

# Challenges in Flipping Hong Kong's Classrooms

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**Abstract:** The new 5-year plan of implementing e-learning in Hong Kong has been laid out in the government's "Report on the Fourth Strategy on Information Technology in Education" in which flipped classroom is one of the important pedagogic approaches being advocated. While many researches were conducted to explore the advantages of flipped classroom, some challenges should not be ignored. This paper discusses the challenges of flipping Hong Kong's classrooms that include "learning by videos", "technological and pedagogical concerns" as well as "students' low learning motivation". Through understanding these challenges, educators and researchers can develop articulated strategies and models to address the problems, and more importantly, inform the government to provide articulated professional development to schools and teachers in order to perfect the implementation of flipped classroom in Hong Kong.

**Keywords:** Flipped Classroom, Paradigm Shift, Education Strategies, Learning Challenges

## 1. Introduction

The advocacy of implementing flipped classroom in formal school curriculum has aroused discussions around the world. This paradigm shift further empowers the student-centered learning model. It gives us an idea that factual knowledge can be learnt at home while high-order learning activities such as discussions and debating can be conducted in class with teachers' guidance (Cheung & Jong, 2016; Hwang et al., 2015; Baepler, 2014). However, towards these changes, limited research attention has been directed towards the challenges that students and teachers would encounter in flipped classrooms. We examine these difficulties using a qualitative approach by inviting students and teachers to share the challenges they faced in flipping the classroom. With this understanding, educators can find ways to address these problems, researchers can further investigate the potential drawbacks of flipping the classroom for constructing a more comprehensive model, administrators can provide professional developments to local schools and teachers based on the problems we explored.

## 2. Conceptual Framework

Existing studies documented characteristics and merits of practicing flipped classroom in formal curriculum (Hwang et al., 2015; Baepler, 2014; Johnson, 2013; Bergmann & Sams, 2012; Berrett, 2012; Stone, 2012; Strayer, 2008). They can be summarized as (a) enabling more in-class interactions among teachers and students, (b) providing more lesson time for high-order activities, (c) students can learn at anywhere at any time with mobile devices, (d) flipped classroom can benefit both elites and the less capable students, and (e) time outside of class can be assigned for gaining knowledge at the remembering and understanding level to free more lesson time. Although previous researches named a lot advantages, however, there is no perfect model in education. Critiques and doubts have made educators to reflect if flipping the classroom can effectively improve students' learning outcomes (Cheung & Jong, 2016; Herreid & Schiller, 2013; Johnson, 2013; November & Mull, 2012).

Herreid and Schiller (2013) conducted case studies on flipped classroom which reported some pitfalls of this practice. They included (a) students' resistance to new learning method, (b) finding good videos or relevant teaching materials for students' pre-learning is difficult because they must be tailor made and (c) the quality of the videos made by teachers are usually marginal (Herreid & Schiller, 2013). With this understanding, there is another research conducted by Johnson (2013) which investigated

students' perceptions of flipped classrooms. Although his findings also suggested some advantages, we should not ignore the challenges. He found that some of the students did not like watching videos. He also found students might have off-task behaviors when pre-learning on web. Some students also reported they could not ask questions immediately when they had frustrations while watching videos. It created a sense of learning helplessness which made them give up easily. Besides, students also expressed that they found traditional lectures more stimulating than videos. They could not stay motivated every day to watch the videos. They also found it is hard to read the words in videos. Against this backdrop, Cheung and Jong (2016) conducted an interview on teachers' concerns over flipping classrooms in Hong Kong. The challenges hindering teachers not to flip their classrooms aligned with the previous findings. Teachers doubted if students have enough motivation to watch videos at home. They also concerned whether flipping classrooms can effectively enhance students' learning outcomes. They also wondered if changing the teaching pedagogies would induce misunderstandings in parents. These are the authentic challenges that teachers worry about in flipping Hong Kong's classrooms.

To sum up, previous researches showed us the challenges in flipping classrooms. These challenges can be studied by five dimensions: (a) Challenges about the way of learning through videos, (b) Challenges behind pre-learning, (c) Challenges from Learning Management Systems, (d) Challenges of student's low learning motivation and (e) Challenges in choosing appropriate teaching pedagogies. We would employ these five dimensions to analyze the challenges that students and teachers face in flipping classrooms.

