

Exploring the Efficacy of a Flipped EFL Basic Writing Class

Shu-Ying Chang

Assistant Professor, Foreign Language Center, Feng Chia University

Abstract

Although the flipped classroom has been a hot topic in the education circle and many applications have been explored in various disciplines around the world, some limitations have been reported to impair the efficacy of the instructional model. Among them, the most cited ones include (1) significant work on making engaging lecture videos, (2) challenging job to design active, collaborative learning activities in class, (3) heavy reliance on students' pre-class preparation, which students do not always abide by; and (4) not the best instructional strategy for all lessons or learners. Since the flipped classroom concept is still relatively new in Taiwan, little empirical research has been done on flipping an EFL basic writing class. To overcome the above-mentioned limitations and to fill the gap, the author/instructor experimented with a partially flipped classroom design by integrating the course materials of a MOOC (Massive Open Online Course) into a college freshman English writing class in central Taiwan. The purpose of the small-scale exploratory study was to investigate the effects of such a flipped instructional design on overcoming the limitations stated above and on the learning efficacy of students' sentence skills. A pretest, posttest, survey, and interviews were used to measure the effects of the flipped instructional model. Both quantitative and qualitative results showed that the flipped instructional design improved not only the said drawbacks but also students' learning outcomes.

Keywords : flipped classroom, blended learning, cooperative learning, MOOCs, EFL writing

探討英語為外語之基礎寫作班實施翻轉教學之成效

張淑英

逢甲大學外語教學中心助理教授

摘要

雖然翻轉教室在世界各地的教育界已成熱門話題，且也應用於許多不同學科領域，但出現的一些侷限也削弱了此一教學模式的成效。其中最令人詬病的包括：(1)製作有吸引力的授課錄影帶，工程浩大，(2)設計自主、合作學習的課堂活動，極富挑戰，(3)過於依賴學生課前預習，然學生卻不見得配合，與(4)翻轉教室的教學策略並非適合所有課程與學生。因為翻轉教室在台灣仍屬相對新的觀念，所以英語為外語之基礎寫作班實施翻轉教學的實證研究不多。為克服上述的侷限並填補研究的缺口，本研究應用磨課師教材，翻轉部分課程，實施於大一英文寫作班。此小規模探索性研究的目的是在於探討此翻轉教學模式對克服上述侷限與提升學生句子技巧學習成效的影響。本研究透過前後測、問卷與面談，以驗證研究成效。結果，不論是量化或質性資料皆顯示：此翻轉教學模式不僅克服了上述的侷限，同時也提升了學生的學習成效。

關鍵字：翻轉教室、混成學習、合作學習、磨課師、英語為外語之寫作

I. Introduction

The flipped classroom, also known as the flipped class or inverted classroom, is a form of blended learning, a combination of online instruction and face-to-face classroom time (史美瑤, 2014), in which students watch video lectures online outside the classroom before class and devote the class time to solving problems, asking and answering questions, or engaging in group-based active learning activities (Bergmann, 2011b; Bishop & Verleger, 2013; Ruffini, 2014; Tucker, 2012). This instructional model was initiated by Jonathan Bergmann and Aaron Sams in 2007 (Bergmann, 2011a, 2011b), catalyzed by the pervasiveness of free instructional videos provided by Khan Academy, YouTube, and other MOOC providers (Bishop & Verleger, 2013; 黃政傑, 2014; 黃能富, 2015), and intensified by Means, Toyama, Murphy, and Baki's (2013) research findings that blended learning was more effective than purely online instruction or traditional face-to-face instruction.

However, since its emergence, the flipped classroom has received mixed feedback, though positive overall (Bishop & Verleger, 2013). The flipped model has several advantages, including allowing students to learn at their own pace, promoting student-centered learning and collaboration (Acedo, 2013; Herreid & Schiller, 2013; Milman, 2012; Ruffini, 2014), giving teachers better understanding of students' learning difficulties and allowing them to address the problems accordingly (Bergmann, 2011a; Herreid & Schiller, 2013; Roehl, Reddy, & Shannon, 2013), making class time more effective and productive (Forsey, Low, & Glance, 2013; Herreid & Schiller, 2013), and encouraging student autonomy and accountability (Ruffini, 2014; 施淑婷, 2014; 郝永崴, 2015). On the other hand, there are also some drawbacks to the flipped approach. Among them, the most cited ones are (1) a considerable amount of work on making engaging lecture videos, (2) a challenging job to design active, collaborative learning activities in class (Acedo, 2013; Milman, 2012; Roach, 2014; Ruffini, 2014; 郝永崴, 2015), (3) heavy reliance on students' pre-class preparation, which students do not always abide by (Acedo, 2013; Milman, 2012; Ruffini, 2014; 郝永崴, 2015), and (4) not the best instructional strategy for all lessons or learners (Milman, 2012; Robinson, 2014; Roehl et al., 2013; Ruffini, 2014; 郝永崴, 2015; 蔡瑞君, 2015). In an attempt to solve the problems, an EFL basic writing class was partially flipped by utilizing the course materials of a MOOC to gauge its effectiveness in overcoming the above-named limitations and enhancing students' learning outcomes.

II. Literature Review

1. Components of Flipped Classroom and Their Theories

Since the rise of the flipped classroom, various applications and modifications of the instructional model have been made. In spite of its variation, it basically consists of two components: One is the direct instruction delivered via technology, mainly online videos, outside the classroom; the other is the active student learning activities inside the classroom.

The former comes from teacher-centered learning theories, mainly direct instruction developed from behaviorism, whereas the latter derives from student-centered learning theories, particularly constructivism and collaborative learning stemming from Piaget's theory of cognitive conflict and cooperative learning developed from Vygotsky's zone of proximal development (Bishop & Verleger, 2013; Greener, 2015).

2. Criticism of Flipped Classroom and Possible Remedies

In spite of its popularity, the flipped classroom has its downside. The first most cited one is the huge amount of time, money, planning, and training needed to produce engaging lecture videos. In the flipped model, since teachers are the facilitator of learning rather than the authority figure (史美瑤, 2014), they do not lecture in class. As a result, making video lectures to prepare students for in-class active learning activities becomes important. To solve the problem, some educators suggested making good use of the free online instructional videos which are closely related to one's course content (黃政傑, 2014; 羅志仲, 2014). In fact, many teachers have already employed quality online instructional videos from Khan Academy, TED Talks, and other MOOCs for their students' pre-class viewing activities (Forsey et al., 2013; Roach, 2014; 施淑婷, 2014; 張益勤, 2014). According to Guo, Kim, and Rubin's (2014, March) large-scale study of video engagement, the length of videos was the deciding factor in engagement. They discovered that shorter videos were more engaging than longer ones and that the ideal length of a video was less than 6 minutes. In sum, if teachers cannot produce their own video lectures, they do not have to shrink back from trying the student-centered instructional model as a result. They can still make good use of the instructional videos available online, but they should take not only the course content but also the quality and video length into account while selecting suitable videos.

