# Executive Summary

According to the research report from the International Association for the Evaluation of Educational Achievement (IEA) released in 2012, Hong Kong students' reading ability is ranked the first, but there are four areas with low rankings including students' level of interest in learning, level of motivation, level of confidence and level of contribution to the lessons. This reveals that although Hong Kong students' individual academic ability is strong, there is still a lack of learning motivation, creativity and analytic ability.

Self-directed learning is a pedagogical philosophy. It means that students need to be responsible for planning and leading learning activities on their own. "Flipped Classroom" is an innovative pedagogy for encouraging students to develop the ability of self-directed learning and it has been widely used in American and European countries. In recent years, "Flipped Classroom" has also been adapted for use in Asian countries, including Japan, Taiwan and Singapore. Today, Hong Kong is gradually launching "Flipped Classroom" in various subjects as well.

In contrast to traditional teaching methods, "Flipped Classroom" requires students to read the learning materials in advance before lessons. At school, teachers would ask them to discuss the material in groups, guiding them to think from different angles. According to the past experiences from other countries, "Flipped Classroom" can enhance students' self-directed learning and the motivation to learn, with the aim of achieving lifelong learning in the students.

Although there are some successful examples of "Flipped Classroom" in other countries, Hong Kong is still trialling this method of teaching and its effectiveness is still questionable. This research study used a survey completed by secondary school students[1], focus-group interviews and interviews with educational experts and academic specialists. The aim was to explore the trends of current students' learning, including their learning motivation, contribution to lessons and their self-directed learning ability. We also analyzed the effectiveness of "Flipped Classroom" to enhance students' self-directed learning and the difficulties in launching "Flipped Classroom", in order to facilitate the formulation of

[1] The survey was completed through inviting secondary schools with the social work service provided by HKFYG

recommendations when using “Flipped Classroom” to teach and learn.

## Key Findings

1. **In general, respondents believe that learning is the responsibility of students. They feel that they only have a fair level of self-directed learning ability and believe that having a strong will to learn is the most crucial factor in self-directed learning.**

   The survey revealed that, in general, students agree that learning is their own responsibility. On a scale of 0-10, with 10 being the most positive, their average score for this was 6.73. Moreover, students regard their self-directed learning ability level as mediocre with an average score of 5.58. In the three aspects of setting learning goals, planning a learning schedule and evaluating learning progress, students also reveal moderate abilities, with an average score of 5.65, 5.04 and 5.51 respectively. The survey results above show that students generally have an average level of a self-directed learning ability and lack sufficient learning motivation.

2. **Respondents believe that good teaching methods and more interactions in class can encourage students to contribute more during lessons.**

   The survey showed that, regardless of whether students have experienced “Flipped Classroom” or not, most students believe that a good teaching method (34.0%) and more interactions in class (23.9%) can encourage students to contribute more during lessons.

   In the focus-group interviews, the students also suggested that making learning attractive to students can encourage them to contribute during lessons. Ways to accomplish this include the following: changing the teaching mode, embedding game elements into teaching and adding individual performance marks during lessons.

3. **Over half of the respondents who have previously experienced "Flipped Classroom" believe that "Flipped Classroom" can enhance students' self-directed learning ability.**

   The survey showed that 44.0% of students agree that "Flipped Classroom" can help upgrade their self-directed learning ability. When comparing the two groups with and without the experience of "Flipped Classroom", those who had experienced "Flipped Classroom" before mostly believe that "Flipped Classroom" can enhance students' self-directed learning ability (52.1%). This percentage is much higher than the percentage in the group without any experience of "Flipped Classroom" (37.2%).

   Moreover, over thirty percent of students stated that their self-directed learning abilities have improved after the implementation of "Flipped Classroom". This includes the ability of evaluating the learning effectiveness (36.7%), the ability of self-evaluation (36.5%), the ability of time management (34.3%), and the ability of formulating a study plan (32.6%).

4. **Respondents who have experienced "Flipped Classroom" before are satisfied with this new learning method. They also believe that "Flipped Classroom" has improved their learning effectiveness in various aspects, especially with regard to their contribution during lessons.**

   The survey showed that over forty-five percent (45.2%) of students believe that "Flipped Classroom" is better at enhancing students' learning effectiveness than traditional teaching methods. Around forty percent of students agree that their contribution during lessons, interest in subjects and understanding of learning objectives have improved. The percentages are 48.4%, 40.9% and 40.0% respectively. Moreover, their learning motivation (39.5%) and their confidence in asking questions during lessons (31.2%) have also improved.

In the focus-group interviews, the students also stated that since the implementation of “Flipped Classroom”, their academic results have improved and they have become more eager to learn in that particular subject where “Flipped Classroom” featured.

5. **Respondents who have experience of “Flipped Classroom” affirm the usefulness of self-learning through online platforms. They reveal that this can help understand the lessons more thoroughly after participating in learning on online platforms in advance.**

   This study showed that students generally agree that online learning can allow them to control their own learning progress. On a scale of 0-10, with 10 being the most positive, their average score for this was 6.18. A score of 7 or above was registered by 44.2% of respondents. Moreover, the average score for the statement “Learning on online platforms in advance can help understand the lesson more thoroughly” was 5.98. A score of 7 or above was registered by over forty percent of respondents.

