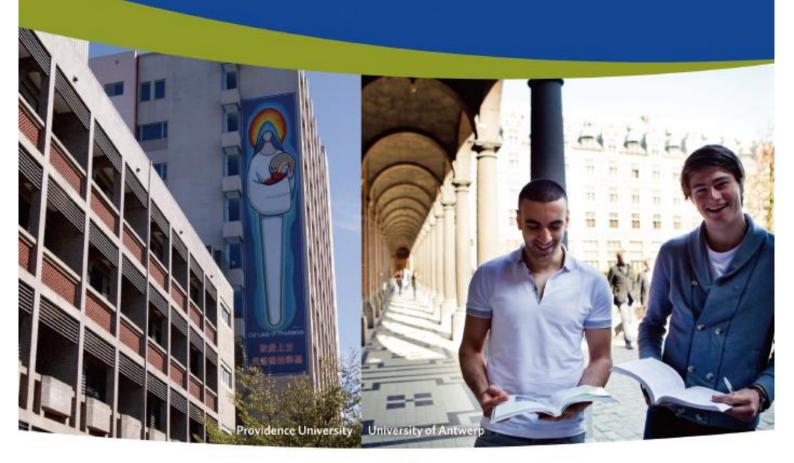
# The Medium Matters

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Integrating Multimedia ESP Courseware into Task-Based Learning: a Case Study in a Context of Preparing for a Design Competition

## Bio data

(Shu-Chiao Tsai) I received the PhD degree in material sciences from Paris-Sud (XI) University in 1996. After having worked in an optoelectronics company as marketing and technical administrator for several years, I'm currently an associate professor with the Department of Applied Foreign Languages at National Kaohsiung University of Applied Sciences, Taiwan. For the past few years, I have focused on the development of technical and commercial ESP (English for Specific Purposes) courseware and its application in classroom to help university students and adult learners augment language skills and knowledge applicable to the job market in Taiwan.

(Wan-Tsai kung) After receiving my master's degree in Teaching English as a Second Language (TESOL) in U.S.A, I taught various English courses at some universities in Taiwan for three years. In 2009, I received my doctoral degree in Curriculum and Instruction from the Department of Teaching, Learning and Culture at Texas A&M University in the United States. Currently, I am an assistant professor in the Department of Foreign Language Instruction at Wenzao Ursuline College of Languages in Taiwan. In my academic career, I have been doing research on Computer-assisted Language Learning (CALL), pragmatics, and English for Specific Purposes (ESP).

(Ti-Wan kung) In 1997, I received my master's degree in Art in U.S.A. After 3 years' experience as a graphic designer in LA, I came back to Taiwan and began my teaching career as a lecturer at the Department of Visual Communication Design in Shu-Te University. I have been working on the field of multimedia design and film-making for a number of years and doing projects about eBooks and ESP courseware design for educational purposes.

#### Abstract

The study reports on developing multimedia courseware in English for specific purposes (ESP) about preparing for design forums. The courseware was integrated into a two-hour elective course, "English for Design," for students in the Department of Visual Communication Design in Taiwan for ten weeks. Evaluation is based upon data from two types of pre- and post-tests including cloze and dictation. A teacher-centered face-to-face (F2F) instruction on the same topic was conducted as a control group. The courseware, based on Mayer's multimedia learning cognitive theory, provided subject content for learning the target ESP in situational settings and offered learning activities with corresponding instant self-evaluation, so that students were actively engaged in the cognitive processes based on individual need. The results show that students' learning effectiveness was significantly improved, and they reported satisfaction with their self-

study under courseware-integrated instruction. Meanwhile, students using the courseware-integrated approach made as much progress as those under the F2F instruction, suggesting well-structured courseware can play the role of an adjunct teacher, peer, and facilitator through which students were able to learn content knowledge and practice language skills. The reading strategies that students used more frequently were compensation and cognitive, but social-affective strategies were least frequently employed.

## Keywords

computer-assisted language learning, interactive learning environments; improving classroom teaching; courseware integration into instruction

## Short paper

#### Introduction

The creative industries have become increasingly important and now make a significant contribution to the global economy. To meet industrial development needs within the industries, many programs in higher education including visual communication design (VCD) have been established in Taiwan over the past decade to cultivate high quality design manpower with professional knowledge as well as English communication skills. Such dual foci have caused ESP instruction in the VCD programs to be increasingly emphasized at technical universities in Taiwan.