### **3. Research Design**

#### *3.1 Research Background*

Previous researches on flipped classroom mainly focused on the Science and Mathematics subjects (Song et al., 2016; Johnson, 2013; Bergmann & Sams, 2012). In this paper, we would focus on Liberal Studies (LS). Liberal Studies has been a compulsory subject in the Hong Kong's New Secondary School Curriculum since 2009. It is a subject combining Social Sciences and Humanities. The reason of choosing Liberal Studies is that there are only limited researches on flipped classroom focused on Issue-quest learning. Issue-quest learning encourages students to discuss and raise questions related to specific issues (Hwang et al., 2015). Therefore, this paper aims to gain more understanding on a subject using issue-based inquiry to teach and learn so that we can investigate the challenges of flipping classrooms.

#### *3.2 Definitions of Flipped Classroom*

In order to facilitate the operation of this research, we define Flipped Classroom as a pedagogical model that traditional lecture and homework elements of a course are reversed to increase the opportunities of interaction between students and teachers. Teachers can have more time to design and guide high-order learning activities to enhance learning (Hwang et al., 2015; Bergmann & Sams, 2012; Educare, 2012).

#### *3.3 Research Questions*

The central question is implied in the title of the study "Challenges in flipping Hong Kong's classrooms" and this paper is going to investigate two questions: (a) 'What are the challenges students encounter in flipped classrooms?' (b) and 'What challenges do teachers encounter in flipping their classroom?'

#### *3.4 Research Method*

This research was conducted with interview data in Hong Kong. The participants are all from secondary schools. There were 16 form 4 students and 6 teachers flipping their LS classrooms. They came from 3 different secondary schools in Hong Kong. In this research, for understanding the first question 'What are the challenges students encounter in flipped classrooms?' We adopted the Focus-Group Interview approach, asking subjects open-ended questions. According to Creswell (2008), having 4-6 people in a

focus group is the ideal case. We kept this group size during this research. The reason of choosing the Focus-Group Interview approach is that better information can be guaranteed compared to one-on-one interview. People can have collaboration and interaction during interviews. Focus-Group Interview can also encourage students who are hesitant to provide information to share more. We conducted a total of 3 interviews, around 1 hour each. The first had 4 students in the group, the second had 6 students in the group and the third had 5 students in a group. A total of 5 open-ended questions were asked to collect students' views of learning in flipped classroom. We prepared an Interview Protocol before the interviews. After completing the interviews, researchers will review the recording, coding the information and categorizing them into different themes.

Table 1: Interview Protocol. (Students)

Interview Protocol
Project: Research on Students' Learning Challenges in Flipped Classroom of Liberal Studies
Questions:
1. Can you share about your pre-learning of Liberal Studies at home?
2. Do/Did you find any challenges to learn through videos at home?
3. Do you prefer learning by video or teacher teaching the same content in the classroom? Why?
4. Do you actively participate in lesson activities after pre-learning at home?
5. Overall, do you find yourself learn better in flipped classrooms than in traditional classrooms?

In order to get a more comprehensive picture on the challenges of flipping classrooms, Focus-Group Interview was also employed in interviews with teachers. The protocol is shown in Table 2. Compared to the students' interview, only 3 questions were asked. We have conducted 3 interviews separately and a total of 6 teachers were interviewed. Each interview lasted no longer than 30 minutes.

Table 2: Interview Protocol. (Teachers)

Interview Protocol
Project: Research about Teachers' Concerns on Challenges of "Flipping" Liberal Studies
1. Can you share more about the pedagogies you adopt(ed) in teaching Liberal Studies under the flipped classroom approach?
2. Can you share more about how your students learn Liberal Studies under the flipped classroom approach?
3. Can you share more about what challenges you encounter(ed) in flipping Liberal Studies?

