



# Applying Technological Pedagogical and Content Knowledge (TPACK) model to develop an online English writing course for nursing students



Hung-Cheng Tai<sup>a</sup>, Mei-Yu Pan<sup>b</sup>, Bih-O Lee<sup>b,\*</sup>

<sup>a</sup> Department of General Education, Chang Gung University of Science and Technology, Chia-Yi Campus, Taiwan

<sup>b</sup> Department of Nursing, Chang Gung University of Science and Technology, Chia-Yi Campus, Taiwan

## ARTICLE INFO

### Article history:

Accepted 18 February 2015

### Keywords:

TPACK model  
Writing learning  
Nursing students  
Nursing education

## SUMMARY

**Background:** Learning English as foreign language and computer technology are two crucial skills for nursing students not only for the use in the medical institutions but also for the communication needs following the trend of globalization. Among language skills, writing has long been ignored in the curriculums although it is a core element of language learning.

**Objectives:** To apply the TPACK (Technological Pedagogical and Content Knowledge) model to design an online English writing course for nursing students, and to explore the effects of the course to the students' learning progress as well as their satisfactions and perceptions.

**Research Methods:** A single-group experimental study, utilizing the CEEC (College Entrance Examination Center) writing grading criteria and a self-designed course satisfaction questionnaire, is used. Fifty one nursing students who were in their first/four semesters of the two year vocational pre-registration nursing course in a Taiwan university were selected using convenience sampling.

**Data Analysis Methods:** Quantitative data were analyzed using descriptive statistics and repeated measure MANOVA. Qualitative data were analyzed by content analysis.

**Results:** Students' writing competence had been improved significantly in every dimension after the instruction. Only half of the learners preferred online writing compared to the traditional way of writing by hand. Additionally, participants reported that they would prefer to receive feedback from the teacher than peers, yet they did not like the indirect feedback. The teacher perceived the course as meaningful but demanding for both learning and teaching sides. To implement the peer review activities and give feedback on time were two major challenges during the cycles.

**Conclusions:** The TPACK model suggests a comprehensive and effective teaching approach that can help enhance nursing students' English writing performance. Teachers are advised to consider its implementation when designing their syllabus.

© 2015 Elsevier Ltd. All rights reserved.

## Introduction

Following the trend of globalization and the advancement of information and communication technology (ICT), English as foreign language (EFL) and ICT competence have become two necessary skills in the clinical settings for the nursing students as well as practitioners. They have been emerging as two prominent issues in the education field for decades. However, EFL and ICT seem yet to be well discussed in the nursing education individually, not to mention the combination of the two skills. There is a growing recognition at tertiary level in Taiwan that improving university learners' EFL abilities is essential.

License obtained from the General English Proficiency Test (GEPT), a popular local language test based on pass or fail criterion, has been commonly required as graduation threshold since 2005. The GEPT assesses whether examinees' four language skills – listening, reading, speaking, and writing – achieve the standard. This GEPT policy has become core educational goal leading to the design of school curricula and has guided EFL instructions.

Technology is gradually becoming ubiquitous in education, and there is increasing evidence that technology, when properly infused and integrated into teaching and learning, has a significant positive effect on student's learning (Schrum et al., 2007). In the research context, ICT seems to be able to provide a cyber space to conduct alternative writing instructions overcoming the restrictions of curriculum, syllabus, session times, and classroom interactions. While before applying technologies, quite a few stumbling blocks may be encountered to the use and integration. One difficulty is the lack of both technological and pedagogical training for teachers and faculty (Bennett, 2004; Ertmer,

\* Corresponding author at: Department of Nursing, Chang Gung University of Science and Technology, Chia-Yi Campus, No2, Chia-Pu Road, West Sec., Putz, Chia-Yi County 61363, Taiwan. Tel.: + 886 05 3628800x2503; fax: + 886 06 2568641.

E-mail addresses: [alex tai@gw.cgust.edu.tw](mailto:alex tai@gw.cgust.edu.tw) (H.-C. Tai), [pmeiyu@gw.cgust.edu.tw](mailto:pmeiyu@gw.cgust.edu.tw) (M.-Y. Pan), [bih-olee@gw.cgust.edu.tw](mailto:bih-olee@gw.cgust.edu.tw) (B.-O. Lee).

2003). Research has shown that college teachers tend to be well-equipped with respect to content knowledge in their specific disciplinary areas, but often lack pedagogical skills and thus do not teach effectively (Clarke and Hollingsworth, 2002; Jang and Chen, 2010). Although it seems all of the resources are already available there, however, language teachers may still feel confused and frustrated about how to integrate and/or coordinate these elements. There has been growing interest in the design and implementation of teacher and faculty professional development theories or methods with which to assist teachers to advance in their teaching practice and to improve student learning (Garcia and Roblin, 2008).

