

A Developmental Study of the Flipped Classroom Approach on Students' Learning in English Language Modules in British University in Egypt

A. T. Zaki

Abstract—The flipped classroom approach as a mode of blended learning was formally introduced to students of the English language modules at the British University in Egypt (BUE) at the start of the academic year 2015/2016. This paper aims to study the impact of the flipped classroom approach after three semesters of implementation. It will restrict itself to the examination of students' achievement rates, student satisfaction, and how different student cohorts have benefited differently from the flipped practice. The paper concludes with recommendations of how the experience can be further developed.

Keywords—Achievement rates, developmental experience, Egypt, flipped classroom, higher education, student cohorts, student satisfaction.

I. INTRODUCTION

THE introduction of the flipped classroom approach in the English modules at the BUE at the start of the academic year 2015/2016 was quite a controversial step that some feared would jeopardise the learning experience of students in the English for Academic Purposes (EAP) classes. However, the flipped teaching model was believed by the administration and the teaching teams in the English Department to give a new impetus to the already existing communicative approach adopted in the teaching practices in the English modules. The vision and structure as implemented at the BUE was shared in research published in 2016 [1]. This paper is intended to share the experience of flipped teaching and learning in the two required EAP modules of the Advanced English and Advanced Writing: how it has affected students' learning, pass rates and satisfaction with the modules in question. Data collected for the purpose of this study are collected from formal results posted on the University Students Record System (SRS), of students' results in the two modules, students' online module evaluation, summary of reports from formal meetings of Staff Student Liaison (SSLC) Committees, teachers' feedback and general trends in results from a students' questionnaire developed for the purpose of this paper.

II. CONTEXT AND RATIONALE

The implementation of the flipped classroom as an instructional model was embarked upon as a realisation of the concept of "learner autonomy" defined as "the ability to take

charge of one's own learning" [2]. In the same way, the endeavour was informed by concepts that have influenced educational research such as "blended learning". When it first appeared in 2000, the term "blended learning" was used to refer to "simply supplementing traditional classroom learning with self-study e-learning activities" [3]; as it expanded, blended learning has come to define a pedagogical approach based on combining the traditional face-to-face learning system and the electronic learning (e-learning) system, an approach glorified by eminent educators for its "pedagogical richness" [4].

Flipped learning has thus been introduced as a mode of blended learning to promote learner autonomy, except that it highlights the "reversed" teaching and learning paradigm. Flipped Learning Network defines this reversal of the learning process as a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter [5].

Since it was popularised by Bergman and Sams [6] as a means of personalising education by shifting the focus in the teaching and learning process from the instructor to the learner, flipped learning has been hailed as a means of empowering students to become more active learners. The definition of the flipped classroom is rapidly expanding to encompass any approach that requires students to prepare outside of class, usually by watching an instructional video, for in-depth, active participation in class. As such, the flipped pedagogy is student-centred in the sense that it "uses technology to remove passive, one-way lecturing as the only means of teaching" [7] and students are no longer the passive recipients of information transmitted by the teacher.

Critics of the traditional teaching and learning model, which depends on teachers delivering new information to students in the classroom, use the Cognitive Load Theory [8] to highlight the limitation of the attention span and memory to absorb and process new information as it is delivered in the traditional classroom. Conversely, the flipped teaching and learning pedagogy, according to Bergman and Sams, allows students to "learn at their own pace" [6] because new material is delivered via an online instructional video that they have to watch before they meet with the teacher in the classroom. Thus, students can pause and rewind the video as they learn to take notes or to learn something they did not understand the

Azza Taha Zaki is with the British University in Egypt, Cairo Egypt (phone: +202 26890000; fax: +202 26875889; e-mail: azza.taha@bue.edu.eg).

first time. In this framework, class time is devoted to activities exploring the application of the material learnt rather than delivering new information.

Shifting from the traditional teacher-centred to the more student-centred approach has never been more timely. For students and teachers living in the Information Age, information and communication technology has brought along new opportunities to enrich “the educational experience by engaging all resources that are available to help effect incremental change by coordinating the various ways to connect learners with information, knowledge and stimulation” [9].

