

## Applying Principles for New Literacies in Differing CALL Contexts: Conceptualizing Issues for Teaching, Research, and Policy

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### Abstract

If we accept the argument that "literacy" can be plural and new, we still need to uncover how principles guiding new literacies can be applied in teaching, research, and technology policy in CALL contexts. This paper explores how context might influence the ways in which these general principles are implemented in a variety of cultures and CALL contexts, including Saudi Arabia, Libya, the U.S., and India. In addition, it suggests research directions that might lead to a better understanding of these principles. The paper concludes with implications and suggestions for CALL research, pedagogy, and practice across contexts.

Keywords: new literacies, context, CALL, policy, research, principles

### INTRODUCTION

The title of this paper makes several assumptions – first, that the word “literacy” can be plural (the spellchecker in *Microsoft Word* consistently refutes this); second, that there are such things as “new” literacies; third, that new literacies are in some way context-dependent; and finally, that computer-assisted language learning (CALL) educators, researchers, and policy makers should pay attention to all of these things. Valid arguments can be found in the literature on both sides of each of these assumptions; after deliberation and discussion, we position ourselves in this paper in the following ways:

First, the definition of the noun "literacy" determines whether it is countable. Traditionally, at least in many parts of the world, the ability to read and write--to decode and encode a printed text--is the standard for being considered literate (Cummins, Brown, & Sayers, 2007). On the other hand, if we use a more inclusive definition in which being literate means *being able to participate in society in accepted ways* (Lankshear & Knobel, 2006; Scribner & Cole, 1981), we must evaluate "literateness" differently. Although they can be encompassed within the same definition, text-based, oral, visual, visceral and other literacies are different methods of creating and sharing meaning that do not always coexist and so can be considered distinct from one another. Therefore, the idea that there are multiple literacies seems logical. Thus, we argue for the plural, *literacies*.

For the second assumption, that there are "new" literacies, a case can also be made. The idea that the definition of literacy can be expanded to include "new" skills has been suggested by Lankshear and Knobel (2003), Cummins, et al. (2007) and other writers. They claim that the use of digital technologies has created new literacies because the computer enables new ways to ntroductionlearn, communicate, and participate--in other words, new social practices--through

forums and symbols such as mash-ups, blogs and wikis, online discussion, fanfiction, emoticons and acronyms, and even virtual choruses. If new literacies include a set of skills utilized to understand information in any way presented (Lankshear & Knobel, 2006), then Web 2.0-supported practices, which lead to new ways of thinking, learning, communicating, and participating, can be said to support new literacies.

If we accept these arguments--that literacy can both be plural and new--we still have to address how these ideas might play out in different cultural and technological CALL contexts and why context is important to consider for educators and researchers. Kadjer (2007) and others acknowledge that literacy is situated and socially constructed; this means that new literacies are by definition context-based. The general influences of context on both the definition and application of new literacies are essential to understand in order to both teach and research in this area. For example, a CALL context where students have less accessibility to the Internet will probably have different literacy needs and practices than a highly technological context where language students are expected to understand many more skills in order to fully participate. Students moving from one to another of these contexts may face barriers to literacy achievement that can be mitigated by a CALL classroom in which these differences are explicitly acknowledged and taught.

Cummins, et al. (2007) claim that schools need to teach multiple and new literacies “to address the realities of a globalized, technologically sophisticated, knowledge-based society” (p.46). However, as noted previously, not all school contexts fit this description. We submit that inclusive, responsive, and engaging CALL classrooms need to teach traditional literacies but also provide instruction in additional literacies based not on some abstract understanding of what these are but on the local realities, backgrounds, and needs of their students (Meltzer & Hamman, 2004) . Further, as with any other tool, if CALL practitioners employ Web 2.0 (or 3.0) technologies, they must also teach the new literacies that enable students to succeed in their use. In order for this to happen, CALL researchers can help educators be aware of and build on the literacies that students bring to class as well as those that they will need for their futures.

