FLIPPING THE CLASS – DEVELOPING A SOCIAL INNOVATION PROJECT; A FLIPPED-CLASS CASE STUDY IN A STUDY ABROAD PROGRAM

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Abstract
In this paper, the author outlines the lessons learned from a case study in class flipping conducted at the IES Abroad centre in Milan. She describes the changes the course underwent and how the innovative use of online platforms, specific flipping techniques, and a new classroom design helped to improve the course and engage students by adapting a learning style to which they are accustomed to the local context. The paper will focus on how flipping the classroom frees up more time for hands-on activities and project development. Time is a particularly important issue for institutions serving students who are studying abroad, as these students often travel when not in class and thus have more difficulty finding ways to productively work together outside the classroom.

Keywords: social innovation, flipped classroom, study abroad.

1 INTRODUCTION
1.1 Generic background
This paper describes a case study of a course in a study abroad program. IES abroad is a non-profit study abroad organization offering programs throughout Asia, Australia, Europe, New Zealand and South America for college-aged U.S. students. The idea is to combine education with cultural interaction and discovery. IES abroad Milan offers a variety of courses for college students studying in Italy for a period of about 4 months. Arriving in Italy, these students find themselves in a new place, in a new country, often for the first time in their life without their families. This period of study is thus also an important opportunity to learn from local experiences and bring them back to their hometowns and universities. Study abroad students in this program present a different set of learning needs that require a change in teaching strategies on the part of instructors. Students arrive with very different backgrounds and from diverse learning environments. They may choose courses that are not strictly related to their field of study, and beyond studying, they are seeking an immersive experience in a foreign country—and in this case also a foreign continent. Most of their free time is dedicated to traveling around Europe. The table below describes the relationship between the students' conditions and the instructor needs, while also highlighting opportunities:

<table>
<thead>
<tr>
<th>Student condition</th>
<th>Instructor need</th>
<th>Opportunity for improvement</th>
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<tbody>
<tr>
<td>Being in a foreign country and not knowing the local culture well</td>
<td>More personal interaction with students and more field experience meeting local people and organisations</td>
<td>Moving outside the classroom to perform field studies.</td>
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<tr>
<td>Coming from different colleges, different study background and different locations</td>
<td>Fit course content to student knowledge, respond to different expectations</td>
<td>Opportunities for interactions among students of different backgrounds that enrich the class</td>
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<tr>
<td>Traveling a lot during the weekends</td>
<td>Enable students to learn in different locations and collaborate with group members at a distance.</td>
<td>Use technology to enable online access to material in different times and locations</td>
</tr>
<tr>
<td>Quickly study a brand-new subject, not necessarily related to their study in the home college.</td>
<td>Have more hands-on activities to facilitate a better understanding</td>
<td>Create a group project to develop during the course.</td>
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All of the needs and opportunities above had one major risk – freeing time in class for field studies, collaborative work or a group project may mean losing precious theoretical elements and therefore reducing the level of learning to one based solely on personal experience. The idea for the flipped classroom method comes from the wish to have more quality time with the students while still delivering the same amount of theoretical content.

The flipped classroom describes a reversal of traditional teaching [1], in which students receive their first exposure to new material outside of class, usually via readings or lecture videos; class time is then used to do the harder work of assimilating that knowledge through strategies such as problem-solving, discussion or debates [2]. In other words, the practice problems normally completed at home are worked on in the classroom, and the direct instruction normally provided during class time is instead presented as homework through video lectures, readings assignments, or some other direct instruction delivery method [3]. In the case of IES Abroad Milan, a flipped-classroom approach seemed like a useful way to both to free-up time in the classroom and better engage students—allowing for a deeper understanding of topics that are new to them.

Students that have more time to interact with each other and with the instructor are more likely to understand how to use acquired knowledge in real life. In a study on the flipped classroom conducted by Toto and Nguyen, students watched a 30-minute video lecture prior to going to class. As a result, time in class could be spent using real-world tools and engaging students with practical applications [4]. This classroom was found to have increased student engagement [4]. Furthermore, students had more opportunities to gain a sense of how the tools and ideas they were leaning about are used in the real world [4]. The positive results of this flipped classroom stem from the effective use of class time [3].

