

Flipping Economics with Extended Degree Programme students

Faculty of Economic and Management Sciences | Extended Degree Programme

Module: Introduction to Economics 141 (Extended Degree Programme)
Lecturer: Dr Sharon Malan sbmalan@sun.ac.za
Blended Learning Coordinator: Ms Magda Barnard magdabarnard@sun.ac.za

Learning activity:
 Flipped classroom approach

Learning technology:
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Context

Subject area

The programme focuses on microeconomics in the real world. There are three main themes: what economics is all about, demand and supply, and market structures.

Challenges and advantages associated with the integration of technology

The lecturer has been presenting the Introduction to Economics 141 module for the past seven years. She has been working with active learning for a while and her PhD topic focused on problem-based learning.

During a performance appraisal, the Vice-Dean (Teaching) of the Faculty of Economic and Management Sciences, Prof Ronel du Preez, suggested a flipped classroom approach (Schell & Mazur, 2015) for the module. The lecturer had long admired colleagues who had already implemented this approach in other Economics modules and had been taking an interest in it, especially since attending a workshop on it by Harvard University’s Prof Eric Mazur, a champion of the flipped classroom approach. The discussions that she subsequently engaged in and the support of the Vice-Dean motivated the lecturer to redesign her module.

The lecturer believes that lecturers have to ask themselves the question, “How can I use the contact time with my students as meaningfully as possible?” The flipped classroom approach seemed appropriate. During the July holidays, the lecturer therefore worked on changing the methodology of her module in preparation for implementation during the second semester.

During the planning of a flipped classroom approach, the reality of the context has to be taken into consideration. Lecturers are required to move continuously among lecture venues, for example, and not all halls are geared for this approach. Lecturers therefore have to have a Plan B or a low-tech option for times that the required technology is not available.

Keeping this in mind, the lecturer made use of a whiteboard, PowerPoint slides, SUNLearn clickers, low-tech clickers, quizzes, in-class tests and white A4 paper as a type of clicker for graphs.



Figure 1: Students answering questions with low-tech clickers

Student overview

The students enrolled in this module were first-year, extended degree programme students. The number of students totalled 130 – fewer students than usual in a first-year course – divided into two groups. It was important for these students to engage in deep learning of the most important concepts, which the flipped classroom approach facilitates. This approach also empowers students to learn on their own.



Figure 2: Students drawing graphs in their groups

Other relevant role-players

Both the Vice-Dean (Teaching) and the Faculty’s Centre for Teaching and Learning advisor played important roles in the planning stages of this module. The lecturer did not make use of any assistants, since she felt that it was important for her to be hands-on and mark the assessment activities herself. This enabled her to know exactly what was going on in the tests and what the students were struggling with.

Learning and assessment activities

Educational approach

The philosophy of this approach is having a classroom that is set up to maximise student learning. The goal is to present students with activities



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during the class that encourage them to think about and process the information that is given. The flipped classroom approach relies heavily on student preparation.

The first lecture of the semester was used to explain to the students the teaching philosophy and format of the learning opportunities. The students were shown research that details the influence of the flipped classroom approach on learning and marks. Emphasis was also placed on the fact that, if the students did not attend lectures, they would not reap the benefits. At the beginning, there was resistance from the students and they were therefore given the space to air their feelings in a discussion, which was kept light. This introductory lecture allowed the students to commit to the mode of teaching and learning.

Before working on a chapter during the contact sessions, the students were required to prepare the chapter by reading a section or viewing a video and then answering a quiz. Students are often overloaded with activities and resources on SUNLearn, however, and lecturers should always bear this in mind. To prevent overload, lecturers should get into a habit-forming exercise when posting resources, quizzes and activities on SUNLearn. For example, if there is a weekly preparation quiz, lecturers should always open and close the quizzes on the same weekdays and at the same times. The lecturers should also provide the students with general guidelines on timelines, the structure of the online module and other information that they may need to navigate SUNLearn.

