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Instructor's perception towards flipped classroom in Hong Kong

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Abstract

This study aims to examine instructors' perceptions of using the flipped classroom compared with traditional lecture approaches at Hong Kong tertiary educational institutes. Descriptive statistics and qualitative method are shown in the study to reflect instructors' perceptions of using the flipped classroom. The results show that the most difficult to encounter instructors in flipping a class in Hong Kong is the flipping class is very time-consuming due to insufficient technical support to teachers to implement the flipped classroom. The study concludes that instructors are positive towards the flipped classroom pedagogical approach in Hong Kong as it can effectively raise student engagement in class.

Keywords: Flipped classroom

Introduction

The flipped classroom is a part of blended learning, incorporating hands-on activities in the class and distance learning outside the class by watching lecture videos. (Halili and Zainuddin, 2015; Hamdan, McKnight, McKnight, & Arfstrom, 2013; Heilesen, 2010; Lean, Moizer, & Newbery, 2014; Poon, 2014). By flipping the class, students can watch the lecture videos anywhere according to their preference. The flipped classroom has been used in different disciplines such as business (Warner et al., 2014), economics (Roach, 2014), English language (Hung, 2015), information systems (Davies et al., 2013), physiology (Talley & Scherer, 2013), sociology and humanities (Kim et al., 2014),chemistry (Baepler et al., 2014), algebra (Love et al., 2014), science, technology, engineering, or mathematics (McLaughlin et al., 2014)

There has been a growing research about the use of the flipped classroom in teaching and learning. Prior studies show that the flipped classroom teaching approach raises student achievement in learning activities (Huang & Chiu, 2015; Galway et al., 2014; Davies et al., 2013; Kong, 2014; Talley & Scherer, 2013), improve their learning motivation (Harmon-Jones, Harmon-Jones, & Price, 2013; McLaughlin et al., 2013; and Galway et al.,2014) and raise student interaction and engagement in classroom activity (Love et al, 2014; Roach, 2014; Yang & Cheng, 2014; Leach and Butler,2009, Delialioglu, 2012). Beapler et al. (2014) pointed out that the student examination performance of chemistry courses in a flipped classroom were significantly better than that in a traditional classroom. Hung (2015) reported that the structured flip lectures were more effective instructional designs than the non-flip ones in teaching the English language.

However, there are a few literature questioning the effectiveness of the flipped classroom in learning and teaching. Chen et al., (2014) presented that students had difficulty using the flipped classroom because they did not have time to watch the video lecture outside the class. Kim et al. (2014) did not find any evidence that flipped learning had improved students' performance in the examination. Enfield (2013) and Milman

(2012) found that poor quality of video lecture was usually an obstacle in flipped classroom practice.

Regarding the barriers to implement the flipped classroom, studies have shown that insufficient technical support to teachers is the main barrier to implement the flipped classroom (Berge & Mrozowski, 1999; Wilson, 1999 and Byron & Bingham, 2001). It has argued that classroom settings usually do not have the latest video technology to support the flipped classroom (Green & McNeese, 2007, p. 13). Besides, lack of relevant video technology supporting the flipped classroom is one of the main barriers (Lim & Chai, 2008; Lowther et al., 2008). Instructors having inadequate knowledge and training in the flipped classroom are also barriers using the flipped classroom (Pierson, 2001; Bennett, 2001 and Inan and Lowther, 2009)

The present work extends the previous studies about the application of the flipped classroom in learning and teaching to examine the instructors' perception on the impact of using the flipped classroom on both student engagement and achievement. It will also explore significant factors affecting the instructors' perception using the flipped classroom.

The aim of the study is to investigate teacher perceptions of using the flipped classroom compared with traditional lecture approaches. It will study instructor perception of using the flipped classroom and their perceptions of the impact the flipped classroom on student engagement, learning and achievement in Hong Kong tertiary education. To this end, the study attempts to address the following research questions:

- What are the instructors' perception in using the flipped classroom?
- What are the instructors' perception regarding the impact from using the flipped classroom on both student engagement and achievement?
- What are the main factors affecting the instructors' perception – both supporting and deferring from using the flipped classroom?

A number of studies illustrate that flipped classroom could effectively engage students in class (Huang & Chiu, 2015; Galway et al., 2014; Love et al, 2014; Roach, 2014; Yang & Cheng, 2014;). However, most of them are not focusing on Hong Kong tertiary education market and their results seldom explain learning and teaching efficiency of using the flipped classrooms from the instructors' perspective. Hence, this study attempts to fill in the gap to collect teacher perception of using the flipped classroom and to investigate the impacts of flipped classroom on teaching and learning in Hong Kong tertiary education.

More importantly, the study can contribute to the relevant literature for further ongoing research on teacher perception of using flipped classroom. The results of this study is paramount for universities to make informed judgment about the validity of classroom pedagogy. It also provides reference to universities to assess the effectiveness of and training for the relevant flipped-classroom teaching. From the daily teaching point of view, findings of the study can also act as reference materials for instructors to fall back on while planning their teaching, through which more innovative assessment approaches can be developed for greater educational attainment. The framework of the study can be further expand to other community colleges and high schools.

In order to achieve the objectives of the study, we collect teacher's opinion on the flipped class through a survey on a sample of university instructors who are teaching in Hong Kong universities and colleges. The structure of the proposed study is organized as follows. Section 2 provides a literature review of the topics related to this study. In Section 3, we develop testable hypotheses; provide methodological details and descriptions of

data. Result analysis will be presented in Section 4. Section 5 will be a conclusion of the study.

