

Multimodal literacy practice and identity in standard English learning: A case study in Taiwan

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The purpose of this qualitative case study is to understand the impact of four high school students' multimodal literacy practices in blogging and instant messaging (IM) on academic writing and how they construct their identities in terms of language use in Taiwan. Sources of data are questionnaires, academic writings, blog entries, chatting scripts, and online interviews. Computer-mediated discourse analysis was employed to examine the impact of IM features in academic writing and identity construction when engaging literacy practices in English. Data were analyzed quantitatively and qualitatively. The study confirms that online context is an important site for literacy practices, and it affects language use and identity. Findings showed that literacy practice online provided fluency in students' writing. Students also performed different identities to practice English in IM. The study suggests future researchers and educators can incorporate and validate students' favorite sites for literacy practice and learning.

Introduction

New technologies shift literacy practices and create the opportunity for new literacies to develop. The variety of applications of new technology leads to new stylistic forms and increases the expressive range of a language. Grinter and Palen (2002) report that teen IM use is characterized as an optimizing choice between multiple communications media. Teens are bound by concerns about peer pressure, peer group relationships, and the need to create additional opportunities to socialize. Lenhart, Rainie and Lewis (2001) also found that nearly half of teens use IM everyday. Most youth use this

tool regularly to maintain relationships, either with friends or family members, especially those that do not live nearby. Pew Internet & American Life Project (2004) reports that 85% of teens ages 12–17 engage at least occasionally in some form of electronic personal communication, which includes text messaging, sending email, instant messages, or posting comments on social networking sites. Pew Internet & American Life Project (2004) found that instant messaging is most popular among younger adults and technology enthusiasts in the United States. Internet users, especially young people gravitate to the social and playful exchange tool. In the last three years, the percentage of teens online has increased 94%.

Similarly, the use of instant messaging has become increasingly popular with teens all over the world, such as, in the United Kingdom, Asia, Canada, and the United States (Nua Internet Surveys, 2001, 2002). The growth of **IM** has also been significant in Taiwan, too. Microsoft Taiwan Corporation (2006) reports that the Instant Messaging Window Live Messenger users in Taiwan is over 7,500,000 people, which is one-third of the total population of Taiwan. Each user has an average of 2,100 minutes monthly. **MSN** Messenger also has the highest use rate (92.2%) among chatting tools in Taiwan (Insight Xplorer Ltd, 2005). Insight Xplorer Ltd. (2006) monitors the online market, and it shows that all Taiwanese (about 11.8 million) above 10 years old are online users. This result reveals that the Internet is deeply popular in the Taiwanese population. The rationale of selection of teenagers as my participants is that they engage in the use of new technologies mostly, and they are learning English.

English enjoys a unique status and prestige in Taiwan. First, English is a required subject to study in public school, and English is a preferred language used for international communication and diplomacy. The Ministry of Education (2002) in Taiwan states that objectives of English learning of elementary/junior high school curriculum are to prepare students to have basic communicative ability, to prepare students to take a global perspective, and to provide students confidence in communicating in the global arena. In addition, language and identity draws attention on their relationship between each other. Identity is a complex social construction created and sustained by a particular culture and a society. Owing to the sharp increase in computer-mediated communication, **IM** users utilize the tool to socialize with people because they would like to become someone associated with a particular context. Therefore, people must understand what practices are acceptable and form an identity that is acceptable within the context.

Due to the prevalence of language and literacy practices online, educators notice that there is a growth of informal language use and a concern whether online literacy practices will cause a general deterioration in the quality of language (Lee, 2002). Also, it is a popular perception that computer-mediated language is less correct, complex and coherent than standard written language. For example, computer mediated communication (**CMC**) users use fewer subordinate sentences or have more simplified version of spelling and grammar. In this sense, people seem to assume the failure of teenagers' school literacy is due to the engagement of online literacy practice. Therefore, the study aims to examine the following research questions:

1. Do **IM** literacy practices support or hinder learning of standard literacy in English?
 - 1.1 What feature of language in **CMC** context do **EFL** high school students generate?
 - 1.2 To what extent are these features of language in **IM** present in their academic writing?
2. What identities are being enacted or practiced through the repertoire of literacy features?

