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Building academics' SoTL capacity through a course on blended learning

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This paper provides an outline of a course on blended learning which aims to build academics' scholarship of teaching and learning (SoTL) capacity as well as equipping them with knowledge and skills in designing and developing a prototype of a unit within a course. The paper also describes the underlying principles and frameworks in the conceptual model for designing the blended learning course, and how the various elements of the model relate to one another. Details on how the design of the course is being influenced by the model is also provided. The current progress of the project and possible studies in the future is also discussed at the end of the paper.

Keywords: Scholarship of teaching and learning (SoTL), academic development, learning design, blended learning.

Introduction

The last few years have been a growth in interest and development of blended learning courses at institutions of higher learning worldwide. Blended learning, according to Stein & Graham (2014), is defined as "a combination of face-to-face with online experiences to produce effective, efficient and flexible learning." Despite the popularity of blended learning, Mirriahi, Alonzo and Fox (2015) cited that blended learning in higher education are facing challenges in the following three areas, (a) low digital fluency among academics, (b) ill-defined definitions and views on blended learning, and (c) limited availability of tools to guide and evaluate blended learning course designs. At the same time, it is also observed that there has been a gradual shift in the awareness and emphasis on the importance of scholarship of teaching and learning (SoTL) among research-intensive institutions within the Asia region. This awareness on the importance of SoTL has resulted in the urgent need of building academics' SoTL capacity. This paper articulates how a course on blended learning for academics has been designed and developed based on a conceptual model that is built on the underlying principles of SoTL and constructive alignment. The course aims at both building academics' SoTL capacity as well as equipping them with the knowledge and skills to build their own courses in a blended learning mode through an evidence-based approach.

Conceptual model for the course on blended learning

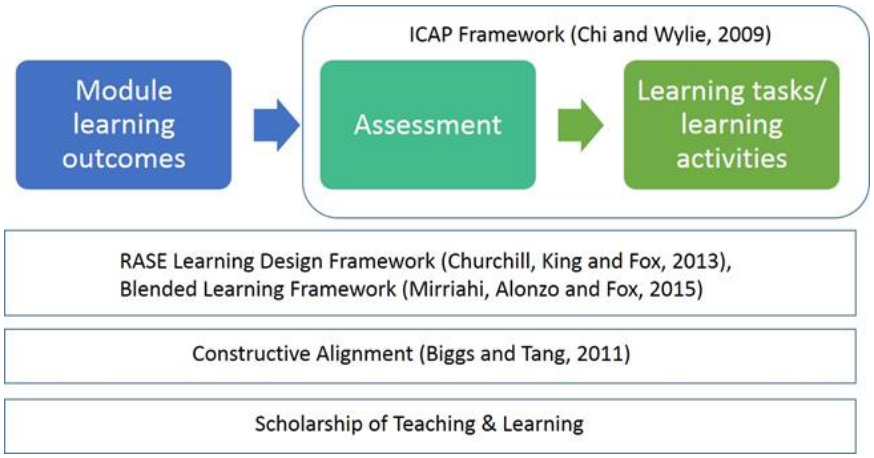

Figure 1: Conceptual model for the course on blended learning

The underlying principles in the current model for the course on blended learning (Figure 1) are the scholarship of teaching and learning (SoTL) and constructive alignment (Biggs & Tang, 2011).

SoTL and academic development

For this project, the scholarship of teaching and learning (SoTL) has been defined "as having a primary focus on improving the learning of the teachers' students, while satisfying several key elements of scholarship: a scholarly inquiry leading to the production of a public artefact and the peer review of that outcome. This is in contrast to a definition that sees scholarly journal publications as the major outcome, with a primary focus on faculty career development and contributions to new knowledge that may (or may not) lead to improved teaching and learning generally." (Trigwell, 2013). Geertsema (2015) argues that "SoTL can have a strong developmental function. Over time, finding ways to strengthen faculty members' close engagement with the scholarship around learning and teaching—without undue and overhasty emphasis on publication in top journals but instead encouraging a more local way of making scholarly investigation public—will build institutional capacity in education that will, in the long run, help pave the way towards education research." Geertsema further suggests that if the purpose of SoTL is to enhance learning and teaching, "it makes sense to orient SoTL inquiry towards a local institutional level" and "consequently have a higher local impact that if it were made public elsewhere." This suggestion is supported by Mårtensson, Roxå and Olsson (2011) as it indicates that "in order to have an impact on a particular culture, teachers engaging in scholarship at a local level … are probably the most important category, in contrast to those operating on a global level (for instance by contributing publications in international educational journals)".

In order to build academics' SoTL capacity, teaching and learning centres in research-intensive institutions should explore ways of supporting academics in this area through a scholarly approach to academic development (Geertsema, 2015). Geertsema further elaborated that one of such approaches would be to "reimagine professional development programmes as opportunities to scaffold project-based scholarly investigations into academic practice." There should also be opportunities for such works by academics to be shared with others in the institution, with the goal to impacting other colleagues especially those who are searching for possible solutions to issues they are experiencing in their teaching. Academic developers should also design and implement programmes which are relevant to academics' needs "in being practice-based, in modelling active learning that can result in participants not merely receiving skills training but engaging in deep learning about learning, and in being anchored in scholarly reflection on learning and teaching" (Geertsema, 2015).