Data & Methodology

The survey about the teachers' perception on the impact of the flipped classroom on learning and teaching was conducted between June 15, 2018 and Sept 20, 2018. It was anonymous using the the MySurvey on-line platform. There was a total of 18 questions including multiple choice and open-ended questions. Hundreds of email invitation letters were sent to teaching colleagues working at different tertiary educational institutions in Hong Kong to invite them to participate in the survey. There were 80 respondents in the survey. The respondents include professors, assistant professors and teaching fellows as well as instructors from different disciplines.

Results And Discussion

In the survey, teaching fellows and assistant professors are the largest groups of respondents. They account for 21.25% and 18.75% respectively. Tutors/teaching assistants made up about 11.25% of respondents. Figure 1 shows that the respondents of the survey distributed in different disciplines: 19% from Medicine/Nursing, 17% from Humanities, 18% from Accounting, Finance and Economics 15% from Social Science, 7% from Law, 6% from Computer and Information System and 4% from Communication/Journalism.

Among the survey respondents, 90% of the them are from four-year public universities and colleges with the rest from private profit-making educational institutes and community colleges. As shown in the figure 2, most of respondents have rich teaching experience. Over 40% of them have more than 10 years of high education teaching experience and 22% of them have 6-10 years of teaching experience in higher educational institutions.

Figure 3 depicts that around half of the respondents have flipped or plan to flip an undergraduate course. The courses that these respondents have flopped include graduate in-class taught courses (21.15%), laboratory courses (6.52%) and capstone projects (5%). In terms of class size, figure 4 indicates that the percentage of the respondents that have flipped or plan to flip a class with fewer than 30 students, a class with 31-60 student, a class with 61-100 students and a class with more than 100 students is 35%, 30%, 15% and 15% respectively.

As shown in the Figure 5, over half of respondents have tried flipping an activity, class, period, or course, and decided to continue flipping while another 20% of them have planned to flip a class in the future. At the same time, there are 20% of the respondents have no intention to flip any class while around 8% of the respondents have tried flipping, but do not plan to do it again.

In respect of the instructors' perception on the application of flipped classes in teaching, we find that instructors are positive on the flipped classroom in Hong Kong. Figure 6 shows that over 50% of respondents who have flipped their classes rate the experience as positive for themselves, a third of them did not express their opinion while fewer than 15% of respondents reported negative experience. In addition, Figure 7 provides evidence that students' feedback to the flipped classes is positive. This is consistent with the findings that flipped classroom can increase student achievement in learning activities (Huang & Chiu, 2015; Galway et al., 2014; Davies et al., 2013; Kong, 2014; Talley & Scherer, 2013), improve their learning motivation (Harmon-Jones, Harmon-Jones, & Price, 2013; McLaughlin et al., 2013; and Galway et al.,2014).

Regarding the important reasons for instructors in flipping their classes, include a desire to raise student engagement in class (25%), improve student learning efficiency and effectiveness (23%) and raise teaching efficiency and effectiveness (20%). In general, the respondents agree that students became more collaborative and engaged in the flipped classes. They have also observed that students are very positive towards to flipped classes and only a small portion of students are negative towards the flipped classrooms (shown in the Figures 8 and 9). The above findings regarding raising student engagement in class is supported by the results of Love et al. (2014), Roach (2014), Yang & Cheng (2014), Leach and Butler (2009), and Delialioglu (2012). Similarly, the findings that flipped classes improving student learning efficiency and effectiveness are consistent with conclusion drawn by Huang & Chiu (2015), Galway et al., (2014), Davies et al. (2013), Kong (2014), Talley & Scherer (2013) and Beapler et al. (2014). Last but not least, the findings that flipped classes enhancing teaching efficiency and effectiveness are echoed by Hung (2015).

Consistent with prior studies, the most difficult to encounter instructors in flipping a class in Hong Kong is the flipping class is very time consuming (nearly 25% of respondents). This is likely due to insufficient technical support to teachers to implement the flipped classroom as pointed out by Berge & Mrozowski, 1999; Wilson, 1999 and Byron & Bingham, 2001.The next significant challenge was that respondents did not have enough knowledge and understanding of flipping technology (about 18%). This is in line with the findings of Pierson (2001), Bennett (2001) and Inan and Lowther (2009).

Conclusion

In summary, the study concludes that the instructors and students are positive towards the flipped classroom pedagogical approach in Hong Kong even though there are numerous difficulties encountering in flipping classes. The results also show that the flipped classroom can raise both learning and teaching efficiency and so it is worth for promoting in Hong Kong tertiary education.

