

Effectiveness of Flipped Learning Approach in Teaching English Grammar: An Empirical Study

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ABSTRACT

This research paper is a study of the efficacy of the flipped learning approach in teaching 'Wh' questions to first-year undergraduate ESL learners. Technological development has significantly changed the educational scenario to make it available to everyone, regardless of culture, region, gender, and economic status. This paves the way to create a flexible learning environment where the traditional way of learning is inverted. This flexible environment is created using flipped learning which is a pedagogical approach and a form of blended learning. The quasi-experiment research design was used to collect and analyse the data. The results of this study suggested that flipped learning could be implemented at the undergraduate level to teach English grammar effectively.

Keywords: technology, flipped learning, blended learning, English grammar, language teaching

Introduction

The 21st century is called the technological era as technology plays an incredibly important role in everyone's life (Raja and Nagasubramani 2018). It has influenced every aspect of human existence (Hazarika 2017, p.19). It affects the system of education (Graddol 2000) with its new ideas and techniques. It creates an environment which combines the online form of learning with traditional-based classroom methods and it is called 'Blended Learning' (Quigley 2019). Blended Learning promotes a self-paced and flexible learning environment (Kannan et al. 2020; Chew & Wee 2015) to the learners. This integration of technology offers education the opportunity to transform from instructor-centric learning to the student-centric one (Kannan et al. 2020; Bernard et al. 2014). This paved a way for the 'Flipped Learning' Approach.

Flipped learning is a type of blended learning (Fisher et al. 2019), a form of pedagogical approach which creates an individualised and

interactive learning environment by moving direct instructions from a group learning space ("Definition of Flipped Learning" 2014). Here, the educator moderates the learners to apply concepts and discuss with the peer group on the subject matter. In this model, learners learn concepts before the face-to-face class using the materials provided to them in the form of instructional videos or learning materials and pave the way for the in-class timings to gain a piece of deeper knowledge in that particular field and also use the class timing for hands-on practice (Hsia et al. 2019). The flipped learning approach is only possible when the four pillars of flipped learning are followed as a learning mode. The four pillars of flipped learning (Hamdan et al. 2013; Lynch 2016; Demirel 2016; *Definition of Flipped Learning* 2014) are as follows:

1. Flexible Environment
2. Learning Culture
3. Intentional Content
4. Professional Educator

These four pillars of flipped learning are useful for the educators to implement the correct model of flipped learning (Lynch 2016). Flipped learning is used in the teaching of English language skills. English stands as the global language and has reached out from the Western world as its prime language to the lingua franca of the countries in the Eastern world (Mathew 2022, p.3). In India, in Tamil Nadu, the learners, after completing their higher secondary education, step into the higher education institutions for their under graduation programme. The problem for the students is to produce 'Wh' questions in their conversations. This research paper integrates the four pillars of Flipped Learning to teach 'Wh' questions to a set of fifty-five first-year undergraduate learners from semi-rural and rural backgrounds who have joined St. Joseph's College (Autonomous), Tiruchirappalli, Tamil Nadu, India.

The research objectives are as follows:

1. To make the learners apply the suitable 'Wh' word to ask suitable questions during their communication in English.
2. To develop the habit of learning English Grammar using videos.

The research questions are as follows:

1. What are the levels of the knowledge of the learners on the Basic English grammar before and after the implementation of flipped learning?
2. In what ways does flipped learning influence the development of the learners in learning 'Wh' questions?

Literature Review

The study of Nataliya Saoylenko, Ludmila Zharko and Aleksandra Glotova analysed the usage of Information and Communication Technologies

(ICT) and e-learning in designing an 'online learning environment'. Their research was based on a survey conducted to know the application of e-learning tools "by students and professors in the educational process" (Samoylenko et al. 2022, p.49). The results of this study illustrated that ICT and e-learning tools are much used in universities in Russia and promote a blended learning experience.

Integration of project-based learning with different communicative tasks was carried out by Manuel Rodriguez-Penarroja in Spain. This study used 'YouTube' as a source of multimodal input. The results of this study revealed that there is a "positive correlation between motivation and participants' academic performance" (Rodríguez-peñarroja 2022, p.62).

Flipped Classroom was found to be an appropriate teaching strategy to improve students' relevant research skills in the College of Education at King Saud University, Saudi Arabia. A group of eight students were considered for this study. The research helped the students to overcome obstacles faced at the time of writing research proposals in a special course named 'Independent Study', conducted to help the students in the preparation of research proposals (Alsaleh 2019).

Liezel Cilliers and Johannes Pulman (2020) conducted a survey using the quantitative survey method among 130 students who enrolled on a database course for about 4 weeks at a South African University to explore students' perceived experiences of flipped classrooms, and the findings of this study stated that the flipped classroom was "positive and enjoyable" (Cilliers and Pylman 2020).