Study abroad students may access the online material outside of class through various technological devices, and therefore can study in different locations and at different times through collaborative distance learning. This way, the learners work independently and collaboratively using technology tools before coming to the classroom. The students involved, belonging to the millennial generation, trust and are familiar with technology. Never knowing a world without computers and the internet, millennials don’t see these resources as tools, but rather as integral parts of their lives [5].

According to the Horizon Report, which focuses on exploring and reporting emerging technology in education, the flipped classroom is an emerging technology for higher education that is especially important at college level [6]. The section below describes how the flipped classroom method began in a specific course of the IES Abroad Milan study abroad program.

1.2 Specific context

Since 2012, IES Abroad Milan has offered a course on social innovation and sustainability focused on local experiences of sustainability-oriented innovation. This is an important course for leading the students towards deeper reflection on different habits and behaviours, as best practices in Italy are often noticeably different from those in the U.S.A due to very different lifestyles. Already in their first days, the students must learn to adapt to a new recycling system, public transport, and cooking healthy meals for themselves [7]. Sustainability intersects topics such as local culture, national heritage, and contemporary political movements. This makes it a particularly useful topic to explore abroad, since it offers students a rare opportunity to investigate and identify the issues shaping the new community in which they are living. At the same time, these topics are also what make the subject so challenging – as they require students to immerse themselves in an unknown framework. How is it possible to navigate this intercultural dilemma so that students come to both deeply understand social innovation and know how to apply it in different contexts?

Initially, the IES Abroad Milan Social Innovation course was built around a combination of theoretical lessons (including also videos and guest lectures), field studies, and a group project. Like all other IES Abroad courses, the class was supported by an online platform where students can find all materials needed for the class. The course consisted of 22 lessons of 2 hours each, taking place twice a week for a total of 12 weeks. The first classes were theoretical lessons introducing the challenges we encounter today in terms of sustainability. The phenomenon of social innovation and its development process are explained during the first lessons to then focus on the development of ICTs (Information and Communication Technologies) and discuss the advantages of collaborative and open innovation. During these lessons, students read articles, discussed in class, researched and presented case studies. Field studies were organised to visit two spaces that are home to social innovators, allowing students to speak directly with the people involved. After the first part the course, the focus shifted to
collective discussions among the students on the topics of food, housing, fashion and mobility. Two of these topics were also accompanied by field studies. After about 4 weeks, the group project was launched. The group project is a practical activity that really allows for deep understanding of change-making in a certain environment. Students evaluated the project as a useful experience, but most of the time, it did not have the kind of development and learning outcome the instructor was aiming for. The reason was mostly the lack of time. It is difficult to begin a project without the theoretical background provided by the first weeks of class, but the starting point for the project always came too late to complete it in a satisfactory manner.

2 METHODOLOGY

2.1 Flipping the class

Acknowledging the importance of hands-on exercises and instructor feedback in a course of this kind led the instructor to consider class flipping as a means for freeing up class time for project work without eliminating essential theoretical instruction. A request was made to the director of IES to establish a budget for the filming of four video lessons and a class-flipping experiment. The idea was not to flip the whole course at once, as was suggested by many other flipping experiences. Upon director approval, a student assistant with a video-making background was assigned to aid in video making. Two different approaches were taken in making the videos: the first approach, which resulted in one video, focused the camera on the teacher and integrated slides with notes in the editing phase. It simulated a real lesson in the classroom. The second video approach was to integrate animated graphics into the video in order to create more of a video format and therefore better grab the viewer's attention. This format is different from a traditional lesson and is more suitable for home watching. However, it was much more time consuming in terms of planning, shooting and post-production work. Three video lessons were made using this approach. The videos were uploaded to a YouTube channel and linked through the online student portal, Moodle.

