



**Application of the Flipped Classroom methodology in a virtual platform for teaching English language grammar in level B1**

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**ABSTRACT**

The Flipped classroom is a pedagogical methodology that modifies the natural order of teaching. This study analyzes this new trend to provide students with an innovative technique to support their learning of the English language grammar at the B1 + level. The traditional methodology is replaced by the use of technological resources to incorporate them in an effective way in the teaching practice with different instructions and materials. In this way we want to investigate if the use of the flipped classroom methodology influences the teaching of grammar in this level, for this we used the Edmodo platform where we put designs of presentations and attractive videos to the level B1 + of English Center of Languages of the Technical University of Ambato. For the investigation, a pre-test and a post-test were performed on a single control group. The evaluation was positive and significant because the results of the average post-test scores reflected a high improvement in academic performance.

**Keywords: Flipped classroom, teaching practice, methodology, Edmodo platform, academic performance.**



**RESUMEN**

**Aplicación de la metodología Flipped Classroom en una plataforma virtual para la enseñanza de la gramática del inglés en el nivel B1**

El aula Flipped es una metodología pedagógica que modifica el orden natural de la enseñanza. Este estudio analiza esta nueva tendencia para proporcionar a los estudiantes una técnica innovadora para apoyar su aprendizaje de la gramática del idioma inglés en el nivel B1 +. La metodología tradicional se sustituye por el uso de recursos tecnológicos para incorporarlos de manera efectiva en la práctica docente con diferentes instrucciones y materiales. De esta manera queremos investigar si el uso de la metodología de la clase flipped influye en la enseñanza de la gramática en este nivel, para ello utilizamos la plataforma Edmodo donde ponemos diseños de presentaciones y videos atractivos al nivel B1 + del English Center of Languages de la Universidad Técnica de Ambato. Para la investigación, se realizó un pre-test y un post-test en un solo grupo de control. La evaluación fue positiva y significativa debido a que los resultados de las puntuaciones promedio posteriores a la prueba reflejaron una alta mejora en el rendimiento académico.

**Palabras clave:** Aula volteada, práctica docente, metodología, plataforma Edmodo, rendimiento académico.



## **1. INTRODUCTION**

The traditional teaching model is still a frequent practice in many classrooms of Ecuadorian universities, where the teacher conveys his class, uses the blackboard as his support, re-uses material from previous levels and does not use frequently technological means to make his class an active discussion medium and there is still a lack of handle an interactive class. In most cases the student takes homework, which was often not understood in class because the teacher in his eagerness to carry out a planning does not have time to reinforce contents or provide the student with extra activities to go deeper knowledge.

It is imperative to change the traditional model where only the teacher's time of exposure prevails, giving way to an approach in which the student develops meaningful learning based on their needs and at their own pace. (Bergmann, 2012). Because of its potential, the methodology of the classroom inverted or flipped classroom, according to (Tucker, 2012), gives an answer to the problem of direct instruction by the teacher to show a flexible system, in which deliberately the classroom is moved to home and the student is able to review contents through videos and interactive lessons created by the teacher. Then the class becomes the place to review concepts, discuss and work on a problem solving through collaborative learning.

Authors such as Fulton (2014) define the term flipped classroom as reversing the traditional method of teaching where the lesson plan is presented in class and tasks are sent home by a transcendental turn to this method when directing instruction outside the classroom, optimizing the exposure time of the lesson through videos or multimedia resources.

So that, after being observed and completed with certain questions that the teacher previously assigned to complete, the student is able to reproduce that content with their peers through more activities, discussions, exercises, labs, projects and activating peer collaboration.

The presence of the teacher is necessary to clarify problems that students had watching videos, readings or other sources at home, allowing the teacher to carry out practices or team work through more dynamic and participative activities offering the student immediate feedback and encouraging individualized interaction. (Pearson, 2013).