Another pitfall of the flipped classroom is the assumption that students will view the videos and read the written materials before class. Nevertheless, the fact is that most students will not. To respond to the challenge, some teachers checked students' study notes and/or required each student to bring a question to class (Tucker, 2012; 黃政傑, 2014), some asked students to record their feedback and questions on a video (張益勤, 2014), others used peer pressure to make students report the completion of video viewing via Facebook Questions (葉丙成, 2015), still others tested students on the video contents online before class or offline in class (Greener, 2015; Herreid & Schiller, 2013; 張益勤, 2014; 黃能富, 2015). In short, there should be some kind of monitoring system to make sure that students actually do the preparation work, which, as some educators suggested, should count toward the final course grade (羅志仲, 2014).

Still another challenge of the flipped model is designing student-centered learning activities in class, transforming class time from teaching to learning. According to previous studies, most teachers began the class by answering students' questions about the video lectures, clarifying doubts and strengthening key notions (羅志仲, 2014). After that, some

teachers assigned students to solve problems independently or in group while they worked individually with students (Bergmann, 2011a; 葉丙成, 2015); others required students to have group discussions and/or make group presentations (Roach, 2014; 施淑婷, 2014; 張益勤, 2014; 黃能富, 2015; 鄧鈞文、李靜儀、蕭敏學、謝佩君, 2014); still others involved students in tests which called for teamwork (Bishop & Verleger, 2013; Foldnes, 2016). On the basis of Foldnes's (2016) research findings, only when the flipped model was designed with cooperative learning would it produce significantly better outcomes than the traditional lecture classroom. Therefore, it is advisable to design group-based in-class activities which encourage active student interaction and engage students in cooperative learning.

The last often cited limitation of the flipped classroom is that it does not lend itself to all lessons, nor is it the most effective teaching strategy for all learners. To overcome the limitation, some educators advised flipping just some lessons of the class, instead of flipping the whole class, for a mix of the flipped model and the traditional face-to-face lecture format, a time-honored teaching strategy, is more flexible and can better cater to distinct qualities of lessons and different students' learning styles (Robinson, 2014; Ruffini, 2014; 郝永歲, 2015; 黃政傑, 2014).

III. Research Rationale and Questions

1. Theoretical Framework of the Study

To tackle the pitfalls stated above, the author/instructor designed a flipped classroom model in an EFL basic writing class as follows: First, the course materials of a MOOC (Coursera) was blended with the writing class to save the trouble of making video lectures. The MOOC, *Crafting an Effective Writer: Tools of the Trade (Fundamental English Writing)*, not only covered essential sentence skills but also offered short, quality video lectures (ranging from 2 to 11 minutes each) with Chinese subtitles. Second, group study notes, which counted toward the final course grade, were required to be submitted before class to ensure students did the pre-class work out of peer pressure. Third, group tests, which called for student interaction and cooperative learning, followed by teacher-led Q&A sessions and individual tests made the class time engaging and productive. Finally, to take care of the distinct natures of lessons and different students' learning styles, the author/instructor not only flipped just the lessons on sentence skills but also provided individual support to meet different student needs via reflective journal. The lessons on paragraph skills remained to be the traditional lecture classroom, combined with other teaching strategies.

2. Research Questions

For the author/instructor to examine the effects of such a design, the research questions were generated as follows:

1. Can this flipped instructional model overcome the said limitations?
2. Can this flipped instructional model improve students' sentence skills?

IV. Method

1. Participants

The participants of this study were 16 English majors, 4 male and 12 female, aged from 17 to 19, enrolled in a 3-hour-per-week freshman English writing class at a private university in central Taiwan. Among them, one was a sophomore, while the others were freshmen. On a scale of 0-15, these students scored between 10 and 15, with an average of 12.81, on the English Subject Test of the General Scholastic Ability Test¹ (GSAT) in Taiwan. In other words, their English proficiency was approximately at upper intermediate level. In addition, none of the students had ever taken any MOOCs before taking this English writing course.

2. Design of the Study

Freshman English Writing (1) is a 3-credit, 3-hour required semester course, focusing on sentence skills and paragraph writing. In this study, blended learning is adopted. Among the 18 weeks, half of the class time in the first 8 weeks was devoted to flipping the lessons on sentence skills, whereas the traditional lecture classroom combined with other teaching strategies remained in the rest of the course for the instruction of paragraph skills. *CEW*, *Crafting an Effective Writer: Tools of the Trade (Fundamental English Writing)*, a MOOC jointly offered by Mt. San Jacinto College and Coursera (Barkley, Blake, & Ross, 2014), was utilized for the flip. This 5-week, 5-unit online course consisted of video lectures, in-video quizzes, readings, journal writing, discussion forums, peer reviewed or peer assessed writing assignments, and unit quizzes. Only the videos (including the in-video quizzes) and readings of Units 2-5 of the *CEW* were integrated into this English writing course for the instruction of sentence skills. In addition, except for Unit 2, the contents of the other three units were split into two in this study to avoid overwhelming the students with too much pre-class study work and, therefore, to increase their positive learning experience, as advised by some educators (王金國、孫台鼎, 2014). Since *CEW* not only covered essential sentence skills, including English sentence structure, grammar, punctuation, and commonly confused words, but also had Chinese subtitles, which should alleviate the language problem of EFL students in a flipped classroom, it was a perfect complement to this basic English writing course.

3. Research Instruments

A survey and semi-structured interviews were conducted near the end of the semester to examine if the flipped instructional model had overcome the limitations reported above. In addition, a test based on the sentence skills covered in *CEW* course material was administered before and after the flip to assess if students' sentence skills had improved after the flipped treatment. Both quantitative and qualitative data were collected and analyzed, for

¹ The General Scholastic Ability Test is the two-day college entrance exam in Taiwan; subjects include Mandarin Chinese, English, math, sciences, and humanities.

methodological triangulation could provide more comprehensive data and deeper understanding of the studied issue (Bekhet & Zauszniewski, 2012; Olsen, 2004).

