SUCCESS FACTORS OF FLIPPED LEARNING APPROACH: A CASE OF BUSINESS ACCOUNTING STUDENTS

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ABSTRACT

One of the most recent developments in technology enhanced method in teaching and learning is a method called flipped learning. It is an approach where the traditional one-way lecture is flipped to make room for active learning opportunities where educators shift learning into the individual learning space facilitated by technology. This study investigates the success factors of flipped learning approach in enhancing students' communication and critical thinking skills in Tunku Puteri Intan Safinaz School of Accounting (TISSA), Universiti Utara Malaysia. The study involved 49 students from BKAL1013 Business Accounting Group O class from the first semester of 2016/2017. The objective of this study is to examine how the use of flipped learning can help to improve communication and critical thinking skills in problem solving among students taking the accounting subject. From this study, the results showed that students' motivation and educator's fragment are two important success factors of flipped learning approach. Students' motivation increases with the use of internet and technology. Results also reveal that the expectations of the educator must be clearly clarified so that the students understand their roles well. Maintaining engagement is related to good instruction. Good instruction ensures the abilities to read strategically, to communicate clearly in writing or during a presentation, and to think critically about content provided.

Keywords: *flipped learning, technology in education, success factor in flipped learning approach, action research*

INTRODUCTION

The higher learning education in the twenty-first century is expected to equip students with both domain knowledge and the multidimensional skills in order to meet the requirements of the vigorously changing society (Chan, 2010; Gut, 2011). Communication and critical thinking skills are two important elements that need to be emphasised in the twenty-first century education environment. The growth of digital culture in this era drives the use of digital resources and communication tools in education (Kong, 2014). Students therefore, need to master communication and critical thinking skills for their success in learning advancement.

One of the most recent developments in technology enhanced method in teaching and learning is a method called flipped learning. It is an approach where the traditional one-way lecture is flipped to make room for active learning opportunities (Freeman & Hancock, 2013). Flipped learning approach motivates the use of effective learning methods to engage students in the teaching and learning activities and to enhance their communication skills in the classroom (Hwang, Lai & Wang, 2015). Several researchers have provided definitions of flipped learning (Freeman & Hancock, 2013; Musallam, 2010; Warter-Perez & Dong, 2012). Hwang, Lai and Wang (2015) defined flipped learning as "a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space,

and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (Hwang, Lai & Wang, 2015). This approach includes the process of recording and narrating class lecture videos and audios or curate video lessons from internet sites thus, subsequently the videos are accessed by students in their own convenience. Using this approach, students' study time which traditionally used to complete their homework given by teachers or lecturers, are used to engage with the class lecture using videos or other media prepared by the lecturers. The lecturers have to invest extra time and afford prior the class begin but this method promises positive impacts on the students afterward. Conversely, the activities such as problem solving, knowledge application and collaborative exercise, traditionally done as homework after class sessions, are now conducted in class with the presence of the lecturer to guide them.

In order to achieve success in the implementation of flipped learning, the lecturers need to engage in extra efforts to meet the expected outcomes (Stone, 2012). In addition, students' suggestions and their own style of learning in the technology era should be accepted by educators through flipped learning. These include:

(1) Transformations in the usage of class time: Those teaching contents that were traditionally taught through direct instruction and can be understood by students themselves are provided in other forms, such as video, for students to learn outside the classroom. Besides, in-class discussion, projects, and problem solving are included in the class to assist students apply what they have learned and to cultivate their analytical and judging abilities.

(2) Revolutions in the usage of time outside the class: The time used to do homework is moved to the class time. Different ways of self-learning, such as watching videos, are scheduled before the class time.

(3) The time usage outside the class time is strategized for students to advance knowledge at the remembering and understanding levels.

(4) Peer communication, student and teacher interaction, and problem-solving skills are emphasized during class. Students increase knowledge via applying, analysing, and evaluating levels.

