Multimodal Texts in Chilean English Teaching Education: Experiences From Educators and Pre-Service Teachers

Textos multimodales en la formación docente en inglés en Chile: experiencias de formadores y estudiantes de licenciatura

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Drawing on 10 pedagogical standards issued by the Chilean Ministry of Education, three dealing with multimodality, we, in this research, examined English language pre-service teachers' and educators' approaches to the use of multimodal texts. Data were gathered through two online surveys that explored the use of multimodal texts by teacher educators and pre-service teachers. Results indicate that educators were familiar with the standards and multimodality when teaching reading and writing, but lack of resources, preparation, and time prevents them from working with multimodal texts. Candidates read printed and digital newspapers, novels, and magazines outside university, but rarely use them academically. They extensively use social media, even for academic purposes. There is a mismatch between the use of multimodal texts by teacher candidates and teacher educators.

Key words: English teacher education, language teaching standards, literacy teaching, multimodality, second language learner.

Este artículo describe un estudio acerca de cómo los formadores de profesores de inglés y los estudiantes en formación abordan los textos multimodales. De diez estándares para formación inicial docente de inglés establecidos por el Ministerio de Educación de Chile, tres incluyen textos multimodales. Se aplicaron dos encuestas en línea para explorar el uso de textos por formadores y estudiantes universitarios. Los datos se analizaron a partir de cuatro preguntas de investigación. Los resultados muestran que los formadores están familiarizados con los estándares y la multimodalidad al enseñar lectura y escritura, pero la falta de tiempo, recursos, y preparación les impide trabajar plenamente con textos multimodales. Los estudiantes leen periódicos impresos y en formato digital, novelas y revistas fuera de la universidad. Ellos usan extensivamente las redes sociales, incluso académicamente. Hay disparidad en el uso de textos multimodales entre estudiantes y formadores.

Palabras clave: enseñanza de literacidad, estándares disciplinarios, estudiante de segunda lengua, formación docente en inglés, multimodalidad.

Introduction

One of the educational issues that has received great attention amongst teachers, educators, stakeholders, and policy makers concerns the quality of teachers, recognized to be mandated by standards that can guide professional learning, teaching practices, and engagement. In Australia, for example, the Professional Standards for Teachers, dating back to 2009, constitute the domains of knowledge, teaching, and practice to which teachers have to be responsive in order to improve educational outcomes for students (Australian Institute for Teaching and School Leadership [AITSL], 2011).

Chile has not been exempt from the aftermath of standards-based systems and reforms. The 1980s witnessed the appropriation of neoliberal policies (Teichman, 2001) reflected in elements of school privatization, and in successful attempts to establish performance-based standards for schools, teachers, and students (Manzi, Strasser, San Martin, & Contreras, 2008). Since then, the educational system in Chile has jumped onto the bandwagon of standardization to measure the effectiveness and performance of schools, teachers, and students mirrored in, for example, the implementation of standardized testing such as the *Sistema de Medición de la Calidad de la Educación* (SIMCE) [System of Measurement of Quality of Education], the establishment of standards for the teacher evaluation system (Avalos & Assael, 2006) and standards for teacher education programs (Ministerio de Educación de Chile [MINEDUC], 2014), which is the focus of the present study.

The standards for English language education include 10 principles that novice teachers graduating from university programs have to meet as professionals in the field of English language teaching (MINEDUC, 2014). According to Díaz Maggioli (2013), the Chilean standards for English language education were based on the TESOL standards that consider two dimensions: foundations and applications. Amongst these 10 principles are those which relate to the role of multimodality in the production and comprehension of texts, as shown in Table 1. In the field of multimodal studies, Jewitt (2009) describes multimodality as being "concerned with signs and starts from the position that like speech and writing, all modes consist of sets of semiotic resources that people draw on and configure in specific moments" (p. 5). In turn, Royce (2002) brought the concept of multimodality to the TESOL classroom claiming that "the visual and the verbal modes complement each other to realize an inter-semiotically coherent multimodal text" (p. 192).

Perhaps due to the fact that technologies are changing so fast and/or that epistemologies in literacy education are recently incorporating new semiotic practices (Manghi, Crespo, Bustos, & Haas, 2016; Trillos-Carrillo & Rogers, 2017), research on how language teacher education is facing the increasing use of multimodal texts is scarce. Ajayi (2011) echoes this claim when he mentions that literature on pre-service teachers' perceptions of their preparation to teach new literacies is yet to be further explored.

