# A Study of the Relationship between Spanish Undergraduates' Motivational Factors and Foreign Language Achievement 

Ana Cristina Lahuerta Martínez Universidad de Oviedo

The present study reports the main findings of a sur-vey-based research conducted on Spanish university foreign language students. The goal was to identify a set of learner factors for that population associated with: (a) motivation, (b) interest in foreign affairs, and (c) perceived exposure to authentic materials and relate these to L2 proficiency and reading performance. For this study we recruited a group of 168 Spanish students of English as a foreign language all students of the first year of English for Chemistry at the Faculty of Chemistry of the University of Oviedo. The statistical analysis shows that those students who tend to make a stronger effort to learn English are the ones that have more problems in reading comprehension and tend to have a lower competence in the language. We also find out that the more students are exposed to authentic input the higher their competence in English. That is, exposition to authentic input appears to be a discriminating factor in the acquisition of competence in the foreign language.

Key words: motivation, interest in foreign affairs, perceived exposure to authentic materials, language learning performance.

## Introduction

For several decades, researchers in social psychology and education have recognized the importance of motivation for successful second language learning (see Gardner, 1985; Gardner and Clément, 1990). Affective variables, such as attitude, orientations, anxiety and motivation, have been shown to be at least as important as language aptitude for predicting L2 achievement or proficiency (Gardner, 1985).

Motivation determines the extent of active, personal involvement in L2 learning. Conversely, unmotivated students are insufficiently involved and therefore unable to develop their potential L2 skills (Oxford and Shearin, 1994:12). Research by Beebe (1983) shows that personality variables, such as the willingness to take risks, are powerful determinants of the propensity to interact in the target language. Horwitz and her colleagues $(1985,1986,1989)$ show the profound effects on learner behaviour of both beliefs about language and affective responses to specific language learning situations.

Research shows that motivation directly influences how high students' general proficiency and L2 skill level becomes (Ely, 1986; Gardner, 1992; Scarcella and Oxford, 1992).

The aim of the present work is to contribute to the study of the
influence of learner variables on second language learning. We present the results of a study conducted on first-year Spanish students at the University of Oviedo. The goal was to analyze three factors: students' motivation, perceived exposure to authentic material and interest in foreign affairs. Some studies (e.g. Bacon and Finnemann, 1990) have shown that perceived exposure to authentic material has a positive effect on students' comprehension and satisfaction. Recent studies (Yashima, 2002) also show the importance of analyzing students' attitudes toward what English symbolizes. This is believed to affect the learner's L2 learning and communication behaviour. We intend to contribute to the study of these factors in the context of Spanish University students of English as a foreign language.

We decided to relate the three factors above both to L2 proficiency and reading comprehension. We thought that as reading comprehension was one of the skills our students considered more important as they expressed in a questionnaire they had to complete at the beginning of the academic year, it would be interesting to see the relationship between our three factors and proficiency in general and reading comprehension in particular.

## 2. Review of the literature

### 2.1. Motivation in L2 learning

The socioeducational model of L2 acquisition (Gardner, 1985) proposes that two basic attitudes-integrativeness and attitude towards the learning situation-contribute to the learner's level of L2 learning motivation. The level of motivation, in turn, influences the linguistic outcome (e.g. achievement or proficiency). A number of empirical studies support this model (Gardner, 1980, 1985, 1988; Gardner and MacIntyre, 1993).

Integrativeness refers to the desire to learn a L2 in order to meet
and communicate with members of the L2 community. Attitudes toward the learning situation are measured by an evaluation of the L2 teacher and the L2 course. The motivation component is made up of the desire to learn the L2, motivational intensity (effort), and attitudes toward learning the L2. According to Gardner (1985), a truly motivated individual will possess all three of these characteristics; therefore, these components of motivation can be kept separate or combined into a single attitude/motivation index (as in Gardner and MacIntyre, 1993).

The applicability of the socioeducational model in the foreign language context has been questioned by some researchers. Research has shown that instrumental motivation (a desire to learn the L2 to achieve some practical goal, such as job advancement or course credit) is equally or more important in various foreign language learning contexts (Clément, Dörnyei, and Noels, 1994; Dörnyei, 1990; Samimy and Tabuse, 1992). As Dörnyei (1990:49) pointed out, in foreign language learning situations, «affective predisposition toward the target language community is unlikely to explain a great proportion of the variance in language attainment». Some studies show that the desire for contact and identification with members of the L2 group is not fundamental to the motivational process, but has relevance only in specific sociocultural contexts (e.g. Belmechri and Hummel, 1998; Clément, Dörnyei, and Noels, 1994). Clément and Kruidenier (1983) emphasized the need to define the integrative orientation operationally and other orientations that are relevant to a particular context.