An exploratory study was conducted to ensure the reflections and experience of flipped writing

programme of 18 low-proficiency students in Malaysia and the results of this study proved that the students had a positive experience such as “greater time preparation before class; increased

practice, engagement, interaction, motivation and immediate feedback during class and a higher level of self-efficacy after class” when flipped learning is used (Su Ping et al. 2019).

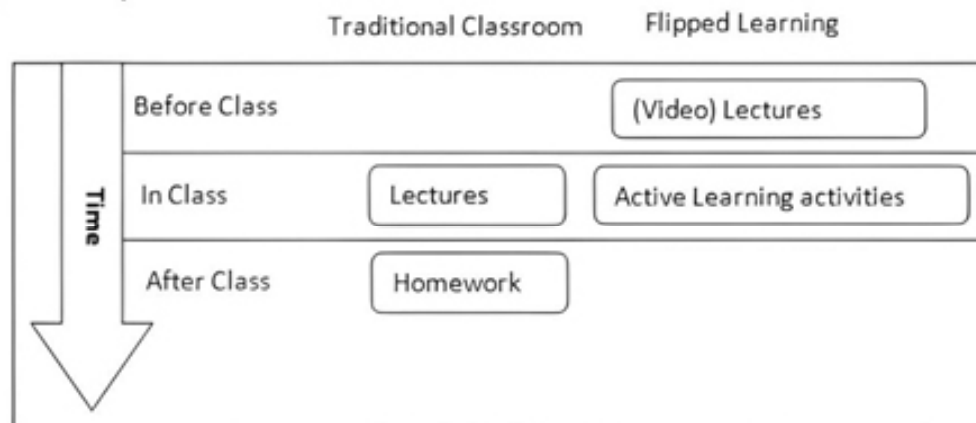


Figure 1: Teaching and learning in the traditional classroom as compared to that in the flipped classroom (Su Ping et al. 2019, p.4)

Methodology

Research Design

The effectiveness of flipped learning in teaching ‘Wh’ questions was tested by conducting a pre-test and a post-test, before and after the implementation of flipped learning respectively, to the first year undergraduate learners. The quantitative research design (McCombes 2021) was used in this study to test the effectiveness of flipped learning using data collection and analysis. Specifically, quasi-experiment (Thomas 2020) one group pre-test post-test design was done to collect and analyse the data.

Participants

The participants of this study were 55 first year undergraduate learners of Tamil Department at St. Joseph’s College, Tiruchirappalli, Tamil Nadu, India. There were 11 female learners and 44 male learners. The influence of English language is found only during the time of English language class hours for these participants as they study

their mother language, i.e. Tamil literature and language, as the major part of their degree course. All communications among them, from their teachers, society, family and friends, is only in Tamil language. Also, most of the participants are from semi-rural and rural background, where English language is not much used when compared to the influence of English language in urban locality.

Intervention

Flipped learning has been followed as a teaching strategy in this study. Flipped learning attracts educators (Jong et al. 2019; Hamdan et al. 2013) as it engages students and provides a good learning outcome (Fisher et al. 2019). The implementation of flipped learning is fulfilled only when the teachers include the four pillars of flipped learning in their teaching process (Lynch 2016). This study implements the four pillars of flipped learning to teach a grammar unit and to check the effectiveness of flipped learning.

After conducting the pre-test, a handout material

was sent to the learners in portable drive format (pdf). A diagnostic test was conducted in order to check whether the learners read the given material. Out of the total strength, 87.2% of the learners informed that they didn't read the material.

After this, a short video on 'Wh' questions was shared with the learners. The learners were asked to watch the video during their leisure time before the face-to-face class. A test was conducted to check the understanding of the learners after watching video. 97.3% watched the video before they came to the class. Next, a warm-up activity named 'Do what I say' was conducted. After that, groups were formed. Then, each group was provided with an A4 size paper. They were asked to discuss with their group members and write sentences describing their habitual actions. After a few minutes, the groups were asked to exchange the papers and frame questions for sentences made by their groups. When the learners framed questions, their doubts regarding framing 'Wh' questions were clarified. The group which framed many questions was asked to read the questions louder in front of the class. Learners clarified their doubts on the use of 'be' form verbs while asking questions.

On the second day, a second video on 'Wh' questions was shared with the learners. In this video, all the nine 'Wh' question words such as 'What', 'When', 'Where', 'Who', 'Whose', 'Whom', 'Why', 'Which' and 'How' were explained in detail using the bilingual method. The next day, the learners were asked to frame 10 questions using 'Wh' question words and also they were instructed to leave some space to ask their classmates to write the answers. The sheets were exchanged. Then, everyone was asked to write answers to the questions. Also, they were instructed to correct the questions. If the questions had incorrect sentence structure, spelling errors, lack of punctuation marks, etc. the learners were asked to read out the questions and answers loudly.