Figures

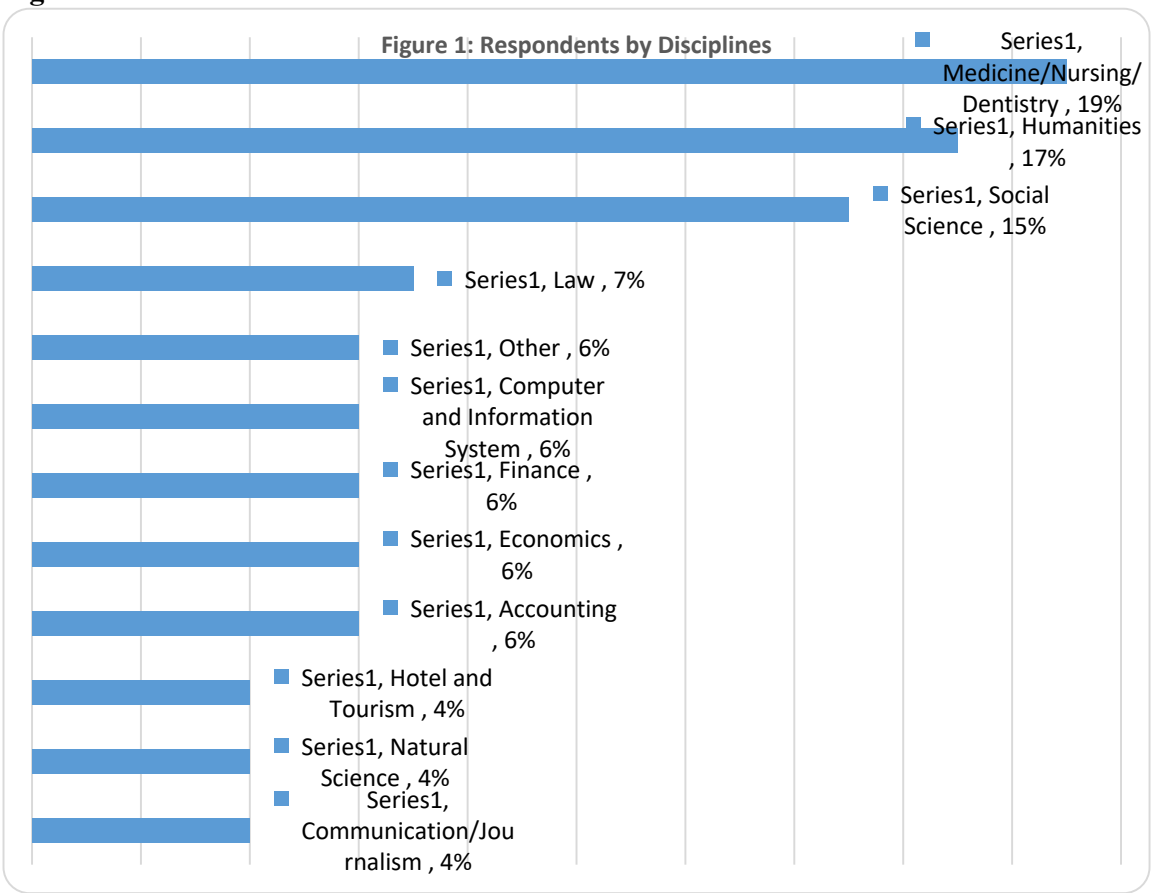


Figure 1: Respondents by Disciplines
Series1, Medicine/Nursing/ Dentistry , 19%
Series1, Humanities , 17%
Series1, Social Science , 15%
Series1, Law , 7%
Series1, Other , 6%
Series1, Computer and Information System , 6%
Series1, Finance , 6%
Series1, Economics , 6%
Series1, Accounting , 6%
Series1, Hotel and Tourism , 4%
Series1, Natural Science , 4%
Series1, Communication/Journalism , 4%

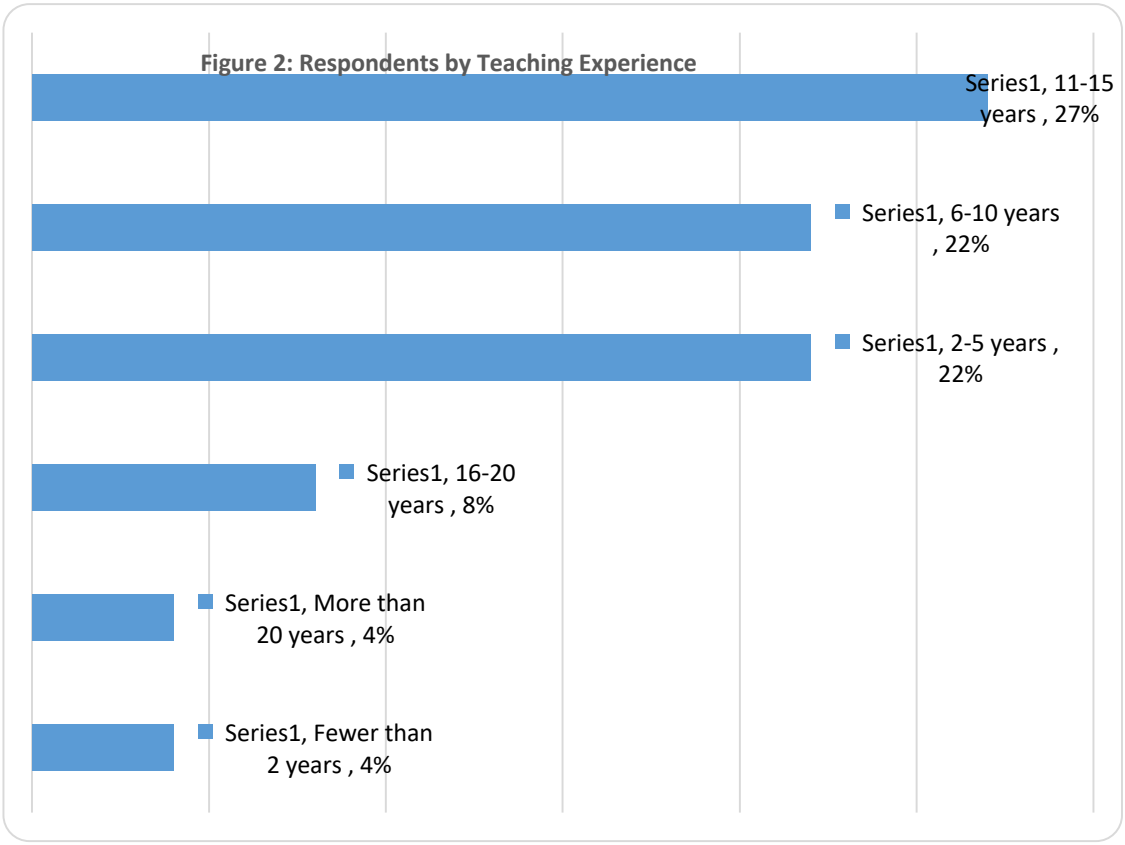


Figure 2: Respondents by Teaching Experience
Series1, 11-15 years , 27%
Series1, 6-10 years , 22%
Series1, 2-5 years , 22%
Series1, 16-20 years , 8%
Series1, More than 20 years , 4%
Series1, Fewer than 2 years , 4%

