



# Application of computer-mediated communication on teacher efficacy during school-based field experience



En-Chong Liaw<sup>1</sup>

Department of Applied Linguistics and Language Studies, Chung Yuan Christian University, 200, Chung Pei Rd., Chung Li, 32023, Taiwan, ROC

## HIGHLIGHTS

- Asynchronous computer-mediated communication (ACMC) was studied for the influence on teacher efficacy during a practicum.
- The involvement of mentors and experienced teachers is critical in ACMC environment.
- Student teachers' experiences and purposes of using ACMA are important to enhance teacher efficacy.
- The concept of "Digital Natives" should be applied with more cautions.

## ARTICLE INFO

### Article history:

Received 5 September 2016

Received in revised form

20 February 2017

Accepted 1 March 2017

### Keywords:

Teacher training

Student teacher

Teacher efficacy

Cyberspace community

Computer-assisted learning

## ABSTRACT

Students in teacher training programs are familiar with the use of e-mail, blogs, and instant messaging. However, few studies have investigated the use of technology in field-related experience in teacher training program. We investigated whether asynchronous computer-mediated communication (ACMC) influences teacher efficacy during a practicum. The results indicated that such device was not as effective in enhancing teacher efficacy as many studies had hypothesized. This study revealed the importance of mentors and experienced teachers when adopting ACMC devices and suggested caution and evaluation regarding aspects such as learners' experience and the purpose of using the device as a learning tool.

© 2017 Elsevier Ltd. All rights reserved.

## 1. Introduction

Integrating computer-mediated communication (CMC) into teacher training programs has become a trend in the era of technology. The popularity and necessity of technology result from both the development of computers and the characteristics of students in teacher training programs. Students in teacher training programs are raised in an environment mediated by television and electronic devices and are highly familiar with, or even addicted to, the use of CMC, such as email, blogs, and instant messaging. They are often described as "Digital Natives" (Prensky, 2001), the "net generation" (Tapscott, 2009), or millennials (Oblinger & Oblinger, 2005) who participate fluidly in online, interactive digital environments and virtual spaces (Jacobson & Lock, 2004). In addition, students of this

generation tend to be social and prefer interactive communication as a mode of learning (So, Choi, Lim, & Xiong, 2012). To effectively train students with such characteristics, various software and web-based activities have been added to training programs and many studies have examined the implications of these activities.

A literature review suggested that most studies have examined the effectiveness of information technology adopted in course works, whereas some studies have investigated teachers' perceptions of such design (Jacobson & Lock, 2004; Schneider, 2009; Yamat, 2013). However, few studies have explored the use of technology in field-related experience (Parks, 2010). For example, Kay (2006) reviewed studies and evaluated strategies used to incorporate technology into preservice education and identified ten major strategies and their purposes. This review also suggested that an insufficient number of studies had focused on the use of technology during the practicum period. However, for student teachers, practicum teaching is considered as the most crucial part in the process of learning to teach because here is where they are

E-mail addresses: [liawec@cycu.edu.tw](mailto:liawec@cycu.edu.tw), [kate122574@hotmail.com](mailto:kate122574@hotmail.com).

<sup>1</sup> Liaw En-Chong research interest is in teaching and learning self-efficacy, especially in the area of educational technology.

subjected to challenges and difficulties for which they cannot find answers in theory courses. In addition, their beliefs as teachers are also challenged and modified during this period; they are at their most vulnerable and require assistance. Consequently, the practicum is vital for its relationship with many aspects of teacher development, including teacher efficacy and teacher beliefs, and more studies should thusly consider if and how CMC can benefit student teachers.

To respond to the aforementioned research gap, this study adopted asynchronous computer-mediated communication (ACMC) in a teacher training program in Taiwan during its practicum session, as a platform for discussion and sharing. We determined whether ACMC influences teacher efficacy when student teachers perform practicum teaching. This study contributes to the field of teacher preparation by being one of the few to investigate the effectiveness of ACMC in relation to the efficacy of student teachers during the practicum period.

## 2. Literature review

Our review of the literature focused on the three main areas: Digital Natives, ACMC in teacher training, and teacher efficacy. An overall picture of the usage of ACMC by student teachers, born in the era of Digital Natives, in teacher training programs subsequently emerged. Moreover, the review also discussed the challenge of teacher efficacy on student teachers and identified the gap that the current study attempted to fill in. Although located in an Asian context specifically, the present study addressed issues about the implementation of technology and teacher efficacy that are widely discussed among international communities. Therefore, the literature reviewed here examines studies that have been conducted in various countries since 2000.