Theoretical framework

The emergence of the Internet has changed the nature of literacy. The framework of *New Literacy Studies* (NLS) has elaborated the changes of literacy. The framework encompasses how people come to understand information on the Internet similarly and differently from more classical means to multimodal ways. NLS is also vital to how social identities develop through online communication practices; therefore, the framework guides my study.

Literacy as a social practice

NLS conceptualizes literacy as a social practice, so it is socially, culturally, and historically situated (Gee, 2001; Street, 1993). The framework understands that “literacy is not simply an individual cognitive activity, but is a communicative tool for different social groups with social rules about who can produce and use particular literacies for particular social purposes” (Larson & Marsh, 2005). The goal of this theory is to construct meaningful contexts for literacy learning. Thus, literacy will be understood as part of human activities in different contexts, especially in and out-of school contexts.

Literacy as identity construction

The framework of NLS interprets that neither identity nor language use is a fixed notion; both are dynamic, depending upon time and place. How we perceive ourselves changes with our community of practice (Lave & Wenger, 1991; Wenger, 1998) allowing us multiple identities over the years or even within a day. As people are members of multiple lifeworlds, their identities have multiple layers to each other. Discourse and register differences are markers used to acquire recognition and negotiation. People use language, particularly linguistic varieties, in order to indicate social allegiances. People use language to create and maintain role relationships between individuals and between groups. Therefore, it is particularly important in the electronic hypermedia because people are engaging in recognizing different identities by using languages in different communities of practices.

Genre: emoticons, abbreviations and acronyms

Genre is a term defined by Swales (1990) as a class of communicative events which share some set of communicative purposes. Possible examples of genres include forms of CMC such as email, discussion databases, virtual communities, and publishing on the web. Computer-mediated linguistic (Craig, 2003; Koutsogiannis & Mitsikopoulou, 2004; Tagliamonte & Denis, 2008) have confirmed that language use in the CMC is a type of hybrid vernacular varieties or registers. Their features and styles are informal language use and non-standard styles in the formal writing. However, these new varieties are accepted and used by youth population at school or in everyday life. These online linguistic features are formed in different ways. In a study of examination of CMC syntactic and stylistic use, they asserted that CMC is an emerging hybrid variety of language. The discourse has features of both oral and written language. Recently, Crystal (2001) used the term “Netspeak” (p. 19) to explain writing, talking, listening, and reading occurring on the Internet. Some features of Netspeak include some exclusive lexicon uses on the Internet. For example, first, lexicons are used only either for computer software or hardware, depending on different

circumstances. Second, net users create Internet neologisms by combining two separate words to coin a new word. Third, net users also generate different text and icons used in order to express emotions and gestures. Due to these distinctive features, Ferrara, Brunner, and Whittemore (1991) described that **CMC** discourse is an emergent linguistic register.

The impact of new varieties on language and identity

Recently, teachers and parents worry about that text speak from instant messaging or **SMS** text are contributing to the downfall of the language. They also worry that students will mix these online linguistic features into school papers. Due to the new ways of using language in the **CMC** context, Grinter and Eldridge (2003) have warned the adverse effect of **IM** on written English. Power and Power (2004) also found that the use of text-based synchronous communication abbreviations, jargon, and emoticons are "leaking" into traditional writing, particularly at the high school and college levels. In this section, I review previous studies that discuss whether new varieties have significant negative impacts on academic literacy. Increasing studies have shown that **IM** literacy practices do not have direct threats on academic literacy development, and **IM** literacy practices, further, have positive effects on learning. Murray (1991) conducted the analysis of written conversation by focusing on the composing process of **CMC**. Murray asserted that the writing process for computer conversation involves planning, translating, and reviewing. All writing processes involve the use of participants' current state of knowledge interactively. The new mode of discourse engages students in the social world. The context provides a cognitive and social activity. In addition, the study also found that computer conversations often display speech-like interpersonal involvement using active voice, personal pronouns, emotive diction, hedging vagueness, and paralinguistic cues. Students have opportunities to employ different languages to imply different functions.