Table 1. Disciplinary Standards for English Teacher Education That Address Multimodal Texts

Standard 2	Standard 3	Standard 8
Understands the importance for their students to develop oral, written, and multimodal text comprehension skills, putting this knowledge into practice as a learning and teaching organizing concept.	The novice teacher is familiar with the theories that account for the cognitive processes associated with the production of oral, written, and multimodal texts in English, and uses this knowledge in facilitating students' comprehension.	The novice teacher knows of a wide variety of resources in several formats and selects and uses multimodal texts in facilitating the evaluation and analysis of information on the basis of the diverse learning styles.

Drawing on the standards for English teacher education programs, in this paper we wish to examine the role of multimodality in reading and writing as experienced, understood, and exercised by teacher educators and pre-service teachers at different universities in Chile. The paper starts with a context on how reading and writing are treated in the standards and outlines the issues/themes to be addressed in the survey questionnaires, followed by a review of literature on how literacy and multimodality have been dealt with in teacher education; the methodology is then introduced to be followed by the results and discussions.

Context: Standards for Teacher Education Programs

MINEDUC issued the standards for teaching programs in 2013, known as *Estándares Orientadores para Carreras de Pedagogía en Educación Media* [Guiding Standards for Secondary Teacher Education Programs], among which are those for English language education under the name *Estándares Orientadores para Carreras de Pedagogía en Inglés* [Standards for English Teacher Education Programs]. This last document contains both disciplinary and pedagogical standards that lay down the elements of high quality teaching. These standards are justified by the need to have some common quality references in a country that during Pinochet's dictatorship privatized higher education generating the proliferation of universities that offered English education programs with no quality control, except for mandatory accreditation for all teacher education and medical science programs. In her exploration of the curriculum for English language teacher education in Chile, Barahona (2014) attributes this increase in the number of programs to various factors, among which she includes "the implementation of a free market model in higher education, national educational reforms and the growing pressure for competent English speakers who can participate more actively in a globalized world" (p. 46).

Of interest for this study are the guidelines contained in the Disciplinary Standards for English Teacher Education for the treatment of reading and writing multimodal texts.

As shown in Table 1, for reading comprehension, Standard 2 seems to not only acknowledge the various meaning-making modes, but stresses the centrality to equip future language teachers with the capacities to comprehend them. Regarding the funds of knowledge the future teacher should bring to deal with text production; Standard 3 includes knowledge of both the theories that account for the cognitive processes associated with the production of oral, written, and multimodal texts, as well as the pedagogical strategies to facilitate students' comprehension. Standard 8 deals with the use of physical and virtual resources in the teaching of English. This is manifested when teachers "select and use multimodal texts in facilitating the evaluation and analysis of information on the basis of the diverse learning styles".

These general guidelines about the role of multimodality in the comprehension and production of texts seem to not only sustain but also stimulate the increasing interest in using texts that combine two or more semiotic systems. Motivated by this context and by the standards on the role of multimodality in the treatment of reading and writing, our study addresses the following research questions, where the first two explore issues relating generally to teacher educators' multimodal pedagogies, while the last two tap into pre-service teachers (teachers-to-be or teacher candidates):

- To what extent are teacher educators familiar with the role of multimodality in the production and comprehension of texts?
- Are multimodal texts used by teacher educators when teaching the reading and writing components?
- What types of texts do pre-service teachers use at and outside university?
- What is the place and role of digital technologies in pre-service teachers' academic studies, and in how they deal with reading and writing?

Multimodality and Teacher Education

It is undeniable that information is communicated in multiple modes. This is attested by the increasing use of blogs, websites, slideshows, webinars, media, cloud computing and other connectivity tools that have become nearly as common as print-based documents. A great deal of content within these tools is visually encoded. This means that a reader is presented with not only messages in words but also in images, pictures, graphics, and, if reading electronically, other components such as combinations of movement and sound that may be added (Unsworth & Chan, 2009; Walsh, 2004, 2006). The leap from page to screen and the ensuing changes in the semiotic landscape creates new literacies; Kress (2003) claims that "in the era of the screen and of multimodality some fundamental changes are inevitable as far as forms, functions and uses of writing are concerned" (p. 61). These various forms of reading and writing through different modes of meaning making have impacted all spheres of life, including education.

