The Use of Supplementary Materials in English Foreign Language Classes in Ecuadorian Secondary Schools

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Abstract

This mixed-methods study investigated the use of supplementary materials by EFL teachers in Ecuadorian secondary schools. Via the use of teacher interviews (n=12) it was found that teachers believe the use of supplementary materials increases the motivation of the students, which in-turn improves the learning possibilities of the students. The quantitative sample (n=695) showed the students’ preferences for supplementary materials and confirmed our results that the use of certain supplementary materials does in fact increase the motivation, understanding and participation of the students in their English language classes.

Four variables were considered to do this research; motivation of students when any material was used, whether students’ participation increased or not when using supplementary material, the third one focused on whether the students felt as though their understanding had increased in class as a result of the use of the material. The final variable aimed to measure whether the student felt their performance in class had improved as a result of the use of the material in question. The results showed that more dynamic and interactive classes are created when teachers use any supplementary material.

Keywords: EFL classes, motivation, participation, performance, secondary schools, supplementary materials, understanding.

1. Introduction

Irrefutably, English is today’s world language; it is the language of business and commerce, trade and travel and has been a key factor in the speed at which globalization has been able to spread throughout the 20th and 21st centuries. On a macro-level, having a good knowledge of English helps to enhance the economic competitiveness of a country, permits engagement in international trade and contributes to international diplomacy.

On a more micro, individual level, people who speak English at C2 level (following the European common framework, which would correspond to a TOEFL iBT score of 95+ or IELTS score of 7+) are able to advance faster in their careers and obtain higher sought after job opportunities not only by having a competitive advantage over their rivals by being able to work in English but also because they have managed to demonstrate their ability to acquire greater cognitive development, creativity, and success in problem solving.

As a result, the learning of English has become mandatory in many countries from a very early age including the push for bilingual education in primary and secondary schools. In South Korea for example, the demand for a high level of English is reflected in the sacrifices schools, parents, and teachers make in order to achieve as close to native-level fluency as they can. This can be demonstrated in their recruitment of native speaking English teachers in their primary and secondary schools, normally paying the teacher not only a higher than average teacher wage but also paying for travel from their home country as well as accommodation during their stay.

As regards to our study, we will focus on the case of Ecuador – the small Andean country looking to augment its number of linguists. According to a report published by EF-English Proficiency Index (2013), Ecuador is ranked number 43rd out of 54 participating countries in the world. This shows the technical ability of countries studying English as a second language and came in 9th out of 13 participating Latin American countries.
It is therefore, imperative that a concerted effort is made to identify the key problems, which affect the second language acquisition in countries such as Ecuador and in-turn allow for the opportunity for the possible application of solutions to these problems. In attempting to do so, as well as creating a point of reference and debate for educators, worldwide we have studied the effect of one key variable in the classroom – the use and effectiveness of supplementary materials. Whilst there is a great number of both external and internal factors which can have both positive or negative effect on a language learner (Krashen & Terrell, 1983; Saricoban & Sakisli, 2006) we have decided to focus our research based on our own experiences (as educators) in the classroom as well as previous research highlighting this variable as a contributing factor. In an attempt to operationalize this variable, we have focused on how the use of supplementary materials affects the motivation of the students in language learning. As we already know from previous research (Klein & Pridemore, 1994; Kim, 2011; Hofer & Peetsma, 2005) motivation is a key determinant of successful language learning. Therefore, the pedagogy of the teacher is of vital importance to the successful application of teaching a foreign language.

As in much of the world, the motivation of students can be a key determinant of language learning acquisition in Ecuador. A wide variety of authors have allowed for the study of the motivation of students and learning outcomes – however, nearly all have concluded that a motivated student produces greater learning outcomes. Klein and Pridemore (1994) studied the effects of orienting activities and practice on achievement, continuing motivation, and student behaviours in a cooperative learning environment. On the other hand, Kim (2011) studied the effect of the age of language learners on levels of motivation and found that those in junior-high school have greater motivation for learning English than those in elementary or high school. Furthermore, they discovered that this was confounded by the fact that parental support was greater for these students than it was for elementary and high school students, which would point to parental support also being a significant factor on motivation and language learning.


2. Literature Review

Although one might think that the literature and theory for second language acquisition has been exhausted over the years, there exists a sizeable hole in the literature regarding the use of supplementary materials and the motivation of students which we look to address.