Flipping the class is not only about recording videos for students to view outside of class [8] but also about preparing the class for group work, peer reviews and project development. Active learning activities can include discussion, student-created content, independent problem solving, inquiry-based learning, and project-based learning [1]. In this specific case, active learning was promoted by integrating different online tools and rethinking classroom activities. The tools described below were developed especially for the flipped lessons. They will be illustrated here with descriptions of typical activities students perform during a flipped lesson:

2.1.1 At Home, online

The students open their usual online learning platform for the course (Moodle) and find the following: a link to the video lesson, a link to a written article, a quiz and a forum. They are instructed to proceed in that order, first watching the video, then reading the article, answering the quiz and participating in the discussion forums. The video usually engages the article content, but the article offers more detailed information. Students then take the quiz, answering a set of short questions that verify they've understood the main points of the lesson. The quiz may be taken twice, so students are able to go back and check their answers. The instructor receives feedback on the performance of all students and thus gets a general sense of both the overall class as well as the individual student situation. Discussion forums are a way to involve the students in a more personal way and encourage them to form opinions about a subject. Students here answer open questions related to the reading. The forum structure allows student also to learn each other's opinions and moves beyond the confines of the student-instructor conversation. Sometimes students are also asked to interact using a closed Facebook group. While Facebook is never the only means of communication, and never substitutes the official Moodle learning platform, it is a useful supplementary teaching tool because of its ease of accessibility for the students. It also allows for quick and easy sharing of links and pictures. These online activities aim to ensure students have watched the videos and allow the instructor to comprehend their level of understanding prior to meeting them in the classroom.

2.1.2 In the classroom

During a flipped lesson, the students sit in small groups. The classroom has a big oval table that can be divided into four independent tables. During a traditional lesson, the students find the table in the middle of the room and sit around it together, seminar style. During a flipped lesson, they instead find four small tables and can choose where to sit. The lesson begins with the instructor briefly framing the
day’s topic and going through the quiz. If a question was answered incorrectly by many students, it will be highlighted and explained. The instructor may utilize specific exercises to help elaborate the given concept. These exercises may also become group work. During the flipped class, student groups work autonomously, with the instructor moving among groups to offer tips and see how the work is proceeding. The students may ask the instructor for assistance when needed. If the exercises include a question, the answer will be discussed by the whole classroom at the end of the lesson. The instructor will address the different solutions proposed and the methods used to reach them. The instructor will also highlight how the exercises performed in class are related to semester-long project on which the groups work. Groups are then asked to share their outcomes either through Moodle or through Facebook.

2.2 Evaluating the impact

To understand the impact that flipping the class had on the IES Abroad course, the instructor developed a new evaluation format, which was delivered to students halfway through the course. A feedback session was also held with the students, asking them to express their opinions on the methodology. Finally, traditional student course evaluations were given at the end of the course. The midterm evaluation format included questions directly related with flipping. The following questions had to be answered according to a scale moving from strongly disagree to strongly agree:

Rate each item on the scale provided to indicate your agreement:

- I watch the video lectures on a regular basis
- I find it easy to pace myself through the course
- The outline of the material online was clear
- I find it easy to navigate through the course on the e-learning platform
- I would rather use the entire in-class session to develop the group project
- Having all of the course’s theoretical content online would make in-class sessions more engaging
- Studying part of the material online at home and performing interactive activities in class is more engaging than traditional lecturing
- The combination of video lectures, quizzes and other media (websites, slides, readings) with practice activities in class is more useful than a traditional classroom format
- Studying theory online and having the chance to practice in class meets my learning need.
- The flipped sessions give me time to master theory at my own pace

11 students participated in the first pilot course; all of them answered the survey. 9 participated in the feedback session, and all 11 completed the final course evaluations. After the pilot class in Fall 2016, another group of 11 students took the course in Spring semester 2017. During the second iteration of the course using the flipped lesson, traditional evaluations formats were given mid-term and at the end of the course; a feedback session was also held with this group. The result below are from both semesters and include the results of the assessments and the instructor’s personal feedback.

