ABSTRACT

This research analyzes the impact of the implementation of the flipped classroom to improve the low development of cognitive skills in the students and to promote the autonomous learning in 30 English as a Foreign Language (EFL) students Level Four in the English Center at Escuela Superior Politécnica de Chimborazo through grammar video lessons. The proposal consisted of eight grammar video lessons based on the syllabus designed for this level. These videos became both: a valuable tool to foster independent learning and a strategy to flip the traditional classroom, which allowed additional time to work on practical activities in the classroom, considering that the theory was studied outside the classroom. The instruments applied in this research project are as initial survey, a satisfaction survey, a pre-test, and a post-test. The initial survey and the pre-test determined the necessity students had to consolidate their knowledge regarding grammar and apply those contents in a real life context. The post-test results revealed that there was a meaningful improvement in the level of grammar knowledge, which is demonstrated in the results analysis and interpretation. Once the study ended, the students concluded that the grammar video lessons are effective and useful to achieve independence in learning the English grammar rules. Students who were part of the intervention reached a level of autonomous learning which influenced markedly in the students grades as showed in the interpretation and analysis of the results. Additionally, students felt motivated because they had less “homework.” Thus, it is concluded that the grammar video lessons foster independent learning.

Key words: independent learning, grammar video lessons, flipped classroom.

RESUMEN

Este trabajo de investigación analiza el impacto de la implementación de la clase invertida en el aula de Inglés para mejorar el bajo desarrollo de las habilidades cognitivas de los estudiantes y promover el aprendizaje autónomo en 30 estudiantes de inglés como Idioma Extranjero, perteneciente al Cuarto Nivel del Centro de Idiomas de la Escuela Superior Politécnica de Chimborazo aplicando videos de gramática. La propuesta consistió en ocho lecciones de gramática, basadas en el silabo establecido para éste nivel, estos videos consistieron una valiosa herramienta para fomentar el aprendizaje autónomo y una estrategia para cambiar el aula tradicional, dedicando más tiempo de la clase a la ejecución de actividades prácticas, puesto que la teoría gramatical se trasladó fuera del aula. Los instrumentos utilizados fueron: encuesta inicial, encuesta de satisfacción, pre-test y post-test. La encuesta inicial y el pre-test mostraron la necesidad de los estudiantes por consolidar sus conocimientos de gramática y tener la habilidad de aplicarlos en situaciones de la vida real. Los resultados del post-test revelaron una mejora significativa en el nivel de conocimientos gramaticales lo que se comprobó en el análisis e interpretación de resultados. Al finalizar la investigación los estudiantes concluyeron que las lecciones de gramática en video fueron efectivas y útiles para lograr independencia en el aprendizaje de reglas gramaticales del idioma Inglés. Adicionalmente los estudiantes se sintieron motivados puesto que los “deberes” disminuyeron. Se concluye por tanto que el uso de lecciones gramaticales en video promueve el aprendizaje autónomo.

Palabras clave: aprendizaje autónomo, lecciones de gramática en video, clase invertida.
INTRODUCTION

Nizar (2015) states that students appreciate being given educational capsules in a similar way to eating fast food. Based on this statement, this paper analyzes the facts that made the researchers propose this investigation on video grammar lessons to foster independent learners. Additionally, it describes the theories that scientifically support the proposal and discusses the results from an objective and real point of view comparing them with results of other studies which apply the same variables. Furthermore, this presentation creates awareness about the need students have to become independent learners (Zhen, 2014), as well as the urgency of teachers’ commitment to push students toward that independence (Hammond, 2015). Finally, the research question seeks to know whether the implementation of the flipped classroom model through grammar video lessons as homework train independent learners.

This study acquired a high level of importance due to the problems to be solved and the results that can be generalized and used by other professors in any other educational background. During the research students’ insufficient development of cognitive independent skills affecting their learning is identified. Furthermore, the major problems at the beginning of the semester are to students’ lacked engagement with the learning-teaching process. It is difficult for them to acquire the ability to create their own knowledge and critical thinking. Additionally, a considerable amount of students in the intervention showed insufficient autonomous learning and they had difficulties to identify the role of the teacher as a facilitator of the knowledge (Ellis, 2004).

