

Basic competence in online teaching: Preliminary lessons learned from a university's approach to assure faculty readiness in teaching online

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While there have been studies into the roles and competencies of faculty in online learning environments, scholarly literature in the context of faculty accreditation is limited. This paper reports on the implementation of Technology Enhanced Learning framework in a university that aims at empowering the faculty members to use the best appropriate technology that enhance students' learning outcomes. We present the process of overcoming multi-faceted challenges of designing and implementation of a work-in-progress initiative intended to ensure its faculty will be ready to teach online (and remotely) on their own. The initiative was designed to identify the most essential competencies of teaching online at a university, help faculty understand these competencies, evaluate their current skill level in relation to these competencies, and close any gaps in skills. Change management strategies of challenging current teaching and learning regime, sharing common vision, motivating for actions are used. Preliminary observations from the pilot indicate that this approach allowed faculty to measure their current skills and take steps to address skill deficiency, though various challenges in ensuring the entire faculty population is prepared for online teaching still exist.

Keywords: competencies; technology-enhanced learning; academic development; higher education.

Introduction

Technology, if used effectively, has been shown to improve student outcomes, the quality of teaching and learning experience (McKnight et al., 2016, Davies, Mullan, & Feldman, 2017). Any situation where technology is being utilised to help people learn can be considered technology enhanced learning (TEL) (Goodear & Retalis, 2010). One of the top barriers to TEL development in higher education institutions is the lack of faculty knowledge or competencies to work in online environments (Walker et al., 2018). Despite hearing evidence on more effective pedagogies or use of TEL, another big roadblock for change in practice is faculty's appetite for risk (Smith & Herckis, 2018). Besides having more TEL-related professional development offerings, some institutes may rigidly apply a variety of strategic and macro-level policies and frameworks to promote TEL, which may not be effective in certain contexts. An example is the implementation of a particular week as 'e-learning week' where students will engage in learning online for a week, regardless of the learning outcomes, faculty's familiarity and resources in designing the experience, and students' prior knowledge.

This paper explores the on-going university-wide approach taken by the Singapore Institute of Technology (SIT) to ensure faculty are prepared for TEL, which includes developing a framework or levels of competence, assessing faculty's competencies and providing professional development. A competency is defined as "a knowledge, skill, or attitude that enables one to effectively perform the activities of a given occupation or function to the standards expected in employment" (Richey, Fields & Foxon, 2001, p. 26). As a competency-based approach may accept the minimum level of performance rather than achieving higher standards, so looking holistically when determining competence will be recommended, though attitude will be difficult to measure.

There is a diverse range of tasks for the university instructor in online learning environments (such as creation of online interactive content, managing online interactions of learners, administration of the online classroom), and depending on the tasks taken on by the instructor and on the technological teaching environment (Alvarez, Guasch, & Espasa, 2009; Williams, 2003), specific competencies may be required. For example, the competencies of an online course instructor may be different from that of another who just want to be able to continue teaching in the event of a disruption to normal face-to-face teaching activities. Hence, there is a need to investigate the competencies needed for accrediting faculty in the context of teaching in SIT.

At the time of writing, adaptations to the strategy are still being made based on lessons learnt through the implementation of the framework. This paper elaborates on the development process, preliminary observations, challenges faced, feedback gathered, and improvements made so far.

The TEL Framework

In 2018, the university began designing a TEL framework to clarify the competencies that all faculty should have to teach with technology. The framework is designed with 3 tiers as shown in Figure 1. The first tier of the TEL framework is based on 4 baseline competencies that the university has identified as the minimum requirement of faculty teaching in SIT to conduct remote teaching. The second tier builds on the basic (first tier's) competencies by focusing on the use of more advanced technology and sound underlying pedagogical principles to enhance students' learning. The third tier of the framework is related to competencies on the use of new and innovative technology or method in using technology as well as the more sophisticated and elaborated evaluation of TEL practice.