Based on our understanding of literacy to include many, new, and context-based meaning-making and -sharing skills, we propose principles for CALL teachers, researchers, and policy makers. Adapted from Coiro (2003), Cummins, et al (2007), Lankshear & Knobel (2006), Leu, Kinzer, Coiro & Cammack (2004), these are:

- 1) Students must be able to access, receive, analyze, evaluate, construct, and transfer knowledge *in whatever ways they will be called upon to do so*.
- 2) Students must be able to access, receive, analyze, evaluate, construct, and transfer knowledge *in ways that engage them*.
- 3) Skills in a variety of literacies open more opportunities for learning, particularly as a result of effective social interaction.
- 4) Reading and writing achievement can be improved by the integration of other literacies, particularly those that are valued in students' native cultures; in the same way, new literacies can be codified and supported by reading and writing.
- 5) Technology can support both the exposure to and practice of new literacy skills.

The purpose of this paper, then, is to suggest that these new literacies principles should be explored in teaching, research, and technology policy in CALL contexts. In making this argument, we look at how context might influence the ways in which these principles are implemented in a variety of cultures and CALL situations, including Saudi Arabia, Libya, the U.S., and India

(contexts of which we have intimate knowledge). In addition, we suggest research directions that might lead to a better understanding of these principles. We conclude with implications and suggestions for CALL research, pedagogy, and practice across contexts.

## **NEW LITERACIES CONTEXTS**

In order to understand how context can affect the application of new literacies principles in CALL, it is important to look at how literacy and technology are viewed in different contexts. The following sections describe varied views of literacy and technology and how these views may influence the application of the principles.

### *Literacy in Arabic-speaking countries*

In Arabic-speaking countries oral literacy was the first valued form of literacy (Macdonald, 2009; Stetkevych, 2010), followed by traditional text-based literacy based on the Quran (Zaharna, 1995). In Saudi Arabia and Libya, educational institutions draw heavily on memorization (De Atkine, 1999; Faour, 2012; Vassall-Fall, 2011), and the teaching approach is still mostly teacher-centered (Al-Mohanna, 2010; Elturki, Abobaker, & Lin, 2011). In addition, although the UNESCO Institute of Statistics' 2010 report stated that the literacy rate is increasing in the Middle East among young people who are aged 15 and above, the students' levels of reading and writing in both their mother tongues and English are not satisfactory (Arab Knowledge Report 2010/2011). On the other hand, many young people are accustomed not only to using but also to fixing and maintaining cutting-edge digital gadgets, from smart phones to computers. However, this has little to do with formal language-based training or education. In fact, most educational institutions can be classified as "low tech." In order to help students develop different kinds of literacies, there is a pressing need for research that explores the benefits of utilizing in schools what students are already knowledgeable about in their daily lives.

### *Literacy and technology in Saudi Arabia*

In Saudi Arabia, there are numerous efforts to increase the literacy rate. First, the definition of literacy has expanded to include "a person's ability to take decisions and have communicating skills with others in an effective manner" (Khan, 2011). Second, opportunities for older people to learn the basic skills of reading and writing have been created. In addition, in recent years the Saudi government has begun to support the use of technology in different settings. For instance, one government-supported action is King Abdullah I's initiative 'A Computer for Each Family.' Regardless of these changes, Saudi students tell us that computers are not often used for academic and business purposes; rather, the use of computers is limited to playing games, chatting with friends, watching movies, and posting wedding and death announcements.

In education, the Saudi government has also made computer literacy compulsory in secondary schools (Alshumaim & Alhassan, 2010) and equipped all secondary and some elementary schools with computer labs. As a result, many students have started to use computers for their schoolwork. While the use of computers by teachers in the preparation of course materials and instruction has become relatively more common (Alshumaim & Alhassan, 2010), technology is rarely implemented to support actual language learning tasks. One hindrance to the utilization of computer assisted language learning (CALL) in classroom instruction is the

“shortage of teachers and trained maintenance staff” (Alshumaim & Alhassan, 2010, p. 524). With research as a guide, educators can begin to address these and other barriers.

### *Literacy and technology in Libya*

The situation in Libya is similar to that of Saudi Arabia in terms of the kinds of literacies that are widespread in everyday life. In terms of traditional literacy, the 2008 World Bank report indicated that 99.9% of youth aged 15 to 24 in Libya can read and write. Literacy here is measured in terms of the ability to read and write short, simple sentences; this is the case even though young adults are expected to have a high rate of literacy because of the free public education funded by the Libyan government. However, educational institutions still employ a traditional teaching approach “where teachers are the absolute authority and play the role of the information providers” (Elturki, Abobaker, & Lin, 2011, p. 30). In Libya, young people are good at using multimedia and digital tools with little formal training. For example, during the 2011 Libyan Uprising people used Facebook, Twitter, and YouTube to deliver information to the international media.