Following the procedures used by Ely (1986), Clément, Dörney, and Noels (1994), and Belmechri and Hummel (1998), Yashima (2000) investigated the orientations for learning EFL among Japanese college students and identified an orientation similar to the integrative orientation, but somewhat different in the sense that it reflected the role
of English as a lingua franca, with the target community not clearly specified. This orientation labelled «intercultural friendship orientation» along with «instrumental orientation» predicted the strength of motivation and motivation in turn predicted proficiency.

### 2.2. The use of authentic materials

It seems that authentic materials provide the necessary context for relating form to meaning in language learning and they are regarded as motivators and as a means to overcome the cultural barrier to language learning (e.g. Bacon, 1987; Nostrand, 1989; Westphal, 1986). In the last twenty years the pedagogical trend is in the direction of increased use of authentic input in language instruction (e.g. Geltirch-Ludgate and Tovar, 1987; Rodgers and Medley, 1988; Lewis, 1993, 1997, Willis, D. 1999, Willis, J. 1999a, 1999b). But a clear understanding of the mechanisms of interaction between learner and authentic texts is required to provide the basis for sound pedagogical use of authentic input. Research is essential to understand how to prepare both materials and students for effective language instruction. Very little empirical research exists on the learners' responses to authentic input. A few studies have emerged at the levels of primary and secondary education. Kienbaum, Russell, and Welty (1986) compared traditional classroom contexts (elementary school) with communicative contexts characterized primarily by the use of authentic materials. Although test results showed no significant differences between the groups in language performance, an attitude survey revealed favourable attitudes toward the absence of the traditional textbook and a high degree of interest in current events materials. Bernhardt and Berkemeyer (1988) found that high school students of German at all levels were able to handle all authentic text types and that students fell into three levels of comprehension associated with years of language study. Allen, Bernhardt, Berry and

Demel (1988) did the general study that encompasses Bernhardt and Berkemeyer (1988). They tested 1.500 high school students with from one to five years of language instruction for comprehension of authentic texts at three levels of difficulty. They found that the subjects in the study could deal with all of the authentic texts they were asked to read. Furthermore, even beginners could cope with authentic texts of considerable length, $250-300$ words. The researchers found that target language and level of instruction was a more important correlate of comprehension than was text difficulty. Bacon and Finneman (1990) in their study conducted on first-year Spanish students at two major mid-western universities conclude that exposure to authentic input has a positive effect on comprehension and satisfaction and a negative effect on frustration. Their study also reinforces the importance of attending to students' affective needs and general language learning strategies when interacting with authentic input.

Willingness to communicate is emerging as a concept useful in accounting for individuals' first language and second language communication. The concept first developed in L1 communication by McCroskey and his associates (McCroskey, 1992; McCroskey and Richmond, 1987) was applied to L2 communication by MacIntyre and Charos (1996). As the emphasis in L2 teaching and learning has been shifting to communication, both as a necessary process and as a goal of learning a L 2 , a way to account for individual differences in L2 communication is needed. MacIntyre and Charos (1996) and MacIntyre and Clément (1996) demonstrated the possibility by combining insights from two disciplines, L2 acquisition and communication.

The concept willingness to communicate refers to the tendency of an individual to initiate communication when free to do so (McCroskey and Richmond, 1987, 1990). This concept includes communication in oral and written form. Studies in Canada (MacIntyre and Clé-
ment, 1996) show that the level of motivation influences willingness to communicate. Yashima (2002) examined relations among L2 learning and L2 communication variables in the Japanese English as a foreign language context using the willingness to communicate model and the socioeducational model as a framework. A L2 communication model was constructed and tested with a sample of 297 Japanese university students. He found that motivation affected self-confidence in L2 communication which led to willingness to communicate in a L2.

### 2.3. International posture

Recent studies show the importance of analyzing students' attitudes toward what English symbolizes. This is believed to affect the learner's L2 learning and communication behaviour. In the study mentioned above Yashima (2002) also examined this variable. In his model the variable of international posture was hypothesized to capture the general attitude toward the international community and foreign language learning in Japan.