Blended learning framework

Built upon the foundations of SoTL and constructive alignment, the Blended Learning Framework developed by Mirriahi, Alonzo and Fox (2015) has been adopted into the model for two purposes (Figure 1). Firstly, it serves as a guide for "course design to ensure consistent high quality blended learning practice across an institution". Secondly, "be used by academics as a self-assessment instrument to identify their strengths and weaknesses" in both current and subsequent levels of blended learning practice. The Blended Learning Framework (Mirriahi, et al., 2015) has a set of criteria and standards organized around the RASE learning design framework developed by Churchill, King and Fox (2013) which supports a student-centred, technology-rich environment suitable for blended learning. The RASE learning design framework emphasizes four components of a learning unit: Resources, Activity, Support and Evaluation. The list of the criteria and standards of the Blended Learning Framework is listed in Table 2 of the article by Mirriahi et al. (2015). Finally, we will use the ICAP framework for designing learning activities (Figure 1) and details are described in the following section.

ICAP framework: Designing learning activities to promote better learning outcomes

A simplified description of the flipped classroom learning model is where students are asked to view online lectures (pre-class) on their own time to prepare for learning activities that occur during scheduled face-to-face class time (in-class). Many proponents claim that this model encourages active learning as compared to the more passive learning found in traditional learning model consisting typically lecture cum tutorial sessions. Critics, however, argued that the success of the flipped classroom approach lies in the extent that active learning is being carried out, not the model (Jensen, Kummer, & Godoy, 2015).

Bonwell and Eison (1991) describes active learning as requiring students to do meaningful learning activities and think about what they are doing. Yet, teachers often faced with challenges to develop lessons that engage students cognitively and encourage meaningful learning. In particular, for the flipped classroom approach, it is often tricky for teachers to design active learning processes and strategies that can best integrate online and face-to-face settings to engage students effectively (Gerbic, 2011; Holley & Oliver, 2010).

To address these challenges, we incorporate the ICAP framework (Chi, 2009) to provide guidelines for teachers to optimize "active learning". The ICAP framework defines engagement in terms overt behaviours displayed or undertaken by students where teachers can observe. These overt engagement behaviours are differentiated into one of the four modes of engagement: passive, active, constructive, or interactive. Each mode of engagement predicts a different level of learning due to a different set of underlying knowledge-change process associated with the learning processes. The ICAP framework hypothesis assumes that activities designed as *I*nteractive are more likely to generate higher level of learning outcomes than *C*onstructive activities, which is superior than *A*ctive activities, which in turn is greater than *P*assive activities (I>C>A>P). Table 1 illustrates how ICAP framework can be used to guideline teachers to design online and face-to-face learning activities to engage students learning in the flipped classroom learning approach.

Table 1: Adaptation of Chi & Wylie (2014) taxonomy of four modes of activities and ICAP framework hypothesis of learning outcomes

Category	Passive	Active	Constructive	Interactive
Characteristics	Learners receiving information from instructional materials without overtly doing anything else	Learners exhibiting some form of overt motoric action or physical manipulation with instructional materials	Learners generating new ideas or products beyond what was provided in the lesson materials and instructions	Two or more learners contributing constructively through dialog or interacting
Knowledge-change process	Information is stored in an isolated manner	Integration of information with prior knowledge occurs	Inference process occurs where new knowledge is created	New knowledge and perspective can emerge from co-creating knowledge that neither partner knew
Learning Outcomes	Recall	Apply	Transfer	Co-create
Example online activities (non-exhaustive)	Watching an online video lecture without exploration	Manipulating the online video by pausing, playing, fast-forwarding, rewinding	Observing a tutorial dialogue-video with a worksheet provided for the students to response to the problems or to answer the questions.	Participating in videoconference to co-create a solution to an existing community challenge.
Example face-to-face activities (non-exhaustive)	Listening to an explanation or observing a demonstration without exploration	Copying solution from the board; highlight key points	Self-construction activities that leads to generation of new ideas or product (i.e. self-explaining; drawing concept maps, etc.)	Collaborative learning through discourse or dialoguing with partners that helps to generate new outputs or products

When designing a flipped learning course, the teacher needs to thoughtfully consider the joint connection of the online (pre-class) and face-to-face (in-class) learning activities to engage students, leading to better learning outcomes. The ICAP framework provides a form of scaffold, guiding the teacher design decisions to be more strategic in selecting appropriate learning activities that trigger certain modes of engagement. This can help to ensure better alignment between the learning environment the teacher created, the thinking approaches students used and the learning outcomes they achieved.