Texts that combine more than one mode in how meaning is communicated are called "multimodal" texts (Walsh, 2006, p. 24). Walsh also comments that the educational environment of students is filled with textual information that blends multiple modes of meaning making. It is then not unusual for students to encounter a variety of print and non-print multimodal texts in their daily lives. Some of these include magazines, picture books, information books, encyclopedias, films, videos, emails, and the internet in general. In this respect, Rowsell and Burke (2009) point out that adolescent literacy practices along with the texts with which they interact are increasingly dynamic, visual, and multimodal in today's world. Siegel (2012) comments on multimodality with references to youth and their new literacy capabilities:

> It is tempting to suggest that this is the time of multimodality: A time when the privileged status of language is being challenged by the ease with which youth can access semiotic resources of all varieties—visual, aural, gestural, and spatial—to assemble meanings. (p. 671)

This multimodal dexterity by youth is apparently not being used in the school and creates a disparity between the multimodal competences students bring to the classroom and the school curriculum, which was also highlighted by Tan and Guo (2009) in Singapore when they conclude that "assessment remains language dominant when there is more than one semiotic resource for making meaning in today's communication landscape" (p. 323).

In this complex socio-semiotic context it is critical that school pedagogies mirror the diverse modes of reading and writing to which learners are constantly exposed. In their model of second language multimodal learning, Plass and Jones (2005) posed a key question relevant to our study: "In what way can multimedia support second language acquisition by providing comprehensible input, facilitating meaningful interaction, and eliciting comprehensible output?" (p. 471). Studies carried out in second language multimodal reading by Plass, Chun, Mayer, and Leutner (1998) with learners of German demonstrated that learners performed better when they used verbal and visual annotations and that they evidenced better comprehension of a story when they used their preferred mode of annotation. In a study that focused on adolescent English language learners, Yi (as cited in Abraham & Farías, 2017) informs teachers about implementing multimodal literacy in the L2 language classroom by addressing the constructs in multimodal literacy research and their possibilities and challenges in L2 teaching and learning. Yi also mentions that "there is a small, albeit growing, body of research in L1 on digital and multiliteracy practices, but little on multilingual readers and writers in second or foreign language contexts" (as cited in Abraham & Farías, 2017, p. 64). The question these studies trigger in language teaching education, and that might support the inclusion of the standards in Table 1, is how to make use of the multimodal knowledge learners bring to school and with which they enhance their critical appraisal of texts. In relation to this, several multimodal scholars (e.g.,

Unsworth & Chan, 2009; Walsh, 2006) have argued that the prominent multimodal nature of the majority of texts students encounter calls for a redefinition of literacy and literacy pedagogy. For example, Manghi (2012), in the context of teacher education, highlights the need to understand the semiotic potential of the resources used in teaching, their characteristics and their affordances to represent the world and communicate. Unsworth and Chan (2009) comment on how the Australian curriculum in English has already advanced the concept of traditional literacy to embrace the negotiation of multimodal texts. In regard to what is needed to pedagogically bridge the gap between students' dealings with multimodal texts outside the school and the text mono-modality in school, Rowsell, Kosnik, and Beck (2008) stress that "one of the central ideas of multiliteracies pedagogies is that there are many types of literacy" (p. 110), hence recognition of a diversity of language forms is critical in promoting a multimodal and multiliteracies pedagogy. In this way, the New London Group (1996) advise that it would not be appropriate if schools focused only on a singular, canonical language form. What is needed is pedagogies that accommodate the different language forms generated by the diverse modes of communication into current practices of traditional literacy. Even though the "multi" terms tend to collocate, their difference resides in multiliteracies being a more inclusive pedagogical concept that encompasses and was triggered by the appearance of multimodality and other complex cultural competences citizens need in order to survive in a globalized society. In the words of Rowsell and Walsh (2011) "multimodality comes first in that it informs how we make meaning, and multiliteracies, as a possible pedagogy, gives us tools for doing so" (pp. 55-56).

For the implementation of these pedagogies in teacher education it is essential to have what Hobson (2014) calls a meta-language to understand the relationships between the modes and cultural meanings available to people in any context. Accordingly,

Unsworth (2006, 2008) has also argued for the need to have a metalanguage that not only describes the various relations among modes but that can also be used pedagogically to educate learners with the knowledge and skills of how multimodal texts are constructed. Socio-semiotically, such meaning construction is culturally motivated (Kress, Leite-García, & van Leeuwen, 2001), which requires from second language educators an understanding of the affordances the various semiotic resources bring to the multimodal text.