He found that international posture appeared to influence motivation, which in turn influenced proficiency in English. In addition to this indirect path, a direct path from international posture to willingness to communicate in a L2 was significant. The more internationally oriented an individual was, the more willing he or she was to communicate in English. Such individuals are also more motivated to study English, and this motivation, in turn, contributes to proficiency and confidence in L2 communication.

## 3. Research objectives

Taking the research studies above together, we should note the complex relationship between learner characteristics and L2 achievement or proficiency. This paper intends to contribute to this rese-
arch. Our goal was to analyze the effect of motivation, interest in foreign affairs and perceived exposure to authentic input on proficiency and reading performance. The purpose of the study was further conceptualised in terms of the following research questions:

1. Is there a significant relationship between motivation and competence in the language?
2. Is there a significant relationship between motivation and reading comprehension?
3. Is there a significant relationship between students' perceived exposure to authentic input and competence in the language?
4. Is there a significant relationship between perceived exposure to authentic input and reading comprehension?
5. Is there a significant relationship between students' interest in foreign affairs and competence in the language?
6. Is there a significant relationship between students' interest in foreign affairs and reading comprehension?

## 4. Subjects

For this study we recruited a group of 168 Spanish students of English as a foreign language all students of the first year of English for Chemistry at the Faculty of Chemistry of the University of Oviedo.

## 5. Measures

Questionnaires containing measures of the motivation, interest in foreign affairs and perceived exposure to authentic input were administered to the participants in January 2003. A brief description of the measures follows.

For motivation items from Gardner and Lambert (1972) concerning motivation intensity and desire to learn English served as the measures.

Motivational Intensity. Six items on Motivational Intensity (Cronbach's $a=.7854$ ) were taken from a research by Gardner and Lambert (1972). The original format was changed to a 5-point scale. The students were to rate the degree to which each statement matched their state of mind.

Desire to Learn English. The other measure of motivation consisted of six items defined under the rubric of Desire to Learn English (Cronbach's $\alpha=$.7458) from Gardner and Lambert (1972). The original format was again changed to a 5-point scale.

Perceived Exposure to Authentic Material. Two items (Cronbach's $\alpha=.8031$ ) reflected students' perceived exposure to authentic texts. They are: «I have heard people conversing», «I have read newspapers/magazines/ texts for native speakers of English» and «I have had native speakers speak to me». Ratings were recorded on a 5point scale.

Interest in Foreign Affairs. Two items (Cronbach's $\alpha=.7780$ ) reflected students' interest in international issues. They are: «I often read and watch news about foreign countries» and «I often talk about situations and events in foreign countries with my family and/or friends». Ratings were recorded on a 5 -point scale.

All the items grouped by scale are shown in the Appendix.
Our questionnaire was preceded by a series of questions which provided us with demographic information. These referred to the students' experience of learning English, their contact and use of English outside the English class and the importance they attached to English for their formation and future career (see Appendix).

## 6. Materials

The materials consisted of two expository passages on a scientific topic. The passages were «Nitrates and Nitrites» and «Guinea

Pigs in biomedical research». The first one was excerpted from a Federal Drug Administration Consumer memo (undated) and the second one from a U.S. Air Force School of Aerospace Medicine Publication (Obeck, 1974). We constructed a 5 -question comprehension test. Three questions examined detail information, and one question examined the global comprehension of the passage.

## 7. Procedure

The experiment was run as follows. In the first session' students were given the different questionnaires they had to complete, in the second session ${ }^{2}$ the subjects' proficiency was measured by means of a proficiency test consisting of 40 items $^{3}$ In the third session ${ }^{4}$, the students had to read the passages and answer the comprehension questions.

We analyzed all the data with SPSS statistical software. Specifically, we used a SPSS program version 10.0 for Windows.

## 8. Results

We will begin analyzing the demographic information collected. The students' average age is 18.96 . With respect to their sex, there are more women $(64.2 \%$ ) than men ( $35.4 \%$ ). Table 1 shows the information collected regarding the target language.