(5) Technology is utilised, especially video. Definitely, it is the easiest way to present lecturers' instruction of the learning contents. Besides, lectures can manage the video and teaching materials for students more conveniently through teaching platforms or other online systems, and have interaction with students before and after class. Therefore, technology benefits the implementation of the flipped learning in the lecture hall.

In the traditional face to face teaching method, it is likely that the students get less opportunity to participate in the process of learning due to the lack of time in the interactive and problem solving activities. This is because most of the class time is utilized for lecturing. Using flipped learning, the lecturer will upload the lecture in e-learning portal and do more interactive and problem solving activities in the classroom. Thus, more time can be allocated for developing students' skill in communicating the subject or problem through this method.

Having said that, several researchers pointed out that in order to obtain success in the using flipped learning in classrooms, lecturers need to give students sufficient time to understand the topic which is going to be discussed in class as well as sufficient time to think about the problem solving questions. Lecturers are also recommended to give sufficient time for students to discuss the problem solving questions with their group members during the discussion sessions handled during class (Cheong & Cheung, 2008; McMahon, 2009; Yang & Chung, 2009). Without sufficient time given for the students particularly for them to watch the video prior to class, there will be reversing impact on the success of the flipped learning method, which also impact on the motivation and enthusiasm of the students to actively participate during the class activities run by the lecturers.

Another important issue to consider in order attaining success in flipped learning approach is the intensity of the lecturers' guidance in the problem solving activities conducted in class

and during discussion within student groups. This is claimed to be an effective way to support students to develop critical thinking skills in class (Kong, 2014). For this to happen, lecturers are required to carefully plan the pre-lesson that they are going to produce in a video, especially in terms of its length, creativity, catchiness and content. In order to have better arrangements of class time discussion and reflection, the pre-lesson videos or materials should also contain sets of instructions or questions and the students are required to prepare the answers to be discussed during class discussions. Lecturers should also have a method in "forcing" the students to watch the videos by giving their marks based on the answers given for the questions displayed on the videos.

According to Kong (2014), by arranging pre-lesson online tasks for learning preparation and then encouraging face-to-face peer interactions in domain knowledge learning in class and finally promoting post-lesson online sharing and discussion tasks for learning consolidation, he found that students could reach "manageable" level of literacy competency as well as master critical thinking skills. However, the main idea of flipped learning is to have more class time for group-based and class discussions about problem solving questions, guided by the lecturers' explanation of answers and guidance on self-reflection. This paper therefore investigates the success factors of flipped learning approach in enhancing students' communication and critical thinking skills.

METHOD

Research design

This study employed action research adopting a qualitative approach. According to McNiff and Whitehead (2010), "Action research is a term which refers to a practical way of looking at your own work to check that it is as you would like it to be" (McNiff & Whitehead, 2010). Action research is done by the practitioner. It involves oneself thinking about and reflecting on his/her work. Action research is an enquiry conducted by oneself where the practitioner thinks about his/her own life and work. Action research is open ended. It does not begin with a fixed hypothesis. It begins with an idea that oneself develops. The research process is the developmental process of following through the idea, seeing how it goes, and continually checking whether it is in line with what oneself wish to happen. Seen in this way, action research is a form of self-evaluation. It is used widely in professional contexts such as appraisal, mentoring and self-assessment. An evaluation of the suitability of the current rubric to evaluate the aspect of communication and critical thinking skills in the implementation of flipped learning is also examined. In this study, the lecturer/researcher's observation, checklist (rubrics) and interviews were used to gather data throughout the intervention.

There are three phases of data collection; Pre-Implementation, During Implementation and Post Implementation (see Table 1). In each phases, observation, checklist (rubrics) and interviews were analyzed and reflections were taking placed for improvements. Qualitative data analyses which include thematic analysis and content analysis are used to analyze the qualitative data.