According to the researchers and other faculty’s point of view, even teachers struggle with their responsibility in giving students the necessary tools to become active participants in the learning process (Murphy, 2016). The fact that classroom climate affects the student’s ability to learn independently was additionally considered (Alpha Omega Academy, 2012). Therefore, proving the hypothesis, which facilitated understanding a solution to this problem, implied to seek deeper on student’s perceptions of how knowledge is acquired, the roles they are willing to take in order to satisfy their needs and what the results from the intervention they are able to apply along their learning process.

Additionally, it was observed that the majority of students were visual learners, this fact is supported by a research from the group of StudyMode in which they proved that approximately 65% of the population are visual learners (Kydiam, 2018). Besides, it is important to mention that, nowadays, young people prefer technology to printed material, as shown in the study by Solano, Cabrera, Ulehlova, Espinoza (2017) in which 89% of the participants agreed that technology is effective to improve English language knowledge. Therefore, the general objective of this study was to create video lessons of the grammar contents studied in English Level 4 at Escuela Superior Politécnica de Chimborazo as instruments for fostering independent learning. The specific objectives were to use the video grammar lessons to diminish the in-class theory time. This would create a way to take that acquired knowledge into practice and to give students the opportunity to learn grammar in a non-traditional way by combining virtual education with face-to-face activities while motivating self-study. The achievement of these objectives helped to reach a better comprehension of the generalizations discussed in this article.

The first variable is the so-called independent variable, which deals with video grammar lessons with focus on the flipped classroom model. The second variable, known as dependent variable has to do with independence, specifically to develop the necessary cognitive skills required for independent learning. The first variable was additionally used in the study by Ilín (2013), An Action Research: Using Videos for Teaching Grammar in an ESP Class presented by in which it is shown that 80% of students nowadays prefer learning grammar using videos.

Flipped classroom was developed in 2007, the founders are Jonathan Bergman and Aaron Sams, both science teachers. They were not taking full advantage of the face-to-face time with their students and realized that when they sent homework they were not physically there to guide their students. All those situations contributed to the Flipped Classroom model creation. The concept of flipped class is this: which was traditionally done in class is now done at home, and which was traditionally done as homework is now completed in class (Sams & Bergmann, 2012: 145).

Furthermore, the founders of this model started to record the theory or lecture on videos and podcasts for their students to have the opportunity to watch them as many times as they needed, at their own pace, and in the comfort of their homes. Moreover, several studies dealing with the same variables refer to technology as the main tool to work with the flipping approach (Han, 2015; Chen Hsieh, 2016). One of these showed the results that students outperformed the pre-test with a mean of 93 compared to 73.

The grammar video lessons, which are the recorded materials carried out by the class tutor with content based on the syllabus and on student’s needs, have to be designed with specific
features such as an adequate length. It is essential to have the singularity to catch student’s attention, in order to get them involved in the teaching-learning process. Due to this fact, the teacher became easily reachable. Students were able to turn on, mute, rewind or repeat the class at will (Young, 2017). Seeing a video of the content class has the same impact as the teaching of one on one. This is something that it is challenging to achieve in a public school setting.

Authors refer to independent learners as a student with the ability to take charge of one’s learning (Carl, 2016). This is necessary to comprehend that circumstances and learning style play a crucial role, as age and maturity do (Alpha Omega Academy, 2012). When a student becomes an independent learner, he or she exhibits features such as curiosity, persistence, autonomous comprehension, critical thinking, accountability, self-examination, self-motivation and are capable to choose their own study strategies. This is remarkable because it’s difficult for teachers to design tasks specifically directed to one or another. The tasks done at home have to match the level of proficiency with focus on production (Harvey & Ckie-Wolfe, 2007). Lastly, providing effective feedback contributes positively to this independence.

Additionally, it is necessary to highlight some results from other researchers. For instance, Han (2015) points out that autonomy was gained once the teacher created more opportunities for meaning-focused output. This was clearly identified when students submitted more work than the teacher expected. Furthermore, when the tutor planned for them to look for resources that possibly facilitate them learn independently they enthusiastically look for learning activities that worked for them and were valid to share with others. The second study developed by Hsieh, Wu, & Marek (2016) remarks that doing autonomous activities, student’s motivation and active participation notably increased and additionally, their knowledge of the content managed in class significantly improved. Finally, the study by Sung (2015) suggests that it is necessary to make students realize that they are able to learn by themselves, becoming active participants in the class.

The context in which the research was applied, the findings on students’ survey and tests from this study show a tool which takes EFL students and teachers to the next level. This is conducted by switching from traditional to flipped classroom. These showed that students who participated in the intervention evidenced a significant improvement in their grammar knowledge as detailed in the pre-test and post-test results.