## 4. Results and Implication

### 4.1 Challenges about The Way of Learning through Videos

November and Mull (2012) and Johnson (2013) criticize the way of asking students to learn by watching videos at home. They argued that there was no interaction among students during learning. Teacher, should be the person who facilitates students' knowledge construction. This does not suggest that teachers can turn a blind eye to students' learning difficulties under the name of "self-directed learning". In our research, one student reported that he was really confused when he had something not understanding when watching videos. In the traditional classroom, he can ask his teacher immediately at once when he does not understand the content. Another student followed-up on this point by saying "When I do not understand the content of the video, I give up very quickly." Researchers asked if they could post their questions on LMSs or forums to seek peers' or teachers' help. They did not agree that it was an effective way because they had already lost the interest of watching the video, even if they can get help to make the concepts clear finally. One student said "It's all about the timing, once the learning interest is gone; it's hard to come back." One teacher also commented in line with students' opinions. She said "In Liberal Studies, students have to learn the related social science concepts and the background of the issue in the video. However, sometimes they are difficult, such as "Patenting of Drugs" ...It is very hard to help students understand these kinds of concepts and the background in a 3-minute video...When they do not understand, they cannot seek help from teachers immediately.

Despite that they can reach me by Whatsapp, there are still time lags that are enough for students to decide to give up.” This suggested that having no instant feedback to students during learning through videos is a challenge of implementing the flipped classroom.

#### *4.2 Challenges behind pre-learning*

In addition to learning through videos, the technological limitations are also challenges we could not ignore. Herreid and Schiller (2013) reported that students’ resistance to new learning methods was one of the learning challenges in flipped classrooms. Our research subjects made some comments which align with these previous findings: one student said “We have to access Schoology to watch the videos at home and complete a set of questions that the teachers prepared. However, since the monitor of my mobile phone is too small, it is very hard to read the text.” The Researcher followed up on the comments and asked if the pre-learning could be done by using a desktop computer to resolve this problem. The students replied that he was not used to using computers to do the pre-learning as he usually didn’t watch the videos at home. Therefore, he only uses mobile devices to do the pre-learning. Another student agreed and further commented “Sometimes when I am doing the pre-learning on my mobile phone, there are messages popping up frequently at the top of the screen and I have to reply. Using mobile phone would distract my attention. After replying my friend, it is hard for me to recall which part I was pre-learning. Even if I could remember, my attention has been distracted already. That made me give up.”

Apart from the challenges regarding using mobile devices, students cannot stay focused on watching videos is also another challenge. As Liberal Studies has lots of concepts to be covered and complicated issues to be analyzed, students have to stay focused during learning. However, students reported that staying focused when watching videos was a challenge. One student made a comment and said “I cannot focus on watching videos, not even 2 minutes. That’s very boring, there are only sounds and slides illustrating the concepts and the background of some issues, I am just sitting in front of the screen to listen. In the traditional classroom, I can jot down the points that the teacher teaches, however, I cannot do it now in flipped classrooms. I cannot type Chinese well and it’s not possible for me to jot down the points on a paper when I am learning on a bus.”

#### *4.3 Challenges from Learning Management System*

Flipped Classroom must have the element of a Learning Management System (LMS). However, there are challenges from the technological concerns of using LMSs to do pre-learning. They can be analyzed by 2 dimensions: (a) the problem of accessing LMSs and (b) the problems occurring during the use of LMS. Nowadays, LMSs can provide a portfolio of students’ pre-learning. Teachers can set a number of questions related to the video’s content and require students to complete them. Although LMS can provide good platforms for teachers and students to do pre-learning, there are some technological limitations behind that we cannot ignore.

The first limitation is about accessing to LMS. One teacher expressed “students do not remember their account and password of Schoology, which is a common problem, it becomes their excuse of not doing pre-learning.” The researcher followed-up by asking “Can they reset the password to get back the account through email?” The teacher answered “the point is that they do not even know which email they used in registration...I spent much time dealing with these kind of problems...It wasted my teaching time. If I had not flipped my classroom, maybe my teaching could have been more effective.” Another teacher expressed the same feeling and said “At the very beginning when I tried to flip my Liberal Studies lessons, I found it’s very complicated in setting up accounts for students. After setting up all the accounts, I still have to spend 2 to 3 lessons in getting everyone to know how to use the LMS... We have to teach them. Otherwise, they would have excuses of not doing pre-learning in the name of technological ignorance.” Hence, it is a challenge for teachers to get students accessing the LMS. Besides, they also mentioned the technological limitations behind using the platform. One student said “The layout of some LMSs is bad; I cannot answer the questions when I am watching the video because the video has already occupied the whole screen. After watching video, I may probably forget what I have learnt.” Another student followed-up and said “sometimes I cannot delete the words I typed in LMS... that’s a bug...As Liberal Studies requires me to express my own views on some issues, the bugs made me unable to modify the answers”.