Following on from the ideas of motivation and student performance, we are led to the use of supplementary materials in the EFL classroom. Researchers such as Chwo, Jonas, Tsai, and Chuang (2010) have analysed the effects of adopting supplementary materials for the enhancement of listening and speaking strategies for L2 learners and concluded via a control and test group that supplementary materials both enhance the strategies and learning outcomes of learners. Cakir (2006); Potosi, Loaiza, and Garcia (2012); and Williams and Lutes (2007), also researched the use of video as an audio-visual material inside ESL classrooms.

Previous studies like the one carried out by Hayati and Mohmedi (2009) analysed the effects of using films with or without subtitles as a supplementary material; concluding that positive effects were to be observed from their use. Ball (2011), on the other hand, conducted research on the use of technology in adult education, finding that it helped learners to build language skills needed for work and life. In a similar study, Kelsen (2009) researched the use of YouTube videos on EFL learners in Taiwanese college students, finding that the subjects of the study believed their use to be: (i) interesting; (ii) relevant; and (iii) beneficial. Further studies include Orr (2008) and Mathews-Aydinli, and Elaziz (2010) in the employment of interactive whiteboards in EFL classrooms with limited significant results.

In broader studies into the use of technology in the EFL classroom, Dominguez and Romero (2010), Mathews-Aydinli and Elaziz (2010), and Morris (2011) examined the use of computers (with limited significant findings from their research), whilst Maden and Ozaslan (2013) researched the use of PowerPoint in classroom with positive results in regards to the effectiveness of a class. Of perhaps more interest, Thornton and Houser (2005) conducted an ingenious project into the use of mobile phones in the teaching of English in a Japanese university. Finally worthy of note, Bosch (2009) identified social networks such as Facebook as a significant learning tool in South African universities.

This study, therefore, serves to not only add to the existing literature and debate on the topic, but moreover produces new results of interest. The results from these participants allowed us to measure their perceptions of
the effects on motivation and performance of a language learner with the use of supplementary materials in Ecuadorian high schools.

Thus, the purpose of this study is to examine and measure the effect of the use of supplementary materials on student motivation, performance, understanding, and participation in the acquisition of a second language within Ecuadorian secondary schools.

3. Method

The core analysis for this study involved a complementary qualitative and quantitative analytic approach focused on the use of supplementary materials within the EFL environment. Accordingly, in the remainder of this section, we describe the qualitative and quantitative samples, data collection and measures, and analytic approach. The full set of analytic steps involving both qualitative and quantitative methods is presented below.

3.1 Qualitative Sample (n=12)

For the qualitative sample, we used a criterion-based selection sample for the recruitment of the participants as suggested by LeCompte and Preissle (1993). We first developed a list of criteria which we wanted the participants to meet, which included the teachers having studied at university, being current practitioners within high schools in Ecuador and having at least 10 years’ experience of teaching English. We did not, however, discriminate between teachers from private or public schools. Of the 12 interviews we attempted we had a completion rate of 100% of which we had 7 (58%) women and 5 (42%) men.

Interviews lasted between 20-40 minutes and were audio recorded. All participants were aware that they were being recorded, consented to the interview, and were explained about the aims and consequences of the study. No cash incentive was given for participation and they were aware of their anonymity in the study.

3.2 Quantitative Sample (n=695)

In order to avoid any problems associated with geographical differentiation, we selected four cities in Ecuador in which to implement the questionnaires including the capital Quito, the largest city Guayaquil, the third largest city Cuenca, and finally the rural town of Loja. The choice of these cities allowed for the diversity of the country in that we chose both rural and urban cities as well as allowing for the differences associated with the coastal and Andean cities. We estimated that the size of our population was approximately 500,000 people, so, according to the suggested population size by Krejcie and Morgan (1970), we originally aimed to have a sample size of at least 384.

For the quantitative sample, we used a two-stage cluster sampling sample. For the sample, we wanted to submit the questionnaires to students aged between 14 and 16 in Ecuadorian high schools. A list of possible high schools was compiled and we then randomly selected and approached each school asking for permission to conduct our research. When a school granted us permission, we then gave the principal the parameters of our study and he/she chose the classroom and students within which we could implement the questionnaire.

