: City youth and the pedagogy of participatory

    media. *Learning, Media and Technology, 38*, 123-127.

Garrison, M. J., & Bromley, H. (2004). Social contexts, defensive pedagogies, and the

    (mis)uses of educational technology. *Educational Policy, 18*(4), 589-613.

Goldhaber, D. D., & Brewer, D. J. (2000). Does teacher certification matter? High school

    teacher certification status and student achievement. *Educational Evaluation and*

    Policy Analysis, 22(2), 129-146.

Greenhow, C., Robelia, C., & Hughes, J. E. (2009). Web 2.0 and classroom research: What

    path should we take *now*? *Educational Researcher, 38*(4), 246-259.

Grisham, D. L. (2001). Connecting theoretical conceptions of reading to practice: A

    longitudinal study of elementary school teachers. *Reading Psychology, 21*, 145-170.

Hagood, M. C. (2011). Middle school teachers' successes and challenges in navigating web

    2.0 technologies in a web 1.0 middle school. In D.E. Alvermann & K.A. Hinchman

(Eds.), *Reconceptualizing the literacies in adolescents' lives: Bridging the everyday/academic divide, 3rd ed* (pp. 244-263). New York: Routledge.

Hagood, M. C. (2012). Risks, rewards and responsibilities of using new literacies in middle grades. *Voices from the Middle*, *19*(4), 10-16.

Hennessy, S., Ruthven, K., & Brindley, S. (2005). Teacher perspectives on integrating ICT into subject teaching: commitment, constraints, caution, and change. *Journal of Curriculum Studies, 37*(2), 155-192.

Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated? *Personality and Social Psychology Review*, *14*, 332–346.

Hart, A. & Hicks, A. (2002). *Teaching media in the English curriculum*. London: Trentham Books.

Hermans, R., Tondeur, J., van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & Education, 51*, 1499-1509.

Hill, H. C., Rowan, B., & Ball, D. L. (2005). Effects of teachers' mathematical knowledge for teaching on student effectiveness. *American Educational Research Journal, 42*(2), 371-406.

Hobbs, R. & Jensen, A. (2009). The past, present and future of media literacy education. *Journal of Media Literacy Education, 1*, 1-11.

Hobbs, R. (2007). *Reading the media: Media literacy in high school English*. New York: Teachers College Press.

Hobbs, R. (2011a). *Digital and media literacy: Connecting culture and classroom*. Thousand Oaks, CA: Corwin.

Hobbs, R. (2011b). The state of media literacy: A response to Potter. *Journal of Broadcasting and Electronic Media*, *55*, 419-430.

Hutchinson, A. (2012). Literacy teachers' perceptions of professional development that increases integration of technology into literacy instruction. *Technology, Pedagogy and Education, 21*(1), 37-56.

IMDA [Infocomm Media Development Authority]. (2017). Annual survey on infocomm usage in households and by individuals for 2015. Singapore: IMDA.

Jenkins, H., Clinton, K., Purushotma, R., Robinson, A., & Weigel, M. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Chicago, IL: The John D. and Catherine T. MacArthur Foundation.

Kellner, D., & Share, J. (2005). Toward critical media literacy: Core concepts, debates, organizations and policy. *Discourse: Studies in the Cultural Politics of Education*, *26*, 369-386.

Knobel, M. & Kalman, J. (2016a). Teacher learning, digital technologies and new literacies. In M. Knobel & J. Kalman (Eds.), *New literacies and teacher learning: Professional development and the digital turn* (pp. 1-20). New York: Peter Lang.

Knobel, M. & Kalman, J. (2016b). *New literacies and teacher learning: Professional development and the digital turn*. New York: Peter Lang.

Kramer-Dahl, A. (2008). Negotiating what counts as English language teaching: Official curriculum and its enactment in two Singaporean secondary classrooms. *Research Papers in Education, 23*, 85-107.

Lim, L., Pakir, A., & Wee, L. (2010). English in Singapore: Policies and prospects. In L. Lim, A. Pakir & L. Wee (Eds.), *English in Singapore: Modernity and management* (pp. 3-18). Singapore: NUS Press.

Lim, S. S., Nekmat, E., & Vadrevu, S. (2011). Singapore's experience in fostering youth media production – the implications of state-led school and public education

initiatives. In J. Fisherkeller (Ed.), *International perspectives on youth media: Cultures of production and education* (pp. 84-102). New York: Peter Lang.

