# THE USE OF VARIOUS ASSESSMENT TASKS IN THE ANALYSIS OF THE EFFECT OF PRIOR KNOWLEDGE AND INTEREST ON L2 READING COMPREHENSION

Ana Cristina Lahuerta Martínez\*

Universidad de Oviedo

ABSTRACT. The aim of this study was to analyze the effect of both perceived interest and prior knowledge on L2 reading comprehension, assessed by means of several assessment tasks: written recall, sentence completion and multiple choice. Participants were 129 students enrolled in an intermediate level English course at the University of Oviedo. The results of our study show the significant effect of the two factors approached, perceived interest and prior knowledge on L2 reading comprehension. Specifically, the results show that comprehension assessed via written recall and multiple choice questions is enhanced when readers read texts related to their interests and that prior knowledge has a positive effect on the reader's comprehension irrespective of the assessment method used. This study shows the importance of taking into account the differences among assessment methods and how they may affect the relationship between factors like interest and prior knowledge, and L2 reading comprehension.

KEY WORDS. Interest, prior knowledge, L2 reading, assessment tasks.

RESUMEN. El objetivo de este estudio era analizar el efecto del interés individual y el conocimiento previo en la comprensión escrita en una lengua no nativa mediante diversos métodos de evaluación: reproducción escrita, completar oraciones y elección múltiple. 129 estudiantes de nivel intermedio procedentes de la Universidad de Oviedo participaron en el estudio. Los resultados muestran que la comprensión del texto, medida mediante reproducción escrita y elección múltiple es mayor si los sujetos leen textos relacionados con sus intereses. También se observa que el cocimiento previo sobre el tema del texto tiene un efecto positivo en la comprensión independiente mente del método de evaluación utilizado. Este estudio muestra la importancia de tener en cuenta las diferencias entre métodos de evaluación de la comprensión y cómo estas pueden afectar a la relación entre factores como el interés y el conocimiento previo en la comprensión en una lengua no nativa.

PALABRAS CLAVE. Interés, conocimiento previo, lectura en una lengua no nativa, métodos de evaluación.

## 1. Introduction

The relationship between interest and reading comprehension is an important and active research stream in reading as a native language (L1) and reading as a second language (L2). Motivation together with background knowledge are included by some reading experts like Bernhardt (2011), among the components that seem to contribute the most to second-language reading performance.

Regarding reading comprehension, the literature shows that most current reading comprehension views consider reading comprehension an interactive process involving the combination and integration of various sources of knowledge, including both lower-level linguistic sources and higher-level knowledge sources (e.g., Bernhart 2000, 2005, 2011; Carrell, Devine and Eskey 1988; Donin et al. 2004; Koda 2007; Lee 1997; Nuttall 1998; Nassaji 2002, 2003). One of the models of the L2 reading process that sees reading as an interactive process is the Bernhardt Model (1991, 2000). This model shows an integrative perspective that includes both text-driven and reader-based aspects of the L2 reading process. Both micro-level features, such as word recognition, phonemic/graphemic features and syntax, as well as macro-level features, such as background knowledge are part of the reading process. This integrative perspective emphasises the role of reading development and reading proficiency.

Among the most relevant aspects of this model, we can mention that it is based on an empirical study with readers from several linguistic backgrounds. Moreover, it shows an interaction (not a substitution of factors) between three components: language, literacy and world knowledge.

Bernhardt's (2005) most recent reading model looks for an explanation of unexplained variance while offering a conceptualization of L2 reading that captures reading over time. She tries to devise a model able to capture interactivity and simultaneity. Bernhardt's (2005) three-dimensional model includes three knowledge sources: a) L1 literacy knowledge (alphabetics, vocabulary, beliefs about word and sentence configuration, etc.), b) L2 language knowledge, emphasizing lexical items, and c) unexplained variance that incorporates dimensions yet to be explained such as interest, motivation, etc.

In this model, based on Stanovich's (1980) model, knowledge sources assist for other sources that are deficient or non-existent. It reflects a compensatory processing that tries to show how knowledge sources help or substitute other inadequate or nonexisting sources, that is, what they use to compensate for such deficiencies. This model shows that knowledge sources are not additive, but synchronic, interactive and synergic. It tries to recover the conceptualizations of the L2 reading process as a switching process in cognition, that is, as the learning process progresses, compensatory mechanisms vary according to the readers' needs. In 2011 Bernhardt slightly modifies the 2005 model adding more flexibility to the concept of compensation: "...as literate individuals process their second language in reading they rely on multiple information sources not

a priori determining what is an "important" source but, rather, bringing whichever source to bear at an appropriate moment of indecision or insecurity" (Bernhardt 2011: 37).