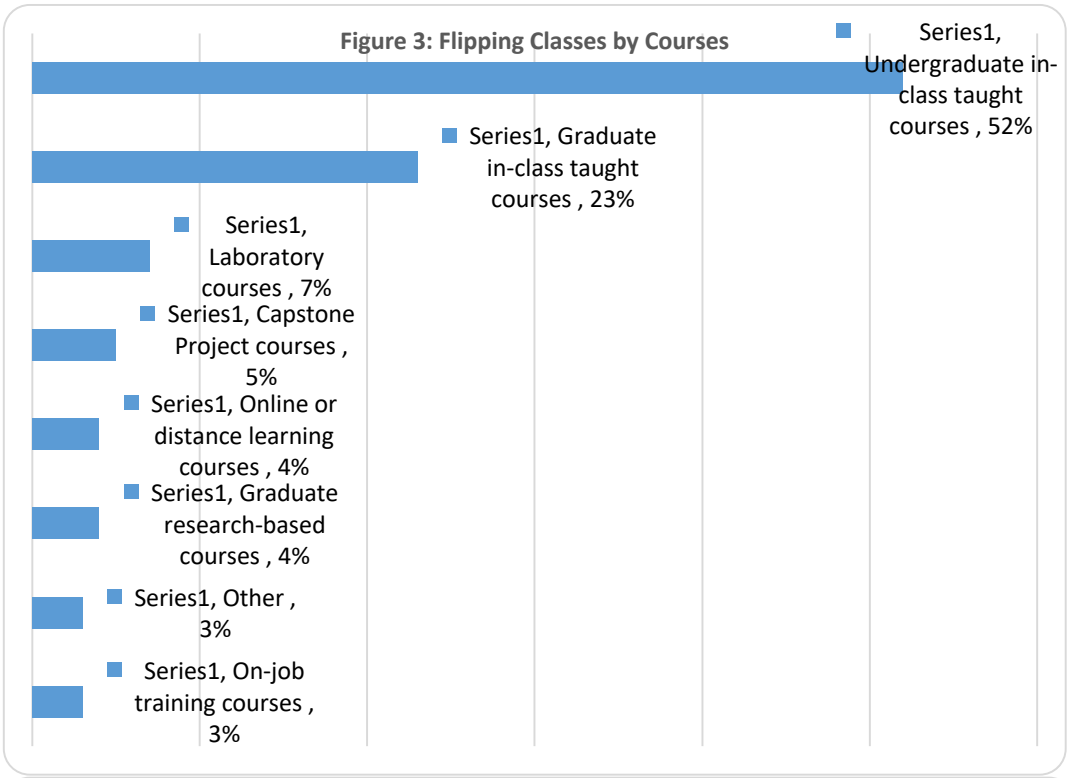


Figure 3: Flipping Classes by Courses
Series1, Undergraduate in-class taught courses , 52%
Series1, Graduate in-class taught courses , 23%
Series1, Laboratory courses , 7%
Series1, Capstone Project courses , 5%
Series1, Online or distance learning courses , 4%
Series1, Graduate research-based courses , 4%
Series1, Other , 3%
Series1, On-job training courses , 3%