These multimodal competences allow language learners to incorporate new ways and modes of textual representation that have an impact on how intersubjectivities and identities are constructed. Candlin (2014) poses interesting questions in this respect: "What connections can be drawn between the lifeworld and institutional world identities of learners? How is a learner's knowledge of multimodality and experience of its practice to be defined and appraised?" (p. 89). In second/foreign language learning, Royce (2007) introduced the concept of multimodal communicative competence which concerns "how students can become competent in interpreting and constructing appropriate meanings multimodally" (p. 374). Interestingly enough for the Chilean context, Royce's construct involves an amplification of the so-called communicative competence syllabus around which language teacher education has revolved in the past decades (Cronquist & Fiszbein, 2017). Implications of this extended concept of multimodal communicative competence for our Chilean context would entail the evaluation of how the standards that include multimodality are being implemented in English language teacher education and its effects on the new generations of English language learners.

Research Design

Method

Within the various quantitative methods available, one commonly used in applied linguistics and education

is questionnaire surveys. Although "the results of a survey (questionnaire) are typically quantitative, the instrument could also contain open-ended questions that would require a qualitative analysis approach" (Dörnyei, 2007, p. 101). Surveys can have different purposes and can be of different natures. Cohen, Manion, and Morrison (2007) point out that "surveys can be exploratory, in which no models or assumptions are postulated" (p. 207). In this respect, an exploratory survey attempts to gather data to establish connections, identify and explore reasons, causes, and their effects (Cohen et al., 2007). Our study fits well into this definition and categorization of survey research as through survey data different aspects of a particular phenomenon are being explored. Accordingly, two surveys were designed to explore the role of multimodal texts both in the methodologies used by educators and in the daily and academic literacy practices of pre-service teachers in English language teaching education programs. One survey was directed to teacher educators who teach the methodology course(s) and the other to pre-service teachers. Both surveys were validated with pilot applications to students and colleagues at a Chilean university and included an informed consent protocol.

Description of the Method and Participants

The survey to educators contained 14 questions (12 multiple choice and two open-ended). As described above, the questions were designed to elicit background data and capture the views, experiences, and thoughts about the role of multimodality in the comprehension and production of texts in relation to the standards for English teacher education programs in Chile. The survey was sent via email to 32 educators in charge of methodology courses in Chilean programs of English language teaching education. Eighteen responded between July 25 and August 11, 2017.

The survey to pre-service teachers also contained 14 questions, of which one was open-ended. As indi-

cated earlier, the survey questions attempted to tap into pre-service teachers' views of and experiences with multimodal texts as used in their daily lives and academic contexts. The survey for pre-service teachers was sent by email to 21 Heads of English language education programs at 21 private and state-supported universities in Chile, asking them to be distributed to all students in their programs. One-hundred-and-twenty pre-service teachers responded to the survey between July 30 and August 23.

The participants, teacher educators and pre-service teachers, are all Chilean and come from different universities throughout the country. Teacher educators' length of teaching experience varied from around three to over 10 years. To be precise, 22% had been teaching in higher education for less than five years, 38% between five and 10 years, and 40% had been teaching in the university sector for over 10 years. Pre-service teachers were either third or fourth year students at English teacher education programs from both public and private Chilean universities.

Data Analysis

The numerical representation and analysis of the quantitative data were assisted by the automatic generation of graphs, figures, and percentages through the Google Docs system. Open-ended questions from both surveys were analyzed by using a content analysis procedure: Responses were analyzed for key words or phrases in order to find common themes emerging as semantic constellations in the data. This was complemented with the use of Antconc, a freeware corpus analysis toolkit for concordancing and text analysis. Once certain themes were identified, representative samples were reported for an interpretive analysis.

It is worth noting that data collected from both educators and pre-service teachers are intended to be representative of universities throughout the country, thus providing a panoramic view of the issue under investigation.

Results

The following sections present and discuss the findings gleaned from the analysis of survey data from teacher educators and pre-service teachers in Chile.