[^0]| ITEMS | PERCENTAGE |
| :--- | :--- |
| Individuals that have studied English in high school | 97.1 |
| Individuals that have travelled to an English-speaking country | 10 |
| Individuals that have lived in an English-speaking country | 2.2 |
| Individuals that have English-speaking friends | 47.4 |
| Individuals that use English outside the English class | 31.7 |
| Individuals that use English at home | 2.9 |
| Individuals that consider English important for their formation | 97.8 |
| Individuals that consider English important for their future career | 97.8 |

Table 1. demographic Information.
As we can see, almost all the individuals have studied English in high school. Besides, they for the most part think English is important for their formation as well as for their future career. However, a very small proportion has travelled to an English-speaking country or has lived in an English-speaking country. The percentage of students that have English-speaking friends is quite high (47.4\%) but a smaller percentage of them ( $31.7 \%$ ) use English outside the English class. Almost none of them ( $2.9 \%$ ) use English at home.

We then have a group of young students, for the most part women, who have studied English in high school and regard English as important for their studies and future career but who have not lived or travelled to an English speaking country and whose use of English outside the English class is low.

The questionnaires administered were submitted to factor analysis that allowed us to identify a relatively small number of factors that represent the relationships among a relatively large number of interrelated variables. We will next present the results of this analysis.

The results of the factorial analysis for the questionnaire on Motivational Intensity appear in Table 2.

| KMO 0.747 |  |  |
| :--- | :--- | :--- | :--- |
| Bartlett 286.949 |  |  |
| Sig. 0.000 |  |  |
|  | FACTOR | FACTOR |
| ITEMS | INTERES | EFFORT |
|  | T |  |
| -Compared to my classmates, I think I study English relatively hard. | 0.587 | 0.691 |
| -I often think about the words and ideas which I learn about in my English | 0.538 |  |
| classes. | 0.810 |  |
| -If English were not taught at school, I would study on my own. | 0.650 | 0.615 |
| -I think I spend fairly long hours studying English. | 0.726 |  |
| -I really try to learn English | 0.817 |  |
| -After I graduate from college, I will continue to study English and try to |  |  |
| improve. | 2.910 | 1.239 |
| Total | 48.496 | 20.643 |
| Perc. explained variance | 48.496 | 69.139 |

Table 2: Factorial Model Motivational Intensity.

Two factors were identified under Motivational Intensity which explain $69.139 \%$ of the variance. The interpretation and labelling of each factor could be carried out as follows. The first factor includes «I often think about the words and ideas which I learn about in my English classes», «If English were not taught at school, I would study on my own», «I really try to learn English», «After I graduate from college, I will continue to study English and try to improve». This factor could then be called interest in learning English, as it is related to the importance subjects grant to learning the target language. The second factor includes «Compared to my classmates, I think I study English relatively hard» and «I think I spend fairly long hours studying English». This factor could be called effort since the items are related to the effort the subject makes to learn the language.

The results of the factorial analysis for the questionnaire on Desire to Learn English appear in Table 3.

| KMO 0.5 <br> Bartlett 77.232 <br> Sig. 0.000  |  |
| :---: | :---: |
| ITEMS | FACTOR DESIRE TO LEARN ENGLISH |
| - When I have assignment to do in English, I try to do them immediately. | 0.511 |
| - I would read English newspapers or magazines outside my English course work | 0.486 |
| - During English classes I'm absorbed in what is taught and concentrate on my studies. | 0.649 |
| - I would like the number of English classes at school increased. | 0.846 |
| - I believe absolutely English should be taught at university | 0.753 |
| - I find studying English more interesting than other subjects | 0.713 |
| Total | 2.710 |
| Perc. explained variance | 45.166 |
| Perc. Acum. Variance | 45.166 |

Table 3: Factorial Model Desire to Learn English

Only one factor was identified in the analysis. This factor, which we called Desire to Learn English, explains $45.166 \%$ of the variance.

All the items under Interest in Foreign Affairs were also grouped into one factor in the factorial analysis. We referred to the factor Interest in Foreign Affairs. The results are in Table 4. This factor explains $81.84 \%$ of the variance.

| KMO 0.5 |  |
| :--- | :--- |
| Bartlett 77.232 |  |
| Sig. 0.000 |  |
| ITEMS | FACTOR INTEREST |
|  | IN FOREIGN AFFAIRS |
| - I often read and watch news about foreign countries | 0.905 |
| - I often talk about situations and events in foreign countries with my family | 0.905 |
| and/or friends | 1.637 |
| Total | 81.840 |
| Perc. explained variance | 81.840 |
| Perc. Acum. Variance |  |