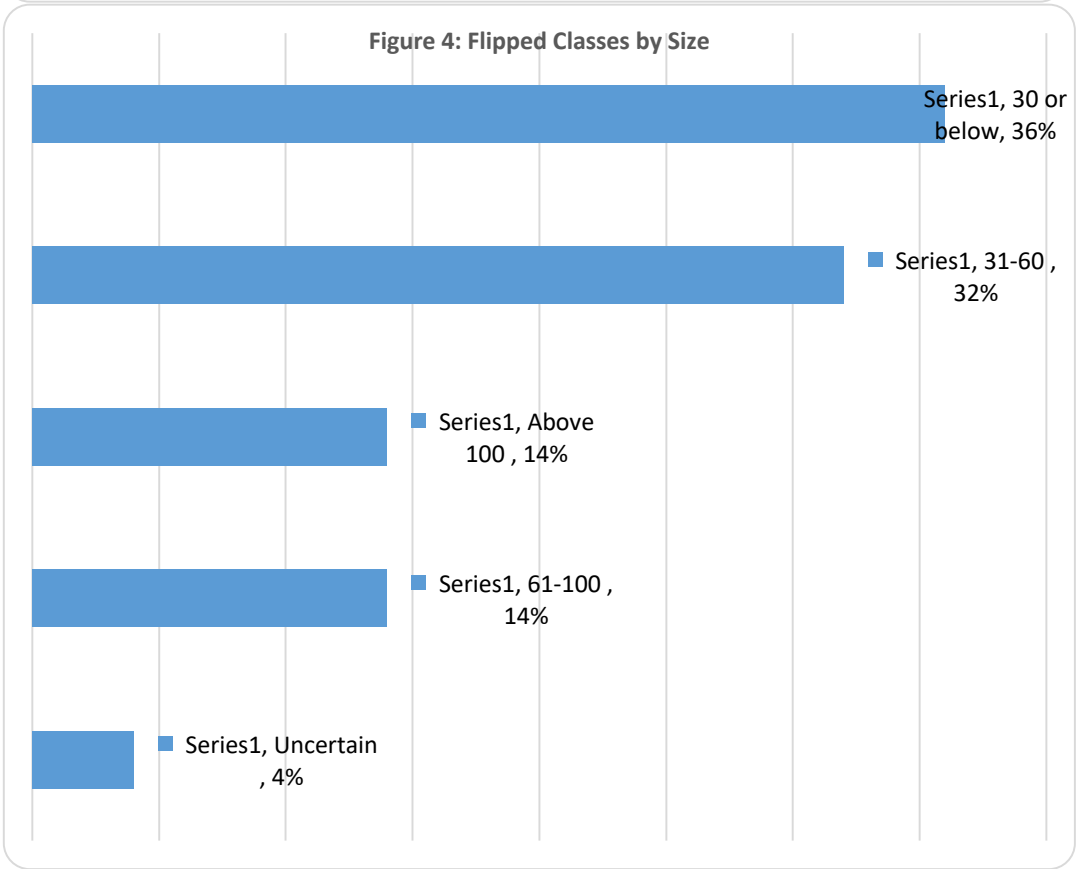


Figure 4: Flipped Classes by Size
Series1, 30 or below, 36%
Series1, 31-60 , 32%
Series1, Above 100 , 14%
Series1, 61-100 , 14%
Series1, Uncertain , 4%

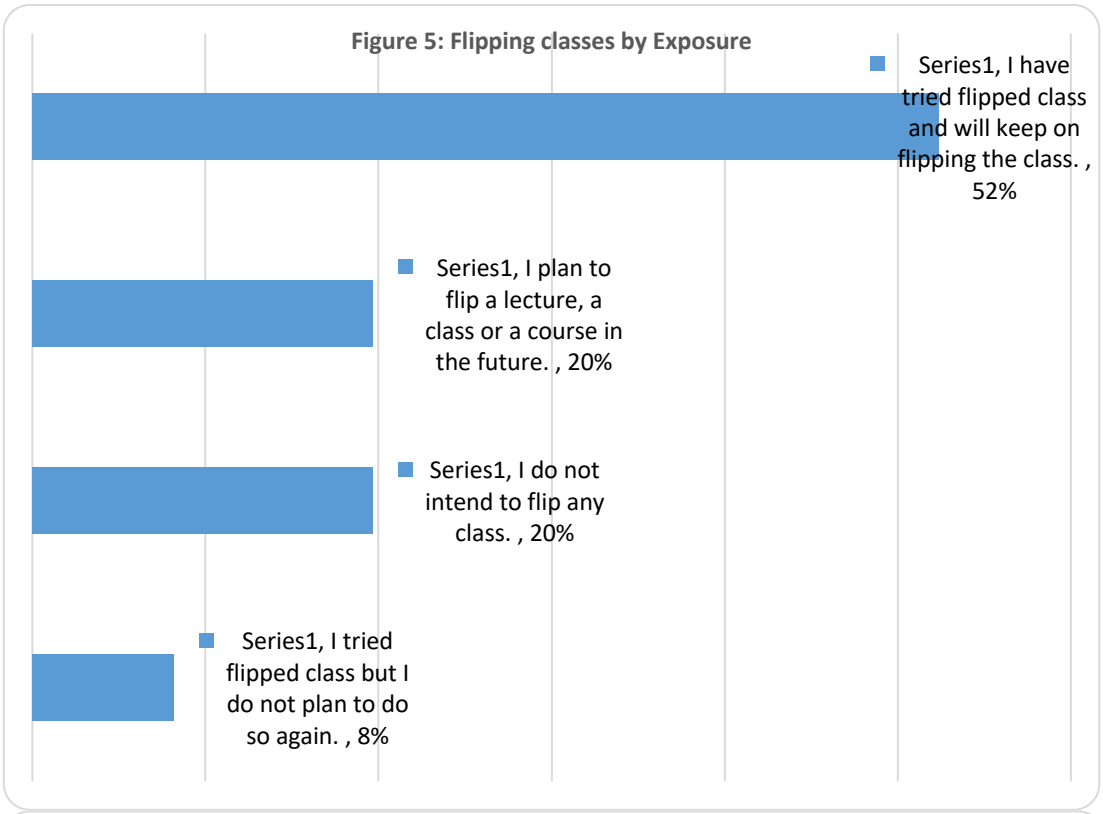


Figure 5: Flipping classes by Exposure
Series1, I have tried flipped class and will keep on flipping the class. , 52%
Series1, I plan to flip a lecture, a class or a course in the future. , 20%
Series1, I do not intend to flip any class. , 20%
Series1, I tried flipped class but I do not plan to do so again. , 8%