Herring (2004) mentioned that most people perceive that linguistic structure is "less correct, complex, and coherent than standard written languages" (p.5). Although language use in **CMC** contains non-standard features, there is "only a relatively small percentage of such features appear to be errors caused by inattention or lack of knowledge of the standard language forms" (p. 617). First, the main choice of simplified linguistic features and patterns is to economize on typing effort (Herring, 2001). Second, Herring (2001) further stated that deliberate practice of textual representation or non-language forms, such as graphics or icons are to "adapt the computer medium to their expressive needs" (p.617). Similarly, Baron (2004) empirically examined data based on a corpus collected from American college students through **IM**. The study discovered there is a mere 0.3% of the words that had typical **IM** abbreviations, (e.g., *hrs*, *cuz*), less than 0.8% were acronyms (e.g., *lol*, *brb*), and 0.4 % represented emoticons (smiley face).

Craig (2003) discusses that many people would believe that English is under attack and believe that youth literacy declines because of the **CMC** experiences, such as e-mail, cell phone and instant messaging. Particularly, English teachers worry about these **CMC** linguistic characteristics, varieties, and some undesirable reading and writing habits. People have assumed that the **IM** context has many lowbrow vernacular, slang, non-standard spelling; therefore, they have concluded that youth literacy become worse because of the use of the Internet. However, Craig (2003) further pointed out that instant messaging is a beneficial force in the development of youth literacy because the context promotes "regular

alternative literacy, and a greater level of comfort with phonetics and the overall structure of language" (p. 119). In addition, studies also have shown that using different varieties or hybrid vernacular varieties indicate the importance of language play of development on phonetic replacement (Craig, 2003) and accommodation of online interlocutors (Bloch, 2004; Craig, 2003; Crystal, 2001; Lam, 2004). Craig (2003) analyzes 11, 341 lines of text from **IM** conversations produced by youths in the United States. Youth in this study are able to employ phonetic replacement (e.g. "everyone" become "every1") to learn how words string together to express ideas. The study suggests that this type of language play can facilitate students to learn a better command of language. The following studies illustrate knowledge of identities and desire to become part of a specific community.

Lam (2000, 2004, 2006) explored how the Internet provides new and transitional contexts for young immigrant youth's English identity and language socialization. Lam (2000) studied an youth immigrant, Alamo (pseudonym), from Hong Kong, who had struggled with English. She observed Alamo's exploration on the Internet and the development of a website devoted to the Japanese pop (J-pop) singer, Ryoko. Finding shows that Alamo is able to use textual practice in order to perform his identity, and he gains some confidence to communicate in English with peers by sharing their interests of popular culture. In an online community, Lam (2000) found that these online literacy practice helped Alamo "form a sense of alienation from the English language in his adopted country to a newfound sense of expressivity and solidarity when communicating English with the Internet peers" (p. 468).

Lam (2004) investigated the nature of second language literacy in a chatroom on two Chinese immigrants. Participants tended to use mixed varieties in order to distinguish them from English-speaking only peers and Cantonese-speaking only peers. The adoption of mixed language varieties allows the girls construct their collective or ethnic identity. Additionally, these code-switches in the chatroom also "signal a role shift in the social alignments of the participants" (p. 58). Lam's (2004) previous studies have found that youth immigrants were able to construct their ethnic or group identity in the **CMC** context. Lam (2006) further discussed the implication of technology-mediated transborder social networking for language learning.

Black (2005, 2006, 2007) also had contributed her empirical investigations on young English language learners' online literacy practices in several communities. Black (2005, 2006, 2007) investigated how might the virtual environment and digital model of communication scaffold or promote affiliation with composing and interacting in English. She examined an online fanfiction site on the multilingual composing practices of English Language Learners (**ELLs**). In her three-year ethnographic study, she found how the cosmopolitan nature of animation-based fanfiction enabled English Language Learner (**ELL**) focal participants to act as cultural and linguistic "consultants" in the community by helping other users (Black, 2005). These participants incorporated the use of their heritage language into their story texts. She further found that these focal participants used Romanized Chinese to present hybrid or multilingual fanfiction texts and employed English, as well (Black, 2006). Black (2007) stated that ways of online fanfiction-related activity is also aligned with school-sanctioned literacy and language learning. Focal participants were engaged the writing process, such as composing ideas collaboratively, peer-reviewing, peer editing, and monitoring. Tagliamonte and Denis (2008) analyzed a corpus involving seventy-two teenagers and over a million words of natural, unmonitored **IM**. The study examined how frequent are **IM** characteristic by different proportion (e.g., haha, lol, hehe, omg, hmm, brb, 133