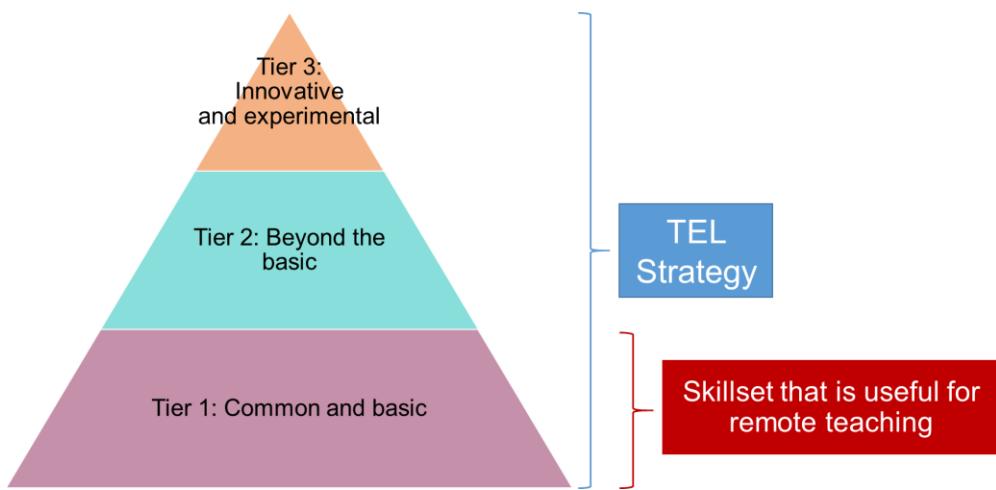


Figure 1: TEL framework

Perspectives on the framework were gathered from faculty through a dialogic process in 2018. By mid-January 2019, the TEL framework was officially launched in the institute. The framework (especially tiers 2 and 3) is a work in progress with its usefulness and effectiveness still being determined.

Competency for Online and Remote Teaching (CORT) Project

Started in end April 2019, CORT is a competence assurance initiative to ensure faculty members are pedagogically and technically ready for online teaching and learning based on Tier 1 of the TEL framework. All faculty are required to demonstrate four basic competencies in using technology to teach:

- Create an online video lesson
- Conduct an online lesson synchronously
- Conduct an online discussion asynchronously
- Create online assessment (quizzes and assignments) and give feedback

Literature of competencies for online instructors

Many researches have been done to study competencies required for online instructors. For example, Bigatel, Ragan, Kennan, May and Redmond (2012) surveyed experienced online faculty and staff members and identified 64 teaching tasks. Smith (2005) identified 51 competencies for online instructors, categorising the competency based on their primary importance before, during, and/or after the course. Darabi, Sikorski, and Harvey (2006) applied the International Board of standards for Training, Performance and Instruction (IBSTPI) methodology to identify and validate distance education instructor competencies. The researchers identified a list of 20 competencies and found that the most commonly used competencies in distance education include employing appropriate types of interaction, employing appropriate presentation strategies to ensure learning, facilitating productive discussions, and providing timely and informative feedback. Martin, Budhrani, Kumar, and Ritzhaupt

(2019) interviewed eight award-winning online faculty members on their perspectives of key competencies for online teaching which include technical competencies and the general competencies, such as the willingness to learn, knowledge of how people learn, content expertise, course design skills, and student learning assessment skills.

Selecting competencies for online instructors in SIT context

The list of competencies in the literature were considered during the selection process. At SIT, faculty use technology to enhance the learning experience or outcome or when there is a disruption to the traditional face-to-face learning. So, the selected competencies need to complement the core aspects of face-to-face instruction (i.e. creating/delivering content, conducting learning activities, facilitating discussions, and carrying out assessment with feedback). General competencies such as attitudes, content expertise, as well as basic pedagogical and technical skills (e.g. applying constructive alignment, uploading of files to the learning management system (LMS), using technology efficiently) are subsumed under CORT but will not be a focus of evaluation as they are covered in compulsory training sessions that faculty have attended. Other competencies that are more relevant for a fully online course (e.g. setting up a well-organised course site) were omitted.

Competence assurance process

Faculty will submit their artefacts that demonstrate the four Tier 1 competencies (i.e. pre-recorded video lesson, live online lesson, online discussion forum, and online quiz/assignment). Learning designers from the Centre for Learning Environment & Assessment Development (CoLEAD) are tasked to assess whether the artefacts meet the stipulated criteria for each competency. The artefacts must be created or set up by the faculty, and not inherited from another colleague or through someone's help. A summary of other key criteria is provided in Table 1. Each competency is assessed by one learning designer to ensure consistency in evaluation.

Table 1: A summary of the key criteria of each Tier 1 competency

Competency	Criteria
Create an online video lesson	The online video lesson should <ul style="list-style-type: none"> • Be created using a screen recording tool, elearning authoring tool, or camera • Be published or delivered on a platform that can be accessed remotely by others • Not be a class recording where the faculty is talking to the students in class • Have clear narration
Conduct an online lesson synchronously	The live online session should <ul style="list-style-type: none"> • Be conducted using a tool that allows live video calls and sharing of presentation • Be delivered on a platform that can be accessed remotely by others • Not just be the presentation of content, but it should also include engagement of the participants using tools like chat (audio/text) or poll • Have clear audio
Conduct an online discussion asynchronously	The online discussion should <ul style="list-style-type: none"> • Be conducted using a discussion board or forum • Be delivered on a platform that can be accessed remotely by others • Include at least a topic, and a faculty's reply to a post by another participant • Not be done via email or messaging apps
Create online assessment (quizzes and assignments) and give feedback	The submission should include (i) an online quiz, (ii) an online assignment, and (iii) evidence of qualitative feedback given online. It should <ul style="list-style-type: none"> • Be published or delivered on a platform that can be accessed remotely by others • Be created within the last one year • Feedback must be qualitative, not just marks and grades

Technology 4 Teaching (T4T)

Technology 4 Teaching is a professional development programme to prepare faculty for CORT. Hands-on workshops and learning resources are provided to build their skills to teach online. It was emphasised that faculty who already have a certain competency need not attend the workshop. In addition, mere attendance of the workshop does not indicate competency. Faculty can submit evidence or artefacts that were produced during or after the workshop, which includes the following sessions:

- Create an online video lesson (using Microsoft PowerPoint and Echo360 Universal Capture)
- Conduct an online lesson synchronously (using Microsoft Teams and Bongo Virtual Classroom)
- Conduct an online discussion asynchronously (using Teams and LMS)
- Create online assessment (quizzes and assignments) and give feedback (using Microsoft Forms and LMS)

These tools were chosen based on availability within the institute and ease of use. Faculty were also consulted to suggest other tools for training based on their needs and preferences.