Livingstone, S. (2004). What is media literacy? *Intermedia, 32*(3), 18-20.

Livingstone, S. (2008). Engaging with media – A matter of literacy? *Communication, Culture & Critique, 1*, 51-62.

Luke, C. (1997). Media literacy and cultural studies. In S. Muspratt, A. Luke, & P. Freebody (Eds.), *Constructing critical literacies* (pp. 19-50). New York: Hampton Press.

Media Literacy Council. (n.d.). *Vision and mission*. Retrieved on 20 December, 2016 from http://www.medialiteracycouncil.sg/about-us/Pages/vision-and-mission.aspx

Maloch, B., Flint, A. S., Eldridge, D., Harmon, J., Loven, R., Fine, J.C., Bryant-Shanklin, M., & Martinez, M. (2003). Understandings, beliefs, and reported decision making of first-year teachers from different reading teacher preparation programs. *Elementary School Journal*, *103*, 431-58.

MediaSmarts. (n.d.) Digital and media literacy outcomes by province and territory. Retrieved on 20 December, 2016 from http://mediasmarts.ca/teacher-resources/digital-and-media-literacy-outcomes-province-territory

MDA [Media Development Authority of Singapore]. (2003). *Media 21: Transforming Singapore into a global media city*. Singapore: MDA.

Miller, S. M. (2007). English teacher learning for new times: Digital video composing as multimodal literacy practice. *English Education, 40*(1), 61-83.

Miller, S. M. (2008). Teacher learning for new times: Repurposing new multimodal literacies and digital-video composing for schools. In J. Flood, S. B. Heath & D. Lapp (Eds.), *Handbook of research on teaching literacy through the communicative and visual arts* (Volume II., pp. 441-460). New York: Routledge.

MOE [Ministry of Education]. (n.d.). 4th Masterplan for ICT in education. Singapore: Educational Technology Division, Ministry of Education. Retrieved from http://ictconnection.moe.edu.sg/masterplan-4/overview

MOE [Ministry of Education]. (2013). *Literature in English teaching syllabus: Lower and upper secondary*. Singapore: Ministry of Education.

MOE [Ministry of Education]. (2008). *English language syllabus 2010: Primary & secondary*. Singapore: Ministry of Education.

Morrell, E., Duenas, R., Garcia, V., & Lopez, J. (2013). *Critical media pedagogies: Teaching for achievement in city schools*. New York: Teachers College Press.

NAMLE [National Association for Media Literacy Education]. (2014). Educators' guide to media literacy and the common core state standards. Retrieved from https://namle.net/publications/mle-common-core-standards/

Owston, R. D. (2009). Digital immersion, teacher learning and games. *Educational Researcher, 38*(4), 270-273.

Partnership for 21st Century Learning. (2015). P21 Framework definitions. Retrieved from http://www.p21.org/storage/documents/docs/P21_Framework_Definitions_New_Logo_2015.pdf

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6.

Ratnam-Lim, C. T. L. & Tan, K. H. K. (2015). Large-scale implementation of formative assessment practices in an examination-oriented culture. *Assessment in Education: Principles, Policy and Practice, 22*(1), 61-78.

Rorty, R. (2006). Looking back at 'literary theory'. In H. Saussy (Ed.), *Comparative literature in an age of globalization* (pp. 63-67). Baltimore, MD: John Hopkins University Press.

Rosenberg, J. M., & Koehler, M. J. (2015). Context and Technological Pedagogic Content Knowledge (TPCK): A systematic review. *Journal of Research on Technology in Education, 47*(3), 186-210.

Rubdy, R. (2010). Problematizing the implementation of innovation in English language education in Singapore. In L. Lim, A. Pakir, & L. Wee (Eds.), *English in Singapore: Modernity and management* (pp. 207-234). Hong Kong: Hong Kong University Press.

Share, J. (2009). *Media literacy is elementary: Teaching youth to critically read and create media*. New York: Peter Lang.

Selwyn, N. (2009). The digital native – myth and reality. *Aslib Proceedings: New Information Perspectives, 61*(4), 364-379.

Silver, R. E. (2005). The discourse of linguistic capital: Language and economic policy planning in Singapore. *Language Policy, 4*(1), 47–66.