What Trucano terms as “multi-channel learning” has been made possible with the potentials of the information and communication technology (ICT) to enable change in the teaching and learning paradigm and to “foster 21st century thinking and learning skills” [9]. Communication technology has provided teachers with a wealth of online resources to enhance the “individual learning space” as described by FLN. Online preparation with engaging material before class, an essential component in the flipped learning model, is well suited to students with varying learning abilities because it puts the learning under the control of the learner: where to access the learning material, when to watch, rewind or stop to reflect on the content. In part, the growing worldwide acceptance of the flipped classroom approach is due to its suitability to the mindset and tendency of students in this age to use technology to access information by computers, tablets and mobile phones.

The overarching institutional motto of the BUE: “How to think, not what to think” provided a welcoming environment for the concept of lifelong learning as a departure from the “education for life” and a step towards a “self- motivated, knowledge-oriented graduate” who should be able to “find, analyze and acquire new information when they need it” [10]. Such a graduate is better equipped and more fitting in a globalised competitive job market. The continuing efforts of educators and educational research have recently focused on responding to the ever-growing and ever-changing demands of the job market. A crucial question that has emerged in recent years is whether higher education is really preparing graduates for the workplace with required employability skills. One of the benefits of using the flipped learning approach is that it helps students develop into life-long learners and investigators of learning. It is no longer the most valued role of higher education to fill students with theoretical learning, but rather that students actually grow into lifelong learners “who have mastered the art of guiding their own learning, knowing what the important questions are, and how to find the answers” [11].

III. IMPLEMENTATION AND CHALLENGES

The introduction of the flipped classroom approach in two EAP modules in BUE was faced with a number of challenges, the first of which was the awareness on the part of the administration and the teaching teams that the new pedagogy was a challenge to the mindset and the traditional teaching and

learning paradigm that students have been accustomed to. Students at BUE come from a variety of educational backgrounds: public or private secondary school certificate (Thanaweya Amma) students, American Diploma students, International General Certificate of Secondary Education (IGCSE) students as well as other certificates from Arab and African countries. However, they have all been traditionally oriented to expect to sit in class as teachers would introduce and explain a topic they are expected to learn and go home to do their assignments. The “reversed” model does not only place more responsibility on the student, as a partner in the learning process but it has also challenged students’ expectations of the role of teachers in the classroom.

Another challenge was that it was necessary for the implementation to “reframe the mindsets of both instructor and student about the role of face-to-face class time” [12]. Teaching teams had to rethink their teaching and learning strategies and to plan course material in a way to ensure that “all stages of the teaching and learning process [should] be thoroughly integrated and planned” [10]. The structure agreed conceived lessons as consisting of three integrated stages [1]:

1. Pre-class activities- flipped tutorials- counted for student attendance when the quiz is done before the face-to-face session. They normally consist of two items:
 - An online instructional video to deliver the cognitive concept of the intended learning outcome (ILO).
 - Online formative (ungraded) quiz: depending on the nature of the lesson, students are required to contribute to an online forum discussion or do a relevant online interactive exercise to check their understanding and independent performance. The activity is designed to inform the lesson plan for the face-to-face session.
2. “Face-to-face” sessions (2 hours/week):
 - In class actual application of the ILO: starting with an open discussion recapping the online pre-class activity, the face-to-face session proceeds to application with the teacher’s guidance, follow up and immediate personalised feedback as students work on their tasks. The in-class activities build on students’ learning in the pre-class activities via a variety of individual, paired or group tasks. This is also where graded assessments are administered.
3. Online follow-up activities:
 - Online (graded) tasks on eLearning such as weekly readings, quizzes and students’ forum participation to reinforce and evaluate the learning of the ILO(s).

All online activities are on the university eLearning system which allows teachers to track students’ performance and progress and send feedback when needed. Online follow up tasks are time-bound; students who do not observe the deadline will miss the grades. However, pre-class learning resources remain available for students to access at any point in the semester.

The module weight and hours were not changed; the online pre-class activities together with the face-to-face sessions and after class tasks add up to the total class time. To prepare students for the design, structure and aim of the module, an orientation video explaining the flipped module approach was

created by members of the teaching team in the English Department. The video is played in the first face-to-face session and is followed by a class discussion meant to share the benefits of the new design and students' role and responsibility in the new set up. Because students in any given group are of varying English language competence levels, teachers highlight the flexibility of the approach that allows students to access the flipped instructional video at their own convenience, pace and time. Finally, students complete a short quiz and sign a contract to confirm their understanding of their new role and the rationale behind the new structure [1].