Table 1: Phases of Data Collection

Phase	Process
Pre-implementation	A video on the lecture of one chapter from the syllabus were uploaded before the class session. Previously, the explanation on the project and the use of flipped learning were explained to students. There were questions and answers session which allowed students to query the process.
During Implementation	Cycle 1: The class was conducted using flipped learning approach. The activity's instructions were included in the video to ensure students are prompted to watch the video before they come to class. During class, students were given questions based on the chapter and they were required to solve problems based on their understanding on the lecture given earlier in the video. These activities were conducted in small groups. During the 30 minutes before the class ended the lecturer gathered students' views on the class session using flipped learning approach. After the session ended, observation, checklist (rubrics) and interviews were analysed and reflections were taking placed for improvements in the next session. Cycle 2: In the next chapter, the lecture video was created taking into consideration the improvements suggested in the previous chapter. The same activities were conducted where students were also given questions to solve based on the lecture video given earlier. During the 30 minutes before the class ended the lecturer gathered students' views on the class session using flipped learning approach. After the session ended, observation, checklist (rubrics) and interviews were analysed and reflections were taking placed for improvements in the next session. Cycle 3: Will be conducted if improvements are suggested in Cycle 2.
Post Implementation	The lecturer looked into overall results and reflections on the study. Five students were called for further interview in the lecturer's office.

Research participants

The study involved 49 students from Business Accounting class. This class is chosen because Business Accounting subject is the most fundamental accounting subject and the subject requires students to have hands on technical understanding on accounting knowledge therefore suits the objective of this study. The objective of this study is to examine how the use of flipped learning can help the students to improve their communication and critical thinking skills.

RESULTS AND DISCUSSION

1. Assessing communication skills based on rubric

In assessing communication skills based on the communication skills rubric, 10 students who represent their group were called to conduct presentations (see Table 2). The results from the evaluation showed that most students met the criteria for good communication. The number of students (out of 10 students) who met the criteria for good communication are shown in Table 2.

Table 2 – Communication Rubric Assessment (1st phase)

Communication (Presentation) criteria	There is a logical and interesting sequence in the presentation .	Student has a good grasp of information, and handles all questions well.	Student uses good quality and creative visual aids.	Student maintains eye contact, seldom reads from notes, is relaxed, self-confident and appropriately dressed.	Student demonstrates passion for the topic presented.	Student pronounces correctly and speaks eloquently.
Participants (10)	8/10	6/10	9/10	6/10	8/10	8/10

In Phase 2, 10 students (other than the students who already presented in Phase 1) were selected to represent their group and they were called to conduct presentations (see Table 3). The results showed that all students were excellent in their presentations. The number of students (out of 10 students) who met the required criteria are shown in Table 3.

Table 3 – Communication Rubric Assessment (2nd phase)

Communication (Presentation) criteria	There is a logical and interesting sequence in the presentation .	Student has a good grasp of information, and handles all questions well.	Student uses good quality and creative visual aids.	Student maintains eye contact, seldom reads from notes, is relaxed, self-confident and appropriately dressed.	Student demonstrates passion for the topic presented.	Student pronounces correctly and speaks eloquently.
Participants (10)	10/10	9/10	10/10	10/10	10/10	9/10

2. Assessing critical thinking skills based on rubric

In assessing students' critical thinking skills, in Phase 1, all students were required to submit their works and their critical thinking skills were evaluated based on the rubric. Table 4 shows that students' ability is just above the average level. Table 4 shows the number of students (out of 49) who showed the ability.

Table 4 – Critical Thinking Rubric Assessment (1st phase)

Critical thinking criteria	Able to identify issue/ problem in a complex situation and able to assess and justify the situation	Able to analyze issue/problem in a complex situation and able to assess and justify the situation.	Able to develop and improve thinking skills. Able to analyze and clearly explain a situation and assess the discussion.	Able to think beyond boundaries at most times and to provide challenging views.	Able to make decision based on real solid evidence and to identify the source of evidence.
Participants	35/49	29/49	29/49	25/49	22/49

In phase 2, all students were required to submit their works and their critical thinking skills are evaluated based on the rubric. Table 5 shows that students were reaching excellent level. The results on evaluation based on the rubric showed that students were able to identify issue/ problem in a complex situation and able to assess and justify the situation, able to analyze issue/problem in a complex situation and able to assess and justify the situation, able to develop and improve thinking skills, able to analyze and clearly explain a situation and assess the discussion, able to think beyond boundaries at most times and to provide challenging views and able to make decision based on real solid evidence and to identify the source of evidence.