tyl, etc). The accountable proportional analysis shows that there is mere 2.4% in the whole corpus. The rest of the corpus includes spoken discourse-like and some standard writing. They further tested what intensifiers – *really*, *so*, and *very*, are used in **IM**. In comparison between speech data and **IM** data, it was found that the teenagers were much less likely to use intensifiers at all. This study has significantly confirmed that **IM** discourse is similar to spoken discourse, but it is a more formal register and speech. Participants were able to combine variants in the **IM** context. Tagliamonte and Denis (2008) concluded “that it is not the ruin of younger generation at all, but an expansive new linguistic renaissance” (p. 27).

More researchers also contribute their studies in **CMC** in different languages. Darhower (2002) examined the use of synchronous **CMC** in two fourth-semester, university-level Spanish courses. Finding shows that students were able to produce an appropriate, meaningful, and highly intersubjective discourse community. Students also were able to perform non-students identities, role-play, and humor by using their **L2** to support their conversation in a more sophisticated manner. Warner (2004) conducted a research on language play in **MOO** in a German language course. The study found that participants have linguistic, semantic, and pragmatic language play. The mutual language play occurring showed participants understood each other’s situation of using language, identities or roles of using new language. These studies show that net users use different codes for different purposes, rather than that they are unable to use language appropriately.

Craig (2003) found that American youths’ verbal scores of College Board’s **SATs** decline, and people seem to blame the failure because of the amount of digital literacy practices; however, his study shows that the use of **IM** poses no threat to the development or maintenance of classical English in American youths aged 12–17. The main reason for the decline of the **SATs** is that students’ enrollment in English composition and grammar classes have decreased. Similarly, Baron (2005) discussed the relationship between **IM** practice and issue of language standards. The study found that **IM** language does not threaten Standard English, either. Another similar study related children’s use of texting. Plester, Wood and Bell (2008) examined children’s textism, a term describes text messaging and internet communication, use and children’s performance on spelling and writing tasks. They found there was a significant positive correlation between spelling ability and the ratio of textism to read words. Particularly, spelling attainment is associated with the use of particular types of use of phonological abbreviations. The study indicates that there is no evidence that knowledge of textisms by pre-teen children has any negative associations with written language competence.

The literature review has shown that engaging in multiliteracies online facilitates the development language proficiency and second language learning. The **CMC** context also provides a site for identity construction and negotiation. Literatures have suggested the need to examine computer-mediated context on standard language learning and identity. However, there has not been any systematic research which explores the intersection between English literacy practice in English as foreign language (**EFL**) context and **IM** literacies on their English learning development. The study is proposed in order to capture the complexity among **IM** literacy practices, academic literacy practice, and identity.

Methodology

134 The study is a qualitative case study that captures four **EFL** high school learners’ language use in English and identity. A qualitative case study is particularistic, descriptive, and

heuristic. It is particularistic because it focuses on a particular situation, event, or phenomenon; it is descriptive because its end product is a rich, thick description of the phenomenon under study, and it is heuristic because it illuminates the reader's understanding of the phenomenon under study (Merriam, 1998, pp. 29–30).

Research participants and sources of data

Four participants were second-year high school students in Taiwan. There were from my previous colleague's class. The selection of these participants is being representative typical **EFL** high school students in Taiwan. Typical Taiwanese high school students are learning English as a required subject in high school. They also have high access rate in using the Internet and information technologies, such as cell phones. **TWNIC** (2008) reports that 66.74% 12–20 year old population have access to the Internet. In this study, participants had average three hours everyday in blogging and chatting. Data sources included a background questionnaire that helps to identify participant's individual variable. I also collected their blog entries and **IM** chat scripts. Participants' **IM** chat scripts are any conversations in English or Chinese. Participants emailed their chat scripts to me directly for data analysis. The purpose is to understand their literacy practices in English in different contexts for comparisons with school writings. A qualitative interview, mainly through instant messaging was also employed. Several researchers have conducted online research and discussed its advantages. The medium of instant messaging supports near synchronous communication among two or more parties, which is also to do online focal interviews. Online interviewing also enables access to participants who cannot consent a face-to-face interview, or who are uncomfortable discussing topic face-to-face (Bampton & Cowton, 2002; Chaney & Dew, 2003). In addition, interviewing over instant messaging also provides lightweight indications of awareness through user-controlled status prompt.