However, Saudi Arabia and Libya differ with respect to the efforts being made by their governments to incorporate technology in language education. In Libya, there are no policies yet regarding including technology either to teach Arabic or other languages such as English, and there is certainly no mention of the need for new literacies. However, if Libyan students and others are to participate in the global environment that has newly opened for them, they will need to develop relevant skills quickly.

### *Applying the principles in Saudi Arabia and Libya*

In both Arabic-speaking contexts, the term "literacy" has grown past its traditional meaning of being able to read and write to include technological and multimedia literacies; however, this is within a relatively small percentage of the population and definitely outside of the classroom environment. With the intent of Libya to once more play a role on the world stage and of the Saudis to continue to participate and compete, the literacies that students are good at outside of the classroom--in the case of the Saudis, for example, oral literacy--should be taken advantage of in CALL classrooms. By using their strengths (orality), technology-using teachers can keep them motivated and assist them in developing other literacies (e.g., technological, mathematical, written). Addressing new literacies can encourage creativity and critical thinking as well as support student engagement. Moreover, many students from Libya and Saudi Arabia pursue their post graduate studies in countries where new literacies are in full use, so familiarizing them with such literacies at an early stage in their language learning could make it easier for them to integrate into those educational systems.

However, there are barriers that prevent practicing new literacies in educational institutions in both countries described here. These barriers are related to (a) the scarcity of research, workshops, seminars, and conferences for CALL educators to prompt new literacies practices; (b) the lack of infrastructure that can make the Internet available everywhere; (c) the limited financial support from the government--especially in the Libyan case; (d) not enough teachers and technicians trained in information technologies. In order to overcome these challenges and achieve the principles mentioned above, we suggest the following. First, government departments concerned with education should find ways to be more supportive financially and also develop a cooperative attitude. With forethought, they can provide classrooms with the necessary

technology and Internet access which will facilitate the development and implementation of CALL. Second, language teachers should be provided with professional development opportunities related to new literacies and CALL. As teachers participate in such workshops, they will better understand some of the key principles of new literacies and be able to assist students to access, receive, analyze, evaluate, and transfer knowledge in different ways. Third, researchers should be active in exploring how new literacies can be integrated into a CALL curriculum and explore how this integration could affect students' language achievement.

## **NEW LITERACIES IN THE U.S.**

### *Literacy Background*

In some ways it does not make sense to say that the U.S. is one context any more than any country is. Each classroom, school, town, city and region is its own context. If we generalize, though, we can say that three general aspects of culture that blend policy and education and set the context for CALL in classrooms in the US are 1) the idea of the "literate" person, 2) the variety of cultures in language classrooms, and 3) the differences in classroom and home access to and attitudes toward technologies that require new ways of knowing and doing.

In the U.S., much like in other parts of the developed world, even though many ways of participating exist, literacy is equated by the majority of the population with reading and writing in English (National Institute of Child Health and Human Development, 2000). If people cannot read--regardless of whether they can play chess, raise a family, take the bus, or talk about the news in Spanish--they are considered functionally illiterate by the government, educators, and much of the general public (see, for example, the U.S. Department of Education's National Assessment of Adult Literacy, 2003). However, the context in which reading and writing is enough is changing. Educators in the U.S. must recognize that the focus on reading and writing in a specific, standardized way is quickly becoming a generational and community-based characteristic; this as many younger children (even those who cannot yet read) learn to use Facebook, play games that require critical thinking, and communicate meaning across different spaces and languages as they multitask in ways that they have not done so before. This means that language teachers face a kind of a conundrum: should English language learners (ELLs) in U.S. classrooms learn to read and write English only in traditional ways, should they first be taught their native languages until they obtain some standard level, or should they learn to communicate in acceptable ways with their peers whose social interaction they are dependent on for much of their learning? We, like other educators, believe that these goals can be obtained simultaneously.

A second issue is that of multiculturalism in classrooms in the U.S. In the U.S. students from 20 or more different language backgrounds might be found in the same language class. Students may bring different types of literacies from their home cultures and value different forms of literacy. Also, they may learn and approach literacies with different styles and motivations. These issues can make it hard to bridge meaning and support participation across learners and groups. On the other hand, many language classrooms in U.S. schools are marginalized and devoid of a set curriculum (Liggett, 2010), which actually offers ESL teachers opportunities to choose new and different strategies and technologies for helping their students become multiliterate and aware of the need to be so.