Somekh, B. (2008). Factors affecting teachers' pedagogical adoption of ICT. In J. Voogt & G. Knezek (Eds.), *International handbook of information technology in primary and secondary education* (pp. 449-460). New York: Springer.

Verloop, N., van Driel, J., & Meijer, P. C. (2001). Teacher knowledge and the knowledge base of teaching. *International Journal of Educational Research, 35*, 441-61.

Weninger, C. (in press). Media literacy education in Singapore: Connecting theory, policy and practice. In Chan, K., Zhang, K. & A. Lee (Eds.), Multidisciplinary approaches to media literacy. Beijing: Communication University of China Press.

Zhang, Z., Li, J., Liu, F., & Miao, Z. (2016). Hong Kong and Canadian students experiencing a new participatory culture: A teacher professional training project undergirded by new media literacies. *Teaching and Teacher Education, 59*, 146-158.

APPENDIX

Table 1. Teachers' understanding of media literacy

SCALE	SURVEY QUESTIONS	MEAN	SD
Traditional understanding of MLE (α=.79)	6-point Likert scale: 1=*Strongly agree*; 6=*Strongly disagree*	**1.83**	**.58**
	Q1. Media literacy education teaches students to process and comprehend messages in media texts.	1.78	.61
	Q2. Media literacy education teaches students to analyze the effects of messages on readers/viewers of media texts.	1.76	.60
	Q3. Media literacy education teaches students to evaluate the credibility of media texts.	1.96	.82
Extended understanding of MLE (α=.72)	6-point Likert scale: 1=*Strongly agree*; 6=*Strongly disagree*	**2.35**	**.54**
	Q1. Media literacy education teaches students to appreciate the aesthetic design of media texts.	2.30	.89
	Q2. Media literacy education teaches students to utilize media to engage in social and global issues.	2.27	.87
	Q3. Media literacy education teaches students to be active creators of media texts.	2.83	.98
	Q4. Media literacy education teaches students to be responsible media users.	2.33	.85
	Q5. In addition to traditional print media and digital forms of media, media literacy education should involve literary texts.	2.24	.82
	Q6. For media literacy education to be effective, teachers need to understand the media habits of their students.	1.93	.81
	Q7. Media literacy should be a required subject in Singapore secondary schools.	2.22	.98
	Q8. Media literacy is best taught in Singapore secondary schools through English language/language arts as opposed to other subjects.	2.68	1.11

Table 2. Teachers' personal media habits

SCALE	SURVEY QUESTIONS	MEAN	SD
Frequency of use of digital and electronic media (α=.81)	8-point scale: 1=*More than once a day*; 8=*Never*	**4.63**	**1.18**
	Q1. Online newspapers	3.53	2.05
	Q2. Radio (traditional)	4.19	2.66
	Q3. Radio – online	5.85	2.30
	Q4. Movies – DVD, cinema	5.54	1.18
	Q5. Movies (online, including youtube)	4.42	2.10
	Q6. Social networking sites (e.g., Facebook, Twitter)	2.78	2.24
	Q7. Other websites	2.76	1.96
	Q8. Games (Console)	7.15	1.46
	Q9. Games – PC	6.72	1.93
	Q10. Games (mobile)	5.17	2.58
	Q11. Recorded music/podcast through portable player (e.g., mp3 player)	5.54	2.52
	Q12. Recorded music through mobile device	4.97	2.54
	Q13. Email	1.72	1.64
Frequency of use of print/traditional media (α=.63)	8-point scale: 1=*More than once a day*; 8==*Never*	**4.54**	**1.26**
	Q1. Non-fiction books	4.92	1.91
	Q2. Print magazines	4.91	1.71
	Q4. Fiction/literary texts	4.17	2.01
	Q5. Print newspapers	3.41	1.75