Likewise, a number of staff development workshops and discussion groups were held prior to the start of the first flipped experience so that teaching teams share a common understanding of their new roles. There was wide agreement, informed by research and professional discussions, with Jones' succinct statement that "[S]tudents can't be taught—they can only be helped to learn" [13]. In this context, the role of the teacher is redefined to emphasise observing, guiding, and facilitating the learning process both in the independent online (flipped) component and in the face-to-face session. Instead of the teacher being at the centre of the learning process as the source of information, "the teacher and the students are a team working together" [13].

There was also agreement among teaching teams that the new pedagogy would enhance the students' experience since it is often the case that "the face-to-face lecture is too fast, too transient and too one-sided" [14]. Deep learning is more likely achieved when students have the time to process knowledge and link it to prior knowledge when they have first exposure to content before class. It was anticipated that early on that the new pedagogy would not only promote necessary skills for independent learning, but also enable more efficient opportunities for timely and personalised feedback. The traditional teaching and learning paradigm, according to Hodges [14], disadvantages students in two basic ways: it denies students the time for deep learning at first exposure, and it allows feedback long after the task is done to be meaningful. Flipping the classroom allows teachers to watch, monitor and give immediate, individualised feedback as students work on their tasks in class with teachers' guidance.

However, there was also awareness on the part of the teaching teams of the huge effort and time that teachers have to invest in the planning of relevant materials and the technological skills required in the process. One of the challenges in this respect was to develop the technical skills of instructors to create online preparatory material with the help of some online technical tools such as:

- Screen cast videos, used to record online video tutorials.
- Educanon, used to embed interactive questions for students while they are watching a video.
- Pow-Toon used to create animated videos with voice over.
- Socrative online quizzes.
- Playposit videos, used to embed assessment questions to videos to make them more interactive.

A number of staff development workshops were held where

the more technically-oriented staff members shared their skills with such tools. Moreover, one such member was assigned the role of coordinating the development and uploading of online material for each teaching team in each of the two modules.

IV. EVALUATION AND FEEDBACK

The evaluation of the flipped classroom approach as implemented in the two English modules is an ongoing process and the author has sought to collect data in that respect via the evaluation systems already in place at BUE; namely:

- A. Module evaluation - administered online at the end of each semester;
- B. Modules' results - comparison of pass rates in the two modules in the flipped and non-flipped modes with reference to pass rates of students at risk;
- C. Staff-Student Liaison Committee (SSLC) formal meetings with student representatives held towards the end of each semester;
- D. Ongoing feedback from teachers in the flipped modules during weekly module meetings;
- E. A Student Questionnaire - administered for the purpose of this paper.

The student questionnaire was developed after three semesters of implementation to assess student satisfaction with the quality of the flipped model as implemented. The questions focused on whether the three stages of a given lesson were integrated enough to provide a satisfactory learning experience of a given ILO. The questionnaire also probes into whether students are doing their pre-class activities (watching the tutorial video and answering the quiz) and whether these activities are too little or too much on their schedules.

A. Module Evaluation

Tables I and II show the results obtained from the university's Students' Record System (SRS) of students' evaluation of the English modules in question with reference to student response rate, the English Programme and the learning resources and support received during the given semester.

TABLE I
ADVANCED ENGLISH MODULE EVALUATION

	Student Response	Programme Summary	Learning Support and Resources
Semester (2) 2014/15(non-Flipped)	3.62	3.69	3.35
Semester (1) 2015/2016 (Flipped)	3.9	3.83	3.89
Semester (2)2015/16 (Flipped)	3.9	3.91	3.8
Semester (1) 2016/17(Flipped)	4.07	4.09	4.02

The figures show a marked increase of students' response rates and satisfaction with the two modules and the support in place in all three categories after the implementation of the first "flipped" learning experience. Table I shows a comparison of students' online evaluation of the Advanced English module in the last non-flipped and the flipped mode of

subsequent semesters as obtained from the BUE SRS.