Teacher Educators

Research Question 1: Educators' Familiarity With the Role of Multimodality

Since the disciplinary standards for English teacher education programs have already been in place since 2012, one would expect that teacher educators have some familiarity with the existence, purpose, and role of standards in the preparation of teachers-to-be. One of the first questions that teacher educators were asked was whether or not they were familiar with the disciplinary standards set by MINEDUC. The majority of respondents (94.4%) indicated that the standards were familiar to them, with only 5.6% acknowledging familiarity with the standards but admitting to not having read them before answering the survey. Given that the majority of teacher educators (61.1%) have taught methodology courses in English teacher education programs for a period of 5-10 years, it can be pointed out that throughout the years of their teaching experience they developed not only familiarity with the different standards, but probably various pedagogical and methodological ways to ensure the standards are successfully met. A more specific question that teacher educators were asked was one regarding their acquaintance with the role of multimodality in reading and writing. Responses showed that 83.3% know about the role of multimodality in these two components. This is possibly indicative of not only the educators' awareness and recognition of the place and role of multimodality in the teaching of reading and writing as indicated in the standards, but also of their understanding of the various complex modes of meaning making involved in what it means to read and write in today's world (Bazalgette & Buckingham, 2013; Unsworth & Chan, 2009). This has important implications for how learning and, therefore, teaching are conceptualized in the classroom. Within the TESOL context, Jones (2013) indicates that recent sociocultural and ecological approaches have provided a broader definition of learning which has come to include "hybrid varieties and multimodal forms of expression" (p. 843). In the case of the responses gathered on teacher educators' familiarity with the role of multimodality in their pedagogies, these may suggest that the educators' own view of learning (and teaching) is inclusive of the various modes of reading and writing in a language other than the first.

Research Question 2: Multimodal Texts as Used by Educators

In order to better understand the role of multimodality in teacher educators' reading and writing instructional practices, we asked teacher educators about the types of texts they used in the teaching of reading and writing components in methodology courses. Most teacher educators (64.7%) reported using a combination of printed and multimodal texts when teaching the reading component, while a slightly higher percentage (70.6%) also reported an inclination to using simultaneously both modes in the teaching of reading. This seems to indicate that teacher educators are increasingly incorporating multimodal texts when they have to deal with writing and reading in the preparation of future teachers of English. Nevertheless, when asked about the frequency of use of multimodal texts when teaching writing, 77.8% responded that these are used "occasionally", while only 16.7% indicated that multimodal texts are "always" used. This reveals an apparent mismatch between educators' familiarity with multimodality and its actual use in their pedagogies. This, despite educators' overt recognition of using printed and multimodal texts, seems to indicate that writing instructional pedagogies continues to be largely dominated by print-based texts. This raises, first and foremost, practical questions about what most educators really meant by incorporating a blend of

printed and multimodal resources in the teaching of writing. Secondly, this also raises pedagogical questions about the systematic use of multimodal artefacts in the teaching of writing.

Regarding the teaching of reading, teacher educators were asked about the types of texts they use. The majority (64.7%) reported inclination for a combination of traditional print-based texts and multimodal texts, while 17.6% expressed a preference for multimodal texts only, and an equal percentage (17.6%) favored the use of print-based texts only. Since images play a fundamental role in multimodal texts, participants were also asked how they deal with images in multimodal texts, where 55.6% answered that images contribute to the overall meaning of the text and 38.9% responded that they convey important meaning to the text. These two percentages evidence the centrality ascribed to images by educators in terms of their contribution to the text's meaning. On the question of whether reading multimodal and print-based texts should be treated in similar or different ways, the majority of teacher educators (66.7%) responded that multimodal texts need to be treated differently while 27.8% said that multimodal texts and print-based texts can be treated in similar ways.

The varying responses regarding familiarity with multimodality, its actual use in the classroom and pedagogical treatment of print-based and multimodal texts may be the result of teacher educators' lack of systematic training and preparation for dealing pedagogically with multimodal texts in the teaching of reading and writing. This was partly revealed in the question that tapped into the ways that participants had learned teaching strategies for the treatment of multimodal texts. Almost half of the respondents (44.4%) indicated that they had taught themselves how to; 22.2% responded that they had learned these strategies in graduate courses, and 16.7% had learned them at conferences. Probably, for generational reasons, most of them had not received instruction in their professional preparation that would allow them to deal pedagogically with multimodal texts. The fact that almost 40% of the participants learned teaching strategies to deal with multimodal texts in graduate courses and conferences can be understood as possible benefits from pursuing further studies and attending academic events. These results may point in the direction of a lack of formal preparation to face multimodal texts that these teachers experienced in their own education. This may also be indicative of the current status of our English teacher education programs which do not seem to respond to the new blends of knowledge associated with the multimodal and multiliteracy skills.