Table 3. Sources and media texts used in the classroom

SCALE	SURVEY QUESTIONS	MEAN	SD
Use of print and audiovisual media/texts (α=.82)	4-point Likert scale: 1=*Strongly agree*; 4=*Strongly disagree*	**1.93**	**.43**
	Q1. I have regularly used fiction/literary texts (e.g., poems, short stories, plays) in my English language class in the last 12 months.	1.98	.69
	Q2. I have regularly used non-fiction books in my English language class in the last 12 months.	2.07	.71
	Q3. I have regularly used visual texts (e.g., photo/comic) in my English language class in the last 12 months.	1.79	.58
	Q4. I have regularly used newspaper/magazine articles in my English language class in the last 12 months.	1.78	.58
	Q5. I have regularly used promotional materials (e.g., poster, brochure) in my English language class in the last 12 months.	2.07	.64
	Q6. I have regularly used movie or TV clips in my English language class in the last 12 months.	2.08	.72
	Q7. I have regularly used online videos in my English language class in the last 12 months.	1.80	.63
	Q8. I have regularly used content from websites as teaching materials in my English language class in the last 12 months.	1.87	.59
Use of audio and social media/texts (α=.60)	4-point Likert scale: 1=*Strongly agree*; 4=*Strongly disagree*	**2.77**	**.54**
	Q1. I have regularly used radio broadcast in my English language class in the previous 12 months.	2.94	.61
	Q2. I have regularly used recorded music in my English language class in the last 12 months.	2.67	.76
	Q3. I have regularly used social networking sites (e.g., Facebook, Twitter) as teaching materials in my English language class in the last 12 months.	2.71	.79
Use of static media/texts (α=.79)	4-point scale: 1=*75-100%*; 4=*0-25%*	**2.6**	**.70**
	On average, over the last 12 months, what proportion of your English lessons has incorporated each of the media stated?		
	Q1. Visual texts (e.g., photo, comic)	2.46	.84
	Q2. Newspaper, magazine articles	2.41	.91
	Q3. Promotional materials (posters, brochures)	2.89	.88
	Q4. Content from websites	2.65	.93
Use of dynamic and social media/ texts (α=.66)	4-point scale: 1=*75-100%*; 4=*0-25%*	**3.32**	**.56**

	On average, over the last 12 months, what proportion of your English lessons has incorporated each of the media stated? Q1. Radio broadcast Q2. Recorded music Q3. Movie or TV clips Q4. Online videos Q5. Content from social networking sites	3.85 3.59 2.92 2.50 3.37	.43 .68 .88 .94 .86
Use of literary texts and books (α=.76)	4-point scale: 1=*75-100%*; 4=*0-25%* On average, over the last 12 months, what proportion of your English lessons has incorporated each of the media stated? Q1. Fiction/literary texts Q2. Non-fiction books	**2.67** 2.50 2.85	**.84** .95 .92

Table 4. Assessment

SCALE	SURVEY QUESTIONS	MEAN	SD
Alternative assessment (α=.68)	6-point Likert scale: 1=*Very frequently*; 6=*Never* On average, in the past 12 months, how often have you assessed Media Literacy in your teaching of English via the following? Q1. Production of a media resource (e.g., video clip) Q2. Journal reflection Q3. Portfolio Q4. Student presentation	**3.75** 4.20 3.52 4.41 2.88	**.94** 1.39 1.42 1.30 1.11
Assessing functional-critical aspects of ML (α=.82)	6-point Likert scale: 1=*Highly likely*; 6=*Not at all likely* If I included a news website in my English summative assessment, I would ask the following question: Q1.What features of the website contribute to its purpose? Q2. What values or points of views are represented on this website? Q3. Discuss how images and text interact to convey the intended purpose of the media text Q4. Who is the intended audience of this website? Q5. What is the purpose of this website?	**1.71** 1.99 1.86 1.74 1.49 1.50	**.60** .89 .80 .86 .68 .69
Assessing – ethical aspects of ML (α=.82)	6-point Likert scale: 1=*Highly likely*; 6=*Not at all likely* If I included a news website in my English summative assessment, I would ask the following question: Q1. To what extent is the source of the information for the news story credible? Q2. Discuss to what extent this website relies on facts or opinions in conveying information. Q3. Is this website responsible in the way it represents information?	**2.51** 2.40 2.58 2.56	**.91** 1.04 1.13 1.02
Assessing ethical-aesthetic aspects of ML (α=.71)	6-point Likert scale: 1=*Highly likely*; 6=*Not at all likely* If I included a news website in my English summative assessment, I would ask the following question: Q1. In your opinion, whose interests should be represented but are not? Q2. Who does this website benefit? Q3. Discuss how the website uses language creatively. Q4. Discuss the visual design of the media text.	**2.34** 2.71 2.23 2.02 2.38	**.74** 1.04 .92 .98 1.12