   Despite this, students’ self initiative to learn in advance through online platforms is only moderate, with an average score of 5.08. A score of 7 or above was only registered by 30.7% of respondents. This reveals that although students affirm the usefulness of self-learning through online platforms, they still lack sufficient self-initiative.

## Main Discussion

The study produced the following discussion after integrating the data from the student survey, focus group interviews and expert and scholar interviews.

1. **The goal of education in Hong Kong is to provide students with the opportunity of whole-person development encourage self-directed learning and develop a life-long learning capability. However, students’ learning interest, motivation, confidence and contribution during lessons are still dissatisfactory.**

Traditional one-way pedagogy results in students' passive learning, which has limited their curiosity to explore the world and motivation to learn. In addition to the exam-oriented education curriculum, students' learning motivation has gradually changed from a thirst for knowledge to doing well on exams. The huge amount on a learning syllabus has resulted in a lack of understanding in the knowledge gained, which makes it difficult for students to develop the skill of critical and analytical thinking.

Therefore, traditional pedagogy needs to change in order to create a desirable environment for students to explore knowledge on their own as well as to facilitate students' critical thinking and self-directed learning.

2. **Although students understand the importance of self-discipline in the learning process, it is difficult for them to develop the ability of self-directed learning.**

This research revealed that students believe that they only have a fair level of self-directed learning ability. They believe that having a strong will is an essential factor of self-directed learning. This means that students generally understand the importance of self-discipline when using online learning platforms at home, but fail to take the initiative to do so. Therefore, a more effective pedagogy needs to be developed in order to enhance students' self-directed learning ability, guide them to set their own learning goals and increase their motivation to learn.

3. **Students with experience of "Flipped Classroom" believe that online learning platforms can help control their own learning progress and allow them to understand lessons more thoroughly.**

The survey showed that students with experience of "Flipped Classroom" generally agree that online learning platforms can help control their own learning progress. They believe that "Flipped Classroom" can allow them to understand the learning objectives more thoroughly and facilitate their understanding during lessons.

Students in the focus-group interviews also pointed out that visual learning

materials can strengthen students' knowledge memory. After learning through online platforms at home in advance, students can have a better understanding about what will be taught during lessons. This reveals that learning through "Flipped Classroom" can facilitate students in setting up their own learning goals and directions, which can help strengthen their self-directed learning ability.

4. **Students believe that "Flipped Classroom" can enhance their learning interest and motivate them to learn proactively. However, the effectiveness of "Flipped Classroom" is still pending further review.**

   The survey revealed that students without experience of "Flipped Classroom" feel that their lessons are more boring. This reflects the notion that "Flipped Classroom" is more effective than traditional teaching methods in enhancing students' interest in learning, which can also avoid students feeling bored in the learning process.

   Supporters of "Flipped Classroom" aim to change the traditional one-way pedagogy of today so as to motivate students to learn and help them develop the ability of self-directed learning. This research has revealed that the respondents generally have a positive perspective towards "Flipped Classroom". As Hong Kong is now trialling "Flipped Classroom", its effectiveness is still pending further review.

5. **Some of the students with experience of "Flipped Classroom" believe that its potential failure could be due to a lack of self-discipline in using online learning platforms, difficulty in understanding the learning materials on those platforms and the ease of being distracted when using electronic learning devices.**

   The survey showed that, although students affirm the usefulness of self-learning on online platforms, they still lack the initiative to read the learning material before lessons. Moreover, students may get distracted by other programmes on the electronic learning devices and find it hard to concentrate during lessons.

When launching “Flipped Classroom”, schools should strike a balance between the amount of homework and the number of online learning tasks. This could encourage students to spend more time on the online learning platform at home and help develop their self-directed learning ability. On the other hand, methods to enhance their proactive learning and self-directed learning abilities cannot be neglected.

6. **Fully established electronic learning devices, teaching videos with high quality professional teachers and teaching small-class sizes are essential factors for launching “Flipped Classroom”.**

Fully established electronic learning devices, including hardware and software, can bring convenience to teaching and learning. However, some underprivileged students may not have computers and Internet services at home, which could lead to difficulties in using online learning platforms.

Furthermore, “Flipped Classroom” requires teachers to spend time on making videos, which will increase their workload and negatively affect teachers’ perspectives towards the implementation of “Flipped Classroom”.

## Recommendations

This study proposes the following recommendations:

1. **To make reference to “Quality School Improvement Project”, a “Flipped Classroom Pilot Scheme” could be launched to encourage the promotion of “Flipped Classroom”, with the provision of funding and advisory support to schools.**

   **<u>Suggested scheme</u>:**
   a. **Form: Junior**
   b. **Subject: Mathematics and science-related subjects**
   c. **Hardware and software support**
   d. **Professional advisory and supervision teams**

2. **A Teaching Video Sharing Platform should be established to exchange**

**teaching materials amongst teachers.**

3. **Cooperation with tertiary institutions should be encouraged to provide "Flipped Classroom"-related courses for teachers.**

4. **Schools should strike a balance between the amount of homework and the number of online learning tasks so as to encourage students to contribute more to online learning platforms at home.**