4. Procedure for the Flipped Instructional Model

On the first day of the class, the students were instructed to form groups of four and register for a MOOC—*Crafting an Effective Writer: Tools of the Trade (Fundamental English Writing)*—on the Coursera website (<http://www.coursera.org>). They were also told to watch the video lectures, read the readings (similar to the video lectures, except for more examples and detailed explanation), and work with their group members to submit their group study notes to Assignments on iLearn2, an e-learning platform, before class. In class, they would first take a group test to check their understanding of the online course materials. During the test, group members would discuss the questions together and help each other to achieve the best possible score. After that, the instructor would announce the answers to the group test and answered all students' questions. Then the students would take another test as individuals. The average of the group and individual test scores would be counted as one test score. After class, the students had to post on Discussion Board on iLearn2 their reflective journal entries, in which they reflected on what they had done in class, what had worked for them and what had not, and what difficulties they had had with *CEW* video lectures and readings. The purpose of the reflective journal was for the instructor to assess students' learning (Roehl et al., 2013), provide individual help, and post links on iLearn2 for further interactive online practices. The group study notes, group tests, and individual tests counted for 30% of the final course grade.

Right after the explanation of the flipped instructional model and the administration of the pretest, the students registered online for the Coursera course since the class was taught in an Internet access computer lab. Next, the instructor guided the students to get familiar with the online course environment. Then, the whole class watched the first video in Unit 2 together, as suggested by some educators, as a way to help students develop the habit of acquiring knowledge by watching videos (葉丙成, 2015). After that, the instructor provided the students with an example of the study notes based on the watched video lecture so that they had a model to follow. Finally, the students were instructed to finish watching the other videos and reading the readings in Unit 2 at home, work with their group members to complete the partially finished study notes, and submit them to Assignments on iLearn2 two days before the next class meeting. The process of the flipped classroom is summarized in Table 1.

Table 1. A Summary of the Flipped Classroom Procedure

Pre-class Activities	In-class Activities	Post-class Activities
<ul style="list-style-type: none"> • Video watching and course material reading • Group study notes 	<ul style="list-style-type: none"> • Group test • Review of group test • Teacher-led Q&A • Individual test • Review of individual test 	<ul style="list-style-type: none"> • Reflective journal • Extra interactive online practices

5. Data Collection

(1) Survey

A survey (Appendix A) containing 6 personal information questions and 14 five-point Likert scale post-treatment questions was conducted after the flipped treatment to investigate if the flipped instructional model had overcome the said limitations. Moreover, the survey was written in Chinese to reduce any possible misunderstanding due to students' English language problem.

(2) Interview

As a follow-up of the survey, seven volunteers, one male and six female freshmen, were interviewed individually in the instructor's office at the end of the semester to provide a more complete picture of the students' perceptions towards the flipped instructional model in the following three dimensions: the integrated *CEW* course materials, the flipped instructional design, and the impact on the students. Students' responses were able to provide insights to how the flipped instructional model remedied the drawbacks stated above. These seven interviewees happened to fall into three levels—high, mid, and low²—according to their English Subject Test of the GSAT scores. The fact should allow their responses to offer a more balanced report of the class's opinions. Before the interviews, the purpose of the interview was introduced, withdrawal policy explained, informed consent obtained, and interview questions provided (Appendix B). The semi-structured interviews were conducted in Chinese so that the interviewees could express their ideas clearly and completely. Each interview lasted for 30-40 minutes and was audio taped and transcribed verbatim afterwards. Then the transcripts were sent to the interviewees for verification.

(3) Sentence-skills pre-/post-test

Based on the sentence skills covered in *CEW* course material, a test of 50 error correction questions, testing English sentence structure (e.g. fragments and run-ons), grammar (e.g. subject-verb agreement and consistent verb tense), punctuation (e.g. apostrophe and

² The scale points of the high level students' English Subject Test of the GSAT ranged from 13 to 14, the mid-level at 12, and low level from 10 to 11.

comma), and commonly confused words (e.g. there-their and who's-whose), was administered before and after the flip to measure its efficacy on students' sentence skills.

6. Data Analysis

First, a frequency test was run in SPSS to analyze the survey data, and a bar chart was created to show the survey results. Second, the semi-structured interview data were categorized into three parts: the integrated *CEW* course materials, the flipped instructional design, and the impact on the students. Then they were further analyzed and summarized to answer the first research question, citing the translated quotes. Finally, a Cronbach's alpha was computed in SPSS to assess the reliability, or internal consistency, of the sentence-skills pre-/post-test items. For criterion-related validity, a Pearson Correlation was run to measure if the students' sentence-skills test scores were significantly correlated with their English Subject Test of the GSAT scores. Moreover, a Wilcoxon Signed Ranks Test was performed to investigate the effects of the flipped instructional design on the students' English sentence skills.

V. Results

1. *Research Question 1: Can this flipped instructional model overcome the said limitations?*

(1) Limitation 1: Significant work on making engaging lecture videos

In this study, the course materials (including videos and readings) of *CEW*, a MOOC, were utilized for the flip to save the trouble of making lecture videos. *CEW* fitted the EFL basic writing class perfectly not only because it covered essential sentence skills, including English sentence structure, grammar, punctuation, and commonly confused words, but also because it had Chinese subtitles, which could reduce the language problem EFL students might encounter. Moreover, the quality of the videos was good, the length short, and content well-planned. The engaging quality of the *CEW* lecture videos was validated by both the survey and interview results. According to the survey, all students reported that they could understand at least 60% of the course materials, and 69% stated that they could understand at least 80% of the materials. Moreover, 87% of the students were satisfied with *CEW* course materials, and 81% commented that integrating MOOC course materials into this basic EFL writing class added variety to its content.

The interviews revealed that students were happy with the integrated course materials because they not only catered to the different needs of visual and auditory learners (Gilakjani, 2012) but also gave them a chance to learn English grammar more systematically.

I learn better by reading. I usually forget the content quickly after watching a video, so I have to read the text again. (S2; Low)

Although the contents of the readings and the videos were similar, I preferred the videos because I remember better if someone talks or explains something to me. (S6; High)

We didn't have an English grammar book at senior high school, so English grammar wasn't taught systematically. It's good to learn English grammar systematically from the integrated CEW course materials. I believe they will help our writing. (S4; Mid)

Another reason for the students' satisfaction was that the videos were short, interesting, to the point, easy to understand, and great for listening practice.