TABLE II
ADVANCED WRITING MODULE EVALUATION

	Student Response	Programme Summary	Learning Support and Resources
Semester(2) 2014/15(non-Flipped)	3.79	3.69	3.47
Semester(1) 2015/2016(Flipped)	3.8	3.83	3.89
Semester (2)2015/16 (Flipped)	3.91	3.91	3.86
Semester (1) 2016/17(Flipped)	4.01	4.09	4

Table II shows a comparison of students' online evaluation of the Advanced Writing module in the last non-flipped and the flipped mode of subsequent semesters as obtained from the BUE SRS.

B. Module Results

Similarly, a comparison of the pass rates in both modules in the non-flipped and the flipped modes has been sought to assess whether the flipped instructional model has affected students' achievement. Data in the tables are obtained from the university SRS after results have been formally approved in the Module Exam Boards.

TABLE III
ADVANCED ENGLISH PASS RATES

Academic Semester/Year	Pass Rates
Semester(2)2014/15(non-Flipped)	76%
Semester (1)2015/16 (Flipped)	76%
Semester (2) 2015/16(Flipped)	80%
Semester (1) 2016/2017(Flipped)	74%

Figures show a comparison between pass rates of students in the Advanced English in the last non-flipped semester and the flipped mode of subsequent semester as obtained from the BUE SRS.

While the pass rate remained the same in the Advanced English module after the first "flipped" semester, there was a marked increase to 80% as both teachers and students felt more comfortable with the model and gained more confidence and understanding of their redefined roles. However, the pass rate dipped again in the first semester of the academic year 2016/2017 because the teaching team underwent some changes in the members who were trained and were gaining growing experience with the new teaching model. New teachers joining the flipped module did not have enough induction and needed time to adapt to the new approach.

TABLE IV
ADVANCED WRITING PASS RATES

Academic Semester/Year	Pass Rates
Semester(2)2014/15(non-Flipped)	77%
Semester (1)2015/16 (Flipped)	68%
Semester (2) 2015/2016(Flipped)	78%
Semester (1) 2016/2017(Flipped)	78%

Figures show a comparison between pass rates of students in the Advanced Writing module in the last non-flipped semester and flipped modes of subsequent semester as obtained from the BUE SRS.

The pass rates of students in the first "flipped" semester in Advanced Writing plummeted by 9%. Review of the results and students' performance showed that this is partly due to the fact that all the students in the module in the first semester are

students of Degree years beyond the Preparatory year who take the module as an additional seventh module to their regular six- module load per semester. This set up has disadvantaged students in this module because of their crammed schedules. The lower pass rate in semester 1 of the academic year 2015/2016 for the Advanced Writing students was partly explained by the high number of students who dropped out of the module and failed because of the extra time burden. Further data collected from the minutes of the Staff-Student Liaison Committee (SSLC) meetings showed students reporting complaints that the number of the flipped pre-class activities in the module was too many for them and that some ended up opting not to do them at all, which affected their attendance and learning experience.

The implementation of the flipped classroom approach was expected to be particularly useful to the cohort of students identified as at risk. The definition of students at risk is inclusive of the following categories:

- Chronic repeaters: Students who have repeated the module more than once.
- Weak students: Students who do not score a passing grade in the first graded quiz and are struggling to achieve the ILOs.

Data of results of this cohort of students in the Advanced English have been tracked and shown in Tables V and VI.

TABLE V
ADVANCED ENGLISH PASS RATES OF STUDENTS AT RISK

Academic Semester/Year	Pass Rates
Semester (2) 2014/15(non-Flipped)	24%
Semester (1)2015/16 (Flipped)	32%
Semester (2) 2015/2016(Flipped)	33%
Semester (1) 2016/2017(Flipped)	30%

Figures show a comparison of pass rates of students at risk in the Advanced English module in the last non-flipped semester and the flipped mode in subsequent semesters.

TABLE VI
ADVANCED WRITING PASS RATES OF STUDENTS AT RISK

Academic Semester/Year	Pass Rates
Semester(2)2014/15(non-Flipped)	26%
Semester (1)2015/16 (Flipped)	31%
Semester (2)2015/2016(Flipped)	34%
Semester (1)2016/2017(Flipped)	35%

Figures show a comparison of pass rates of students at risk in the Advanced Writing module in the last non-flipped semester and the flipped mode in subsequent semesters.