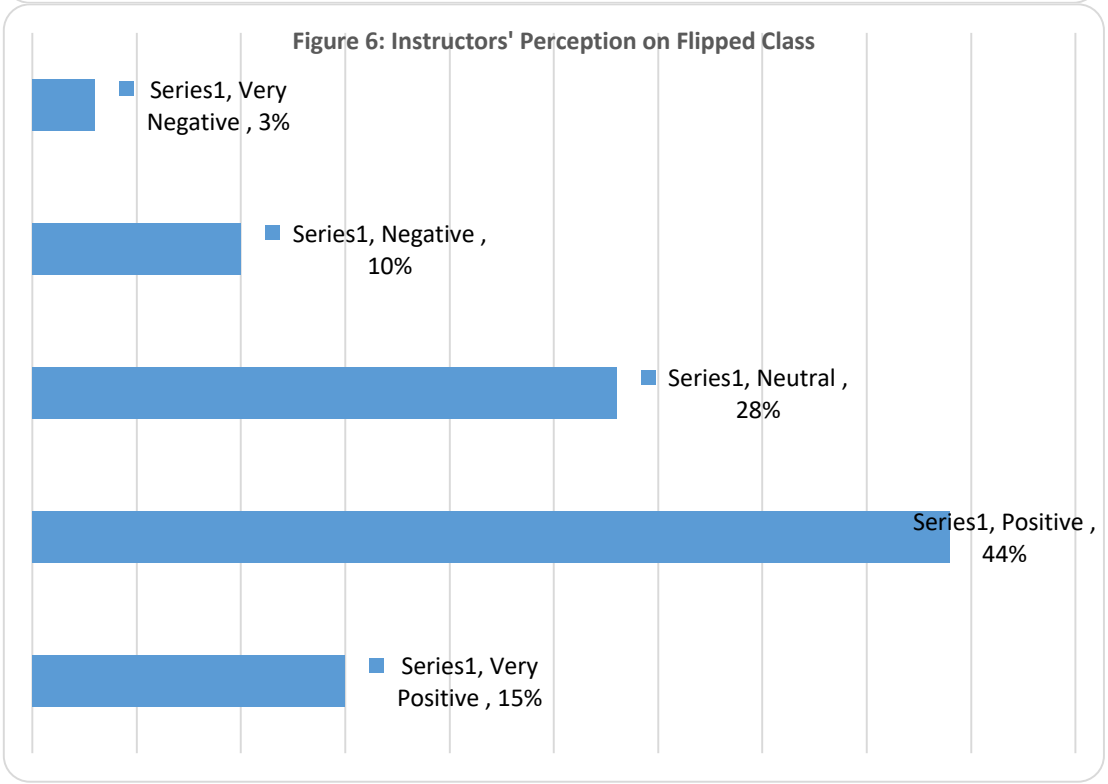


Figure 6: Instructors' Perception on Flipped Class
Series1, Very Negative , 3%
Series1, Negative , 10%
Series1, Neutral , 28%
Series1, Positive , 44%
Series1, Very Positive , 15%