I liked the videos because they were short. Unlike the readings, the videos didn't contain a lot of words, but all the information there was essential. Moreover, there were two instructors; their interaction made the videos more interesting. (S3; Mid)

The speed of the videos was not too fast. Even if I didn't understand certain part, I could always watch it again. It was great for listening practice. (S5; High)

Furthermore, the Chinese subtitles in the videos were a great help to the comprehension and learning motivation of the students whose English listening skills were not so good.

If there hadn't been Chinese subtitles, watching these videos would have been a challenge for me. It would have become a tiring task, and I wouldn't have felt like doing it. (S3; Mid)

(2) Limitation 2: Assuming that students will do the preparation work before class, which students do not always abide by

In this study, students were required to submit their group study notes, which counted toward the final course grade, before class to ensure that they did the preparation work. On the basis of the survey, all students reported that they did at least 60% of the assigned pre-class work (including videos and readings) according to the syllabus, and 75% of them noted that they did at least 80% of the assigned pre-class work. Additionally, 63% of the students admitted that they probably would not have done the pre-class work seriously if they had not had to make study notes. Moreover, all students stated that they searched online for unknown terms or supplementary information when they made study notes and agreed that making study notes helped them learn the CEW course materials better.

The interviews showed that making group study notes made the students do the pre-class work more carefully and punctually, though some students tended to skip the readings.

Because we had to make group study notes, I always watched the videos twice, but I didn't take notes until I read the readings. I also did the reading twice, paying special attention to the section I was assigned to take notes. (S2; Low)

There were deadlines for study notes and, above all, they were group work. If any group member didn't do the preparation work, the whole group's grade would suffer. Therefore, everyone would feel...they'd better watch the videos or read the readings. (S5; High)

Making group study notes also pushed the students to take initiative in their own learning and helped them to learn the *CEW* course materials better.

Because I was afraid I might make mistakes while making my part of the study notes, sometimes I had to look up some grammatical terms and their usage on the Internet. (S7; Low)

Group study notes helped me learn the course materials more efficiently because I just needed to take notes of a small section of the materials, and my partners would take care of the rest for me. They were useful when I reviewed for the tests. (S3; Mid)

(3) Limitation 3: A big challenge to design in-class activities which would engage students in active participation and meaningful learning

In this study, the in-class activities consisted of a group test, a teacher-led Q&A session, and an individual test. According to the survey, 88% of the students agreed that the practice of group tests followed by teacher-led Q&A sessions and individual tests helped them learn the *CEW* course materials better. Furthermore, 94% of the students reported that the teacher-led Q&A sessions after group tests helped them clarify doubts, and all students commented that individual tests could reflect personal efforts and proficiency.

The interviews indicated that all interviewees enjoyed the group test, in which group members discussed questions, clarified ideas, and taught each other to score high on the test. It could also build up their self-confidence and improve their learning motivation.

I liked the discussion in the group test especially. If I made a mistake, my group members would tell me immediately. The discussion could clarify my ideas. Moreover, if I could teach others, my self-confidence would grow. Therefore, it could also increase my learning motivation because I didn't want to look as if I knew nothing and had to be taught by others all the time. (S2; Low)

Moreover, the discussion in group tests and the teacher-led Q&A sessions enabled the students to perform better on individual tests.

Although I also liked the discussion in group tests, sometimes I still couldn't be convinced by my peers. At this time, the teacher's answers became crucial. After the group tests and the teacher-led Q&A sessions, I could always score higher on individual tests. (S3; Mid)

(4) Limitation 4: Not the best instructional strategy for all lessons or learners

In this study, not only differentiation was practiced by providing individual support for students of different learning styles (Weselby, 2016) via reflective journal, but also only the lessons on sentence skills were flipped. The lessons on paragraph skills remained to be in the traditional lecture style, combined with other teaching strategies. According to the survey, 87% of the students testified that reflective journal helped the teacher provide them with individual assistance. Moreover, 87% of the students reported that they were satisfied with the way the instructor flipped the class using MOOC course materials, and 88% of them claimed that they preferred flipped classroom using MOOC course materials to traditional lecture classroom. Furthermore, 75% of the students showed their willingness to take MOOCs on their own in the future. Details of the survey results are shown in Figure 1.

The interviews demonstrated that reflective journal offered a channel not only for the students to discuss their learning problems with the teacher but also for the teacher to give the students individual support.

At university, everybody leaves the classroom after class, but reflective journal provided me with a channel to discuss my learning problems with my teacher after class. Since she always responded to my posts, I felt she really cared about me, so I should study harder. (S1; Mid)

In addition, almost all interviewees preferred flipped classroom using MOOC teaching materials to traditional lecture classroom because the former was more appealing, convenient, and productive. It also added variety to the course and allowed the students to become the owner of their own learning.

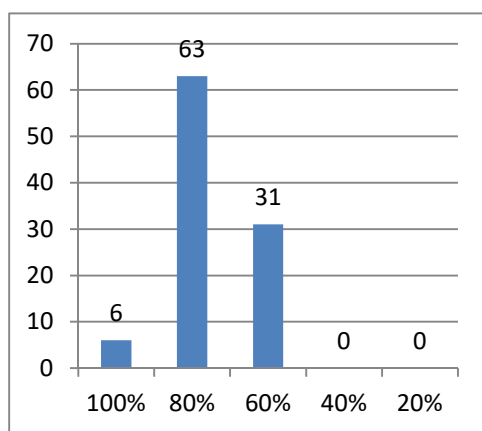
I prefer flipped model. In the past, most of the learning came from reading textbooks, but now after using the computer for fun for a while, I can also watch the videos. It's more fun. Moreover, I can pause, rewind, and watch them again and again until I fully understand. It's very convenient. (S1; Mid)

I prefer flipped classroom because it would push me to study before I went to class. Preparation before class would give me a better idea about what the teacher was going to lecture. It could also help me identify my problem ahead of time, so I would pay closer attention to the problematic area when the teacher explained, which made the class time more productive. (S5; High)