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According to (Overmyer, 2012) the flipped classroom is synonymous of use of technology media as means of learning instruction which replaces the lecture. Students work in the e-learning environment individually or in groups watching video lectures, checking their knowledge by answering comprehension questions or studying additional learning resources. In class, they expand the material by solving practical tasks, making projects and discussing various important issues on the topic. (Evseeva, 2015)

They can also use class time to check each student's understanding of the subjects and, if necessary, help them to develop the flow of procedures through individualized support (Musallam in Hamdan, McKnight, P., McKnight K., and Arfstrom , 2013, p.4).

The creativity plays an important role at the time of designing the learning process, especially if any kind of media like videos are going to be used. (Schmidt, 2016). Sometimes teachers have to face some problems like that not all the students want to watch the videos outside the class.

(Raths, 2014) suggests that teacher should. always give quizzes or tasks to complete after watching the video or the presentation.

It is obviously that the teacher has to spend a lot of time designing or selecting the appropriate videos to be uploaded in the platform or the correct material to be given for each purpose according to the different stages of the classes (Bergmann J. &., 2014).

The reward of these efforts will be compensated when the teacher being only a facilitator will have more control at the time of the teaching-learning process.

(Moreno, 2016) in his research concludes that the implementation of flipped classroom improves interest and attitude in the classroom, compared to traditional methodology. Global scores at the end of the application of this approach improved considerably, following the trend of recent notable studies (Strayer, 2007, Ali, Ghazi, Shahzad and Khan, 2010, Bergmann and Sams, 2011). The student is able to understand that his performance has improved, since he has more time to check the content at home and spend less time doing tasks that many times in the classroom were not understood.

## **2. METHODS**

The starting premise is simple, if the students are immersed in a society where applications and technological development always prevail in their lives, students should be able to have a critical capacity concomitant with the autonomy that they must develop when being provided with knowledge.



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Under this scenario the need to change traditional methodologies of grammar teaching is presented by a new model based on the Flipped Classroom methodology, benefiting teachers and students by facilitating the teaching of the use of technological resources to develop grammatical competence with the guide of differentiated instructions and materials.

Students can study grammatical content as often as they wish and at their own pace. The student acquires responsibility, since he must complete assignments assigned by the teacher, which is only obtained through the repetition and observation of the videos or the presentations that the teacher previously put on the platform. So the question would be: is it possible for the Flipped classroom methodology to improve the learning of grammar in the B1 + students at the Language Center of the Technical University of Ambato?

The spatial delimitation was made by two means or spaces. The first one was held in the virtual classroom with the upload of many videos and presentation with grammar content corresponding to units one to five, dividing each lesson with two grammar lessons, which were posted during one week prior to the development of the classroom class with the resources developed for this purpose.

Then, we worked in a physical classroom class B1 + parallel A3 of the Language Center, where we applied a pre- test that was developed before the class and the post test that was applied after six weeks of class and after having published the corresponding resources.

In the temporal delimitation, the Flipped Classroom methodology was applied in the class from week two to week seven in class A3 of level B1+. The practical delimitation was intended to apply the methodology of the Flipped Classroom which is a novel methodology that will support the teachers and students of the language center of the Technical University of Ambato, especially in students who have difficulty recognizing grammatical aspects.

First a pre-test and a post test was designed observing the variable grammar which is the focal point to improve with the use of the flipped classroom and these tests were applied to a control group: A group is given a test prior to the stimulus or experimental treatment. After, the treatment is administered and finally a post-treatment test is applied, there is an initial reference point to see what level the group had in the variables dependent on the stimulus. That is, there is a follow up of the group. However, the design is not suitable



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for scientific purposes: there is no manipulation or group of comparison and in addition several sources of internal invalidation can act.

The population are 30 students from level B1+ who are students of the languages Center at the Technical University of Ambato in the semester march-september 2017. The population are the bachelor students who need to approve English to have the institutional certificate in English required to present in their faculties as an essential requirement to graduate.

It is necessary to find the suitable means for the collection of data that will be processed and analyzed to extract the conclusions later on the basis of the information collected applying statistical systems. For the understanding and interpretation of the results under study, the data processing will be performed with the Microsoft Excel program in which the frequencies will be tabulated and viewed.

For the design and production of the digital resources it has been trusted the use of the EDMODO platform since it has become in an easy tool to use for being friendly-user.