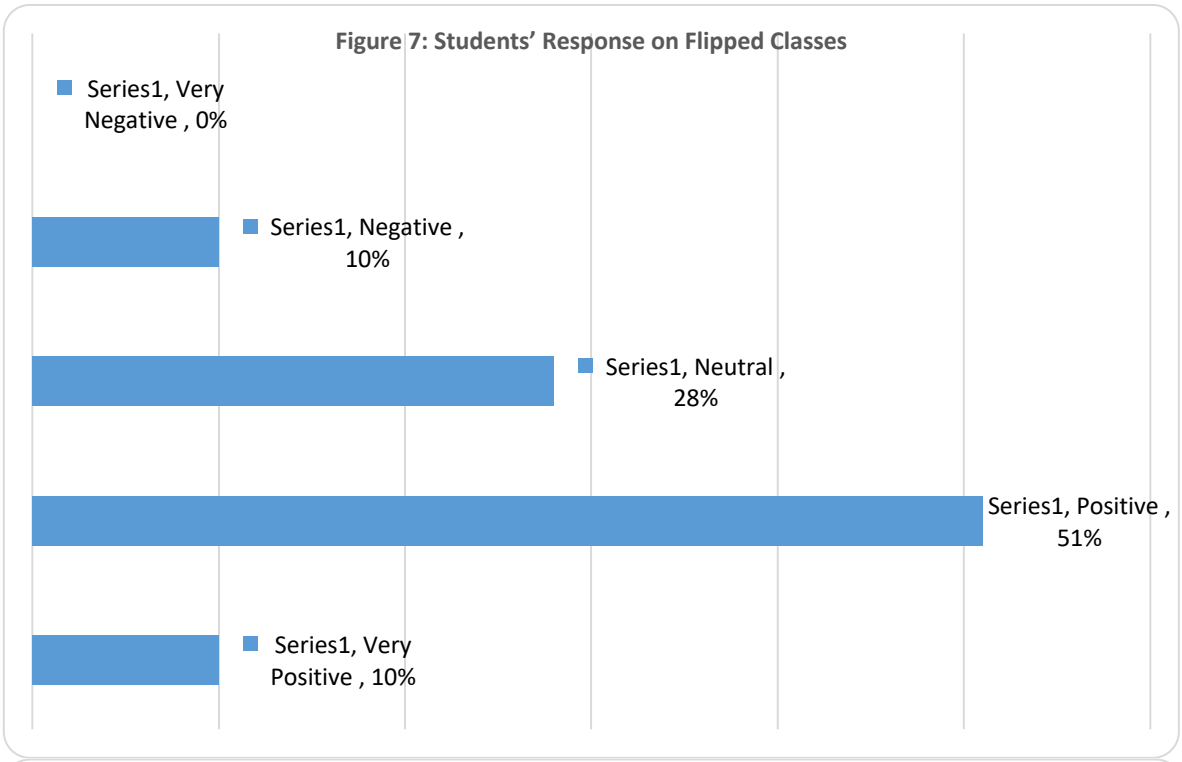
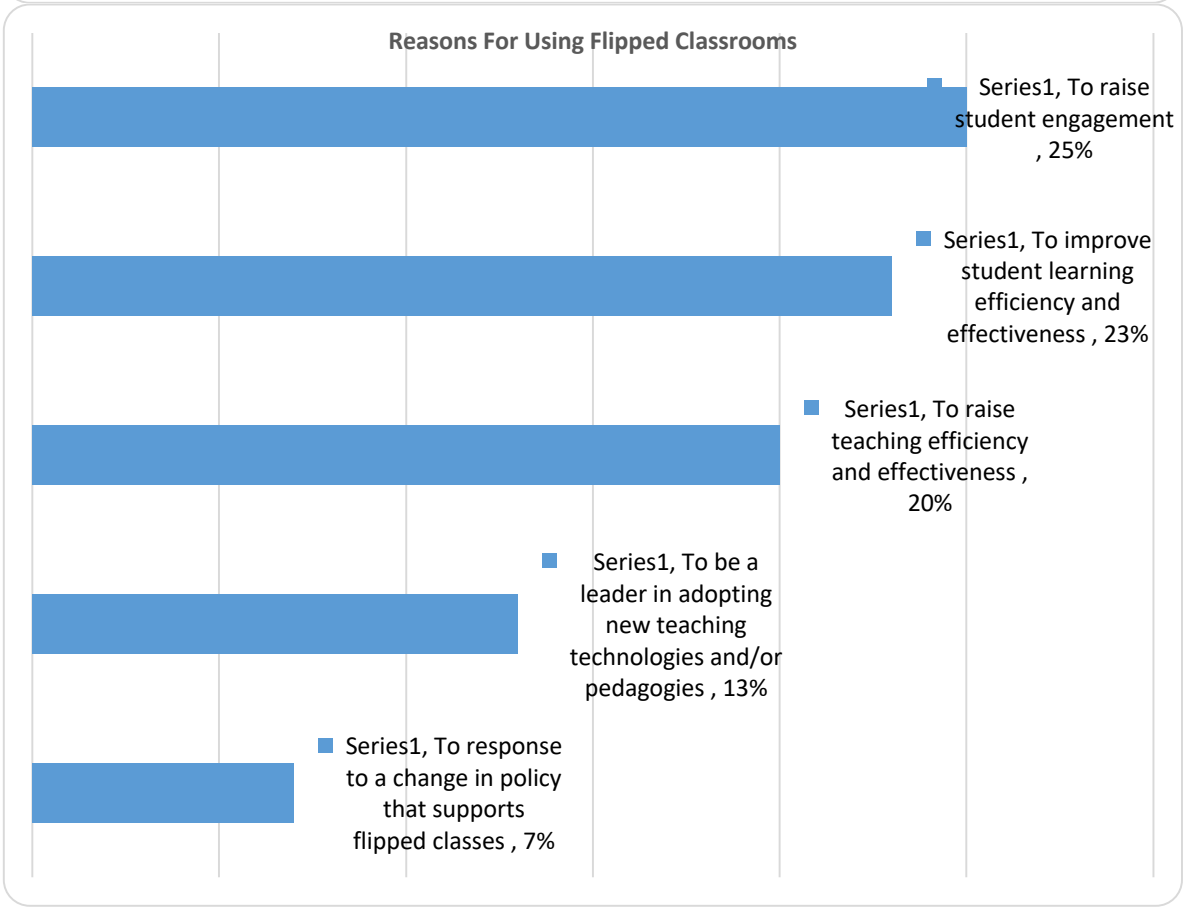
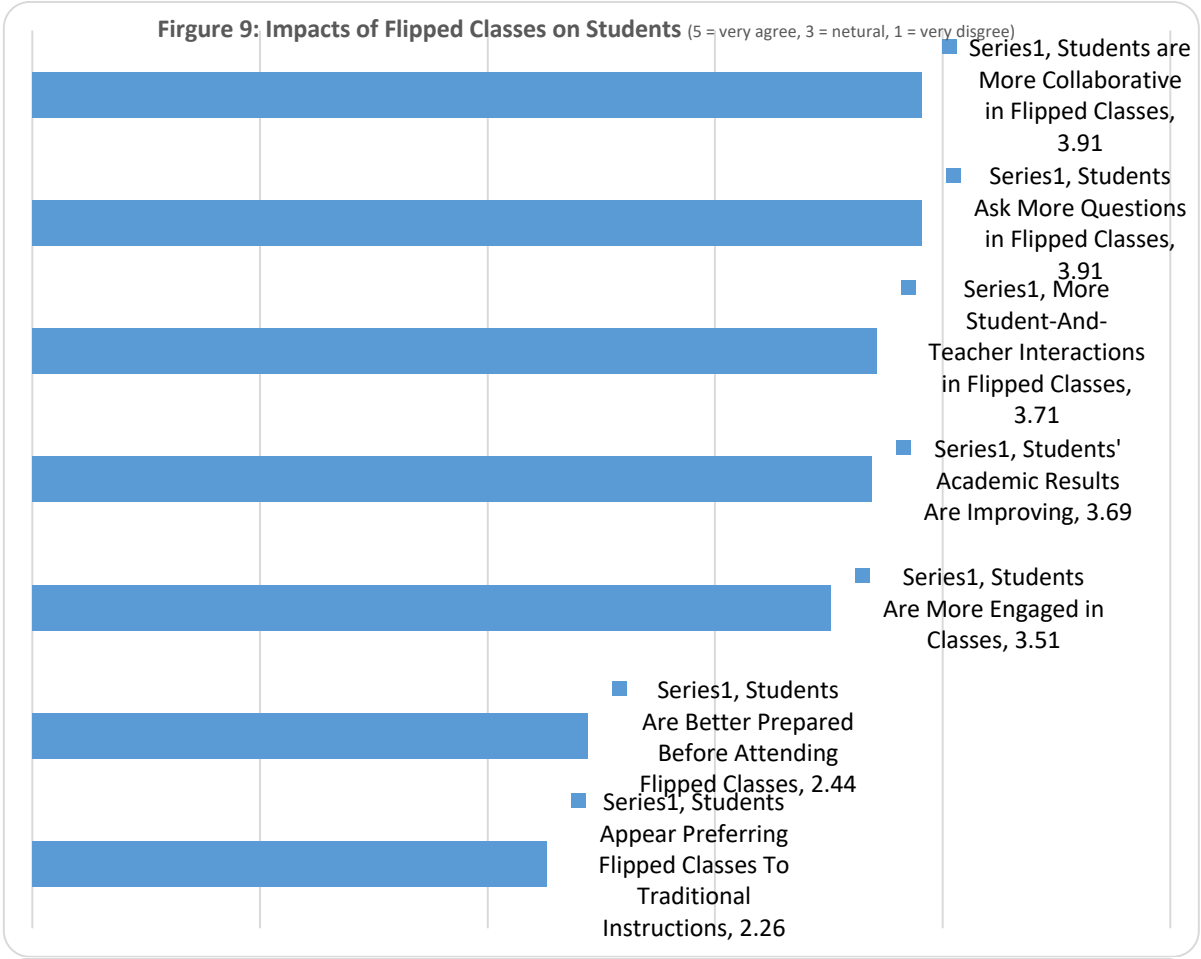