Table 4: Factorial model Interest in Foreign Affairs

Finally, the results of the factorial analysis for the questionnaire on Perceived Exposure to Authentic Material appear in Table 5.

| KMO 0.713 |  |
| :--- | :--- |
| Bartett 129.809 |  |
| Sig. 0.000 | FACTOR PERCEIVED |
|  | EXPOSURE TO |
| ITEMS | AUTHENTIC MATERIAL |
|  | 0.861 |
| I have heard people conversing | 0.839 |
| - I have read newspapers/magazines/ texts for native speakers of English | 0.851 |
| - I have had native speakers speak to me | 2.171 |
| Total | 72.358 |
| Perc. explained variance | 72.358 |
| Perc. Acum. Variance |  |

Table 5: Factorial model Perceived Exposure to Authentic Input
As we can see, only one factor was identified for Perceived Exposure to Authentic Material, which explains $72.358 \%$ of the variance.

After having undertaken the factorial analysis, we next carried out a multiple regression analysis using a step by step selection method ${ }^{5}$. The regression analysis was intended to allow us to find out if there was any significant relationship between the factors above and the students' reading comprehension and competence in the language.

The first step we took was to analyze if there was a relationship between reading comprehension and competence in the language. The dependent variable is reading comprehension and the independent variable competence in the language. The results appear in Table 6. We can say that the more competence in the language the better the reading comprehension performance. The level of explanation is $3.4 \%$. That is, the competence in the target language explains $3.4 \%$ of the differences in reading comprehension. We can observe that

[^1]the level is small. Therefore, there must be other factors that also explain the differences in reading comprehension. Among these factors are possibly the students' reading comprehension performance in the L1 and the length, difficulty and topic of the texts students had to read. Another research work is needed to approach these factors and thus clarify the question.

| Regression equation: Score in reading comprehension $=0.813+0.273 \mathrm{Nl}$ competence in the language. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SUMMARY OF THE MODEL |  |  |  |  |  |
| Model | R | R square | R square corrected |  | Estimation typical error |
| Step 1 | 0.201 | 0.040 | 0.034 |  | 0.3382 |
| Model | Change in $\mathbf{R}$ square | $\begin{aligned} & \text { Change } \\ & \text { in } \mathrm{F} \end{aligned}$ | g11 | g12 | Sig. of the change in F |
| Sep 1 | 0.040 | 6.804 | 1 | 162 | 0.010 |
| ANOVA | Sum of squares | gl | Square mean | F | Significance |
| Regress. Residual Total | $\begin{aligned} & \hline 0.778 \\ & 18.529 \\ & 19.307 \end{aligned}$ | $\begin{array}{\|l\|} \hline 1 \\ 162 \\ 163 \end{array}$ | $\begin{aligned} & \hline 0.778 \\ & 0.114 \end{aligned}$ | 6.804 | 0.010 |
| Model | Non standardised coefficients |  | Standardi. coefficients | $t$ | Significance |
|  | B | $\begin{aligned} & \text { Typical } \\ & \text { Error } \end{aligned}$ | Beta |  |  |
| (Constant) Compete. in English | $\begin{aligned} & 0.813 \\ & 0.273 \end{aligned}$ | $\begin{aligned} & 0.309 \\ & 0.105 \end{aligned}$ | 0.201 | $\begin{aligned} & 2.636 \\ & 2.608 \end{aligned}$ | $\begin{aligned} & 0.009 \\ & 0.010 \end{aligned}$ |

Table 6: Summary of regression analysis results

We carried out a second multiple regression analysis in order to study the relationship between reading comprehension and the factors identified through the factorial analysis carried out above. The dependent variable is reading comprehension performance and the independent variables the factors Motivational Intensity-Interest, Motivational Intensity-Effort, Desire to Learn English, Exposure to Authentic Material and Interest in Foreign Affairs. The results appear in Table 7.