Data analysis

The study adopts computer-mediated discourse analysis (**CMDA**) coined by Herring (2004). The approach can analyze online interactive behavior (Herring, 2004) and language-focused content analysis. The approach is also a toolkit of discourse analysis. Kutz and Herring (2005) confirm the methodology that has been applied to the analysis of email, discussion of forums, chat rooms and text messaging. The approach also can be employed quantitatively and qualitatively. I will quantify linguistic features occurring in different contexts – school writings and online contexts.

Results and discussion

RQ1.1 What feature of language in CMC context do EFL high school students generate?

Table 1: Linguistic features in IM Chat and Blog

Linguistic features in IM					
	English	Chinese	Abbreviation	Emoticons	Acronyms
Tokens	25,096	13,544	34	45	10
Total tokens (unit: word)	38,640				
%	65%	35%	0.0008 %	1.08 %	0.0002%
Linguistic features in Blog					
	English	Chinese	Abbreviation	Emoticons	Acronyms
Tokens	1,987	3,490	23	54	15
Total tokens	5,477				
%	100%		0.004%	.009%	.002%

Table 1 shows the number of tokens (unit: word) collected from four participants’ blog entries written in English and Chinese. Total of 38,640 tokens in English and Chinese were collected from participants’ IM, and 5,477 token both in English and Chinese were collected from participants’ blog entries. The table showed online linguistic features, such as abbreviation, emoticons, and acronyms are a small percentage of all corpuses. In addition, participants stated that they were able distinguish language use in blog, instant messaging, and school writing. They would not use these linguistic features in their school writings. Next, by examining these new varieties, it was found that the use of online language does not reflect the user’s lack of knowledge of language. For example, “cuz” was used for “because”, “u” was used for “you” and “r” was used. Although participants used these abbreviations, they also spell the whole vocabulary in different chat scripts. Participants also mentioned that they tried to economize on typing effort; rather they were not able to use language correctly. Emoticons were also used for expressive purposes and back-channeling. For example, icon shows a ‘nodding”. These examples are not errors on language use, rather strategies to react in a conversation.

RQ1.2: To what extent, are these features of language in IM present in their academic writing?

Table 2: Comparison between school writing and online linguistic features

Linguistic feature of school essay			
Total English Corpus (unit: word)			
(8 essays)	Abbreviation	Emoticons	Acronyms
4,876	15	2	8
100%	.003%	.0004%	.0016%

Table 2 shows the analysis between school writings and online linguistic features. Each participant shared their writing required by English teacher. These students have to prepare examination for college; therefore, they are required to practice English writing on a regular basis. The teacher assigned topic for different writing samples. There are eight essays collected from four students. They shared their writing assignments through emails. There were 4,876 words collected. Result shows that there are some online linguistic features found among writing samples. The quality of students' writing were evaluated by designed rubrics to access categories of ideas, content/organization; style/fluency/voice/word choice/vocabulary/sentence structure/; language usage (convention). Also, writing assignments were compared with language use in blog and IM.

Based on writing rubrics designed for this study, participants received average high score in the categories of idea, content, organization, fluency, voice, word choice, and vocabulary and sentence structure. However, participants did not receive satisfactory score in the language usage/convention sections. Some IM linguistic features were found. First, essays are spoken-like oriented. Students' density of vocabulary is lower based on the scoring rubrics. For example, students wrote:

I go to see my friends at her dorm, and she wanna go to school festival after that. My friend told she gonna stay there for a while, and we might shop later on (participant's essay).

Second, capitalization is the second problem in students' essays. For example, subject "I" is replaced to "i". Third, problem of punctuation is the third category that participants had among essays. For example, students use "!!!!!" to end their writings. This expression is a common language use in CMC, but it is not accepted in students' writing. Among essays, there were ten IM punctuations used in IM mostly shown on students' writing. These features are use of multiple exclamations (!!!!!!!!!!!!!) and multiple period (...../....../...). These online linguistic features in school writings could be driven from literacy practices online.