Once you enter to EDMODO sign in as a teacher. Teachers should select the preferences of their virtual classroom in this case, it is recommended to use the option "use it with my students" that will allow the correlation with all members in class in order to streamline the classes. It is assigned the Educational Community to which this center belongs and the option is selected. The classroom is created according to the type of students and area of study, in this case Level B1 + and English area. For the assignment of students, the generated code will be taken from the academic classroom. This code will be the one that is given to the students so that they can join the virtual classroom where we will exchange knowledge that it will be called code of group allocation. In order for students to register, they must click on I Am Student on the main Edmodo page. Students must enter the unique code assigned to their group and enter an email address. Fill in all the necessary fields to complete the registration, now the students can already receive communications from his teacher through Edmodo and can contact him. The Edmodo Preferences page has 5 main blocks: image to display, notifications, personal information, password, school. This academic platform is similar to a social network facilitating its use as well as understanding, it is important to note that after the virtual classroom will begin with the topics to be discussed during the level. For the beginning of the activity we presented the grammar topics to be treated as Unit 1: Me and my languages with the use of question words and review of verb tenses such as present simple, the present continuous, the past



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simple and the past continuous . Unit 2: The use of present perfect and past simple and narrative tenses. Unit 3: making plans with the use of the future for plans and predictions. Unit 4: Millionaires with the use of must / have to / should for obligation and quantifiers. Unit 5: Low tech solution with the explanation of comparatives and superlatives adjectives and will be assigned the electronic address of the video or presentation that will be used as a guide, then click on send and the note will be sent. Students will review the assignment in the platform through the message, and will be able to interact with the teacher, send comments, make contributions so that all their colleagues see it and review opinions, share web pages that can enrich knowledge, based on Certain schedules. In addition will be established continuous evaluations of concepts treated in the videos as well as the likely results that can occur in the experiments performed. For the elaboration and editing of videos it was taken into account that the contents that were to be directed were designed for university students so they should be attractive, with the themes and call the attention to achieve autonomy, critical thinking and reflection.

### 3. RESULTS

(Monge J and Perez A, 2008) mentions that the classification of the test of hypothesis for the variables Student's T, whose sample are the students of level B1 + from English, is used to determine if two variables are referred to a methodology.

In this case, flipped classroom and the other variable that is named improving the teaching of grammar in individuals of a population, which needs to be related after the research.

It differs from the previous contrasts and in this case we are interested in calculating the differences between each observation of the group and the associated observation in the second (Student's T for related samples), so we can observe that there is a relationship between the two variables from the population.

Table 1. Pre-test and pos- test averages

No-	Alumno	Pretest	Postest	Diferencia
1	AUCANSH	4	5,2	1,20
2	BENITEZ	6	8,2	2,20
3	CASA	4,4	7,6	3,20
4	CASTILLO	7,4	8	0,60
5	CHANGO	7	8,2	1,20
6	GUAITA	4,8	6,9	2,10



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7	GUZMAN	5	6,4	1,40
8	LLAMBO	6	8,4	2,40
9	LOPEZ	7	8,8	1,80
10	MARCALLA	4,6	7,6	3,00
11	MAYORGA	4	7,8	3,80
12	PALACIOS	4,8	7,5	2,70
13	PAREDES	4	6,7	2,70
14	QUINATO A	5,6	7,9	2,30
15	RAMON	7,2	7,8	0,60
16	ROBALINO	4,6	4,7	0,10
17	ROMERO J	5	8,2	3,20
18	ROMERO J	3,2	9,2	6,00
19	ROSE RO	6,4	7,4	1,00
20	SAILEMA	7	7,2	0,20
21	SALAZAR	5,4	8,6	3,20
22	SANCHEZ	4	7,6	3,60
23	SANTANA	6,6	9,8	3,20
24	SEVILLA	4,4	6,7	2,30
25	SORIA	3,8	6,8	3,00
26	TOAINGA	4,3	6,6	2,30
27	TUBON	5	8,9	3,90
28	VILLACIS	4	6,6	2,60
29	YANCHAPAXI	6	9,3	3,30
30	ZAPATA	5,6	7,9	2,30
SUMA TOTAL		150,7	228,5	71,4
PROMEDIO		5,02	7,62	2,38

The Research hypothesis 1 is: The average of the grades of the B1 + level students' grammar tests between a traditional class and in which the Flipped Classroom methodology is applied through the use of a virtual platform.