| Regression equation: Score in reading comprehension $=1.615-0.07914 \mathrm{x}$ Motivational Intensity-Effort. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SUMMARY OF THE MODEL |  |  |  |  |  |
| Model | R | R square | R square corrected |  | Estimation typical error |
| Step 1 | 0.213 | 0.045 | 0.040 |  | 0.3373 |
| Model | Change in R square | Change in $F$ | gl1 | g12 | Sig. of the change in F |
| Sep 1 | 0.045 | 7.708 | 1 | 162 | 0.006 |
| ANOVA | Sum of squares | gI | Square mean | F | Significance |
| Regress. <br> Residual Total | $\begin{aligned} & \hline 0.877 \\ & 18.430 \\ & 19.307 \end{aligned}$ | $\begin{aligned} & \hline 1 \\ & 162 \\ & 163 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.877 \\ & 0.114 \end{aligned}$ | 7.708 | 0.006 |
| Model | Non standardised coefficients |  | Standardi. coefficients | $t$ | Significance |
|  | B | $\begin{aligned} & \text { Typical } \\ & \text { Error } \end{aligned}$ | Beta |  |  |
| (Constant) <br> Factor <br> Motivat. <br> Intensity <br> Effort | $\begin{aligned} & 1.615 \\ & 2-7.914-02 \end{aligned}$ | $\begin{aligned} & 0.026 \\ & 0.029 \end{aligned}$ | -0.213 | $\begin{aligned} & 61.331 \\ & -2.776 \end{aligned}$ | $\begin{aligned} & 0.000 \\ & 0.006 \end{aligned}$ |

Table 7: Summary of regression analysis results

We observe the influence of the factor Motivational IntensityEffort. Motivational Intensity-Effort explains 4\% of the differences in reading comprehension performance. We can say from the results obtained that the greater the effort the lower the reading comprehension performance. This result seems to indicate that those students who tend to make a stronger effort in learning English are the ones that have more problems in reading comprehension.

Through the next regression analysis we analyzed the relationship between competence in the foreign language and the factors identified through the factorial analysis. The dependent variable is competence in the foreign language and the independent variables the factors Motivational Intensity-Interest, Motivational Intensity-Effort,

Desire to Learn English, Exposure to Authentic Material and Interest in Foreign Affairs.

We observe the influence of the factors Motivational IntensityEffort and Perceived Exposure to Authentic Material. The results appear in Table 8.

| Regression equation: Competence in English $=2.9367-0.05973$ Motivational Intensity-Effort $+0.04286 \times$ Perceived Exposure to Authentic Material |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SUMMARY OF THE MODEL |  |  |  |  |  |
| Model | R | R square | R square corrected |  | Estimation typical error |
| Step 1 | 0.240 | 0.058 | 0.052 |  | 0.2463 |
| Step 2 | 0.284 | 0.081 | 0.069 |  | 0.2441 |
| Model | Change in R square | Change in $F$ | gl1 | g 2 | Sig. of the change in F |
| Step 1 | 0.058 | 9.930 | 1 | 162 | 0.002 |
| Step 2 | 0.023 | 4.020 | 1 | 161 | 0.047 |
| ANOVA | Sum of squares | gl | Square mean | F | Significance |
| Regress. Residual Total | $\begin{aligned} & \hline 0.603 \\ & 9.830 \\ & 10.433 \end{aligned}$ | $\begin{array}{\|l} \hline 1 \\ 162 \\ 163 \end{array}$ | $\begin{array}{\|l\|} \hline 0.603 \\ 6.068 \mathrm{E}-02 \end{array}$ | 9.930 | 0.002 |
| Regress. Residual Total | $\begin{array}{\|l\|} \hline 0.842 \\ 9.591 \\ 10.433 \\ \hline \end{array}$ | $\begin{array}{\|l} \hline 2 \\ 161 \\ 163 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 0.421 \\ 5.957 \mathrm{E}-02 \end{array}$ | 7.068 | 0.001 |
| Model | Non standardised coefficients |  | Standardi. coefficients | t | Significance |
|  | B | Typical Error | Beta |  |  |
| (Constant) <br> Factor <br> Motivat. <br> Intensity <br> Effort <br> (Constant) <br> Factor <br> Motivat. <br> Intensity <br> Effort <br> Factor <br> Perceived <br> Exposure <br> to Authen. <br> Material | 2.936 $2-6.560 \cdot 02$ 2.936 $-5.973 \mathrm{E}-02$ $4.286 \mathrm{E}-02$ | 0.019 0.021 0.019 0.021 0.021 | $\begin{gathered} -0.240 \\ -0.219 \\ 0.153 \end{gathered}$ |  <br> 152.640 <br> -3.151 <br> 154.056 <br> -2.867 <br> 2.005 | $\begin{aligned} & \hline 0.000 \\ & 0.002 \\ & 0.000 \\ & 0.005 \\ & 0.047 \end{aligned}$ |

Table 8: Summary of regression analysis results

We can observe that the greater the effort the lower the competence in the language and that the higher the perceived exposure to authentic material the higher the competence in English.

