

Extended Abstract

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Let's do it other way round: An experimental study on *flipping* in a university level ESL classroom

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1. abstract

This paper reports an experimental study on *flipping* at a university-level ESL classroom in Sri Lanka. *Flipping*, an immerging model of teaching experimented in many educational settings, mainly in STEM classes (i.e., science, technology, engineering, and mathematics), is a pedagogical model in which traditional in-class instruction is replaced with pre-recorded lectures, which students watch prior to their participation in class. Class-time, meanwhile, is mainly utilized for interactive activities promoting higher order cognitive skills such as *application*, *analysis*, *synthesis* and *evaluation*. Despite its widespread popularity in STEM classrooms, only a little is known as to how *flipping pedagogy* can be effectively used in a second language classroom. Thus, the goal of this study was to investigate how *flipping* could be used in a language classroom, especially to teach the grammar component, which generally eats up a lot of class time.

This experimental study was conducted with two groups of first year undergraduates who attended a compulsory ESL course at a local university: control group = 25; experimental group = 25. A comparison of students' pre-test and post test scores and qualitative data from a post-class survey and focus group discussions show that *flipping* creates a positive impact on students' performance and their motivation. While presenting the results, in this presentation, the authors will also discuss the challenges generally encountered in flipping a classroom in the Sri Lankan university context and possibilities of extending the method to teach other disciplines in non-STEM settings.

Key words: *flipping, ESL, motivation, collaborative learning, grammar component*

2 Introduction and research problem/issue

Flipping' is an immerging model of teaching that has been experimented in a variety of teaching/learning contexts in the recent past (e.g., Bergmann & Sams, 2012, Berrett, 2012, Galway, Berry & Takaro, 2015; Quint, 2015). This innovative pedagogical model is different from conventional lecture-based classroom teaching at least in three respects. First and foremost, flipping relies upon the effective and meaningful integration of technology into classroom teaching. In a traditional classroom, class time is mainly spent on lecturing/teaching while homework is assigned to reinforce what students have learnt in class. Reversing this order, in a flipped classroom, lectures are pre-recorded and delivered to students via online tools, which they listen to before attending a class. The class time, meanwhile, is mainly utilized for collaborative learning through simulations, problem solving activities, case studies, labs and experiments (Tucker, 2012). Second, unlike in a traditional lecture-based classroom, a flipped classroom creates a more interactive and engaging environment in class, which promotes greater learner autonomy enabling the development of students' higher order cognitive skills. Finally, a flipped classroom is different from a traditional classroom in terms of the role assumed for the teacher/lecturer: unlike in a traditional classroom, a teacher in a flipped classroom plays the role of a facilitator who promotes the practical application of knowledge (Galway, Berry & Takaro, 2015).

Many studies in the recent past, mainly representing STEM disciplines (i.e., science, technology, engineering, and mathematics) have reported that the flipping model can be effectively used to enhance students' academic achievement, their interactivity and learner autonomy (e.g., Bates & Galloway, 2012; Deslauriers, Schelew, & Wieman, 2011; Horn, 2013; Khan, 2012). However, not much is known as to how this immerging model can be effectively used in non-STEM settings, in particular in an English as a second language (ESL) classroom. Thus, the goal of this quasi-experimental study is to investigate the impact of the flipped classroom instructional model on students' learning in a university-level ESL classroom, In doing so, this study answers the following research questions:

1. What impact does the flipping instructional model have on students' learning outcomes and how such impact differs from a traditional classroom?
2. What impact does the model have on ESL students' motivation, and their attitudes towards learning a language?

3. Research Methodology

This experimental study was conducted with two groups, a control group consisting thirty-three students and an experimental group of 28 students. Both groups consisted of undergraduates of a local national university who attended a compulsory ESL course as part of their degree program. While they learnt all four skills in English, the flipped method was only used to teach the grammar component.

The study took place over a period of eight weeks. For the first four weeks, both groups were taught using traditional lecture-based instructional methods of teaching grammar. At the end of the first four weeks, both groups were given a classroom test (Pre-test) to measure their proficiency in English grammar. Following this, from week five to week eight, the experimental group received flipped-instruction while the other group continued to receive the same kind of instruction. In the flipped classroom, in-class instruction was replaced with pre-recorded lectures, which they watched prior to their participation in class while class-time was mainly utilized for interactive practice activities that promote higher order cognitive skills such as *application*, *analysis*, *synthesis* and *evaluation*. At the end of the eight-week, both classes received a post-test. In addition, qualitative data was collected from a post-class survey and focus group discussions to evaluate students' perceptions on the flipped methodology.

4. Results and findings

	Mean Pre-Test Score (SD)	Mean Post-Test Score (SD)
Control Group	70.40 (13.90)	68.80 (12.80)
Experimental Group	67.30 (13.30)	72.40 (11.60)

Test Scores for the two groups

To begin with, a comparison of the pre-test scores of the two groups with a two-sample t-test yielded no significant difference ($p = 0.42$), implying that two groups were not significantly different in their proficiency at the beginning. Post-test scores of the two groups were also not significantly different ($p = 0.30$). However, when the scores of the pre-test and post-test were compared for each group using a paired-t test, a significant difference was found for the experimental group ($p = 0.00$) but not for the control group ($p = 0.28$). This implies that *flipping pedagogy* had an impact on the performance of the control group of this study. Qualitative data from a post-survey and focus group discussions also confirmed that *flipping* instructional method created an impact on students' performance as they were more enthusiastic towards learning their target language.

5. Conclusions, implications and significance

The results of this study are consistent with what has been reported in many other studies on *flipping*, mainly those representing STEM disciplines (i.e., science, technology, engineering, and mathematics): the *flipping model* can be effectively used to enhance students' academic achievement, their interactivity and learner autonomy (e.g., Bates & Galloway, 2012; Deslauriers, Schelew, & Wieman, 2011; Horn, 2013; Khan, 2012). Meanwhile, this study also shows that the model can be effectively used in non-STEM settings, in particular in an English as a Second Language (ESL) classroom to teach English grammar, a component of language study that eats up a lot of class time. In the presentation, authors will discuss further implications these findings have for university level teaching.

6. References (Selected)

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