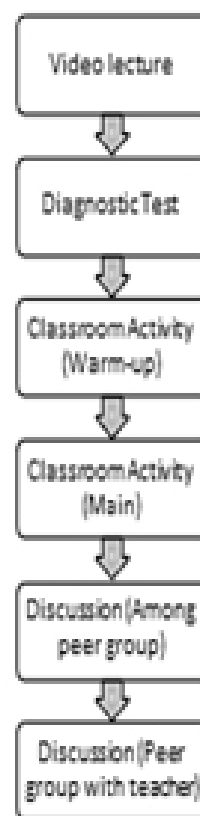


Figure 2: Intervention

Data Collection

Test

Two question papers were prepared to check the effectiveness of flipped learning in teaching 'Wh' questions to the first-year undergraduate ESL learners. Both the tests were in the same format, i.e. the learners were asked to frame questions using 'Wh' words for the first 50 given answers and the next activity was to frame questions out of the given jumbled words. In that activity, 10 sentences were given. The total marks for each test is 60 marks. The first test was conducted before the flipped learning classes. The second test was conducted after the flipped learning classes. These tests were set in testing all the nine 'Wh' words. The answer scripts were evaluated.



Figure 3: Model of Quasi-Experimental One Group Pre-test – Post-test Design

Data Analysis

The collected data were analysed using Statistical Package for Social Sciences (SPSS). The paired sample statistics for both the pre-test and post-test marks were calculated and the significance of the scores was found. The pre-test and post-test scores of 55 participants (N=55) were fed in the SPSS software. The ‘paired-sample t-test’ was selected to analyse the given data in SPSS. The Confidence Interval Percentage was set to 95%. Pre-test scores and post-test scores were set as pair variables 1 and 2 respectively. The paired sample t-test was calculated and the mean, standard deviation (SD), t value and p-value were found after analysis.

Findings and Discussions

The findings of this study answer the research

questions with sufficient evidence and analysis. The scientific analysis of the results was calculated using the paired sample t-test to compare the means of the scores of the pre-test and the post-test conducted before and after the intervention respectively. The results suggested that the level of knowledge of the learners increased when Flipped Learning was used to teach ‘Wh’ questions. The mean of the post-test score (M=19.05) is greater than the mean of the pre-test score (M=9.65), as shown in Table 2. Also, the probability value is 0.00, which is lesser than 0.05. When the p-value becomes lower, the statistical significance of the observed difference is greater (Beers, 2022). Therefore, it is proved that there is a significant difference between the pre-test score and post-test score, that is, there is an improvement in the level of the knowledge of the learners after implementing Flipped Learning.

Table 1: Paired Sample Statistics of Pre-test and post-test scores

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Total	9.65	55	5.625	.758
	Post-Test Total	19.05	55	9.188	1.239

Table 2: Paired Sample Test values of Pre-test and Post-test scores

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre - Test Total - Post-Test Total	-9.400	7.448	1.004	-11.413	-7.387	-9.360	54	.000

The second research question is about the ways in which the influence of flipped learning develops the learners' ability to learn 'Wh' questions. Flipped learning influenced the learners in learning 'Wh' questions when the four pillars of flipped learning were implemented in this study. The first pillar, Flexible Environment, was maintained among the learners so that they can easily access the video material as it was uploaded to YouTube and the link was shared through WhatsApp. Also, no extra class times were allotted to conduct the study. The study was conducted only during class hours. It makes the learners learn 'Wh' questions with flexibility. The second one, 'Learning Culture', was implemented by shifting from the traditional model to the learner-centred model (Demirel 2016). The class timings were used to do activities (mentioned previously in the subtitle 'Intervention') and to make the learners understand the concept deeply with interactions. Intentional content, the third pillar of flipped learning, was given in the form of video materials. The duration of the video is around 8 minutes and it is bilingual. It contains the definition and explanation of all the 'Wh' question words with examples. The content was selected by the teacher for the learners involved in this study. The fourth pillar, 'Professional Educator', was followed during the study as the teacher had taken different roles as motivator, instructor and facilitator, and clarified doubts both in and out of the class hours.

Concluding Remarks

This study proved that there is a significant improvement in the levels of the students when the four pillars of flipped learning are used properly and systematically in teaching 'Wh' questions to first-year undergraduate-level ESL learners. The interventions of this study provide a model for the teachers to teach English grammar effectively using flipped learning. One

of the limitations of this study is that some of the learners don't have enough facilities to access the shared video from their houses due to poor internet facilities in rural area. Also, students' active involvement in watching the videos provided by the instructor was less.

Scope for further studies

- The study can be extended to other grammar units.
- Flipped learning can be implemented to develop the ESL learners' listening, speaking, reading and writing skills.

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