The sample consisted of 750 male and female students from 20 separate high schools (7 private and 13 public) in Ecuador. Although the clusters were of different sizes, the number of students in each classroom varied between 25 and 35. There was no additional sampling taken from within the classrooms and all the children responded to the questionnaire with zero refusals. Of these 750,55 were dropped from the study due to the fact that either large amounts of data were missing or they were filled-in incorrectly, producing data with which we were unable to work. The final sample size was 695 which gave us a completion rate of 93%. All participants were explained the aims of the questionnaire and encouraged to answer the questionnaires with complete honesty to the best of their ability.

3.3 Qualitative Data Collection and Analysis

The qualitative analysis of this study was focused on discovering the main themes of the study, regarding the teaching methods and use of supplementary materials. Qualitative open-ended interviews were conducted with 12 practicing high school teachers to discover what kinds of materials they used in class for the teaching of English, and the perceptions of the teacher of the consequences of the usage of said materials. The interviews were conducted in the participants’ native language (Spanish) by fellow native speakers and were then later transcribed and coded in Spanish before being translated into English. Semi-structured interviewing was used to allow flexibility for the interviewer to ask additional questions where appropriate.

The interviews were transcribed and coded inductively by three authors, which allowed us a degree of inter-coder reliability. Universal semantic relationships were also investigated following the advice of Spradley (1979).
3.4 Quantitative Data Collection and Analysis

The questionnaire included a brief description of purpose of the questionnaire, spaces for students to record the type of school the students attended (private/ public), and their grade level. In the first half of the questionnaire, students were asked to identify which supplementary materials were used by their English teacher in class (see Table 2 for a list of possible materials).

The second section of the questionnaire assessed the perceptions of the students in relation to the use of each material. The students were, therefore, asked a following set of four questions. The first question examined whether the students felt as though they were motivated in class when the teacher used each material. The second question looked at whether the students felt as though they were more inclined to actively participate in class when the students used each material. The third question focused on whether the students felt as though their understanding had increased in class as a result of the use of the material. The final question aimed to measure whether the students felt their performance in class had improved as a result of the use of the material in question. For each of the sections the students were asked to either respond yes or no to the question.

Once the supplementary materials were identified, the students were then asked to respond to give their opinions regarding their application in their English classes. The first dependent variable that we attempted to measure was how motivated the students felt when the teacher used said material. The second dependent variable was whether the students felt that their understanding of the topic increased when they used a certain supplementary material. The third dependent variable which is linked to motivation was whether the students felt as though their participation in class increased when using a certain supplementary material. Our fourth and final dependent variable was whether the students felt as though their performance improved in class when they used a certain material.

Each dependent variable was in turn affected by a set of 12 independent variables which were the application of a specific supplementary material by an English language teacher. For our study, we identified the following list of supplementary materials (see the list below) which in a way, opposed to many previous studies regarding the use of supplementary materials, does not include the employment of textbooks in our definition and field study. Our research is approached in a manner which excludes textbooks under our definition and scope of research of supplementary materials as we have seen the extensive use (and often reliance on) textbooks in the EFL classrooms here in Ecuador and want to measure the effect of other materials and tools in the same setting.

Supplementary materials used in the study included:

- Flashcards
- PowerPoint
- Photos
- Tables
- Worksheets
- Posters
- Blackboard
- Songs
- Dialogues
- Stories
- Videos

Having a large sample, with several independent and dependent variables, allowed us to apply some inferential statistics to look for causal relationships between the use of a supplementary material and the perceived effect that this had had on the students in question. The directions given for the questionnaire were that if the respondents said that a type of material was used, they were to answer questions on whether they felt that material improved motivation, increased participation, increased understanding, or improved performance.
4. Results

4.1 Qualitative Results

A good learning environment relies on the motivation of the students. When replying to the question, “How do you create a good learning environment in your class?” a total of 6 respondents (50%) mentioned that the key was to make sure the students were motivated. For example, teachers commented (or made the following comments “first of all it is important that the students are motivated, if they are motivated then the class is naturally more entertaining and learning is improved,” or “as teachers we need to create routines which motivate the students, in this way learning comes naturally,” or “firstly, there needs to be order in the class, then trying to make the class more dynamic and motivating, using extra resources created by the teacher or the students at times.” Of the other six participants, three mentioned the theme motivation when answering other questions. For example, one subject stated that “in order to learn new vocabulary, it is important that the students are motivated for language learning, because if there is no motivation, the children will not want to learn and the learning outcomes will be poor.”