### 2.1. The new generation of students

#### 2.1.1. Definition and characteristics of digital natives

The term “Digital Natives” has invited attention and scholarly discussion since Prensky (2001) coined it and illustrated the changing behaviors that have resulted from being familiar with and heavily reliant on information and communication technology (ICT), common among the generation born roughly between 1980 and 1994. This generation was born in a technology-rich environment; they are accustomed to Web 2.0 tools and the immense popularity of the Internet, and engage in numerous social network activities, such as instant messaging on mobile phones. Scholars have noted that this generation behaves differently from older generations. For example, in discussing the influence of digital technology on the success of learners in tertiary education, Doiron and Asselin (2011) described this generation of learners as action-oriented and multitasking problem solvers who view digital technology as the primary tool for engaging the world. Such users enjoy quickly sharing their interests and preferences with the public in creative ways, and their natural learning mode is multitasking, multimodal and multiresourcing; in short, they know how to make good use of the media-rich environment and handle several tasks at the same time. They also download and share images, audio, and video from and on social networking sites (Jones, Ramanau, Cross, & Healing, 2010). These habits have made this generation the creators of content and it is suggested that they could naturally transfer such skills and preferences from personal use to educational use (Doiron & Asselin, 2011). Consequently, schools and educators are urged to adjust the learning environment and facilitate accessible learning that satisfies the needs of this technology-savvy

generation. However, several studies have offered varying results that run counter to many of the assumptions that underpin the characteristics of this new generation.

#### 2.1.2. Contradicting the assumptions about digital natives

Limited research has examined the concept of digital nativism in the context of university learning and teacher training. Nevertheless, some of these studies have provided interesting and thought-provoking results. For example, Jones et al. (2010) surveyed first-year university students about the proposed ideas of the term “Digital Natives,” and concluded with criticism on the simplicity of the age-related definition of this term. Students in their study were found to be diverse in their use and appreciation of new technology and “... the relationships between social and educational uses of some of the more established technologies (e.g., email) were not as strong” (Jones et al., 2010, p. 729). Overall, this generation was not found to be as homogenous as previously suggested. For example, some of the students in this study used very little email, or used the Internet to download or upload content instead of establishing a personal connection.

Referring to a nationally representative survey in the United Kingdom, Helsper and Eynon (2010) asserted that factors such as breadth of use, experience, gender, and educational level are also indicators of Digital Natives. They argued that young people who had grown up with technology are also familiar with online-related activities, and would naturally acquire the experience of using technology because of years of exposure to the Internet and other technologies. However, such criteria could also be applied to anyone who spends a substantial amount of time on the Internet and engages in online activities. They also pointed out the importance of the amount of exposure (i.e., the experience or expertise with new technologies) when defining “Digital Natives.” In short, anyone who had obtained a considerable amount of exposure, experience, or expertise with new technologies could also be called a “Digital Native.”

Currently, many student teachers enrolled in teacher training programs are Digital Natives or part of the net generation. They are believed to naturally integrate Web 2.0 tools (e.g., Google, online videos, instant messaging) into their learning and classroom teaching because of the online activities they are heavily involved in on a daily basis. A survey of student teachers' use of Web 2.0 tools and their creation of online content for both personal and educational purposes indicated “... their negligible use of those technologies in their academic work” (Kumar & Vigil, 2011, p. 148). Online discussion forums were the only online tool used extensively in their coursework; moreover, although they applied their knowledge of various technologies to assignments and group work, those activities were not instructor-directed. The results of this study illustrated the weak connection between the student teachers' knowledge of and experience with technologies and their willingness to integrate such knowledge and experience into their teaching and learning.

A similarly reserved attitude toward using technology was also observed in Lei's (2009) study, which investigated the beliefs, attitudes, and technology experiences and expertise of freshmen in a teacher training program. Notably, the results of this study revealed that limited online time was afforded for learning-related activities, as well as a lack of experience and expertise in using Web 2.0 technologies for classroom application among the student teachers. Lei (2009) thus urged for more comprehensive examination on the concept of digital nativism in student teachers, and concluded “... having been born in the digital age does not necessarily mean that they are natural digital natives[sic]” (p. 93).

Download English Version:

<https://daneshyari.com/en/article/4941540>

Download Persian Version:

<https://daneshyari.com/article/4941540>

[Daneshyari.com](https://daneshyari.com)