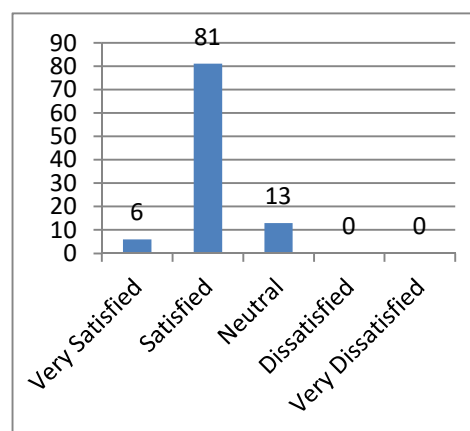
I thought we would just keep on writing in an English writing class. However, in the flipped classroom, we had to do the preparation work before class. During class, we discussed with our group members when taking the group test. Then we took the individual test after the teacher-led Q&A. Various learning materials and activities made the class feel richer. (S3; Mid)

I prefer flipped classroom using the MOOC teaching materials because MOOCs offered me a platform to become an autonomous learner. My learning didn't have to end when my teacher ended the class. (S7; Low)

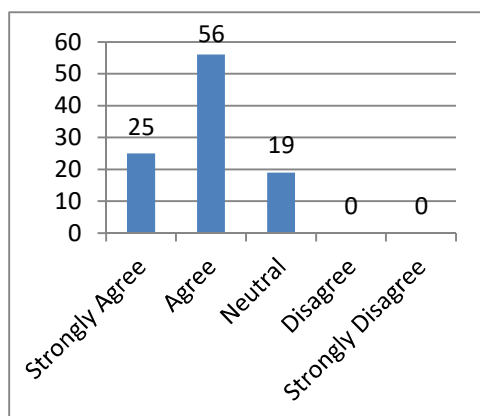
(1) How much did you understand *CEW* course materials (i.e. videos and readings)?



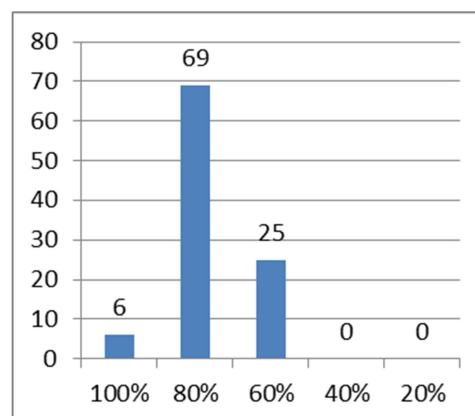
(2) How much were you satisfied with *CEW* course materials (including videos and readings)?



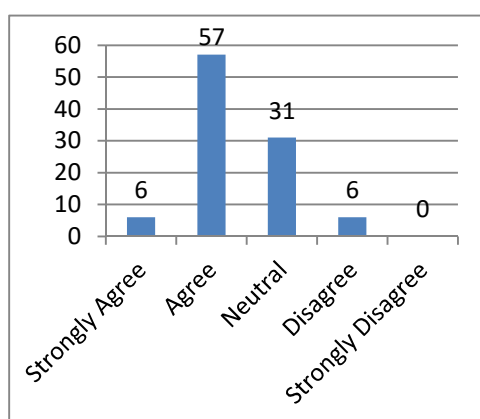
(3) Do you agree that integrating MOOC course materials into this class adds variety to its content?



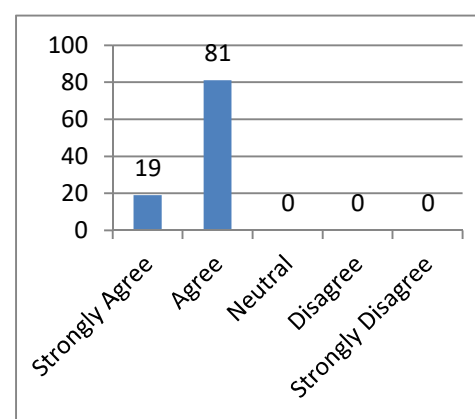
(4) To what degree did you do all the assigned pre-class work (including videos and readings) according to the syllabus?



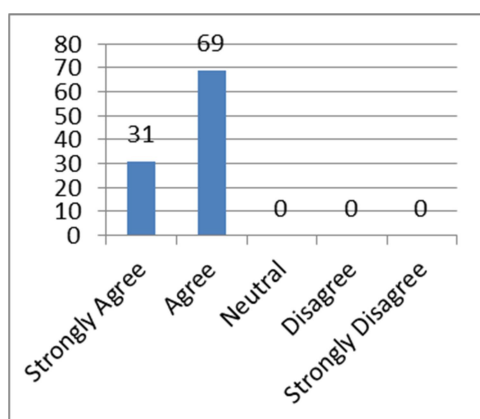
(5) Do you agree that you probably wouldn't have done the pre-class work seriously if you hadn't had to make study notes?



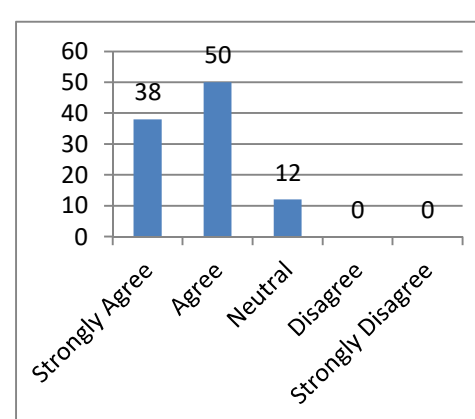
(6) Do you agree that you searched online for unknown terms or supplementary information when you made study notes?



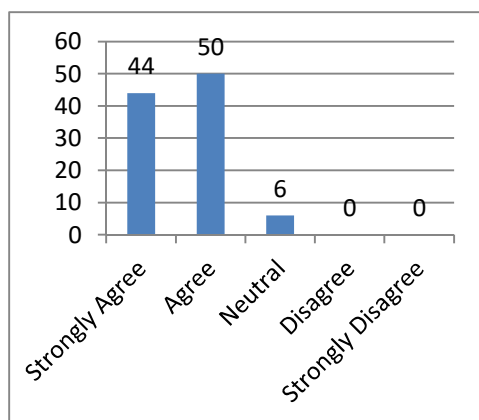
(7) Do you agree that making study notes helped you learn the *CEW* course materials better?



