Teacher's and Students' Perceptions Between Flipped Classroom and Traditional Classroom At Primary Tamil School

Vimala A/P Muniandy
Universiti Sains Malaysia
Email of corresponding author: vimala311@yahoo.com.my

ABSTRACT

This research was carried out in order to investigate teacher's and student's perceptions to promote active learning through flipped classroom among Tamil school teachers and students. A quantitative research design was used to carry out this study.The dependent variables in this study were teacher's and student's perceptions while the independent variables were traditional and flipped classroom. The sample consisted of 20 primary school teachers, 36 students from year 4 from primary Tamil school.Teachers' perception interview questions were based on Snowden (2012) and a structured questionnaire to determine student perceptions between two different learning environments, flipped classroom and traditional classroom, was adapted from the Student Perception of Instruction Questionnaire (SPIQ) by Johnson and Renner (2012). The researchers distributed the survey questionnaire to primary Tamil school teachers and students. An independent samples t-test was conducted to compare student perception in a traditional and flipped classroom setting. A t-test for independent samples revealed a significant difference in perception between students that learn from a different learning culture ($t(57) = -3.71$, $p < .05$). The mean students who learn in a traditional classroom reported significantly different perceptions ($M = 4.45$, $SD = .38$) than students who learn in a flipped classroom ($M = 4.93$, $SD = .40$). In other words, students in the traditional classroom appear to have a better perception on method of delivery than the flipped classroom. Existing conventional teaching methods need to be transformed to ensure that the country's education system is able to move along the latest and competitive learning. Flipped classroom is one of the methods with potential to realize this vision.

Key words: Teacher's perception, Student's perception, Flipped classroom

INTRODUCTION

Education curriculum is a system that needs to be done to ensure that changes over time produce generations that are competitive internationally. Thus, the study of a country's education curriculum should be an ongoing and consistent (Flumerfelt & Green, 2013).

Educating the next generation is a challenge that needs to be implemented starting from the school level (Mukherjee, 2013). Learning patterns of students at the university level is greatly influenced by the way of teaching in schools. As the curriculum requirement grows, teachers need to make more efficient use of class time. Teachers also play an important role to ensure that their teaching methods fit to the current needs of students' learning.

Flipped classroom is a 21st century learning style. Flipped classroom is also a student- centred method that emphasizes the use of technology in teaching and learning process. Based on (Baker & Lage et al., 2000) flipped classroom known as inverted classroom and also is one of the student-centered learning approach. Baker (2000) stated that flipped classroom was introduced in 2000 to university students in the fields of technology before it has been implemented in schools in the field of Science, Technology, Engineering and Mathematics or

STEM (Herreid & Schiller, 2012; Hamdan et al., 2013). Flumerfelt & Green (2013) considered the implementation of the latest pedagogical methods such as the method flipped classroom, is one of the pedagogical changes that is need to be injected into the school curriculum.

PROBLEM STATEMENTS

Flipped classroom can be challenging because of a lack of facilities, internet accessibility and effective models (Davies, Dean & Ball, 2013). However, it is important to help students learn and develop their learning skills using innovative methods of instruction (Tsai, Lee, & Shen, 2013). A lecturer can enrich lecture presentations through the incorporation of multi-media content as an innovative method of instruction, for example, the use of PowerPoint (Leicht, Zappe, Messner, & Litzinger, 2012); students still must memorize the material that will not increase classroom engagement (Ahlfeldt, Mehta, & Sellnow, 2005). (Kettlewell, Southcott, Stevens, & McCrone, 2012) mentioned that engagement may not exist because of environmental factors, lack of understanding or satisfaction, accessibility of local education services or innovative instruction.The implementation of the flipped classroom will increase student engagement, student's achievement and improving their learning style.

RESEARCH OBJECTIVES

1. To investigate primary Tamil school teacher's perceptions to promote active learning through flipped classroom.
2. To investigate primary Tamil school students' perceptions to promote active learning through flipped classroom.
3. To investigate primary Tamil school students' achievements in flipped classrooms.