The types and numbers of supplementary materials used in classes are dependent on the individual teacher; however, practically all mention that their use is aimed at student motivation. In the interviews, the participants were asked to identify what types of teaching materials were used in class. The results did not show much heterogeneity with some claiming to use five to six varieties and others only used one. For example, one teacher replied that “What I mostly use are audio-visual materials, videos, recordings, songs, which help motivate the youngsters in these activities, I also work with flash cards, posters and these types of materials.” Whilst another teacher claims that he uses “only worksheets, the students have a file where they can complete their homework and then file it away.” Overall, of the 12 participants the majority of the respondents were able to identify three to five materials that they claimed to use in class on a regular basis. However, when asked what the purpose of using those materials was, nine out of twelve of the participants had a response regarding student motivation. For example, one respondent states that “Firstly, it is for student motivation, if the student does not have extra materials or variety then the class can become monotonous and boring, it is also important to keep the youngsters moving.”

The other three respondents all mentioned that the use of supplementary materials increased levels of understanding amongst students. For instance, “For me personally, the aim of their use is that the students understand better, because as you know, nowadays English has become indispensable,” or “To reinforce the grammatical contents, because if they do not practice then the information I give in class is not enough for the understanding to stick.”

The teachers feel as though the students are more motivated and participate more via the use of supplementary materials. When asked “What is the reaction of the students to the use of these types of materials in class?” Ten of the twelve (83%) participants mentioned either participation, motivation, or both. For example, one teacher responded that “The students participate more, are more motivated and try to participate, that is everything for me, that the students are not bored, and that the classes are monotonous.” Another teacher claimed that, “I think it helps the students a lot, in so far as it increases interaction and participation not solely between the teacher and student but also between students themselves. They also make the class more dynamic and therefore motivating for the students.”

The teachers feel as though understanding and learning can only be achieved once the students are motivated. When asked about whether student performance and learning could be affected by the use of supplementary materials seven (58%) participants highlighted that they could but were also reliant on the student motivation. For example, one participant claimed that “first of all you need motivation for learning, the students understanding and performance can increase via the use of supplementary materials, but mainly due to the students being more motivated and energised to learning.”

It can be seen from the types of responses and themes to emerge, that the teachers felt that use of supplementary materials is inherently linked to the motivation of the students, and is a crucial cog in the machinery of learning and understanding. Once the students are motivated and receptive to learning, the participation, understanding, and performance of the students increase according to the views of the practicing teachers in our study.
4.2 Quantitative Results

4.2.1 Data Cleaning

The data were screened before analysis. Some respondents indicated that instructors did not use a particular method in the classroom, but then answered questions about a method. Those logically impossible responses were excluded.

4.2.2 Overall Chi-Square Analysis

First, a series of chi-square tests was conducted in Microsoft Excel to determine if students’ perceptions of twelve instructional methods were significantly related to their beliefs about improving motivation, increasing participation, increasing understanding, or improving performance. An alpha level of .05 was used as the cutoff for determining statistical significance. As seen in Table 1, all four of the chi-square tests (one for each of the four dependent variables) were statistically significant. For example, the \( p \) value for motivation (see Table 1) was less than the alpha level of .05, and indicates that students believed that not all instructional methods affected motivation equally. A follow-up question would be which specific methods were perceived as affecting motivation, participation, understanding, and performance. That analysis is provided next.

Table 1. Results of Chi-Square for motivation, participation, understanding, and performance

<table>
<thead>
<tr>
<th>Criteria</th>
<th>( \chi^2 )</th>
<th>N</th>
<th>df</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>122.50</td>
<td>3599</td>
<td>11</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Participation</td>
<td>96.14</td>
<td>3493</td>
<td>11</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Understanding</td>
<td>40.72</td>
<td>3447</td>
<td>11</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Performance</td>
<td>54.91</td>
<td>3480</td>
<td>11</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

4.2.3 Analysis of Standardized Residuals

Because the four overall chi-square tests were statistically significant (Table 1), further analyses were required to determine which of the twelve instructional methods were believed to improve motivation, increase participation or understanding, and improve performance. Therefore, Pearson’s standardized residuals were calculated to determine which specific methods were statistically significant. Because standardized residuals are normally distributed in the population, residuals higher than |2.5| would be unlikely if the null hypothesis was true (Note 1). If the residuals for a given method were positive and higher than |2.5|, students believed that the method improved motivation, participation, understanding, or performance. If the residuals were negative and higher than |2.5|, students believed those methods did not improve motivation, participation, understanding, or performance. The residuals for each method are shown in Table 2. Those that are statistically significant were viewed as likely or not likely to affect the dependent variable. For example, the motivation residual value of 3.39 for flashcards is above |2.5| and positive; therefore, we conclude that students in the target population believed that the use of flashcards improves motivation. The motivation residual value of -2.47 for tables is above |2.5| and is negative; therefore, we conclude that students in the target population believed that tables do not improve motivation. See Table 2 for a listing of the 12 residuals for each of the four dependent variables/categories.
Table 2. Residuals for motivation, participation, performance, and understanding