According to Boulhuis and Voeten (2001), cited by Meyer, promoting independent learning requires a new role for teachers, a flip from traditional transmission of information to a process-oriented teaching, which ensures that students are actively involved in the learning process (Meyer, 2010). It is crucial to identify how everything fits, equally considering the teacher’s and the students’ role changes. The dependent learner is a passive recipient of knowledge, who accepts the teacher as the expert in the learning process; whereas the independent learner is active in directing and regulating his or her own learning and becomes the expert. Furthermore, the ability to blend processed information and processing information without teacher intervention sets the independent apart from the dependent learner (Meyer, 2010).

**METHODOLOGY**

The background of this proposal draws on EFL students enrolled in Level Fourth at a public undergraduate school. The equivalence of this level is A2 of the Common European Framework of Reference for Languages. Students come 4 hours weekly to class and taking the English program is a mandatory requirement for them to graduate. Before graduating, students are supposed to reach B1 level. The sample was of thirty students; in this group, 50% of students were male and 50% female. They had different cultural backgrounds and different levels of knowledge. A considerable amount of students had issues in studying English continuously and for the majority of them the proposed method was unfamiliar. However, they agreed on the importance of using technology in the classroom and the necessity of becoming independent, active learners. Due to these facts, the following research question was formulated: to what extend does the use of grammar video lessons recorded by the researcher foster independent learning? It is necessary to emphasize that the course content was designed with a grammar-based syllabus (Nunan, 2002) and the tutor had to create her own material and implement her own methodology.

Furthermore, a previous research stage was planned to identify the problem. Once this problem was identified, a problem-tree was structured in order to establish the cause and effect, as well as the possible solution for it (Barreto, 2018). Moreover, it is essential to remark that the research design was quasi-experimental because the study was empirical and aimed to analyze the impact of the intervention on the target group. The experimental and control were chosen and the research was developed in natural educational scenarios.
In order to prevent bias, the control group, which was not exposed to the intervention, belonged to a different teacher, not the researcher; whereas, the experimental group was intervened by the researcher. The experimental and control groups had 30 students from different cultural and educational background. For that reason, an initial survey and a pre-test were applied at the beginning of the intervention. It was clear that students had not developed the necessary cognitive skills required for independent learning; therefore, the researcher chose the flipped classroom as the method to solve this problem.

This idea is definitely innovative, challenging, and motivating. Therefore the researcher reordered eight grammar video lessons for the English Fourth Students. The videos were based on the grammar contents planned in the syllabus: Wishes in Present, Past and Future; Zero Conditional, First Conditional, Second Conditional, Third Conditional and Adjective clauses. The series were divided into two categories: lecture and exercises. The purpose was for students to understand the grammar rules first by watching the grammar video lessons created by the teacher and practice what they learnt in class with the teacher’s guidance afterwards.

RESULTS

The initial survey determined that students were aware that watching video lessons help them to learn English since 91% of the surveyed answered yes. Therefore, it was essential that students had the videos available all the time; for that reason, first, the researcher opened an account on YouTube to upload the videos. The videos were also included in the Virtual Classroom students had for the English class.

Regarding the evaluation and monitoring, the teacher used the WSQ chart, which students had to fill in and discuss with the teacher and the class the next day. In this chart, students had to write information about what they watched and include the name of the video. Afterwards, students needed to Summarize the new content they learned and finally, they wrote Questions they still had about the topic. Once the teacher read the questions, 10 minutes from the class were given for feedback. At this time, the teacher reinforced the information or knowledge students already had and then started with the practice.

As the flipped class model was implemented, the main focus was on practice: the researcher created worksheets to work with the students in class. The emphasis was on letting students take an active part in their learning and notice the necessity to learn by themselves. Furthermore, the researcher used the YouTube Teacher Channel and a Virtual Learning Environment to have the videos available for students to watch at their own pace. In addition, for recording the videos, the researcher had the support of students and teachers of the Graphic Design School, who allowed her to record in their studio; making an enormous contribution to the video quality. Additionally, the videos were recorded on a CD, in order to let students to use them without Internet access. It is crucial to mention that 90% of the sample had Internet access i.e. except for one student in the experimental group who had to work offline.