### Statistical hypothesis 1

H1: There is a significant difference in grade point average between Pretest scores before applying the Flipped Classroom methodology and scores after being submitted to the Flipped Classroom (Post Test) methodology by using the Edmodo virtual platform to the average of students who have the traditional class, at a 95% confidence level. •

Ho: There is no significant difference in grade point average between Pretest scores before applying the Flipped Classroom methodology and notes after submitting to the



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Flipped Classroom (Post Test) methodology by using the virtual platform Edmodo, to the average of students who have the traditional class, to a confidence level of 95%

To verify the hypothesis test we use the student T test that analyzes tests related to a margin of error of  $\alpha = 0.05 = 5\%$  and the value of the comparison of the Pre-test evaluations and the evaluations Pos Test.

To test the usefulness of the flipped classroom methodology, a grammar test is performed with the contents of the first five units with a sample of 30 subjects, then the methodology is applied through the support of the virtual platform and after six weeks is returned to apply the same test with similar items with the same contents. The results were the following:

At a 95% confidence level, can we reject that academic returns are equal before then versus the alternative that there is an improvement? Taking into account that the students are the same in both samples there is a contrast of equal means with paired data, therefore:

1° Ho  $\mu d = 0$

2° H1  $\mu d > 0$

The mean of the differences is 2.38 and the standard deviation 4.69, substituting these values for the statistic. As the contrast is unilateral, we look for in the tables of Student t, with 29 degrees of freedom, the value that leaves below a probability of 0.95, which turns out to be 1,699.

The value of the statistic is greater than the critical value, therefore the null hypothesis is rejected. The interpretation would be that the program is effective and there is a significant difference in grades applying the new flipped classroom methodology.

Table 2. Pre-test and pos- test averages

	<b>Media</b>	<b>N</b>	<b>Deviation tip</b>	<b>Typical media error</b>
Pre test	5,02	30	1,40	0,26
Pos test	6,02	30	7,98	1,46

According to the average of the students' scores before and after the use of the Flipped Classroom methodology, a significant difference was observed. Therefore, it is concluded that the application of the Flipped Classroom methodology does have significant and positive effects on students' grades which helps students not only to obtain good results



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but also to learn. The statistics show that students significantly improved the score from 5.24 to 7.62 and considering that the English language is mandatory for undergraduate students who are not exposed to language but only in class hours demonstrating that when applying this methodology The teaching of grammar is impaired.

### **4. CONCLUSIONS**

It was verified that when using the Flipped classroom methodology the learning became more significant since the difference between the averages obtained when applying the post- test reflects a suggestive advance of the academic performance when using an interactive learning through a virtual platform. The exchange of learning helped to optimize the time outside the classroom with teaching - learning processes that facilitated the acquisition and practice of knowledge.

It is easily seen that the flipped classroom methodology entails more task for the teacher when designing the virtual classroom and hanging up exclusive material but it is also obvious that the teacher has more control of the tasks that the student does and makes a better follow up of the contents which should be reviewed.

The teacher can verify if tasks were completed by the times the students entered to the platform.

The students were interviewed and said that it is a methodology that helped them to better understand the contents since they could be revised many times to complete the tasks. The videos uploaded and the presentations were academic very understandable and well structured so that it was very understandable and became interactive. The students stated that at the beginning was difficult but they got used to watching the video every afternoon and in this way to carry out the task sent by the teacher. The students said that technological tools should always be used with attractive and creative material to motivate their learning. Once they reviewed the video they completed worksheets of grammar that were socialized to the following morning with the group of students. The teacher took the role of facilitator and reinforced the students' voids.

It was possible to fulfill the objectives determined at the beginning of the present thesis, the hypotheses were verified, the virtual classroom production was carried out through the Edmodo platform to support the students' learning and the characteristics of the Flipped Classroom methodology were identified.



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