RESEARCH QUESTIONS

1. How do primary Tamil school teacher's perceptions differ in a traditional and flipped classroom to promote active learning?
2. How do primary Tamil school students' perceptions differ in a traditional and flipped classroom to promote active learning?
3. What is the difference between primary Tamil school students' achievement in the flipped classroom and traditional classroom learning culture?

METHODOLOGY

RESEARCH DESIGN

A quantitative research design was used to carry out this study. The purpose of this study is to identify the teachers and students perceptions to promote active learning through flipped classroom. The sample surveyed consists of teachers and students in Tamil primary schools in Gelugor.

PARTICIPANTS

The sample consisted of 20 primary Tamil school teachers, 36 primary Tamil school students from year 4. They voluntarily completed the questionnaires. All of the samples were from Tamil school located in Penang.

INSTRUMENT

A questionnaire-based survey was conducted on year four students. In this study two instruments were used. Teachers' perception interview questions were based on Snowden (2012). Student perceptions between flipped classroom and traditional classroom was adapted from the Student Perception of Instruction Questionnaire (SPIQ) by Johnson and Renner (2012). The questionnaire was to determine student perceptions in the areas of content and course delivery, assessment and evaluation and learning experiences. This instrument used a 5-point Likert scale that ranges from 1=strongly disagree, 2=disagree, 3=not agree or disagree, 4=agree, to 5=strongly agree. Independent samples t tests was used to analyzed the data. This instrument also included an open-ended question which invited comments for improvement to flipped and traditional classrooms.

Data collection occurred via random distribution. The researchers distributed the survey questionnaire to primary Tamil school teachers and students. The distribution was handled by the researchers. First, researchers create a site to the teachers to explain about the flipped classroom because most of the teachers do not know the definition of flipped classroom. The site is https://sites.google.com/site/blendedlearningvimala/home.The teachers will attend in-house training. After that, the teachers will use the flipped classroom method in their teaching and learning.

For the students, the researches selected year four students from two classes for English lesson. In this study, teaching syllabus were the same between the two classes. For the flipped classroom, before each class start, the students were required to watch a video provided by teacher at site created by the teacher https://sites.google.com/site/blendedlearningvimala/home. During the class time, the students were required to participate in various active learning activities, such as problem solving and discussion on tutorial questions.

In the case of the traditional classroom teacher will teach the same topic with another class. During the next class they will give a presentation on their answer and which is discussed in class. For assessment on this topic there are a quiz and a test that require students to do in their book. Thus, both classes are doing the quiz and test at the same time in class.

RESULT

An independent samples t-test was conducted to compare student perception between traditional and flipped classroom. The results are presented in Table 1 and Table 2. A t-test for independent samples revealed a significant difference in perception between students that learn from a different learning culture ($t(57) = -3.71$, $p < .05$). The mean students who learn in a traditional classroom was significantly different ($M = 4.45$, $SD = .38$) than students who learn in a flipped classroom ($M = 4.93$, $SD = .40$). Students in the flipped classroom have a better perception than students in the traditional classroom.

Some students' commented that they do not have problem in watching the video, but they had problems understanding the video on their own. However they feel that flipped class gives them the opportunity and lots of time for discussing their problems with teacher and peers in class. Students from traditional classroom have no problem in understanding the lecture but they do not have much time for discussion and problem solving with teacher.

Table 1. Group statistics

	Class	N	Mean (M)	Std Deviation (SD)
Perception	Flipped	18	4.93	0.40
	Traditional	18	4.45	0.38

Table 2. Independent sample test

		t-test for equality of means		
		t	df	sig.(2-tailed)
Perception	Equal variances assumed	-3.71	57	0.00

The video helped slow learner's students, because they could stop, pause or rewind. Moreover there were some students that had been using the video for a not only as a reference before class but also as a revision tool before their assessment. The teacher had more time to spend on problem solving in the flipped class compared with the traditional class and felt that although there are lacks of facilities, the flipped class can still be implemented. Increase in content knowledge and problem solving skills are also seen as beneficial to the formative assessment (quiz) and summative assessment (test). For both assessments the percentage pass mark is 40%. The results are presented in table 3.