Throughout all the teaching and learning activities, the lecturer of this module worked on the 70:30 principle. If she saw that 70% of the students grasped the concept, she moved on. If she saw that only 30% of the students grasped the concept, she spent more time on it. It was therefore the students who determined the curriculum and the time that was spent on specific content.

A common misconception is that it takes longer to cover content in a flipped classroom approach. When planning the curriculum, the lecturer therefore decided on a few cardinal principles that the students had to understand to be able to grasp microeconomics. She then focused on the students' grasping of the concepts and empowered them to learn the

other content on their own.



Figure 3: Students showing their answers to the lecturer

Learning and assessment activities

The module had a continuous assessment format. For students to obtain marks, they had to do pre-reading and write online quizzes before the classes, attend all the classes, complete the class assignments and write the tests.

To motivate student preparation, quizzes on the particular content to be discussed in class the next week made available on SUNLearn. These quizzes could be completed any time from Monday to Sunday. The lecturer welcomed group work in the completion of the quizzes but every student also had to submit her or his quiz individually. The quizzes worked with rotating questions from a question bank and no two quizzes were therefore alike. The quizzes usually consisted of only five questions, two of which were difficult. While it was important not to demotivate the students by making the quizzes too difficult, the quizzes did have to be challenging. It was also impressed upon the students that their pre-reading did matter through the following question being posed in class: "How will we make use of your pre-reading this week?" The lecturer looked at the quiz results on a Sunday night and then decided on her teaching for the following week.

Lecturers should not follow a surface approach when teaching during



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contact sessions. They should plan their lecture time, breaking chapters down into objectives and covering only the most important objectives during the lecture. Grasping the important objectives enables the students to understand the rest of the content. This approach requires a lot of preparation from the lecturers, involving thinking about the best use of lecture time for specific content and objectives. The lecturer of the module followed a sequence of recap, student questions, problem solving, discussions, just-in-time teaching and reflection.

During the contact sessions, the students continuously engaged in group work. They chose their own groups and changed groups as they wished. There was usually a mini-lecture or the students were shown a video. They were then presented with two or three questions about the content that they had to discuss and answer. These questions were quality questions that required the students to engage with the content and think critically and deeply about their answers. The students then submitted their individual written answers, which enabled the lecturer to gauge who was struggling with the concepts. The marked assessments were returned to the students at the next session. These assessment activities counted towards the students' final marks.

Before engaging in peer assessment, the students were taught how to assess. Rubrics were used but, at the start of the session, the lecturer guided the students through the marking and then checked the marking afterwards. The groups therefore marked and assessed each other's class activities.

Students also had to complete an assignment during group work. In 2015, this assignment took the form of a rap song about microeconomics that the students then performed in class. The lyrics were assessed by the lecturer.

The students usually wrote class tests on Fridays. On the following Mondays, the students rewrote the tests – but this time in groups. They could then make use of the internet and their textbooks but the questions were set in such a way that the answers could not easily be found in the textbooks. The group work allowed the students to reflect on their own answers

and understand their mistakes. The test marks were made up of 20% for the group tests and 80% for the individual tests. On the Tuesdays that followed, the lecturer focused on the concepts that the students struggled with in the tests.

Feedback practices

The lecturer feels that it is important to provide students with feedback in good time, as assessment motivates learning.

Student self-regulation

The students had to take ownership of their learning from the start. It helped to lessen the exam-type feeling that is often created by time limits on quizzes and individual assignments. The lecturer also negotiated with the students on the dates of their tests. This gave the students the responsibility of preparing properly for their tests, since they could not use other tests as a reason for under-preparation.

Learning environment

Learning setting

Although learning took place during the students' preparation for their lectures, the bulk of learning took place during face-to-face time, which was when the students engaged in active learning activities. It was during these contact sessions that the students were presented with learning opportunities that they could not afford to miss. The lecturer believes that, when class attendance is low, it is not just students who may be at fault but that lecturers may also be at fault and that they must ask themselves why students feel that they can miss class.

To motivate class attendance in another way, a record was taken during every contact session of the students who were present. This allowed the lecturer to see who was attending class and to look at the students' marks in that context. Recording the students who attended class also fostered a habit of class attendance in these young students and thus helped them to form a routine.