<table>
<thead>
<tr>
<th>Method</th>
<th>Motivation</th>
<th>Participation</th>
<th>Performance</th>
<th>Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flashcards</td>
<td>3.39*</td>
<td>0.71</td>
<td>1.31</td>
<td>2.69*</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>1.67</td>
<td>-0.86</td>
<td>-0.21</td>
<td>1.09</td>
</tr>
<tr>
<td>Photos</td>
<td>3.36*</td>
<td>2.74*</td>
<td>1.43</td>
<td>2.60*</td>
</tr>
<tr>
<td>Tables</td>
<td>-2.47*</td>
<td>-2.51*</td>
<td>0.44</td>
<td>-0.64</td>
</tr>
<tr>
<td>Worksheets</td>
<td>-4.89*</td>
<td>-4.25*</td>
<td>0.65</td>
<td>-0.73</td>
</tr>
<tr>
<td>Posters</td>
<td>2.04</td>
<td>2.41</td>
<td>1.19</td>
<td>1.36</td>
</tr>
<tr>
<td>Blackboard</td>
<td>-7.31*</td>
<td>-5.44*</td>
<td>-4.12*</td>
<td>-4.44*</td>
</tr>
<tr>
<td>Songs</td>
<td>4.01*</td>
<td>3.64*</td>
<td>2.02</td>
<td>0.31</td>
</tr>
<tr>
<td>Dialogues</td>
<td>-0.51</td>
<td>0.31</td>
<td>-3.15*</td>
<td>-2.45</td>
</tr>
<tr>
<td>Stories</td>
<td>2.23</td>
<td>1.68</td>
<td>0.26</td>
<td>-0.15</td>
</tr>
<tr>
<td>Realia</td>
<td>1.07</td>
<td>3.01*</td>
<td>2.21</td>
<td>2.56*</td>
</tr>
<tr>
<td>Video</td>
<td>4.72*</td>
<td>3.82*</td>
<td>2.26</td>
<td>3.33*</td>
</tr>
</tbody>
</table>

Note 1: Results greater than |2.5| are in bold and marked with an asterisk.

Of the twelve instructional methods evaluated, students had clear preferences for what they considered to be useful methods to improve motivation, participation, understanding, or performance. Flashcards, photos, songs, realia, and video all had residuals that were positive and above |2.5| in one or more categories. Conversely, residuals for the blackboard, tables, and worksheets were also above |2.5|, but were negative in at least one category. It is noteworthy that the blackboard was not perceived as being useful for motivation, participation, performance or understanding.

5. Discussion

The quantitative and qualitative results of our study are positive in the way in which they were able to explain the motives of teachers to use supplementary materials in their class along with the effects said materials have on the students. According to the interviews, the main motive of the teachers in using the materials was to motivate the interest in the students. Teachers appeared to feel as though learning and understanding can only really be achieved once students are motivated. This highlights the importance of the correct use of supplementary materials in the classroom. According to the results of our survey, students claim to be most motivated when the teacher uses flashcards, photos, songs, realia, and video. Teachers and education professionals should therefore perhaps take these results into account when deciding how to plan lessons and organise courses. On the other hand, it appears as though we should limit the use of the blackboard, tables, and worksheets, which have a negative effect on the student in the classroom.

The teachers claimed that a good learning environment is necessary for students to learn and understand effectively the material which they are teaching and that a good learning environment is only achieved once the students are motivated. Likewise, they mentioned that in order to have motivated students it was necessary that the students were kept attentive via the correct use of supplementary materials.

Overall, we have seen positive results from both the quantitative and qualitative studies as regards to the use of supplementary materials. Teachers should therefore plan the classes appropriately in order to keep students motivated and improve the learning outcomes.

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Note 1. Using a [2.5] cutoff is analogous to an alpha level of .0062 (one tailed) or .0124 (two tailed) for statistical significance. Note that this is a more conservative alpha level than the usual .05 alpha level used in the literature.

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