## Background

Nursing students currently in the vocational system in Taiwan receive five-year nursing training in college after graduating from junior high school (grade 9), and then pursue two-year advanced learning in a nursing university. In general, even those in top universities such as in this research context, do not learn English language as intensive as those studied in the senior high school and academic oriented universities. Although nursing students have studied the English language for at least 8 years before entering university (3 years in junior high schools (4–5 h/week) and 5 years during nursing training (2–3 h/week)), many have never learned English composition as there was no such class embedded in their official curriculums. The students can thus be seen as novice writers prior to the commencement of writing instruction. In the clinical settings, English language is a major communication medium between professionals from medical recorders, doctor's orders, to nursing notes. EFL writing, an ultimate output technique requiring comprehensive instructions and competence, is crucial in healthcare professions. Given the importance of EFL writing skills, it has long been ignored in the vocational system of nursing education – neither required in the curriculum nor provided enough lecture times to teach and learn.

## Literature Review

A comprehensive instruction framework, TPACK model proposed recently by the educational researchers, may offer a promising perspective for technology facilitated learning. In contrast to the merely instrumental view and technological skill acquisition on the learner's end, the current issue of technology (T) in teaching and learning emphasizes the connections and interactions between and among content knowledge (CK) (Mishra and Koehler, 2006). Yet this TCK alone was criticized for its weakness in the inability of adequately addressing the consideration of professional development of college faculty with respect to teaching. Rather, a newly revised theoretical framework – technological pedagogical content knowledge (TPCK) (Koehler and Mishra, 2008) – was renamed as TPACK for the sake of easy remembering. It designates an integrated description for three kinds of knowledge: technology, pedagogy, and content, and is expected to be able to accommodate the educational requisition in the digital age (Thompson and Mishra, 2007).

While the first generation TPACK work focused upon defining and conceptualizing the constructs of TPACK, more recent work has concentrated on using the construct in both research and development projects. The latest research and development projects have been directed toward measuring the level of teacher self-assessed TPACK (Archambault and Crippen, 2009; M. Lee and Tsai, 2010; Schmidt et al., 2009), revealing the processes and interactions related to technology-based teaching. More research in different subjects are also progressing, for example, pre-service Science teachers' training (Jang and Chen, 2010), Environmental Chemistry learning (Çalik et al., 2014), Physics subject (Chang et al., 2014), Mathematics and Science teaching (Syh-Jong Jang and Tsai, 2012), and Geography course (Doering et al., 2014), etc.; and most results recognized the significance of this model.

However, though the TPACK application is increasingly drawing attention from educational researchers, it seems that it has been discussed neither in the field of healthcare professional education nor in the EFL writing training. In this study, the framework was utilized, specifically addressed TPACK development venue situated within a university environment, along with the implementation of a writing skill training program. The TPACK model was applied to design an online collaborative writing training course for nursing students needing to learn English writing skills in a nursing university in southern Taiwan.

## The Study

### Objectives

Three aims of this study are: (1) to assess the effectiveness of the TPACK model based writing training program contributing to learners' learning outcome; (2) to investigate the learners' perceptions and satisfactions about the TPACK model based writing training program; and (3) to explore the teacher's reflections about the TPACK model based writing training program.

### Design

This is a single-group experimental study, utilizing the National College Entrance Examination Center (CEEC) writing grading criteria and a self-designed course satisfaction questionnaire. This study included quantitative and qualitative data; qualitative data was collected at the end of the course.

### Participants

Fifty one nursing students, studied in a conveniently selected English language classroom, and the EFL teacher (also the researcher) participated in this research voluntarily. After understanding the procedures, agreeing to participate, and signing consent forms, students were randomly assigned into 14 groups consisted of 3 to 4 members each for the sake of conducting peer review activities at the beginning of the sessions. This was their first academic semester of total two year (four semesters) college studies. Since a 5-year nursing diploma, their previous studies, supplied merely 2 hour EFL lectures per week (22 credits in 5 years) (NTIN, 2014), they had limited learning experiences in English; and mostly focused on reading skill, which was neither complete nor sufficient for acquiring a foreign language.

Participants had restricted EFL competence and lower level of confidence. They were all aware that EFL is an essential knowledge both for their careers and for future development, thus they had quite strong learning motivation intrinsically and extrinsically. Nevertheless, they felt anxious about learning EFL and writing skills.

### The Intervention

Table 1 summarizes the model dimension, objectives, teaching strategy, and content of the TPACK model writing course. An online writing teaching and learning platform, "E-campus" ([http://ecampus.\\*\\*\\*.edu.tw/eCampus3P/Learn/Default.aspx](http://ecampus.***.edu.tw/eCampus3P/Learn/Default.aspx)) maintained by the university, was designed to record the writing process into more details (see Fig. 1). The learning interaction section, the main zone used in the E-campus, contains functions including course/syllabus announcement, teaching and learning materials, writing works submission, and teacher/peer review feedbacks.

Five writing topics were practiced: of the first one (Brian's home) is a descriptive style using present tense; the second (Lost wallet) and the third (Next door uncle) apply narrative type using past tense and present tense respectively; the fourth (The tortoise and the hare) exercises story telling with either present or past tense; and the fifth

Download English Version:

<https://daneshyari.com/en/article/367917>

Download Persian Version:

<https://daneshyari.com/article/367917>

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