Apart from the apparent lack of systematic preparation to deal pedagogically with multimodal texts, teacher educators identified several limitations that prevented them from using multimodal texts when teaching the reading and writing component. As shown in Table 2, in the open-ended question, respondents showed varied positions, reflected in the following three emerging themes.

Table 2. Emerging Themes in Educators' Open-Ended Answers

Theme 1	Lack of materials and resources
Theme 2	Need for training and preparation
Theme 3	Time constraints and other complexities

Lack of materials and resources. An element limiting educators' use of multimodality for teaching reading and writing is the lack of materials and resources. One of them indicated: "Limitation of access to technological resources or infrastructure may make their use more of a challenge but do not prevent me" (Educator 14). It is clear that although access to resources or infrastructure does not prevent this educator from incorporating multimodal texts in teaching reading and writing, there is overt recognition of challenges about accessing material tools that allow for the use of a broader range of texts in

different modes of meaning-making. The centrality of access to and need of multimodal resources is reiterated by another teacher educator: "Access to appropriate materials" (Educator 9). Unlike the previous comment, this educator's concern seems to point to the availability of resources that are "appropriate" to the context of teaching reading and writing with multimodal tools.

Another comment of a similar nature is made by a different educator: "We need availability of simple material" (Educator 3). Being brief and concise in answering the question, the educator emphasizes the necessity to access "simple" resources, a call that can certainly be interpreted in the context of the university's lack of provision of pedagogical materials and tools for the educator to implement a multimodal methodology when approaching the teaching of reading and writing. Although there is not much elaboration on what is meant by "simple material", it should be noted that the educator's attitude towards what is preventing them from using multimodal texts must be taken into account if the standards on multimodality are to be met by educators. As the OECD 2005 report claims, the quality of teaching depends also on the environment where teachers work.

Need for training and preparation. Very much in line with a statement by Ajayi (2011), who stresses that "the need to prepare teachers to integrate new literacies into their teaching practices is becoming increasingly urgent" (p. 6); educators' responses were a clear reflection of this necessity. In recognition of the limitations to using multimodal texts in reading and writing, Educator 4 commented: "I think one of the limitations it could be in terms of the preparation of professors [teachers] in order to use multimodality".

Although the educator admits to having the knowledge and familiarity to deal with multimodality, she confirms that "students who have used multimodality for their action research have not been well taught because the colleagues do not know how to deal with that". The educator's observation reveals not only their colleagues' lack of training in dealing with multimodal texts but also the overall impact of such unpreparedness on teaching and learning. In view of a seemingly strong necessity for "multimodal preparation", the educator finally observes that: "Professors [teachers] should be trained in using multimodality strategies when using multimodality for fostering writing and for understanding texts" (Educator 4).

It is assumed that although no explicit mention is made of the need of multimodality training for the teaching/learning of reading, the educator seems to be fully aware of the dynamic, complex, and hybrid blends of knowledge that need to be incorporated in teacher education courses in the treatment of reading, writing, and assessment.

Educator 4's comment clearly points to an apparently overt absence of consistent and systematic preparation in teacher education courses to deal with multimodal texts. A rather similar observation is made by another respondent who openly admits that: "I need more training in this matter" (Educator 11). These comments ratify educators' perceptions of their lack of readiness and preparation to deal with multimodality in the treatment of reading and writing and reveal a shared sentiment about what seems to be a serious gap between the actual abundance of multimodal textual forms by which we are surrounded and a clear failure to incorporate these into our teacher education programs. Educator 11 voices the need to "ensure teachers continue to engage in effective on-going professional learning" (OECD, 2005, p. 10).

Time constraints and other complexities. Reflecting on the challenges of using multimodality in their pedagogies, Educators 8 and 13 commented that "time" was a limitation in the use of multimodal resources in the treatment of reading and writing in their practices.

Having sufficient time to incorporate the ever-changing affordances of information and communication technologies in our pedagogy and practices is critical in our fast-moving knowledge society. It would appear that coping with the demands of what has come to be

known as the textual "paradigm shift" (Walsh, 2006, p. 24), where text meaning is communicated through a synchronization of modes, is more time consuming than ever before. In this way, as Unsworth and Chan (2009) state, "it is no longer adequate to consider reading simply as processing information in print" (p. 245); rather, the concept of reading should embrace the various forms of negotiation of multimodal texts.