RQ2. What identities are being enacted or practiced through the repertoire of literacy features?

In order to understand the complexity between multiliteracies and identities, participants were interviewed through IM. Online interview data showed that participants were aware of the various audiences they were addressing, various contexts they engaged in, and different levels of proficiency in English. Participants were aware of context where the language is used. Students also expressed that they were to adapt linguistic feature choices, subject matters, and styles depending on who they were interacting. The diversity of language use demonstrates their alignments. The study found that these EFL learners enacted different identities in the CMC contexts. The following codes are from discourse analysis that demonstrates different identities in terms of language use in English. Based on these identities, participants employed different opportunities to practice English.

Positioning – expert use of English

Students used English when they were aware of *being an expert of English*. Online interview data showed students used English when they stated they are good at English. For example, one of my participants, Lily (pseudonym) mentioned that she always earned a good grade

in English class compared to other subjects; therefore, she felt very confident to use English in her life. When she used English in chatting, she earned some comments, such as “why do you chat in English? Your English is good”. The role of being an expert promoted the frequent use of English in her life. Therefore, the positive identity makes her practice more.

Relational identity

In addition, online language was also used for showing in-group identity. These participants were able to distinguish interlocutors and context. Therefore, they adapted the use of language because their peers were also using online linguistic features. They tend to copy each other's language use, including icons exchanging online. For example, Ivy (pseudonym) had to write in a similar way like her peers. In Ivy's buddy list, she mentioned that most of her friends would chat mostly in Chinese and some mixture of English use. Her friends would stop chatting with her if she typed all English. The, Ivy switched to chat in Chinese; otherwise, her friends might feel embarrassed to chat with her. In addition, one of Ivy's friends used English dominantly when chatting with her every time. Ivy stated that she had to sound right in writing like interlocutors. Ivy usually did not use English mostly in her **IM** chatting; however, she tends to type English in order to accommodate her friends in her buddy list.

English as marker for generation identity

Participants utilized **IM** for different functions with different people. All participants mixed English, Chinese, and other dialects (Taiwanese-accented spelling). Participants also chatted with their parents; however, they only typed Chinese with their parents. During the interviews, participants mentioned using English is a marker to demonstrate they are “the young generation”. Participants were not willing to use English to older generation because they have made assumptions for older people who did not understand English.

Conclusions

Participants' deliberate practice that results in unconventional orthography is the textual representation of auditory information such as abbreviations, laughter, and other non-language sounds (Hihihihhi, hehe). These linguistic features are to economize the typing speeding and adapt to the person they are chatting. Identities were shifted depending on interlocutors, contexts, and language proficiency. In addition, participants also were able to distinguish academic genre and online genre. Participants explicitly expressed that they did not **IM** features at school because it is not required by the teacher and curriculum.

When examining the relationship between computer-mediated literacy practice and school formal writing, it was only very small percent using of online genre, such as capitalization and punctuation that contains emotional expression in students' writing. This finding cannot conclude that students' writing is poor because of these features. These communicative strategies do not reflect students' impoverished or simplified communication; significantly, these linguistic varieties are influenced by some features of orality. Especially, participants realized it is not accepted at school. This section requires more follow-up interviews and future observation, which is not included in this current study.

Implications

The study has found identities and multimodal literacy practices are central to literacy practices. These variables affect school literacy practices, too. For pedagogical implication, the study provides teachers and educators of how to deal with these new registers. For example, teaching linguistic registers, and reminding how language could be used in different contexts should be part of lesson. In addition, teachers should encourage students who engage in different literacy practices in a context they are familiar with. For example, teacher can ask student to keep an online journal in their blogs by incorporating topics they will write in class.

Regarding to identity and language use, students have experienced different identities when using different languages. For example, students created an English conversation context in **IM** to practice English because they think they are an expert of an English learner. Thus, students should be encouraged to use language by recognizing their identities. Furthermore, the use of **CMC** tool can be supplementary in learning. Hagood (2002) claims that students' literacy resources related to popular culture are invisible to or avoided by teachers and disconnected from the curriculum. Therefore, the study provides future researchers and educators to incorporate and validate students' favorite sites for literacy practice and learning. Lastly, students' identities should be recognized and encouraged to demonstrate their confidence in using language. The more chance they practice language, the more familiar they can use language appropriately.