Concerning the statistics, the T-test, known as student’s T-Test was applied because it compares two averages and establishes the difference from each other. Furthermore, it verifies the significance of the differences to make sure that they are accurate. This statistic was applied to the results of the pre-test and post-test allowing them to be tabulated and analysed, both were given online by using the Virtual Classroom created for this purpose. The test had 31 questions, which focused on the grammar contents assigned for Level Fourth: Wishes, Conditionals, and Adjective Clauses. The results evidence a noticeable difference between the control and the experimental group, since the control group students only went from 1.48/10 to 2.68/10, whereas the experimental group students’ scores were 1.00/10 to 7.00/10. Besides the inferential statistic, the descriptive one was additionally considered to analyze the results from the initial and satisfaction surveys taken by the experimental and the control group students. In the satisfaction survey, the students verified the efficiency of the grammar video lessons’ use to learn grammar for 26.67% of the students they were good and for the 56.67% were excellent.

Moreover, at the first stage of the research the problem was identified by elaborating a problem tree, which showed three relevant findings: low level of intrinsic motivation to learn English, insufficient use of technology as part of the English classroom, and the necessity to look for new methods or strategies to teach grammar. In this stage, the researchers also took advantage of the data gathered through observation and the notes in the logbook. The next step was to apply the initial survey to have a clearer idea of the chosen groups (experimental and control) needs. Different interesting facts were found and they are detailed in the charts below:
In the initial survey, which students completed on-line (google drive), the most relevant findings were the following: 57% of students mentioned that they had not heard about flipped classroom, 69% of students stated that their teachers had not used video lessons to teach grammar, 91% of students considered that grammar video lessons could be helpful to learn grammar, 74% of students agreed that English classes are to focus on production rather than content, and 71% of students were aware of the importance to foster independence in the learning process.

After applying the post-test, the pre-test and post-test results, from experimental groups and control group were tabulated; these results are detailed in the following table.
The average for the control group in the pre-test was 1.48; whereas, in the experimental group, it was 1.00. These results suggested that the level of the experimental group was lower than the control one. In the post-test the control group average was 2.68 and the experimental group average was 7.00. These results showed that the experimental group students’ knowledge about grammar improved significantly. Finally, the results of the satisfaction survey, which was applied at the end of the intervention, were analyzed. This instrument results are detailed below.

Table 1: Pre-test and Post-test applied to students to identify their grammar knowledge and progress.

<table>
<thead>
<tr>
<th>N° students</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Value</td>
<td>Percentage</td>
</tr>
<tr>
<td>30</td>
<td>1.48</td>
<td>14.80%</td>
</tr>
</tbody>
</table>

Note: This table shows the average of grammar knowledge improvement.
Source: Results thesis “Flipped teaching implementation to improve students’ high order thinking skills”

Table 2: Level of satisfaction of using videos to learn grammar

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>DA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using video lessons to introduce new grammar content is an effective technique?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>How useful were the video lessons to learn grammar?</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>How would you rate the content of the videos?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>How would you rate the quality of the videos (audio, image)?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>The video lessons were enough to understand and apply the grammar contents.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>18</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>How useful was the WSQ chart for understanding the grammar content in the video lessons?</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>16</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Based on your experience would you recommend the use of the grammar video lessons in the English classroom?</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>13</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>To what extend did the grammar video lessons contribute to the development of the activities in the class in an autonomous way?</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>17</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Overall, how satisfied were you with the grammar video lessons?</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>14</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: This table shows the students answers regarding the use of grammar video lessons.
Source: Satisfaction survey

The parameters considered for the survey were strongly disagree (1), disagree (2), neither agree or disagree (3), agree (4), and strongly agree (5). A number of students equivalent to 70% of students agreed that using video lessons to introduce grammar content was an effective technique, 46% of students strongly agreed on the usefulness of video lessons to learn grammar, and 42% agreed as well. The majority of students considered that the content of the videos was excellent, and the same percentage agreed that the image and audio were also high quality, 88% of students stated that video lessons were enough to understand...
and apply the grammar content, 81% considered that the WSQ chart was useful for understanding the grammar content in the video lessons. Students who recommended the use of grammar video lessons in the English classroom was 96%, and 88% of them recognized the high contribution of the video lessons in the development of activities in the class in an autonomous way. Overall 85% of students felt satisfied with the grammar video lessons used as a tool to develop independent learning cognitive skills.