For another educator, addressing the different blended forms of meaning making when dealing with reading and writing poses several challenges: "Levels of complexity, difficulty in processing information, strong absence of students is what makes a challenge to follow a sequence" (Educator 15).

What prevents this educator from treating reading and writing multimodally has to do with the complexities of multimodal texts and problems with information processing. In this way, the assumptions underpinning this educator's view point in the direction that print-based and multimodal texts are of distinct natures and that they are processed differently. Although research indicates that reading multimodal texts involves different processes from the reading of print-based texts (Walsh, 2006), it is critical that educators and teachers familiarize themselves with such differences, and do not avoid incorporating multimodality to the teaching of literacy simply because they are seen as more complex and difficult to process.

The following section reports on the findings from the surveys completed by pre-service teachers.

Pre-Service Teachers

Research Question 3: Types of Texts Used by Pre-Service Teachers

In relation to this question, respondents were asked what kinds of texts they had read in the last few weeks. Sixty-one and a half percent indicated that they read primarily novels and literature, 48.3% said that they read newspapers while 44.2% read magazines. The text

types that pre-service teachers read outside university may already give us an indication of the various modes of meaning making they might have to deal with when reading these texts. Although all these genres are likely to contain blends of printed text, colors, images, graphs, tables, and diagrams; newspapers and magazines are probably the types of texts that carry the most multimodal content. We were also interested in exploring the formats or modes in which they are most likely to read these texts. The majority of respondents (58.2%) stated that they are most likely to read printed texts while a slightly lower percentage (52.5%) indicated that they read them on digital devices. Although most young people in today's world are exposed to a highly-saturated multimodal information environment (Pahl & Rowsell, 2005, p. xii), these findings reveal that interactions with printed materials continue to be equally dominant in comparison with digital literacy practices. These results show the coexistence of the two main modes in which today's information is conveyed, each having its own characteristics, as asserted by Walsh (2004), and each providing a valid source of input for language learning. To get a more comprehensive view of pre-service teachers' literacy practices, the contexts in which these occur and how they relate to each other, participants were also asked whether the texts used in their daily lives are used at university. To this question, 32.8% of the respondents said that the texts they read outside university are "sometimes" used in their academic university contexts, while 27.9% said that these are "rarely used". Furthermore, 15.6% responded that these texts are "never" used in their academic studies. In order to further explore the connection and usefulness of these texts to the participants' academic life, participants were asked another question on this. More than half of the respondents (59.8%) do not consider the texts they read outside university to be "related to what they read at university" while only a small percentage (8.2%) of the participants believe these are "very useful for their academic studies". These responses evidence the

divorce between participants' out-of-university literacy practices and those pertaining to their academic and professional development. This divorce may also be ratifying the fact that the literacy practices students engage in their daily lives are not utilized and exploited by the educational system as bridges that may help to construct academic literacies. In this respect, Gee (2004) has mentioned that "young people today are often exposed outside of school to processes of learning that are deeper and richer than the forms of learning to which they are exposed in schools" (p. 107). What is needed, then, is that out-of-school (or university) literacy practices are brought into our classrooms so that a clearer correspondence is found in the social purposes for reading in and outside the school. This is, to a certain extent, consistent with what was indicated by almost 80% of teacher educators who commented that multimodal texts are only "occasionally" used. This scenario is obviously suggestive of an increasing need to a theoretical, methodological, and pedagogical shift in how reading and writing practices are dealt with in teacher education programs.

Research Question 4: Role of Digital Technologies in Pre-Service Teachers' Academic Studies

First and foremost, we were interested in exploring pre-service teachers' use of digital technologies to better understand the ways in which they deal with complex modes of reading and writing. Prensky (2001) observes that today's students spend their lives surrounded by a large number of digital tools and technologies, most of which have become central to their literacy environments. As regards the question of which digital technologies pre-service teachers used in their daily life, 90.8% of the respondents use the social media, 2.8% said they use online games, and 5.1% indicated that they use Microsoft tools. These technologies are used at least "once a day" by 51.7% and "almost every day" by 43.3%. These percentages

are somewhat similar when pre-service teachers are asked about what technologies they use for their academic studies, where they mention Microsoft tools with 61.7% and social media with 30.8%; thirdly in this ranking is cloud computing with 5.3%. These findings are indicative of the growing numbers of computer literate individuals in our societies, where the phrase "they come with the chip in the DNA" is no longer an exception that divides digital natives or millennials from immigrants into the cyber sphere (Clavijo, Quintana, & Quintero, 2011; Rueda & Quintana, 2004). This is also affirmed by Furman (2015) who points out that "our students have been born into a world that provides easy access to this virtual environment" (p. 3).