Table 3. Formative and Summative Assessment.

	Assessment	N	Passed (%)	Failed (%)
Flipped	Formative	36	74	26
	Summative	36	65	335
Traditional	Formative	36	52	48
	Summative	36	58	42

The result found that the percentage of students that passed for both assessments was higher for the flipped classroom than the traditional classroom. The teachers commented that the achievements in flipped classroom are better than the traditional classroom, stating that students can assess the video at any time and refer to their module before their assessment. However for the traditional classroom, the passing percentage is lower than that of the flipped classroom.

DISSCUSSION

There were six items that assessed students' general perceptions of the Flipped Classroom.
Item 1 stated: *The Flipped Classroom is more engaging than traditional classroom instruction.* The results from this item were overwhelmingly positive. 84% students surveyed either agreed or strongly agreed with this statement. Only 16 % responded that they disagreed.

Item 2 stated: *I would recommend the Flipped Classroom to a friend.* 83 % either strongly agreed or agreed with this statement. The results found that students recommending flipped classroom to a friend.
(Stumpenhorst, 2012) argued that the student-centered instruction and active learning made possible in a flipped classroom. The flipped classroom model does not eliminate the lecture or other means of direct instruction. Instead, it removes lectures from the group learning space to maximize the amount of time teachers have to spend with individual students and students have to spend working with one another.

Item 3 stated: *The Flipped Classroom gives me greater opportunities to communicate with other students.* Only one student disagreeing with this statement and no students strongly disagreeing with the statement. 95% of the students either agreed or strongly agreed with this statement.

Flipped classroom provides more time to address the needs of individual students and enables more active and engaged learning, without sacrificing the amount of material that can be covered. Effective teaching may be better in flipped classrooms and it will support the 21st century education where students will be active learner.

Item 4 stated: *I regularly watch the video assignment,* found that 84% either agreed or strongly agreed that they regularly watched the video assignment.

Item 5 stated: *I am more motivated to learn English in the Flipped Classroom.* While no one strongly disagreed and only two disagreed, there were 90% who neither agreed nor disagreed
Another concern is voiced by those who want to use the Socratic Method to engage students in the material as it is being delivered. These teachers believe that a flipped classroom sacrifices actual instruction in order to increase opportunities for student collaboration and activities generated and led by students. However, as Marshall (2013) points out in her model of Flipped Learning, one key role for teachers is to "lead from behind." In other words, the teacher engages in "observation, feedback, and assessment" during class and, in the process, guides the learners' thinking, in the best spirit of the Socratic Method. Furthermore, the learners themselves can fill these same three roles as they observe and provide feedback to each other during class and as they assess their own learning. These support the 21st century collaboration skills among students. Students will share their knowledge and experience with their friends and teachers.

Item 6 stated: *I like watching the lessons on video.* The results of this item were mixed. While only 15% either disagreed or strongly disagreed with the statement, 75% either agreed or strongly agreed with it. Gary Stager (2013) argued that the Flipped learning model places too much emphasis on lectures and homework. Gary Stager (2013) predicts that medicore teachers will be hired to create videos of lectures that are not customized for the specific needs of a class.

Stager (2013) said that flipped classroom creates student-centered learning, peer interactions and personalized instruction. Stager is concerned that flipped classroom is a way to replace teachers with videos. Teachers have to know how to facilitate learning and not just be able to proficiently communicate content.

WHAT TEACHERS THINK?

- 85% of teachers saw an increase in the value of their students
- 80% of teachers are more connected with students outside the classroom
- 85% of teachers use class time to further explore the deeper lessons
- 83% of teachers say their classes turn into a more interactive learning environment
- 73% of teachers who have never done flipped classroom say they want learn deeper

CONCLUSION

The use of Technology in the classroom method is consistent the requirement of the Ministry of Education (MOE) to leverage information technology in teaching and learning process. Conventional teaching methods need to be transformed to ensure that the country's education system is able to move along the competitive learning. Flipped classroom is one of the methods with potential to realize this vision. Enfield (2013) stated that time needed to prepare videos and the need to ensure that video meet standards required for students with disabilities.