Along with views of literacy and diversity, a third context issue for CALL researchers and educators to consider is varying access to and attitudes toward technology. Although the U.S. government claims that 100% of public schools are wired for the Internet (U.S. Department of Education, 2010), the number of working computers per student that actually have uninterrupted service varies greatly across public school contexts. Although there is currently a huge push, backed by considerable private and public funding, to support technological literacy across U.S. public education, the realities of English language classrooms often make it insurmountably difficult to provide language-based, cutting-edge CALL instruction. For example, classrooms at the K-12 level can take place anywhere from a redeployed closet to a stage to a regular classroom, with out-of-date computers handed down from other classrooms, ancient software that emphasizes drill and practice, or brand new multimedia computers with built-in audio, video, and Internet. This variation is also true for ELLs' access to technology outside of school. It is clear that technology is an important part of American society and that it is permanent and ubiquitous. Those who can employ technology-supported literacies to network, produce, collaborate, and communicate gain high societal and employment value.

### *Applying the principles in U.S. contexts*

In light of these contextual variables, how are the principles noted previously to play out in CALL classrooms in the U.S.? One answer is for teachers and students to work as effectively as possible with what exists and to build on the variety of skills and experiences that students have. This means rather than sticking to a one-size-fits-all curriculum, CALL educators should know and build on both the ideas and tasks that engage students and the ways in which they will need to communicate and collaborate in their futures (Roe & Egbert, 2010). Teachers can approach literacy by integrating a variety of supports and providing differentiated instruction that allows students choices of how to meet their language goals. All students do not need to be--and probably cannot be--expert in all literacies. However, awareness of these literacies is important to understanding and participation across most areas of the Internet. By helping language students become aware of the variety of literacies and assisting them in choosing their literacy goals, the usefulness of many different kinds of literacy can be underscored. In the classroom, students can share their own literacy understandings so that all students end up with skills in different literacies. Even in classroom contexts with only one computer or one cell phone, these technologies can be used to demonstrate the value of both traditional and new literacies (Egbert, 2005).

To support literacy awareness, research on the value of reading and writing in English in the U.S. can be examined by students and teachers. What will they be able/not able to do if they can/cannot communicate in English? Which of those things do they want to be able to do? These questions can be explored through all kinds of technology, a walk down the block, or simple discussion with other people, and they can provide a foundation for literacy teaching in CALL classrooms. In turn, the relationships between reading and writing and other literacies should also be examined and used to support instruction. For example, language students who do not know how to read and write in English will not be able to participate in or use English-language wikis, and those who do not know how to use acronyms in their English email messages may be considered less literate by those who do. Finally, CALL educators can emphasize and demonstrate to students that it is not the ability to use technology alone that matters, but the ability to use it to accomplish their goals and participate in both U.S. and the greater global society.

In the meantime, U.S. research and policy need to catch up with classroom realities so that language teachers have the support and knowledge they need to prepare learners with the literacy skills that they must have to be successful, however success is defined. For example, research can show us how students use their different literacies and in what ways the use of a multiliteracy approach supports language learning. It can provide evidence of the utility of student multiliteracy and explore which new literacies might be the most important in different contexts. It can also demonstrate which technologies and their accompanying new literacies, applied in what ways, lead to greater language achievement. Furthermore, policy needs to move beyond the idea that reading and writing and being able to use a computer to read and write are the only valuable literacies, looking more closely at the different and new literacies that lead to greater creativity, more critical thinking, greater participation, more social justice, and so on.

## **NEW LITERACIES IN INDIA**

### *Literacy and technology in the Indian context*

As in other contexts, literacy in India operates in the plural. The official definition of a literate person in India is a person aged 7 years and above who can read and write in any language. In fact, many people in India use more than one language with varied degrees of proficiency. Some people do not read or write any language, but they speak several languages well. However, the language scenario in India is even more complex than this indicates. There were 122 languages in use in the country recorded in the 2001 census; of these only 22 are spoken by over a million people. Further, there are over 1,500 'mother tongues' recorded in India that have no official recognition (Vanishree, 2011). These languages have been used to transmit knowledge and information that spans generations and encompasses several areas of life. However, since the people speaking these languages cannot read or write in the dominant language, they are often classified as illiterate; this describes nearly 400 million people (TARA Akshar, 2012).