#### *4.4 Challenges from Students' Learning Motivation*

Students' learning motivation has been one of the key concerns in the implementation of Flipped Classroom (Hwang et al., 2015; Johnson, 2013; Bergmann & Sams, 2012). There are no agreed resolutions to students' low learning motivation. If students' learning motivation is low, flipped classroom is hard to exert positive influences on enhancing the learning outcomes. At the same time, it would bring heavy burden to teachers, both emotionally and in terms of workload. One teacher said "the failure of flipped classroom is not the problem of flipping classrooms but the inactive learning attitude of students. In the elite class of our school, students have more workload than before. They have to watch my videos, answer questions, search the relevant materials on web for the discussions on the next day. However, it's impossible for them to keep hard working every day. Meanwhile, there are not many hardworking students in class". The researcher followed-up by asking about the case of less-capable classes. Another teacher replied "Most of the students in those classes do not do pre-learning no matter how you try to force them. The reason is simple; they do not want to do it...I would ask them to complete the pre-learning during the lesson on desktop computers. However, there is only one computer in the classroom. I have to ask the lazy students to complete it one by one. That wasted a lot of lesson time." Researcher followed-up and asked "could this problem be resolved by placing several tablets in the class?" The teacher replied "That would induce discipline problems when students are not using the tablet to pre-learn but to play games, unless I could lock all the functions except Schoology. Then students can only use the assigned tablet to complete the pre-learning instead of doing other things. Yet, I do not see how it can be possible so far."

While teachers have expressed their views, students also explained the reasons why they do not have interest in learning by watching videos. One student said "sometimes the teacher would choose some foreign documentaries for us for the pre-learning. Despite the content is relevant to our study, the point is that I do not like watching English videos, it kills my interest to learn." Another student expressed concerns about the quality of videos. She said "In some of the videos, my teacher speaks too fast and I cannot follow...Sometimes, there are many concepts introduced in the videos. They are very complicated. Even if I re-play the videos for several times, I still cannot understand. I cannot follow the pace of my teacher." Another student further commented "we cannot get use to this learning style. We have been learning in the "traditional classroom" for many years. There is no reason for me to change. I think my teacher should discuss the teaching method with us instead of trying any "new" style he wants." We can see students' resistance to the new learning method is a big challenge for the implementation of flipped classroom. This also aligns with the findings of Herreid & Schiller (2013).

#### *4.5 Challenges in Choosing Appropriate Teaching Pedagogies*

Flipped Classroom is shifting the education paradigm and it changes the way teachers teach. Therefore, the teaching pedagogies have to be refined (Bergmann & Sams, 2012). One teacher brought up the challenge he faced in setting questions on LMS when he decided to flip his classroom. He said "the challenges come from designing questions on LMS. You have to set multiple choices questions. However, it's very difficult to set the questions as they are factual-based. Creating the false answers is really a challenge to me. I am not good at imagination. Besides, the questions should be simple but have to be in line with the learning objectives. I have to use a lot of time to do that"

One teacher raised another challenge about the pedagogical use in lesson. She expressed "sometimes I do not know which videos I should choose for students' pre-learning. There are so many videos on the web and it seems that just a few of them can fit my teaching objectives... When they have finished the pre-learning, I do not know how to transform my lesson to fit the standard of "Good Flipped Classroom" in the classroom. I am not very clear about my role in the classroom. Should I still have direct-teaching? Is direct-teaching not recommended? I am not very sure about what I should do in the classroom so it makes me frustrated sometimes." Hence, we can see even teachers who are implementing flipped classroom may not fully understand the essence of flipped classroom. That would make them encounter many problems they do not know how to resolve.