On the question regarding the types of texts they are most likely to read for their academic studies, 67.5% answered that they read specialized books and papers, 27.5% read essays, 3.8% read reports, 2.5% novels, and 1.0% read poetry. These responses can be associated with the year of their studies: Since most participants are in their last years of university education, they are most likely taking courses that require bibliographic reference to books and papers in the specialized areas dealing with language learning and teaching.

What these results highlight is the slow process for innovations, multimodality precisely, to take root in language teacher education and the mismatch between the multimodal literacy practices of pre-service teachers and those used by teacher educators. They point to the need for a systematic agenda in teacher education to incorporate multimodality and, thus, bridge the divergence between teacher education and public policy (Manghi et al., 2016).

Conclusions

The present work set out to capture and explore teacher educators' and pre-service teachers' views, understandings, and experiences of the role of multimodality in reading and writing in light of the standards for English teacher education programs set by MINEDUC.

In general, the results are suggestive of a shift in how our current pedagogies deal with the teaching and learning of reading and writing. Although most of the teacher educators admitted to being familiar with the role of multimodality in the standards, only occasional use of multimodal texts was acknowledged by most of the respondents. The low frequency with which multimodal resources are incorporated into the methodological courses of reading and writing are certainly due to a series of complex factors, most of which relate to limited access to multimodal materials, a severely noticeable lack of teacher preparation, and an apparently deeply-rooted conceptualization of literacy as being primarily associated with print-based texts. This slow incorporation of multimodality partly resonates with the necessity to reconceptualize literacy and literacy pedagogy (Canagarajah, 2005; Sharkey, Clavijo, & Ramírez, 2016). A shift towards a broader and more inclusive definition and conceptualization of literacy in the Latin American context may involve three central moves. Firstly, it may be needed that teachers' and teacher educators' own epistemological beliefs and assumptions about language and language learning be redefined, for their views and larger paradigmatic concepts of the nature of English and teaching may be influencing their instructional practices. Extensive research into teacher cognition points to the powerful ways in which teacher beliefs impact their pedagogical practices (e.g., Díaz et al., 2013; Farrell, 2006; Hawkey, 2006). Secondly, reading (and writing) is not just about understanding and interpreting what is encoded in print-based materials (Cassany, 2006); rather, with the increasingly prominent and pervasive use of technological and digital resources, being able to read and write in this complex semiotic context requires the development of not only "other literacy skills" but also what scholars (e.g., Kress, 1997; Unsworth, 2006, 2008) have referred to as a "metalanguage" to unpack the multiple modes of meaning making.

Although the call for developing a metalanguage for multiliteracy pedagogies was within the context of L1, it could be suggested that the same pedagogical and methodological approach could be of great value in the Latin American second or foreign language arena. A third move involves bridging the gap between the texts used for academic purposes and those used by students in their daily practices.

The evidence and reflections from this study may also contribute to the understanding of how multimodality is re-signified in the Latin American educational communities where social justice, empowerment, and democracy are gravitating concepts. The question that remains, then, is if with the inclusion of multimodality in the standards, the pedagogical scenario may change and the future generations of teachers of English will be prepared to face multimodality effectively and critically in their classrooms. Then, one of the concerns in teacher education is the monomodal pedagogies that still do not include the multimodal approach to processing language. Even though the dimension of evaluation and assessment was not directly addressed in this study, it needs to be incorporated in English teacher education programs. The production and comprehension of multimodal texts require assessment strategies that are different from those that have been used for the only-print text.

To conclude, the findings reported and discussed in this study enhance our knowledge and understanding of the role of multimodality in the production and comprehension of texts in Chilean teacher education programs. More importantly, and as a revision of the standards has been mandated by MINEDUC following international guidelines (OECD, 2005), this investigation raises critical questions about, first of all, the current status of literacy practices in Chile, and, secondly, about the adaptations and modifications required to promote systematic pedagogies that embrace the multiple modes and resources of meaning making encountered by students in and outside the school.

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