In fact, in India the language in which people are officially literate is often not their mother tongue or their ancestral language. The disjunction between the language of literacy and ancestral languages can be easily observed in social settings. By the end of their high school education, the students can write and read three languages and qualify as literate under the official definition. However, they find that not being familiar with English is a disadvantage in the workplace. Even for students armed with "official" literacy status in English, effective communication remains a challenge. In order to convey nuances or subtleties, the vast majority of them turn to their mother tongues.

Despite being classified as illiterate, some people in India have learned to efficiently use a variety of technologies and literacies to produce digital content that is consumed by the entire community. In Chhattisgarh, for example, an insurgency has led to the absence of any independent news available to the people. Recently, however, a mobile phone-based network manned by people using their cell phones was initiated (Overdorf, 2011). People participate by reporting incidents and dialing in to receive the latest news; many of the consumers and creators of this information may not be classified as literate under the official definition. The availability and the use of cell phones for different purposes demonstrate technology accessibility and the practice of multiliteracies at different levels of society and also underscores a need for recognition and acceptance of these "new ways" of participating.

Due to these and other contextual variables, English language teachers in India face a number of issues. In the context of CALL, students in Indian classrooms bring in different types of literacies, and their traditional epistemologies and values can vary widely (Thirumalai, 2002; Piller & Skillings, 2005). Further, access to technology is a problem in most schools. There are fewer than 6 computers per school and on an average one computer for every 72 students (Bharadwaj, 2007). Even in schools that have computers, integration into the curriculum remains low, and access to tools outside of the classroom is generally low to non-existent for students in government schools (Bharadwaj, 2007). However, as India seeks to become a global leader in technology support, particularly to the English-speaking world, the need for students to have both English and multiple literacy skills is keenly felt.

In India much of the learning of new literacies comes outside of the school setting. Outside of the formal school setting, experiments such as Hole in the Wall project provide children in slums with opportunities to explore the computer system with no formal instruction (Simmons, 2005; Mitra, 2010; Hole in the Wall, 2011). The children obtain knowledge to operate the computer by peer-learning and develop expertise to navigate the World Wide Web. Yet, in India, a digitally savvy person may still not be officially literate.

### *Applying the principles in India*

Given these stark variations in contexts across the country, how can a teacher apply the principles of CALL and new literacies? The first solution would be to obtain digital tools that are sturdy enough to withstand power fluctuations and student handling. Even without classroom tools, teachers can request community support and participation by inviting specialists and professionals who can bring cell phones and computers to classrooms, a solution rarely explored in Indian classrooms. Although computers may be unavailable for teachers in all schools, new literacies can be taught in language classrooms with whatever technologies are available locally. Learning can take place in different formats, too, including after school or at a distance through the use of podcasts and other technologies that students can use on the hardware available.

Policies that do not address classroom realities, especially in schools without actual buildings, do not serve any practical purpose. Schools without basic amenities such as drinking water, electricity, and a place for kids to play will have trouble focusing on new literacies. Moreover, policy has to come to terms with the multilingual landscape in the country and consider the advantages of technical knowledge and innovation. Official definitions should move beyond reading and writing and incorporate the new literacies that are needed in 21st century contexts. However, none of this will happen without the much-needed research base that not only grounds the need but shows that change can enhance student achievement.

## **CONCLUSION**

There are differences and commonalities across learning contexts that make them both receptive to and set against the use of CALL. These variations therefore also influence the teaching and learning of new literacies; the impact of context is one area for research. Regardless of context, we believe that language students need to be well versed in a variety of literacies to succeed wherever they go, and that the process of new literacy learning begins with the awareness that these literacies exist. However, these assertions are supported only by anecdotes and require empirical evidence to be taken seriously by politicians and educational bureaucracies.

Technology does not necessarily have to play a role in literacy awareness, but whether or not technology is employed teachers must engage students in learning the many ways that it can be used to access, receive, analyze, evaluate, construct, and transfer knowledge. Of course, although traditional literacy is not a prerequisite for using technology and participating in the greater community, its utility cannot be denied. By starting from a place that values the literacies that students bring with them to the classroom, whether visual, oral, traditional or something else, teachers can work around political, physical, and societal barriers. Armed with research, they can support students in learning needed new literacies that assist in the acquisition and practice of language and content in its many aspects.

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