Mason et al. (2013) found that students in flipped classrooms like the use of video and feel the inversion is a better use of class time. Besides that, students prefer the active approach to learning that the flipped format often brings and believe that having more in-class activity helps

with learning that the flipped content (Enfield 2013; Mason et al.2013). Flipped classroom have a positive impact on student achievement based on the findings.

REFERENCES

Baker, J. W. (2000). The "*classroom flip*": Using web course management tools to become the guide by the side. Paper presented at the 11th International Conference on College Teaching and Learning, Jacksonville, Florida, USA.

Bergmann, J. & Sams, A. (2012). *Flip Your Classroom: Reach Every Student in Every Class Every Day*. International Society for Technology in Education.

Bergmann, J. & Sams, A. (2010, December 16). *The Flipped Classroom*. Retrieved from http://www.youtube.com/watch?v=2H4RkudFzlc.

Coursera. Courses for everyone, 2012. URL https://www.coursera.org/

Driscoll, Tom. (2012). *Flipped Learning and democratic Education: The Complete Report.* Retreive from http:// www.flipped-history.com/2012/12/flipped *learning-democratic-education.html*

Enfield, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. *Techtrends, 57*(6), 14-27.

Flumerfelt, S., & Green, G. (2013). Using Lean in the Flipped Classroom for At Risk Students, *Education Technology & Society*, *16*, 356–366.

Fulton, K. (2012). Upside down and inside out: Flip your classroom to improve student learning. *Learning & Leading with Technology, 39*(8), 12–17.

Fulton, K.P., 2012. 10 reasons to flip. *The Phi Delta Kappan of Journal Storage (JSTOR)*, 94(2), pp.20–24.

Herreid, C., & Schiller, N. (2013). *Case studies and the flipped classroom*. Journal of College Science Teaching, 42(5), 62-123.

Hertz, M. B. (2012, July 10). The Flipped Classroom: Pro and Con. Retrieved January 15, 2015, from http://www.edutopia.org/blog/flipped-classroom-pro-and-con-mary-beth-Hertz

http://edudemic.com/2012/11/16-examples-of-flipped
classrooms/https://sites.google.com/site/blendedlearningvimala/home

Khan Academy (2012). Retrieved from https://www.khanacademy.org/

Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *Journal of Economic Education, 31*(1), 30-43.

Marshall, H. W. (2013, March 21). *Three reasons to flip your classroom*. Retrieved from http://www.slideshare.net/lainemarsh/3-reasons-to-flip-tesol-2013-32113

Millard, E. (2012). 5 reasons flipped classrooms work. *University Business,* 26-29.

Mukherjee, T.C., 2013. *Exploring the relationship between Learner's attributes and Flipped classroom success in the Malaysian context*.

Snowden, K. E. (2012). *Teacher perceptions of the flipped classroom: using video lectures online to replace traditional in-class lectures*. Thesis Prepared for the Degree of MASTER OF ARTS. Retrieved from http://digital.library.unt.edu/ark:/67531/metadc149663/m2/1/high_res_d/thesis.pdf.

Steffenhagen, J. (2012, September 6). Flipped classrooms create magic and controversy in B.C. schools. *The Vancouver Sun*. Retrieved from http://www.vancouversun.com/news/Flipped+classrooms+create+magic+controversy +schools/7202690/story.html

Strayer, J. F. (2008). *The effects of the classroom flip on the learning environment: A comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system* (Doctoral dissertation, The Ohio State University). Retrieved from http://etd.ohiolink.edu/send-pdf.cgi/Strayer%20

Jeremy.pdf?osu1189523914
Strayer, J. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research, 15,* 171–193.
Talley, C. and Scherer, S. 2013. *"The Enhanced Flipped Classroom: Increasing Academic Performance with Student-Recorded Lectures and Practice Testing in a "Flipped" STEM Course." Journal Of Negro Education 82, no. 3: 339-347.*
Tucker, B. (2012). The flipped classroom. *Education Next*, *12*(1), 82-83.