The figures show a consistent increase in the percentage of pass rates of students at risk in the flipped mode compared with those of the last non-flipped class, which proves that the flipped approach has enhanced the performance of this cohort with the strategies of preparatory online exposure as well as focused and immediate feedback while they worked on their tasks in class. With the exception of the last semester in the Advanced English module, when the teaching team was disrupted, pass rates of students at risk has risen for three running semesters.

C. Feedback from SSLC Meetings

Feedback collected from formal meetings with student representatives at the end of each semester show the general views summarised below:

Positive

- A new experience, exciting and feels more "grown up",
- Flexibility when to do work,
- A chance to watch instructional videos again and again,
- Engaging online videos,
- In most cases, videos and quizzes are intensive and focused,
- A chance to catch up with learning in case of missing a class,
- More focused and active face-to-face sessions,
- Developing soft skills such as time management and team work,
- A chance to track and check on learning independently.

Negative:

- Timed quizzes in the pre-class activities,
Not always easy to manage time to do the pre-class activities before coming to class,
- Preferring traditional teaching as a more useful mode,
- Missing the chance to ask questions during the online delivery,
- Occasional failure of Internet connection,
- In some cases, an overwhelming number of pre-class activities,
- In some cases, the quality of the video, sometimes long and not focused enough.

D. Feedback from Teachers

Because of the huge numbers of students taking English at BUE, teachers work in teams lead by a Module Leader who chairs a weekly meeting to facilitate and coordinate the work. Teachers have generally reported an overall satisfactory reception of the flipped classroom as an instructional model with students joining the Advanced English module on entry to the university. As their first English module at university level, they felt it was more "university like" and that it helped them assume responsibility for their learning and were excited about the experience. By contrast, students progressing from the previous English module delivered in the traditional face-to-face mode were reported to have struggled with the necessity of having to do preparatory work before coming to class. Teachers' feedback focused on three areas of concern:

1. Unprepared Students

One of the concerns teachers shared in the implementation of the new pedagogy is that some students, in order to win an attendance check for the "attendance" of the flipped pre-class tutorial, did not watch the video and went directly to the interactive quiz which they did randomly without paying enough mindful attention. Other studies have indicated that students may not engage in the pre-class activities [15]. Teachers have remarked that the performance of these students was often affected; they could not always pick up

during the discussion at the beginning of the face-to-face session. By virtue of ongoing staff development workshops and sharing best practice, a strategy was agreed not to disrupt the plan of the face-to-face session and "that class time will not be derailed by their lack of preparation" [16]. Moreover, it is important to ensure these students see the value of the pre-class activities and their relevance to the in-class tasks.

2. Large Classes

Another concern is that it has always been with difficulty that teachers have been able to give immediate individualised feedback on students' tasks in the face-to-face sessions in classes of an average of 30 students. One way around this problem has been to diversify the range of activities applied in the face-to-face session so that students work in pairs, groups or a whole class. However, this does not address the problem in writing classes where students work on writing sections of their own essays and taking notes from their sources to integrate in their essays. In this context, it was recommended that the number of students in the class should not exceed 20 students for effective feedback to take place. Another recommendation has been to reduce the number of assessments to enable more focused and deeper learning opportunities.

3. Time and Effort

Many researchers have noted that the flipped approach requires time and effort on the part of the teachers to "re-conceptualize how they will utilize classroom time to accommodate active learning" [17]. In addition, preparation of material for the online flipped tutorials and follow up on students' online work have been reported by teachers to be a concern and a pressure, especially with large classes. To reduce teachers' efforts, not all instructional videos were created by the staff of the English Department; some videos have been selected where relevant from different online websites. However, the point is made that all instructional videos are incrementally created by the technically-skilled members to suit the objectives of the modules and then shared with the teaching team. As advised by Handke, the videos are focused and created with simplicity rather than the sophistication of "polished scripts with fancy graphics" [18].

E. General Trends Identified from Students' Questionnaire

The questionnaire consists of seven Yes/No questions with a comment box below each question for students to explain or elaborate on their answers. An open ended question asks students to post any extra thoughts they may want to add to their answers. The questionnaire was administered in week 9 of semester 2, so that students have had enough exposure to the flipped experience and their feedback is meaningful.