Figure 7: Students' Response on Flipped Classes
Series1, Very Negative , 0%
Series1, Negative , 10%
Series1, Neutral , 28%
Series1, Positive , 51%
Series1, Very Positive , 10%


Reasons For Using Flipped Classrooms
Series1, To raise student engagement , 25%
Series1, To improve student learning efficiency and effectiveness , 23%
Series1, To raise teaching efficiency and effectiveness , 20%
Series1, To be a leader in adopting new teaching technologies and/or pedagogies , 13%
Series1, To response to a change in policy that supports flipped classes , 7%


Firgure 9: Impacts of Flipped Classes on Students (5 = very agree, 3 = netural, 1 = very disgree)
Series1, Students are More Collaborative in Flipped Classes, 3.91
Series1, Students Ask More Questions in Flipped Classes, 3.91
Series1, More Student-And-Teacher Interactions in Flipped Classes, 3.71
Series1, Students' Academic Results Are Improving, 3.69
Series1, Students Are More Engaged in Classes, 3.51
Series1, Students Are Better Prepared Before Attending Flipped Classes, 2.44
Series1, Students Appear Preferring Flipped Classes To Traditional Instructions, 2.26

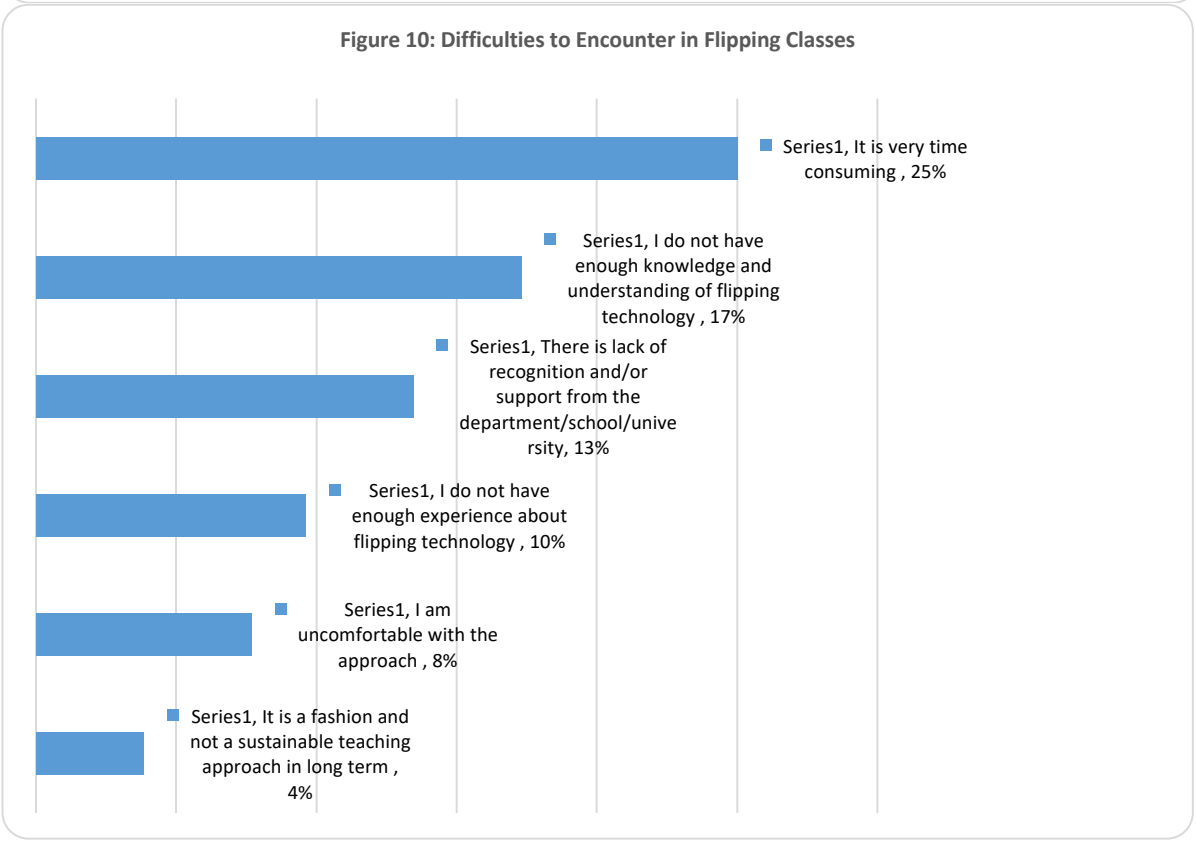


Figure 10: Difficulties to Encounter in Flipping Classes
Series1, It is very time consuming , 25%
Series1, I do not have enough knowledge and understanding of flipping technology , 17%
Series1, There is lack of recognition and/or support from the department/school/university, 13%
Series1, I do not have enough experience about flipping technology , 10%
Series1, I am uncomfortable with the approach , 8%
Series1, It is a fashion and not a sustainable teaching approach in long term , 4%

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