Table 5 – Critical Thinking Rubric Assessment (2nd phase)

Critical thinking criteria	Able to identify issue/ problem in a complex situation and able to assess and justify the situation	Able to analyze issue/problem in a complex situation and able to assess and justify the situation.	Able to develop and improve thinking skills and able to analyze and clearly explain a situation and assess the discussion.	Able to think beyond boundaries at most times and to provide challenging views.	Able to make decision based on real solid evidence and to identify the source of evidence.
Participants	49/49	40/49	45/49	40/49	40/49

The study reveals that students' motivation and educator's fragment play important roles in the successful of flipped learning approach.

CONCLUSION

This study reveals that students' motivation and educator's fragment are two important success factors of flipped learning approach. Students' motivation increase with the use of internet and technology. The flipped classroom has made effective interactions happen between Business Accounting students and with the lecturer. The class becomes active with discussions and the students look happy since they are not overburdened to do the assignment themselves without lecturer's assistance. The floor of understanding of the subject under study increases where students can answer questions provided easily as they take on the chance to talk about and ask the lecturer and other students on their difficulties regarding the assignments.

In this approach an educator plays important role in the process of teaching and learning. They need to be well-trained, dedicated, responsive, maintaining engagement and inspirational in handling the teaching and learning process. The educator must also be clearly clarified their expectation and goal so that the students understand their roles very well. These will enhance students' confidence and competence. The uploaded videos also need to be simple, compact and interesting or 'catchy' to develop interest for the students to watch it till the end. The content must be accurate, timely, stimulating, and pertinent to the student's current and future needs.

REFERENCES

Bork, A. (2001). What is needed for effective learning on the Internet. *Educational Technology & Society*, *4*(3), 139-144.

Center for Applied Technology. (1996). The role of on-line communications in schools: A national study [On-line]. Available: http://www.cast.org.

Chan, T. W. (2010). How East Asian classrooms may change over the next 20 years. *Journal of Computer Assisted Learning*, *26*(1), 28-52.

Cheong, C. M., & Cheung, W. S. (2008). Online discussion and critical thinking skills: A case study in a Singapore secondary school. *Australasian*

Journal of Educational Technology, 24(5), 556-573.

Freeman, M., & Hancock, P. (2013). Milking MOOCs: Towards the right blend in accounting education. *The Virtual University: Impact on Australian Accounting and Business Education, part B*, 86-100.

Gut, D. M. (2011). Integrating 21st century skills into the curriculum *Bringing schools into the 21st century* (pp. 137-157): Springer.

Hwang, G.J., Lai, C.L. & Wang, S.Y. (2015). Seamless flipped learning: a mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of Computers in Education, 2 (4),* 449–473.

Kong, S. C. (2014). Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy. *Computers & Education, 78*, 160-173.

McMahon, G. (2009). Critical thinking and ICT integration in a Western Australian secondary school. *Educational Technology & Society, 12*(4), 269-281.

McNiff, J. & Whitehead, J. (2010). *You and your action research project*. New York: Taylor & Francis.

Musallam, R. (2010). The effects of screencasting as a multimedia pre-training tool to manage the intrinsic load of chemical equilibrium instruction for advanced high school chemistry students. *University of San Francisco, San Francisco*.

Stone, B. B. (2012). Flip Your Classroom to Increase Active Learning and Student Engagement. 28th Annual Conference on Distance Teaching & Learning, 1–5.Warter-Perez, N., & Dong, J. (2012). *Flipping the classroom: How to embed inquiry and design projects into a digital engineering lecture.* Paper presented at the Proceedings of the 2012 ASEE PSW Section Conference.

Yang, S. C., & Chung, T. Y. (2009). Experimental study of teaching critical thinking in civic education in Taiwanese junior high school. *British Journal of Educational Psychology, 79*(1), 29-55.