3 RESULTS

3.1 Students satisfaction

Many of the students positively evaluated the video lessons, the activities in class, and their level of engagement. The two questions that received ‘disagree’ and ‘strongly disagree’ related to flipping the entire course (none of the students would have preferred to receive all the theoretical lessons by means of video lessons). Also, most students would not have preferred to use all of their time in the classroom to develop their group project. From the answers above, it is clear that student satisfaction with the mix of learning techniques offered them was high. This was also confirmed in the feedback sessions. Students suggested that they were more interested in the class because each class was a bit different and offered them different sets of learning tools. This result was important as the original idea had been to flip additional lessons. After this feedback, it was decided to flip only a few more lesson and to preserve the mixed-class strategy.
The results of the midterm evaluations are synthesised in the graph below:

![Figure 1: results from midterm evaluations](image)

At the end of the course, students were requested to fill out a general assessment form. Here it was interesting to see whether the students mentioned the flipped classes and how generally they addressed the style of teaching. When answering the question “What aspects of the course best helped you meet the learning outcomes”? 7 out of 8 students mentioned the flipped classes, the use of videos generally, and the mixture of teaching styles. They acknowledged the fact that the video lessons were available at all times. “The flipped class style (online videos) helped because I could go back and watch the videos when I needed a refresher or clarification”. One student also mentioned the group project and the feeling there was enough class time to develop it: “I found our major project of the semester to be very helpful in meeting the learning outcomes of the course. Our professor gave us a ton of feedback throughout the semester, which turned a huge project into something extremely manageable and very interesting. This project really solidified the course material and made studying for exams a lot easier”. Only one student referred to watching the videos as “time consuming.

The students from the subsequent course had a traditional midterm evaluation form. To the question “What teaching strategies in this class are more helpful for your learning?” 5 out of eleven wrote “video lessons and the possibility to review them”. 7 out of 11 appreciated “group participation”, “discussions” and “small group work”. 4 out of 11 students wrote about “field studies” and “getting to know real life examples”. During the feedback session, students confirmed their satisfaction with being able to view the video lessons several times, especially before the exams. Students added that it was helpful to be able to watch the videos while traveling and to access course information remotely. The quality of the video lessons that included animation were also mentioned as positive and more engaging.

3.2 Results from the instructor's point of view

From the instructor’s point of view, it was notable how flipping some of the classes compelled an update and improvement of the course as a whole. The need to integrate new tools resulted in a productive monitoring of the students’ progress and learning. Opening up course work to the group format (as in the use of forums, for example) facilitated a positive peer pressure among students, as they attempted to reach complete answers. The use of Facebook made participation easy and informal and created a continuity between subsequent semesters of the class. Group work in the classroom was helpful in engaging the students more personally and encouraging them to cooperate and socialise. In the two classes, the overall dynamic of the classroom was highly positive. More free time was dedicated to the activities of the semester-long project, making it possible for students to produce significant concepts and develop them with innovative approaches. All groups developing a project cooperated well and delivered high-quality results.

Looking at the exam grades and the quality of the final projects, it is clear that students were well prepared and deeply understood the material taught. High grades and good projects were also the
result in the second class. Comparing the flipped-class semesters to previous semesters, the instructor observed an increase in grades: 9-10 out of 11 students were positioned in the A to B+ range, while 1 or 2 received C- or Ds. This shows an overall success with special exceptions. In previous classes, the range of grades received by students was wider.

Flipping 4 lessons was a very time consuming activity. In part, this was due to time it took to reframe the lessons and reorganise the course. In part, it was related to a lack in infrastructure and expertise that would have facilitated a smoother transition. Lacking class-flipping resources, the shooting of the videos was performed using basic hardware and classrooms without professional lighting or equipment. The quality of the videos is therefore not ideal, making the post-production process timely.

4 CONCLUSIONS
The flipped lessons in this course were implemented in order to free up time for the development of the semester-long group project and for field studies and exercises without renouncing theoretical knowledge. This change was an attempt to answer specific learning needs presented by study abroad students. As the results show, the process of flipping the course resulted in its being updated and both student and instructor satisfaction with the change were very high. This was the first time an instructor conducted this kind of pedagogical experiment at IES Abroad Milan. The process, the new tools implemented, and some general learnings from the case have already been shared with other members of the faculty. Several instructors were interested in implementing flipped lessons in their own classes. The main challenge is to find the funding and space necessary in order to establish a facility and person dedicated to helping other members of the faculty through the process of class flipping in a manner that does not require too high an expenditure of time. If located, it is likely that additional faculty members would experiment with class flipping, helping to update and improve the institution’s entire catalogue of course offerings.

REFERENCES