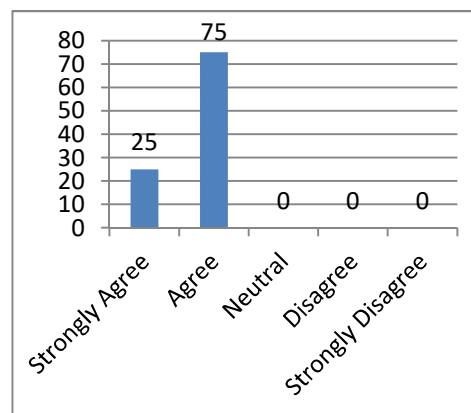
(8) Do you agree that the practice of group tests followed by teacher-led Q&A sessions and individual tests helped you learn the *CEW* course materials better?



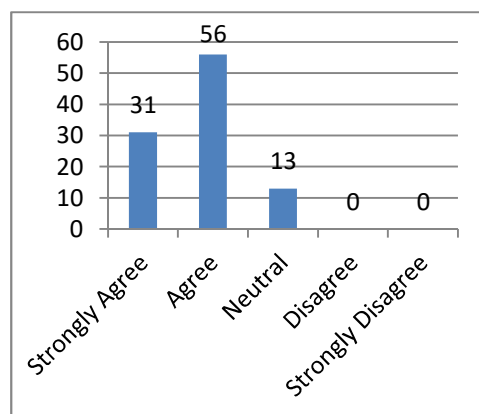
(9) Do you agree that the teacher-led Q&A sessions after group tests helped you clarify doubts?



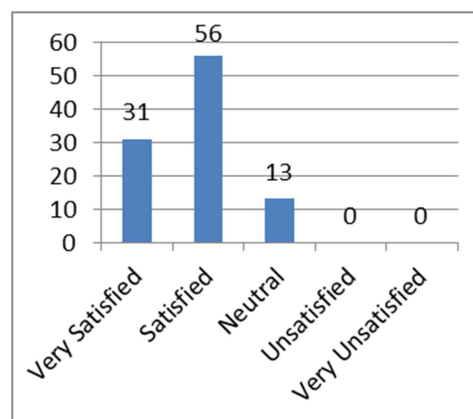
(10) Do you agree that individual tests could reflect personal efforts and proficiency?



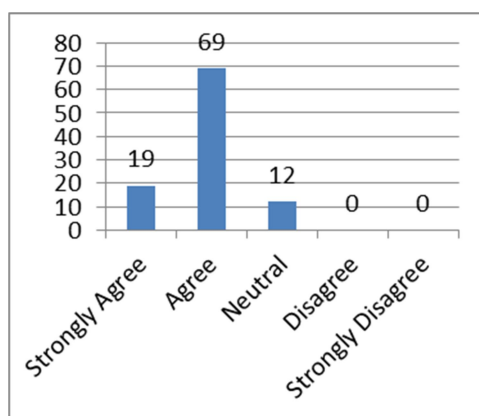
(11) Do you agree that reflective journals helped the teacher provide you with individual assistance?



(12) How much were you satisfied with the way your teacher flipped the class using MOOC course materials?



(13) Do you agree that you prefer flipped classroom using MOOC course materials to traditional lecture classroom?



(14) Are you willing to take MOOCs on your own in the future?

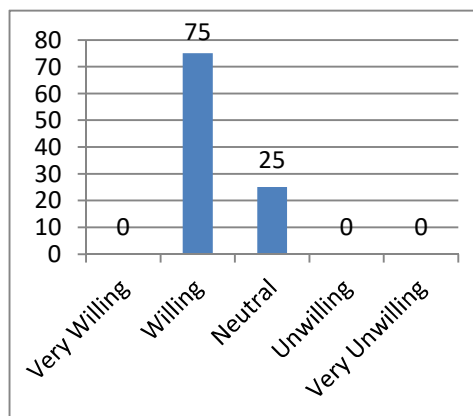


Figure 1. Post-treatment Survey Results

Note. Numbers above bars represent percent responding.

2. Research Question 2: Can this flipped instructional model improve students' sentence skills?

The statistical analyses showed that the sentence-skills pre-/post-test had good internal consistency (Cronbach's $\alpha = .825$) as well as criterion-related validity ($r = .563^*$; $p = .023 < .05$). In addition, the Wilcoxon Signed Ranks Test output indicated that the posttest scores were statistically significantly higher than the pretest scores, $Z = -3.41$, $p < .05$. In other words, the students made noticeable improvement in sentence skills after the flipped treatment. Details are shown in Table 2.

Table 2. A Comparison between the Sentence-Skills Pretest and Posttest Scores

	N	Mean	SD	Z	p
Pretest	16	47.87	13.77	-3.41**	.001
Posttest	16	64.50	8.78		

Note. ** $p < .05$

VI. Discussion

1. Overcoming the limitations of the flipped classroom reported above

As shown by the survey and the interview results, this flipped instructional model has overcome the four often-cited pitfalls of the flipped classroom. First, the significant work of making lecture videos was avoided by using the course materials of *CEW*, a MOOC, for the flip. A vast majority of the students were satisfied with the integrated *CEW* course materials. However, they tended to prefer the videos to the readings, which matches the Millennial learning preferences stated by Roehl, Reddy, and Shannon (2013). They liked the videos not only because they were short, interesting, to the point, and great for listening practice, but also because they had Chinese subtitles and enabled them to learn English grammar systematically. Moreover, they empowered the students to learn at their own pace. This reason was in tune with Herreid & Schiller's findings (2013).

Second, group study notes not only made the students do the preparation work more carefully and punctually but also facilitated their learning of the *CEW* course materials. Although a quarter of the students admitted that they did only 60% of the assigned pre-class work, all the interviewees reported viewing the videos at least twice in order to make group study notes. Some students tended to skip the readings because they were boring, like textbooks, and their contents were similar to those of the videos. Moreover, all students confirmed that making group study notes bettered their understanding of the *CEW* course materials, for they had to carefully study the part they were assigned and even take the initiative in searching online for unknown terms or supplementary information. This practice

confirmed Ruffini's (2014) conclusion that the flipped approach encouraged student autonomy and accountability.

Third, the in-class activities this flipped instructional model offered were group-based and interactive and encouraged active student participation and cooperative learning. Among the activities, the group tests made the students actively engaged in group discussion and cooperative learning, the teacher-led Q&A sessions immediately addressed their problems and fortified key concepts, and the individual tests reflected their personal efforts and proficiency. The practice of group tests followed by teacher-led Q&A sessions and individual tests not only deepened their understanding of the *CEW* course materials but also increased their positive learning experience. This finding corroborated the belief that creating a positive learning environment with students' acceptance is an important factor for any student-centered methods to be successful (Smith, 2016).