The level of explanation is $5.2 \%$ and $6.9 \%$ respectively. That is, Motivational Intensity-Effort explains 5.2\% of the differences in L2 competence and Perceived Exposure to Authentic Material explains $6.9 \%$ of the differences in L2 competence.

With respect to the first finding, we can say that those students who tend to make a stronger effort in learning the language are those that tend to have a lower competence in the language. This finding is related to the one obtained in the previous analysis. We saw there that those students who tend to make a stronger effort in learning English are the ones that have more problems in reading comprehension.

With respect to the second finding, we can conclude the exposition to authentic material is an important factor in the acquisition of competence in the foreign language.

## 9. Discussion

The influence of learner variables on second language learning is an important issue within second language acquisition research. One of the focus of interest is on the complex relationship between learner variables and language learning performance. We have approached three variables: motivation, interest in foreign affairs and perceived exposure to authentic material and have studied the relationship between these and competence and reading comprehension in the target language.

Our results indicate that L 2 competence and reading comprehension performance are interrelated, thus the more competence in the target language the better the reading comprehension performance. Despite this relationship the competence in the target language explains a small percentage of the differences in reading comprehension. The-
refore, we guess that there must be other factors that also explain the differences in reading comprehension. We point to factors like the students' reading skill in the L1 or the length, difficulty and topic of the texts chosen for the experiment. Further research work is needed to approach these factors.

Our findings also indicate that those students who tend to make a stronger effort in learning English are the ones that have more problems in L2 reading comprehension and a lower competence in the target language. Thus, in our study the greater effort in learning English tends to correspond to unsuccessful English students. This may be explained by the fact that, as it is usual in scientific and technical studies, English is not one of the most important subjects for Chemistry students, and thus those students who already have a relatively good command of the English language are not motivated to make a great effort to improve their command of this subject.

An interesting finding was that the more students are exposed to authentic material the higher their competence in English. That is, exposition to authentic input is a discriminating factor in the acquisition of competence in the foreign language.

These results have pedagogical implications. They point to the need to increase the students' exposition to authentic oral and written input, which is found to be a discriminating factor in the students' competence in the language. It may be necessary that focused lessons be developed in this regard. Besides, this study reinforces the importance of attending to students' variables when considering language achievement and reading performance.

Studies involving other populations will confirm the results obtained in this paper. We intend to carry out studies involving students from economy and engineering, as well as chemistry in order to confirm the role of the factors analysed in this paper in language learning performance.

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## APPENDIX

Motivational intensity
Compared to my classmates, I think I study English relatively hard.
I often think about the words and ideas which I learn about in my English classes.
If English were not taught at school, I would study on my own.
I think I spend fairly long hours studying English.
I really try to learn English
After I graduate from college, I will continue to study English and try to improve.

## Desire to Learn English

When I have assignment to do in English, I try to do them immediately.
I would read English newspapers or magazines outside my English course work
During English classes I'm absorbed in what is taught and concentrate on my studies.
I would like the number of English classes at school increased.
I believe absolutely English should be taught at university
I find studying English more interesting than other subjects.
Interest in Foreign Affairs
I often read and watch news about foreign countries
I often talk about situations and events in foreign countries with my family and/or friends.

Perceived Exposure to Authentic Material
I have heard people conversing
I have read newspapers/magazines/ texts for native speakers of English
I have had native speakers speak to me
Demographic information
I have studied English in high school
I have travelled to an English-speaking country
I have lived in an English-speaking country
I have English-speaking friends
I use English outside the English class
I speak English at home
English is important for my formation
English is important for my future career


[^0]:    1 This session took place on the first day of class of the 2002-2003 academic year.
    ${ }^{2}$ This session took place on the second day of class of the 2002-2003 academic year.
    ${ }^{3}$ This is the test the Department of English uses for testing the level of English of the students who enter some English courses at the University of Oviedo.
    ${ }^{4}$ This session took place on the third day of class of the 2002-2003 academic year.

[^1]:    5 We checked that there were not any colineality problems among the independent variables introduced in the model.