**DISCUSSION**

Teachers are always innovating by finding new methods and strategies to motivate students to learn English. However, learners are not conscious of the need to speak a foreign language. Numerous students take English classes as a requirement to graduate from the different undergraduate programs. In general, students consider English as one of the most difficult subjects to study. For that reason, it is essential to give them reasons to learn and master this language. Students need to acknowledge the importance of English to study a master’s degree, to be granted an international scholarship in the most recognized universities around the world, read and understand books, and the experience of interacting with English speakers through social networks.

Various statements about the technology in the 21st century have been made; however, it is possibly complicated to introduce it in the classroom. Nevertheless, it is essential to remember that technology transforms the classroom experience from a classic teacher-centered into a student-centered experience with students taking a more active role in their learning. Certain constraints teachers face when inserting technology in the classroom were limited to time, to experimentation, and inefficient training for teachers. Despite the attraction technological activities add to the lesson, planning the activities in the Virtual Classroom require extra time. The teacher has to administrate the classroom and choose the most effective activities to reach the main goal, which is to motivate students to learn English. While technology keeps evolving, English teachers have limited possibilities to stay updated regarding the managing of new technologies and the technical support they are able receive. Since the main qualification of an English teacher is not mastering the use of new technology, there are several possibilities to get effective training in the area of recording videos and managing Virtual Classrooms efficiently.

The first related study mentioned in the introduction of this paper showed how students had to record their activities as homework (Han, 2015). In contrast to this study which used grammar video lessons that students had to watch. They are similar in terms of measuring the effects of creating independence in learning, which, in fact, was proved once student exhibited a high level of independence by doing the task voluntarily and repeatedly without any inhibition at the end of the interventions. The second comparison is made between the article Using the flipped classroom to enhance EFL learning and the present study, they concentrated on improving independence to increase knowledge, however the former one focused on motivation which in fact proved to be a key point to create students’ autonomy.

Different studies have pointed out that the flipped classroom model, which in fact, and based on evidence, is successful. Nevertheless, it is reasonable to discuss some findings from studies related to traditional classroom models (Kaye, 2008), especially to those for which it is claimed the flipped classroom is not able applicable. For instance, in the study Flipped in communication: the author points out that students working with flipped classrooms do not create opportunities to engage in real communication, which sometimes is not accurate (Olsen, 2018). In fact, this study contradicts this view because the flipped classroom has to do with blended learning and since this study concentrated on watching the theoretical part at home, the real communication indeed happened in class. In addition, the environment flowed smoothly creating natural interaction with other learners.

Furthermore, Tarhini (2014), stated that another disadvantage of the flipped classroom model possibly includes little or no in-person contact with the faculty member. Conversely, during the project intervention, the teacher was able to answer questions about what problems students had in understanding and discussing in class the student’s doubts, points of view and feedback from students’ WSQ chart. This process facilitated the teacher to have more control over the aims, the pace and the materials. Another benefit of traditional classroom over the flipped classroom is that it provides students with a fixed schedule and specific periods dedicated exclusively to learning (Paduraru, 2008). With flipped classrooms procrastination can become a common attitude while traditional classrooms preserve a feeling of real time (Paduraru, 2008). Finally, learning about technology is conceivably a drawback for flipped classrooms teachers who are less technologically literate and this class approach probably becomes time consuming, adding more workload to teachers. However, since teachers do not have to worry about other problems such as mixed-abilities classrooms, late arrivals and...
misbehavior as happens in on-site classrooms, the use of their time in managing the technology is likely compensated. Finally, every approach presents pros and cons, it is necessary for teachers to analyze students’ performance and evaluate which approach will suit the intervention.

CONCLUSIONS

After developing the study and analyzing the research question, the conclusions are the following: there was a need to change the way the English classes were being developed to emphasize autonomous learning with activities outside the classroom. These activities did not necessarily have to be homework. Various students agreed with this proposal and it was proven that the use of grammar video lessons recorded by the researcher fostered independent learning.

Taking the in-class theory out of the classroom by blending the English learning brought effective and productive results in the students’ performance. Therefore, the usage of grammar video lessons and the flipped classroom model proved to be effective in promoting autonomy in learners, according to what was shown in the post-test results. Furthermore, that experimental group outperformed the control group. Additionally, according to the satisfaction survey, a considerable number of students strongly agreed that the benefits of watching a video and using the WSQ chart is more effective than the practice achieved while they are in class. They explained that this procedure is quite different from what it is done in the traditional classroom where they listen to the teacher and rarely have the chance to practice what they learn in a real environment.

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