Some 221 students volunteered to participate in the questionnaire, representing students from the two flipped modules. The sample included students who are on the modules as their first attempt (68% in the Advanced English and 76% in the Advanced Writing), and students repeating the modules more than twice and have been identified as at risk are also represented (32% in the Advanced English and 24%

in the Advanced Writing).

The following trends have been identified:

Advanced English:

- 66.6% of students in their first attempts gave favourable responses and appreciated the usefulness of the pre-class flipped exposure in preparation for the in-class discussions and tasks.
- 33.4% gave general unfavourable responses, preferring the direct in-class instruction by the teacher in the traditional mode. They admitted that they did not watch the pre-class videos and did the quiz for the attendance requirement only.
- 60% of students at risk gave favourable responses, because the set up gave them flexibility with their time. They also appreciated the immediate feedback they received on their tasks during class time.
- 40% of the students at risk reported that they were not satisfied with the approach because it was difficult for them to manage their time and because they did not link with the instructional videos.

Advanced Writing:

- 74% of students in their first attempts gave favourable responses and explained that they understand the system better after their experience in the Advanced English module.
- 26% of students in their first attempts found the pre-class activities overwhelming and too many for them to manage.
- 59% of students at risk in this module gave favourable responses, explaining that the set up is less of a burden on their already crammed schedules.
- 41% of students at risk were generally satisfied with the approach but complained that it would work much better if the pre-class activities were more focused and the videos were shorter. This cohort suggested it would be better if the instructional videos were delivered by teachers rather than animation videos with voice over.

A marked increase is observed in the favourable responses among first attempt students in the Advanced Writing module (74%) compared to those in the Advanced English module (66.6%). This suggests that the flipped approach becomes more appreciated as a teaching and learning model as students and staff get more used to it. In their second "flipped" experience, students have developed a better understanding and acquired more of the necessary skills to assume their new roles for the flipped classroom scenario.

In light of the general trends identified from students' responses, two main issues emerge for review and further development; namely, students who have opted for doing the quiz inattentively for the attendance, and thus come to class unprepared, and students who need to have a feel of the teacher's presence in the flipped delivery videos.

V. CONCLUSION AND RECOMMENDATIONS

It is probably safe to say that the implementation of the

flipped classroom approach has met varying degrees of success depending on the interplay of a number of factors. The foundation factor for the technology-based flipped classroom approach requires institutional support in the form of electronic infrastructure and the development of a friendly learning environment, suitably furnished whenever possible. The electronic eLearning system at BUE provides a necessary platform through which teachers have been able to upload a variety of instructional screen cast videos and interactive quizzes using the technological tools now available online. The eLearning system has also facilitated continued contact with the students outside the classroom and teachers have been able to follow up on students' flipped performance by virtue of the grade book option. In addition, institutional moral support that encourages a discovery and research spirit is important for staff to continually explore new dimensions to improve the teaching and learning experience across the institution.

With the benefit of hindsight after three semesters of application of the flipped instructional model in two EAP modules at the British University in Egypt, it is equally safe to assume that it all starts with a thorough orientation and shared enthusiasm among the teachers to assume new roles as mentors and facilitators of students' learning experience rather than transmitters of information. Admittedly, not all teachers have the technical skills required to support the flipped pedagogy. Hence, ongoing teacher training, staff development and sharing best practice are an essential component in this structure. As Sharples et al. [19] have indicated, the success of flipped learning largely "depends on how the interactive classroom element is constructed". Dependence on the teacher's skill, time and effort to create relevant and engaging material for the flipped tutorials, close follow up mentoring of students' work and continued motivation and encouragement of students characterise the importance of the teacher's role. However, there is an undeniable shift in the roles of both the teacher, who still guides the process, and the learner, who becomes a partner in the process, that places the learner more at the centre of the learning experience.

Nor is student resistance not expected. Students need to be thoroughly oriented at the start of the flipped learning experience not only of their roles and responsibilities but more importantly of the benefits of committing themselves to these responsibilities. As evidenced by research and the results of this study, students' reception of the flipped classroom approach varies because of the novelty of the instructional model which is mostly at variance with the attitude and expectations inherited from their previous traditional learning experiences. It is important to note, however, that the flipped learning culture needs time to really settle and be more accepted by both teachers and learners and more supported by academic institutions. Moreover, further research into students' willingness to accept a redefined role and a reoriented attitude to learning is needed to improve the flipped learning experience.

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