Finally, the partially flipped instructional model and the after-class reflective journal allowed the instructor to cater to the distinctive qualities of lessons and different learning styles of students. In fact, flipping the lessons on sentence skills actually turned the usually boring, quiet grammar lessons into engaging, interactive ones. Therefore, a huge majority of the students preferred flipped classroom using MOOC course materials to traditional lecture classroom. Many of them even expressed willingness to take MOOCs on their own in the future, which is another example to support the belief that the flipped classroom model encourages student autonomy. Moreover, the after-class reflective journal offered not only a channel for the students to seek individual assistance but also a means for the teacher to establish a rapport with the students. This practice could also promote students' positive learning experience.

2. Enhancing students' sentence skills

The results of the Wilcoxon Signed Ranks Test indicated that the post-test scores were statistically significantly higher than the pre-test scores. In other words, the students made statistically significant improvement in sentence skills after the flipped treatment. This fact demonstrated that learning did occur in this flipped instructional design, even though there was no face-to-face lecturing in class.

VII. Limitations

Since this was a small-scale exploratory study, there were some limitations. First, due to the small sample size, there was no control group and all participants were English majors with upper intermediate English proficiency. Future research needs to be conducted to see if a larger sample size and the participants are non-English majors with lower English proficiency will produce the same effects. In addition, it would be interesting to investigate if this flipped classroom model would outperform the traditional lecture format.

Second, the sentence-skills pre-/post-test took the form of error correction, which is an indirect writing test. The test format was adopted because it is more objective than direct writing test, can test more grammatical points, and involves fewer paragraph skills taught in the traditional lecture classroom. Since there is a discrepancy in test validity between direct and indirect tests, direct writing tests will also be included in future research to see if the outcomes will be the same.

Finally, the same sentence-skills test was used for both the pretest and the posttest. Although there was an interval of 8 weeks between these two tests, there still might be a learning effect for students after they did the same test in the first week of the course. Two different tests testing the same grammatical points will be designed for future research to improve the validity of the study.

VIII. Conclusion

Both the quantitative and qualitative results of this study showed that the flipped instructional model used in the EFL basic writing class not only solved the aforementioned limitations of the flipped classroom but also improve the students' sentence skills. As some educators pointed out, the deciding question for the flipped model is how to flip the classroom (郝永巖, 2015; 羅志仲, 2014). With careful planning to avoid the common pitfalls of the flipped model and intentionally increase students' positive learning experience, it is possible to produce favorable results in a flipped class, even an EFL class. However, the findings of this research are not to be generalized to other contexts due to the limitations stated above. In spite of its limitations, this flipped classroom model is still a potentially effective example for teachers who would like to try flipping a few lessons in their EFL classes.

References

- 王金國、孫台鼎 (2014)。從學生的負向經驗省思合作學習的實施。臺灣教育評論月刊，3(7)，88-91。
- 史美瑤 (2014)。混成學習(Blending / Hybrid Learning) 的挑戰與設計。評鑑雙月刊，50。
取自 <http://epaper.heeact.edu.tw/archive/2014/07/01/6193.aspx>
- 施淑婷 (2014)。翻轉教學在通識人文課程的實務應用－以〈文學與人生〉課程為例。通識教育學報，2，177-197。
- 郝永崑 (2015)。翻轉教室：談學生看法。教育脈動，1，34-52。
- 張益勤 (2014)。台中市光榮國中鍾昌宏老師：激發自學力 老師等著被問倒。親子天下雜誌，54。
- 黃政傑 (2014)。翻轉教室的理念問題與展望。臺灣教育評論月刊，3(12)，161-186。
- 黃能富 (2015)。磨課師 (MOOCs) 與師博課 (SPOCs) 協同授課之翻轉教學法。教育脈動，1，101-110。
- 葉丙成 (2015)。BTS 翻轉教室 -3. 馴化篇。取自 <https://flippedu.parenting.com.tw/blog-detail?id=482>
- 蔡瑞君 (2015)。翻轉教室之過去、現在與未來。教育脈動，1，21-33。
- 鄧鈞文、李靜儀、蕭敏學、謝佩君 (2014)。翻轉吧！電子學。臺灣教育評論月刊，3(7)，13-16。
- 羅志仲 (2014)。翻轉教室翻轉學習。師友月刊，563，20-24。
- Acedo, M. (2013). 10 pros and cons of a flipped classroom. Retrieved from <http://www.teachthought.com/learning/blended-flipped-learning/10-pros-cons-flipped-classroom/>
- Barkley, L., Blake, T., & Ross, L. (2014). Crafting an effective writer: Tools of the trade (fundamental English writing), from <https://www.coursera.org>
- Bekhet, A. K., & Zauszniewski, J. A. (2012). Methodological triangulation: an approach to understanding data. *Nurse Researcher*, 20(2), 40-43.
- Bergmann, J. (2011a). The flipped class blog: The flipped class revisited. Retrieved from <http://flippedclass.com/the-flipped-class-revisited/>
- Bergmann, J. (2011b). The flipped class blog: The history of the flipped class. Retrieved from <http://blendedclassroom.blogspot.tw/2011/05/history-of-flipped-class.html>
- Bishop, J. L., & Verleger, M. A. (2013). *The flipped classroom: A survey of the research*. Paper presented at the 120th ASEE Annual Conference & Exposition, Atlanta, GA.
- Foldnes, N. (2016). The flipped classroom and cooperative learning: evidence from a randomised experiment. *Active Learning in Higher Education*, 17(1), 39-49.
- Forsey, M., Low, M., & Glance, D. (2013). Flipping the sociology classroom: Towards a practice of online pedagogy. *Journal of Sociology*, 49(4), 471-485.
- Gilakjani, A. P. (2012). Visual, auditory, kinaesthetic learning styles and their impacts on English language teaching. *Journal of Studies in Education*, 2(1), 104-113. doi:

10.5296/jse.v2i1.1007

- Greener, S. (2015). *Flipped or blended? What's the difference and does it make a difference to learning in HE?* Paper presented at the ICEL2015-10th International Conference on e-Learning, The Bahamas.
- Guo, P. J., Kim, J., & Rubin, R. (2014, March). *How video production affects student engagement: An empirical study of MOOC videos*. Paper presented at the The First ACM Conference on Learning at Scale.
- Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of College Science Teaching*, 42(5), 62-66.
- Means, B., Toyama, Y., Murphy, R. F., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1-47.
- Milman, N. B. (2012). The flipped classroom strategy: What is it and how can it best be used? *Distance Learning*, 9(3), 85-87.
- Olsen, W. (2004). Triangulation in social research: Qualitative and quantitative methods can really be mixed. Retrieved from <http://www.ccsr.ac.uk/staff/Triangulation.pdf>
- Roach, T. (2014). Student perceptions toward flipped learning: New methods to increase interaction and active learning in economics. *International Review of Economics Education*, 17, 74-84. doi: <http://dx.doi.org/10.1016/j.iree.2014.08.003>
- Robinson, T. (2014). Flip a lesson, but don't flip your classroom. Retrieved from <https://robinsondigital.wordpress.com/2014/01/22/flip-a-lesson-but-dont-flip-your-classroom/>
- Roehl, A., Reddy, S. L., & Shannon, G. J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning strategies. *Journal of Family & Consumer Sciences*, 105(2), 44-49.
- Ruffini, M. F. (2014). Blending face-to-face and flipping. *THE Journal*. Retrieved from <https://thejournal.com/Articles/2014/09/03/Blending-Face-to-Face-and-Flipping.aspx?Page=4&p=1>
- Smith, K. L. (2016). Faculty center for teaching and learning: Flipping the classroom. Retrieved from <http://www.fctl.ucf.edu/teachingandlearningresources/coursedesign/FlippingClassrooms/>
- Tucker, B. (2012). The flipped classroom. *Education Next*, 12(1), 82-83.
- Weselby, C. (2016). What is differentiated instruction? Examples of how to differentiate instruction in the classroom. Retrieved from <http://education.cu-portland.edu/blog/teaching-strategies/examples-of-differentiated-instruction/>

(Appendix A)

「應用國外磨課師教材翻轉教學」學生意見調查

說明：請在以下各題適當的選項框內打勾☐，每題皆為單選。請勿漏題不答。

個人基本資料

1. 性別：☐男性 ☐女性
2. 年齡：☐17 ☐18 ☐19 ☐20 ☐21 ☐其他：_____
3. 系別：☐外文系 ☐其他：_____
4. 年級：☐一年級 ☐二年級 ☐三年級 ☐四年級
5. 大學學測英文級分： ☐10 ☐11 ☐12 ☐13 ☐14 ☐15
6. 修過任何磨課師課程：☐是 ☐否

課後意見調查

1. 你理解所應用的磨課師教材 *Crafting an Effective Writer: Tools of the Trade* (Fundamental English Writing) 內容的程度為何？
☐100% ☐80% ☐60% ☐40% ☐20%
2. 你對所應用磨課師教材(含線上影片及講義)內容滿意的程度為何？
☐非常滿意 ☐滿意 ☐普通 ☐不滿意 ☐非常不滿意
3. 你是否同意在課堂上應用磨課師教材，讓所學內容更豐富多元？
☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意
4. 針對老師應用國外線上課程教材的部分，你依進度完整觀看線上磨課師課程影片並閱讀其講義的程度為何？
☐100% ☐80% ☐60% ☐40% ☐20%
5. 你是否同意如果不須做閱讀筆記，你可能不會認真做課前預習？
☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意
6. 你是否同意做閱讀筆記時，你會上網查詢不懂或補充額外的資料？
☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意
7. 你是否同意做閱讀筆記(study notes)有助於你對磨課師教材的學習？
☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意
8. 你是否同意先小組測驗(group tests)，再教師講解(teacher-led Q&A sessions) 與個人

測驗 (individual tests) 有助於你對磨課師教材的了解？

☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意

9. 你是否同意小組測驗後的教師講解(teacher-led Q&A sessions)有助於你觀念的澄清？

☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意

10. 你是否同意個人測驗可以反應個人的努力與實力？

☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意

11. 你是否同意反思式日誌有助於教師提供你個人的輔導？

☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意

12. 你對老師應用磨課師教材翻轉教室的方式(課前：看完影片及講義後，做團體閱讀筆記；課堂：做小組測驗後，教師講解，之後再做個人測驗；課後：寫反思式日誌，教師再依個人需求提供輔導)，滿意的程度為何？

☐非常滿意 ☐滿意 ☐普通 ☐不滿意 ☐非常不滿意

13. 你是否同意相較於傳統講授，你更喜歡老師在課程中應用磨課師教材翻轉教學方式？

☐非常同意 ☐同意 ☐普通 ☐不同意 ☐非常不同意

14. 你未來是否有意願自行修習國內外磨課師課程？

☐非常願意 ☐願意 ☐普通 ☐不願意 ☐非常不願意

(Appendix B)

「應用國外磨課師教材翻轉教學」學生面談

1. 你對我們所應用的國外磨課師教材 *Crafting an Effective Writer: Tools of the Trade* (Fundamental English Writing) 的內容滿意嗎？為什麼？
2. 教學錄影帶與上課講義，你比較喜歡哪個？為什麼？
3. 請敘述一下你觀賞教學錄影帶與閱讀上課講義的方式。
4. 你在觀賞教學錄影帶或閱讀上課講義時，曾遇過哪些困難？如何解決？
5. 針對老師應用國外磨課師線上教材的部分，你有依進度完整觀看教學錄影帶並閱讀其講義嗎？如果沒有，為甚麼？
6. 請敘述一下你們小組做團體閱讀筆記的方式與做團體閱讀筆記對你的影響。
7. 你們小組做團體閱讀筆記時，曾遇過哪些困難？如何解決？
8. 請敘述一下你對課堂先小組測驗，再教師講解，再個人測驗的教學方式的看法。
9. 請敘述一下你對課後寫反思式日誌的看法。
10. 在我們翻轉教學的整個過程中(課前：看完影片及講義後，做團體閱讀筆記；課堂：做小組測驗後，教師講解，之後再做個人測驗；課後：寫反思式日誌，教師再依個人需求提供輔導)，你最喜歡的是哪個環節？為什麼？
11. 比較傳統講授與應用磨課師教材翻轉教學，你比較喜歡哪個？為什麼？
12. 請敘述一下這個翻轉教學的模式對你的學習有什麼影響？

