

Association for Information Systems

**AIS Electronic Library (AISeL)**

---

ICEB 2014 Proceedings

International Conference on Electronic Business  
(ICEB)

---

Winter 12-8-2014

## **Improving Learning Outcomes with a T.A. Knowledge Sharing System**

Kuo-Fang Peng

Albert Huang

Follow this and additional works at: <https://aisel.aisnet.org/iceb2014>

---

This material is brought to you by the International Conference on Electronic Business (ICEB) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICEB 2014 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

## IMPROVING LEARNING OUTCOMES WITH A T.A. KNOWLEDGE SHARING SYSTEM

Kuo-Fang Peng, National Chin-Yi University of Technology, kfpeng@ncut.edu.tw

Albert Huang, University of the Pacific, ahuang@pacific.edu

### ABSTRACT

The higher education is facing many challenges today. These challenges are results of many reasons, such as rising costs, poor economic condition, limited government funding, increased student diversity, lowered student readiness, and technology advances.

One of the most significant challenges resulting from technology advances is the growing popularity and acceptance of online courses. Students often enroll in such courses for pragmatic reasons such as convenience, lower cost, and others. Although using different delivery methods, online courses are often treated the same as a traditional face-to-face courses taken in a classroom. They are accepted by colleges and counted toward degrees and graduation requirement. In many cases, they can be transferred just like a regular class as long as the courses are offered by accredited institutions. Despite the concerns about the quality and rigor of online courses, traditional institutions do not seem to have many options to fight against this trend. As a result, more traditional colleges and universities are increasing their online offerings so students won't have to take the courses from other institutions. Some universities use online courses as a way to save many and increase capacity. Other use it to increase tuition revenue. The question about whether to accept online courses or not is no longer relevant. Online courses have arrived. They will stay and prosper. The more important question for educators now is how to improve the quality and delivery of online course and how to compensate the deficiencies of online courses.

Online courses have many forms. They can be offered by traditional college professors. Most elements in such courses remain the same, except there is no classroom instruction. The instructors, typically professors, teach these class personally just like teaching a regular class. They design the curriculum, produce teaching materials, grade the assignments, and answer the questions themselves. The impact of such form of online courses are minimal. Typically, the enrollment (student count in a class) is similar to a traditional class. Quality of such online courses are viewed as more reliable, despite the lack of empirical evidence.

A second form of online courses, the MOOC, are significantly different. The majority of MOOC provides course materials, such as videos and slides, for self-study by the students. Such courses are massive because they can be enrolled with thousands of students. Practically, there is no limit on the enrollment, except server capacity. Due to the large number of enrollment, one-on-one interaction between students and the instructors are not possible. At the most, the questions are handled using frequently-asked-questions (FAQ) systems. There may be a self-administered online exam at the end for a certificate. There is no verification of student identity or proctoring to ensure the reliability of the test scores.

The third form of online course uses a hybrid structure. The professors design the curriculum and create the teaching materials. The interaction with students is handled by the teaching assistants. For example one TA can be assigned to every one-hundred students. The TA can handled questions, grade assignments, lead online group discussions, and take care of other contingencies. The number of teaching assistants can be increased to accommodate enrollment. The TA can summarize and report student questions and difficulties to the professors for responses, similar to the "escalation" process used in the information technology (IT) industry to handle technical problems reported by customers. From students' perspective, such online course format provide them high quality instruction by real professors, while individual needs are also fulfilled.

The key to implement such hybrid form of massive online courses is a large number of highly qualified TA. TAs have been an important component of college education for years. Well qualified TAs can facilitate a positive interactions between students and the professors. TAs can assist the professors not only in the design and implementation of the curriculum; they can also serve as a liaison between professors and the students to help obtaining valuable feedback for revising teaching approaches and raising learning outcomes.

Professors need to ensure TAs possess the required knowledge and skills to perform their jobs well. TAs need to be well informed with not only the technical knowledge regarding the course materials, but also soft skills to deal with students. However, the differences in lifestyles, knowledge, and responsibilities between TA and professors could be significant. The turn-over rate of TA are high. Professors often face with new TAs every semester. These and other issues prevent effective communication between TAs and professors and lead to TAs that are not adequately informed and skilled.

To address this issue, a university in Taiwan created a blog-based TA knowledge sharing platform. Blogs are an easy and popular information sharing platform. Any Internet user can create a blog to share information and interact with others with similar interest. Blogs can be used to build an intra-campus TA knowledge sharing system for experienced TA to sharing tips, observations, and reflections with other TAs, especially the new ones. TAs can also use the blog to exchange teaching aids and teaching materials. Such systems facilitate a knowledge-sharing atmosphere among TAs and help them improve skills.

A preliminary found that the knowledge sharing platform can affect the self-efficacy of TAs, in addition to facilitating knowledge sharing and distribution. The study also shows that TAs with high locus of control leads to high self-efficacy, but lower effect of the knowledge sharing platform. The implication is that TA's with high locus of control may not be benefited from the knowledge sharing system as much as the others.

*Keywords:* Teaching assistant (TA), knowledge sharing system, self-efficacy, IS success model, locus of control.