Collaborative settings

The students constantly worked in groups during the contact sessions. They also engaged in peer assessment.



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Content resources

The textbook was the main content resource, since the subject type allows it to rely heavily on a good textbook. The textbook provided the preparatory reading. It is important that students read, especially in Economics, where they have to understand the concepts, together with their contexts and examples.

The lecturer also made videos available as content resources. She did not record her own videos but preferred to recommend specific videos that were already available online.

When specific content called for lecturing, the face-to-face lecture time was never longer than 10 minutes. The students themselves also lectured on certain topics. They first explained the content to each other in small groups and, when the lecturer saw that a specific group was grasping a specific concept, she asked that group to explain it to the rest of the class. The lecturer then added any other information that the students may have missed.

The PowerPoint slides that were used during the lectures were also loaded onto SUNLearn. These documents served as a summary or refresher for the students that attended class. Those who did not attend class were not able to use the slides to study or catch up. This motivated the students to attend class.

Student experience

Student feedback on the learning experience

The students gave short, informal feedback every week according to the following grouping: thumbs up, thumbs down, and questions, comments and concerns. The lecturer then went through the feedback and made a summary of it. During the first lecture of the following week, she addressed the feedback and gave solutions or advice to remedy any problems or challenges. For example, if the students mentioned too much reading in the thumbs down section, she gave them strategies for reading the textbook.

Overall, the lecturer received good feedback on her teaching approach. Some students mentioned that they never wanted to attend a traditional

approach classroom again. (As part of the Academic Skills module, students are taught to accommodate all types of lectures and lecturers.)

Assessment impact

It is difficult to determine the assessment impact of the flipped classroom approach, since the content changed in the same year. No pre or post-tests were done either. The lecturer did, however, notice that the students were grasping the more difficult concepts. She also made her examination papers more challenging and the students did well and were able to answer more higher-order questions.

General Opportunities

In the future, quizzes will be adapted. Instead of asking only a few content-specific questions, the lecturer will also ask more general questions about the reading. These questions will include the following five questions: "Which one question would you want us to answer this week?", "What would you like to discuss in class?", "What was the focus of this chapter?", "What were the most important points of this chapter?", "What was new and interesting to you?" These same five questions will be added to each quiz and graded. They can teach students skills in reading academic texts and motivate them to reflect and think about what they have read.

Having the support of the Teaching Hub at the University made a big difference. The lecturer worked closely with the Vice-Dean (Teaching) and the Faculty's Centre for Teaching and Learning advisor. Having this support made her feel safe to experiment. It gave her the knowledge that she had somewhere to go to if something were to go wrong.

The students were motivated to give answers and explanations during lecture time. For this to be possible, an atmosphere should be created where wrong answers are accepted and addressed in a relaxed and non-judgmental manner. This motivates students to take part in class discussions and speak up during lectures.

Challenges

Challenges that were experienced were not necessarily linked to the teaching philosophy but rather to uncontrolled external influences. Test



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week, for example, caused a massive decrease in class attendance. The classes unfortunately had to continue during that time and the curriculum could not be adapted to fit it. The students who did not attend class in order to prepare for other tests therefore fell behind.

Advice

The lecturer's advice to other colleagues who may be considering the flipped classroom is to go ahead. If they are not well versed in the education and technology of the approach, they can still start in a small way. They should not, however, integrate technology simply for the sake of doing so.

The lecturer also recommends that people read case studies and newsletters about learning technologies and innovative educational approaches. Educators have to learn from one another; they do not need to reinvent the wheel every time. Lecturers can also contact their Blended Learning Coordinator and SUNLearn team when starting out – there is no need to fear learning technologies when this type of support is available.

Reference list

Schell, J. & Mazur, E. 2015. Flipping the chemistry classroom with peer instruction, in Garcia-Martinez, J. & Serrano-Torregrosa, E. (eds.). *Chemistry education: Best practices, opportunities and trends*. Weinheim, Germany: Wiley-VCH Verlag GmbH & Co. 319–344.