Another challenge raised by teachers is concerning the effectiveness of flipped classroom in enhancing students' examination results. Cheung and Jong (2016) mentioned the education culture in Hong Kong is mainly driven by "performances". We can also see teachers doubt if flipping classrooms can enhance students' examination performance in Liberal Studies. One teacher explained "I doubt the

effectiveness of flipped classroom in helping our students to get high marks in public examination...Our examination does not test our students' IT literacy. Flipping classroom also cannot enhance students' abilities in answering formal essay questions...we can find the drawbacks of flipped classroom in uniform test obviously. Students cannot express their ideas comprehensively on paper. They only get used to answering multiple choices questions."

## 5. Conclusion

This research aims to form a preliminary picture about the challenges in flipping classrooms and the findings align with previous studies. The challenges are manifold: (a) students cannot get instant response from teachers when they encounter difficulties at home, (b) the technological limitations behind pre-learning at home, in which we found mobile devices and LMS have their own shortcomings which constitute learning barriers to students, (c) teachers have to spend a lot of time teaching students to use the LMS and there are also discipline problems they have to deal with, (d) low learning motivation of students and unattractive content of videos that make both students and teachers frustrated and (e) teachers found the existing pedagogies cannot effectively enhance students' examination results, with some teachers do not even know their role in the classroom. We should keep focusing on these challenges in finding ways to resolve the difficulties of flipping classrooms in Hong Kong.

## References

- Baepler, P., Walker, J. D., & Driessen, M. (2014). It's not about seat time: Blanding, flipping, and efficiency in active learning classrooms. *Computers & Education* 78, 227-36.
- Bishop, J. L., & Verleger, M. A. (2013). *The flipped classroom: A survey of the research*. Paper presented at the American Society for Engineering Education, Atlanta, GA.
- Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Eugene, Oregon: International Society for Technology in Education.
- Berrett, D. (2012). How 'flipping' the classroom can improve the traditional lecture. *The Chronicle of Higher Education*, 31, 36-41.
- Cheung, K., & Jong, M. S. Y. (2016). *Implementing flipped classroom in K-12 classroom in Hong Kong: Teachers' Concerns under the Shift of Educational Paradigm*. Retrieved June 5, 2016 from <http://gcce2016.ied.edu.hk/proceedings/MainConferenceIndividualPapers/C5-8.pdf>.
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed). Upper Saddle River, New Jersey: Merrill.
- Education Bureau. (2015). *Report on the fourth strategy on information technology in Education: Realising IT potential, unleashing learning power, a holistic approach*. Retrieved December 26, 2015, from [http://ite4.fwg.hk:8080/ite4/Eng/content/files/ITE4/report\\_ENG.pdf](http://ite4.fwg.hk:8080/ite4/Eng/content/files/ITE4/report_ENG.pdf)
- Educause. (2012). *Seven things you should know about flipped classrooms*. Retrieved June 3, 2016, from <https://library.educase.edu/resources/2012/2/7-things-you-should-know-about-flipped-classrooms>
- Hwang, G., Lai, C., & Wang, S. (2015). Seamless flipped learning: A mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of Computers in Education*, 2(4), 449-473.
- November, A. & Mull, B. (2012). *Flipped Learning: A response to Five Common Criticisms*. Retrieved June 2, 2016 from <http://www.eschoolnews.com/2012/03/26/flipped-learning-a-response-to-five-common-criticisms/2/>
- Stone, B. B. (2012). Flip your classroom to increase active learning and student engagement. In: *Proceedings from 28th annual conference on distance teaching and learning*, Madison, WI.
- 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 May 27, 2016 from <http://etd.ohiolink.edu/send-pdf.cgi/Strayer%20Jeremy.pdf?osu1189523914>.
- C. H. Ku & Y. J. Song (2016). *How to Flip the Classroom? – A Pilot Study on a Novel Pedagogy to Improve Secondary School Students' Problem Solving Skills in Mathematics*. In Song, Y., Wu, Y.-T., Chan, T.-W., Kong, S. C., Ma, H. H., Lai, A.F., Chai, C. S., Wang, L., & Yu, H. (Eds.). (2016). *Teacher Forum Proceedings of the 20th Global Chinese Conference on Computers in Education 2016*. Hong Kong: The Hong Kong Institute of Education.
- Johnson, G. B. (2013). *Student perceptions of the flipped classroom*. Retrieved June 1, 2016 from <https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0073641>.