Design of the course on blended learning

Underpinned by SoTL, the 13-hour course is conducted through a blended learning mode and has been designed with the intended learning outcome of enabling academics to design and develop prototype (a unit within a course) in the flipped mode through an evidence-based approach. The course consists a series of six two-hour workshops and a one-hour presentation, spread across four months during the semester. Flipped mode is adopted for all sessions. Academics are required to carry out some preparatory work, either individually or in pairs, prior attending the face-to-face sessions. Learning tasks and resources assigned for online learning are provided through the learning management system.

For the first half of the course, academics would be introduced to constructive alignment, RASE and ICAP frameworks through readings, online and in-class discussions. Academics will have the opportunity to apply these frameworks as they are designing their lesson plans for the prototypes. The lesson plans would describe the learning tasks and assessments planned for both online and face-to-face sessions based on the intended learning outcomes for a unit of a course. Opportunities are also provided for academics to review each other's lesson plans and provide constructive feedback to one another. They are required to provide feedback on (a) the alignment of intended learning outcomes of the unit with teaching/learning activities and assessment planned, (b) learning scaffolds provided for students, both online and face-to-face environments, (c) levels of engagements based on the ICAP framework, (d) the 4 elements of the unit, namely resources, activities, support and assessment, based on the criteria and standards developed by Mirriahi et al (2015).

The second half of the course focuses on developing the prototype based on the lesson plan. Academics are guided to draft the storyboard of the multimedia resources they have planned, create short video clips and develop learning tasks and assessments for both online and in-class sessions. Towards the end of the second half of the course, academics are to provide peer feedback on the prototypes they have developed.

At the last session, academics will present their prototypes during a lunch cum gallery walk where all academics within the institution will be invited to attend. This session would provide an opportunity for academics to reflect, share and exchange ideas based on the prototypes presented. Academics are also encouraged to write their reflections on their learning at the end of the course.

Current progress and conclusion

At the time of writing the first offer of the course is being launched after approval was sought from the Director of the Centre for Development of Teaching and Learning to roll out the course. The first offer of the course is fully subscribed by academics within a week after it was publicised.

A study on the first offer will be conducted to find out the extent of how this course impacted on academics who attended the course. Such study would help to further fine-tune the curriculum, to better cater to the needs of academics within the institution. In addition, findings from such study would serve as reference for future evaluation studies on similar programmes which promotes teaching and learning inquiry.

This paper presented a model for a course on blended learning that is built upon SoTL and constructive alignment within a research-intensive institution located within Asia. The model aims to build the capacity of SoTL through an academic development programme. The model presented could also be adapted and used by other universities within the region, and be further researched. Findings from such studies would generate valuable knowledge in the field of scholarly approaches to teaching and learning, with the aim to enhance quality of teaching and learning in higher education.

References

Biggs, J. B., & Tang, C. (2011). *Teaching for Quality Learning at University* (4th ed.). Berkshire: Society for Research in Higher Education & Open University Press.

Chi, M. T. (2009). Active-constructive-interactive: a conceptual framework for differentiating learning activities. *Topics in Cognitive Science*, *1*(1), 73–105. doi: 10.1111/j.1756-8765.2008.01005.x

Chi, M. T., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. *Educational Psychologist*, *49*(4), 219–243. doi: 10.1080/00461520.2014.965823

Churchill, D., M. King, and B. Fox (2013) Learning design for science education in the 21st century, *Journal of the Institute for Educational Research*, *45*(2), 404–421.

Geertsema, J. H. (2015) SoTL, academic practice, and academic development. *Asian Journal of the Scholarship of Teaching and Learning*, *5*(3), 138-149.

Gerbic, P. (2011). Teaching using a blended approach–what does the literature tell us? *Educational Media International*, *48*(3), 221–234. doi:10.1080/09523987.2011.615159

Holley, D., & Oliver, M. (2010). Student engagement and blended learning: Portraits of risk. *Computers & Education*, *54*(3), 693–700. doi: 10.1016/j.compedu.2009.08.035

Jensen, J. L., Kummer, T. A., & Godoy, P. D. d. M. (2015). Improvements from a flipped classroom may simply be the fruits of active learning. *CBE-Life Sciences Education*, *14*(1), ar5. doi: 10.1187/cbe.14-08-0129

Mårtensson, K., Roxå, T., & Olsson, T. (2011). Developing a quality culture through the Scholarship of Teaching and Learning. *Higher Education Research and Development 30*(1), 51-62. doi: 10.1080/07294360.2011.536972

Mirriahi, N., Alonzo, D., & Fox, B. (2015). A blended learning framework for curriculum design and professional development. *Research in Learning Technology*, *23*: 28451. doi: http://dx.doi.org/10.3402/rlt.v23.28451

Stein, J. & Graham, C.R. (2014). *Essentials for blended learning: A standards-based guide*. New York: Routledge.

Trigwell, K. (2013). Evidence of the impact of scholarship of teaching and learning purposes. *Teaching and Learning Inquiry*, *1*(1), 95-105. doi: http://dx.doi.org/10.20343/teachlearninqu.1.1.95

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