References

- Bampton, R., & Cowton, C. (2002). The e-interview. *Forum. Qualitative Social Research*, 3(2).
- Baron, N. (2005, July 1). Instant messaging and the future of language. Retrieved July, 20, 2010, from <http://cacm.acm.org/magazines/2005/7/6185-instant-messaging-and-the-future-of-language/pdf>
- Baron, N. (2004). See you online: Gender issues in college student use of instant messaging. *Journal of Language and Social Psychology* 23: 397–423.
- Black, R. W. (2005). Access and affiliation: The literacy and composition practices of English-language learners in an online fanfiction community. *Journal of Adolescent and Adult Literacy*, 49(2), 118–128.
- Black, R. W. (2006). Language, culture, and identity in online fanfiction. *E-learning*, 3(2), 170–184.
- Black, R. W. (2007). Digital design: English language learners and reader reviews in online fiction. In M. Knobel & C. Lankshear (Eds.), *A new literacies sampler* (pp. 116–136). New York: Peter Lang
- Bloch, J. (2004). Second language cyber rhetoric: A study of Chinese L2 writers in an online usenet group. *Language Learning & Technology*, 8(3), 66–82.
- Bowe, F. G. (2002). Deaf and hard of hearing Americans' instant messaging and e-mail use: A national survey. *American Annals of the Deaf*, 147(4), 6–10.
- Chaney, M., & Dew, B. (2003). Online experiences of sexually compulsive men who have sex with men. *Sex Addiction and Compulsivity*, 10, 259–294.
- Craig, D. (2003). Instant Messaging: The language of youth literacy. *The Boothe Prize Essays*, 116–133.

- Crystal, D. (2001). *Language and the Internet*. Cambridge, England: Cambridge University Press. (Confirmed)
- Darhower, M. (2002). Interactional features of synchronous computer-mediated communication in the intermediated L2 class: A sociocultural case study. *CALICO Journal*, 19(2), 249–277.
- Derks, D., Bos, A. E. R., & von Grumbkow, J. (2007). Emoticons and social interaction on the Internet: The importance of social context. *Computers in Human Behavior*, 23, 842–849.
- Derks, D., Bos, E. R. A., & Grumbkow, v. J. (2008). Emoticons and online message interpretation. *Social Science Computer Review*, 26(3), 379–388.
- Extejt, M. (1998). Teaching students to correspond effectively electronically. *Business Communication Quarterly*, 61(2), 57–67.
- Ferrara, K., Brunner, H., & Whittemore, G. (1991). Interactive written discourse as an emergent register. *Written Communication*, 8, 8–34.
- Gee, J. P. (2001). *Sociolinguistics and literacies: Ideology in discourses* (2nd ed.). London: Taylor and Francis.
- Glaser, G. B., & Strauss, L. A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Transaction
- Grinter, E. R., & Palen, L. (2002). Instant messaging in teen life. *CSCW*, 21–30.
- Grinter, R. E., & Eldridge, M. (2003). Wan2tlk?: Everyday text messaging Proceedings of CHI 2003: New Horizons Paper: Design for the Socially Mobile, Ft. Lauderdale, FL, pp.441–448.
- Herring, S. C. (2004). Computer-mediated discourse analysis: An approach to researching online behavior. In S. A. Barab, R. Kling & J. H. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 338–376). New York: Cambridge University Press.
- Insight Xplorer. (2005).即時通訊江湖混戰篇 (i.e. The mixed use of instant messaging), Retrieved March 10, 2009, from http://www.insightxplorer.com/specialtopic/kuso_0223_05.html
- Insight Xplorer Ltd. (2006). IM 普及率破九成 (i.e. The rate of penetration of IM break through 90%), Retrieved March 12, 2009, from http://www.insightxplorer.com/news/news_03_24_06.html.
- Koutsogiannis, D., & Mitsikopoulou, B. (2004). The Internet as a global discourse environment: A commentary on Lam and Bloch. *Language Learning & Technology*, 8(3), 83–89.
- Kutz, D. O., and Herring, S. C. (2005). Micro-longitudinal analysis of Web news updates. Proceedings of the *Thirty-Eighth Hawai'i International Conference on System Sciences (HICSS-38)*. Los Alamitos: IEEE Press. (HICSS Best Paper award.) Retrieved July, 20, 2010, from, <http://ella.slis.indiana.edu/~herring/news.pdf>
- Lam, W.-S. E. (2000). L2 literacy and the design of the self: A case study of a teenager writing on the Internet. *TESOL Quarterly*, 34(3), 457–482.
- Lam, W.-S. E. (2004). Second language socialization in a bilingual chatroom: Global and local considerations. *Language Learning & Technology*, 8(3), 44–65.
- Lam, W.-S. E. (2006). Re-envisioning language, literacy, and the immigrant subject in new mediascapes. *Pedagogies*, 1(3), 171–195.
- Larson, J., & Marsh, J. (2005). *Making literacy real: Theories and practices for learning and teaching*. London, Thousand Oaks, CA: SAGE.