There have been few practical courses in college programs which allowed students to learn how to prepare for international competition where students have more opportunities both to broaden their global horizons and make themselves noticeable on the international stage. This study focuses on information and telecommunication technology (ICT) instruction about preparing students for an international design competition.

## Methodology

Participants were 60 junior VCD students, who enrolled in an elective course, "Design English" for in a technical university in Taiwan, and the course was offered two hours per week for ten weeks. Participants were divided into two groups. The first group 33 received courseware-integrated instruction through interacting with ESP courseware (ICT group), and the second (27 students) received face-to-face instruction (F2F group). For the ICT group, the teacher only played the role of supervising and observing students' behaviours and learning and encouraging students' self-studying the courseware. For the F2F group, the same learning content was used, and the teacher led students to study the target content, explained the sentence structures and provided Chinese translations.

The courseware design was based on Mayer's multimedia learning cognitive theory (Mayer, 2005), and Chapelle's criteria for development of multimedia Computer-assisted Language Learning (CALL) was adopted as the language learning focus (Chapelle, 1998). The courseware content provides students with requirements and preparation process necessary for participating in a competition by including authentic texts with English audio and Chinese translation support, practices of language skills, and related on-line tests with instant self-checking.

Evaluation was based upon data from two types (cloze and dictation) of the pre- and post-tests. In addition, students' learning satisfaction (Tsai, 2010; 2011) and reading strategies (Oxford, 1990) toward such courseware-integrated ESP instruction were also elicited by a questionnaire survey using a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). There were 33 and 27 junior VCD students receiving the ICT and F2F groups respectively. Before the course, students completed an on-line

simulated TOEIC test to provide a baseline for English proficiency. Student means of the TOEIC test for the ICT and F2F groups were, respectively, 357.6 and 358.9. An independent samples t-test showed that no significant difference was found in the TOEIC test between students in both groups, indicating that their English proficiency determined by the simulated TOEIC test was equivalent.

## Results and Discussion

After ten-weeks, SPSS analysis of scores showed that students in both groups made significant improvement in the post-doze and post-dictation tests, and no significant difference was found between ICT and F2F students in the pre- and post-tests of cloze and dictation, suggesting that students using courseware-integrated ESP instruction made as much progress as those receiving the F2F instruction. A Pearson correlation analysis indicated that there was a significantly positive correlation between students' English proficiency and their performance in the pre- and post- tests of cloze and dictation.

In addition, the overall mean of the satisfaction questionnaire (reliable  $\alpha$  value =.929) for ICT students was 3.60, indicating that most ICT students had a positive attitude to the courseware-integrated ESP instruction. Among 15 questions in the questionnaire, QF1 (subject knowledge, M=3.69), QF2 (vocabulary, M=3.69), QF7 (translation, M=3.73), QF11 (bilingual and multimedia design, M=3.73), QF13 (navigation, M=3.77), QF14 (satisfaction with courseware integration into instruction, M=3.65) and QF15 (recommendation, M=3.69) had higher scores than the overall mean. These results revealed that (1) students perceived their improvement or satisfaction in the items mentioned above; (2) the original design of the courseware, which focused on creating a user-friendly learning environment to promote students' motivation, was confirmed; (3) higher satisfaction and better performance in the post-tests caused students to be willing to recommend this courseware to peers.

The mean of the overall strategy for ICT students was 3.39, meaning that students used reading strategies in a moderate degree. The reading strategies that students used more frequently were compensation (M=3.86), cognitive (M=3.50) and memory type (M=3.43), but social-affective strategies (M=3.05) were least frequently employed. These results corresponded to previous studies in the literature that in general, for EFL students in Taiwan, cognitive and compensation strategies were most-commonly used, and social-affective strategies were least-frequently used. In addition, higher use of memory strategies was found in this study, probably due to the fact that students' memory ability was required to complete the cloze and dictation tests assigned in this study. The least-frequent use of social-affective strategies may be due to the cultural factor: Chinese learners apparently employ fewer social acts or learning behaviours such as asking for help.

#### Conclusion

Based on feedback and experiences in this study, courseware-integrated ESP instruction did offer a potential solution to problems in the development of ESP courses by providing students with content knowledge and practices of integrative language skills.

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