Beyond Basic Competencies

In order to make a positive difference in students' learning, faculty are encouraged to go beyond the basic skills and engage students in meaningful ways. Faculty are also invited to embark on TEL projects, some of which involve interdisciplinary teams of faculty working together, supported by expertise and funding from CoLEAD.

Findings and discussion

Change management strategies

Sharing common vision and working closely with the management

The scientific management theory (Kezar, 2014) involved the setting up of a new framework through seeking stakeholders' input as well as communicating the vision across various communication channels. The Assistant Provost (Applied Learning) presented to faculty the rationale of this framework in relation to the university's vision of applied learning and digital learning. The university's faculty are grouped into clusters, where the directors and deputy directors continued to encourage faculty to embrace this common vision.

Providing motivation

As an incentive to participate in CORT early, monthly draws are conducted with prizes given out to the winners. Some faculty are also encouraged when they received positive responses from their students, which led to them wanting to do more online teaching.

Increasing risk appetite

Faculty can be very reluctant to make changes in instruction that constitute a risk to student satisfaction (Smith & Herckis, 2018). Thus, it is of utmost importance to build a trusting institutional environment where faculty are acknowledged for the effort to make changes and not severely penalised for trying something new which is not well-received by students. For this to happen, working with the management team to build a nurturing culture, as well as communicating that "it is not unexpected that things may go wrong when new things are tried, and it is ok" need to be done.

Promptly responding to feedback and queries

Before and following the launch, various conversations were held with the clusters and individual faculty to provide more details, and to hear and address their suggestions, queries and concerns (see the following section).

Responses and Suggestions

Going beyond technical skills and minimum standards

Initial reactions to the TEL framework and CORT initiative have been positive, with several faculty members emphasising that high standards on pedagogy and technology should be set. Below were some comments:

If we focus just on the technical aspects, faculty may just do the bare minimum (e.g. very simple videos). It is wonderful that the workshops also cover the pedagogical aspects.

To provide a well-rounded learning framework, it would be of benefit if accompanying the skill development, the initiative also included literature on the latest or future directions in e-learning/remote learning pedagogy and tips/guidance on best practice.

We realised it was important to underscore the need for best practices and how having certain competency can lead to improvement in students' learning outcomes. As pedagogy aspects have already been covered under other compulsory training, these workshops were targeted more on teaching the selected competencies. Furthermore, by highlighting that it is basic competencies that were focused on in this process, we motivate faculty to do more beyond the basic and offer face-to-face consultations and collaborations.

Usefulness of selected competencies

Some faculty commented that certain competencies may not be useful in their contexts, and a handful of them clarified the rationale for the criteria and the minimum they need to do to fulfil the requirements.

Every discipline or teaching program has different teaching philosophy and uses different pedagogy, it may not be suitable for us to use all of them.

The nature of my module doesn't suit a virtual classroom. Every student has a different research project topic. The students wouldn't participate as well in a virtual classroom.

It was not uncommon for faculty to resort to a more familiar way and time saving way such as sharing previous lecture recording or use of WhatsApp for discussion. We acquired the help from faculty champions within the clusters or programmes to share how certain competency can be helpful. By having conversations on used cases and trying out new tools, faculty can learn about the benefits of learning and developing new competencies.

Progress in CORT and participation in T4T

At the time of writing (which is about five months from the launch of CORT), faculty have submitted 45% of the total expected artefacts. Participation in the T4T workshops resulted in around two-thirds of the total submissions. While the participants were able to perform during the workshop, a handful of them still required help after the session. This is in agreement with studies that show learning (or long-term retention and transfer) and performance (short-term changes) are distinct and can be inversely related (Soderstrom & Bjork, 2015).

Conclusion

This preliminary investigation into a university's strategy to prepare their faculty in TEL has revealed some of the complexity that underlies the challenge to conceptualise and assess competencies. The study selected four competencies in online teaching out of a broad range of competencies in literature. This approach has allowed faculty to measure their current skills and take steps to address skill deficiency. Using change management strategies, participation in CORT has been encouraging so far, though various challenges in ensuring the entire faculty population is prepared for online teaching still exist. Further study can be done to capture why some faculty have not been taking part, and how short-term performance via a once-off competence assurance process could affect the development of faculty in online teaching. Another area to investigate is the impact of this TEL framework on teaching practices, including tracking changes to the actual use of technology in the modules.

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