- Lave, J., & Wenger, E. (1991). *Situated learning legitimate peripheral participation*. Cambridge: Cambridge University Press
- Lee, J. (2002, September 19). I Think, Therefore **IM**. New York Times, p.G.1.
- Lenhart, A., Rainie, L., & Lewis, O. (2001, June 21). Teenage life online: The rise of the instant-message generation and the internet's impact on friendships and family relationships. *Pew Internet & American Life Project*. Retrieved July, 20, 2010, from <http://www.pewinternet.org/Reports/2001/Teenage-Life-Online.aspx>
- Luke, A. (1994). *The social construction of literacy in the primary school*. Melbourne: Macmillan Education Australia
- Merriam, S. B. (1998). *Case study research in education: A qualitative approach*. San Francisco, CA: Jossey-Bass.
- Microsoft Taiwan Corporation. (2006). 台灣MSN人口突破750萬人(The user of MSN is over 7,500,000 in Taiwan) [Electronic Version] from <http://tw.myblog.yahoo.com/jw!BIDBhASUBR9Q2O.ouT7oiQ/article?mid=19084&next=17771&l=f&fid=63>.
- Ministry of Education, Taiwan. (2002). *The English curriculum*. Taipei, Taiwan.
- Moran, C., & Hawisher, E. (1998). The rhetoric and language of electronic mail. In I. Snyder (Ed.), *Page to screen* (pp. 80–102). New York: Routledge.
- Murray, D. E. (1991). The composing process for computer conversation. *Written Communication*, 8(1), 35–55.
- New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–92.
- New London Group. (2000). A pedagogy of multiliteracies. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social future* (pp. 9–37). London: Routledge.
- NUA Internet Surveys. (2001). *Net Value: IM grows in popularity in Asia*. Retrieved, July, 20, 2010, from www.nualcomr/sirvqslin dex.cgi?f=VS&arr id=905357066&re=true
- NUA Internet Surveys. (2002). *Nielsen NetRatings: IM programs draw US kids and teens online*. Retrieved, July, 20, 2010, from [Nvww.nma.com/sutveys/index.cgi?f=VS&arr id=905358261&rel=true](http://www.nma.com/sutveys/index.cgi?f=VS&arr id=905358261&rel=true)
- Pew Internet & American Life Project. (2004). How Americans use Instant Messaging. Retrieved July 5, 2010, from <http://www.pewinternet.org/Reports/2004/How-Americans-Use-Instant-Messaging.aspx?r=1>
- Plester, B., Wood, C., & Bell, V. (2008). Txt msg n school literacy: does texting and knowledge of text abbreviations adversely affect children's literacy attainment? *Literacy*, 42(3), 137–144.
- Power, M. R., & Power, D. (2004). Everyone here speaks **TEXT**: Deaf people using **SMS** in Australia and the rest of the world. *Journal of Deaf Studies and Deaf Education*, 9(3), 333–343.
- Street, B. (Ed.). (1993). *Cross-cultural approaches to literacy*. London: Cambridge University Press.
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press
- Tagliamonte, A. S., & Denis, D. (2008). Linguistic ruin? **LOL!** Instant messaging and teen language. *American Speech*, 83(1), 3–34.
- Warner, C. N. (2004). It's just a game right? Types of play in foreign language **CMC**. *Language Learning & Technology*, 8(2), 69–87.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

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