The present study is an attempt to examine interest and background knowledge as variables involved in this L2 reading process.

## 2. Review of the literature

## 2.1. The role of interest in reading comprehension

Researchers refer to personal and situational interest as the two main dimensions of interest involved in the reading process. Individual or personal interest involves the readers' preferences for certain passage topics or subject matter. It is relatively stable and exists before reading a particular text. It is an enduring inclination to reengage with specific stimuli, events and objects (Hidi 1990; Schiefele 1992; Ainley, Hidi and Berndorff,2002). Situational interest is elicited within a particular context; it is triggered by qualities of an object (Krapp, Hidi and Renninger 1992; Wade 1992) and is also based on spontaneous engagement (Krapp, Hidi and Renninger 1992; Hidi and Anderson 1992). Among the factors that elicit situational interest we can mention unexpectedness (Iran-Najad 1987), provocative information (Kintsch 1980), engagement (Mitchell 1993) and text cohesion (Wade 1992).

Research into interest and reading has been carried out mainly in L1 reading. Studies show that reading comprehension is improved when readers read texts related to their interests (e.g. Schraw et al. 1995; Oakhill and Petrides 2007).

Schraw et al. (1995) analyze the relationship among sources of interest (factors, like ease of comprehension, which evoke feelings of interest in a text), perceived interest (the feelings of interest itself), and text recall. The results indicate that different sources of interest affect perceived interest, which in turn, affects recall. Oakhill and Petrides (2007) examined the effects of topic interest on the reading comprehension. They conclude that interest in the content of the text can affect reading comprehension.

An important question in the L1 research into interest is the relationship between interest, prior knowledge and comprehension. Research has not clarified completely how and to what extent they are correlated in specific domains although efforts have been made to carry out tightly controlled and well-designed studies in order not to confound the relative contributions of prior knowledge and interest. Thus, Baldwin, Peleg-Bruckner, and McClintock (1985) carried out a controlled study with high-achieving seventh-and eighth-grade students that demonstrated the distinctive and additive contribution of both prior knowledge and personal interest to reading comprehension. Alexander et al. (1995) found that college and graduate students with little topic knowledge and who were generally uninterested in the domain and in the passages performed lower than their counterparts on a written recall task. Osako and Anders (1983) assessed the prior knowledge and interest of ninth-grade students. They obtained ambiguous results as they showed that interest significantly contributed to prediction of

comprehension scores for only two of four passages and prior knowledge significantly contributed for only one passage. According to these authors, these results show that neither interest nor previous knowledge seem to have a clear effect on comprehension. Schraw et al. (1995) showed that prior knowledge was only marginally related to perceived interest and unrelated to recall, concluding that prior knowledge alone may not be sufficient to increase interest.

Little research exists on the specific role of interest in L2 reading. Recent works (eg. Takase 2007; Cho et al. 2010; Sanai and Zain 2011) focus on a general examination of learners' motivation for second language reading. They establish a positive relationship between learners' attitudes towards reading, reading self efficacy and reading ability and show the importance of high-interest yet challenging materials on students' motivation to read more.

As in L1 research an important question in L2 research into interest is the relationship between interest, prior knowledge and comprehension. Results of the interest-prior knowledge studies that have been conducted in L2 reading show however, little concordance. Carrell and Wise (1998) carry out a study on the relationship between prior knowledge and topic interest using expository texts. No significant effects were found of prior knowledge and topic interest on reading comprehension, as measured by multiple choice tests. Moreover, prior knowledge of the topics and topic interest were essentially uncorrelated. Carrell and Wise attributed this finding to the condition that in school students sometimes are made to acquire knowledge about academic topics in which they have little interest. Joh (2006) worked with university students who performed a recall task after reading expository texts. This researcher found that two English as a foreign language groups with high and low topic interest did not significantly differ from each other in terms of their immediate free recall task scores. She also argued that topic interest may be a factor quite independent from L2 readers' knowledge of the topic.

In a study of interest sources and reading comprehension with advanced native-English-speaking university students of Spanish in the United States, Brantmeier (2006) found that prior knowledge was not significantly related to all assessment tasks used (written recall, multiple choice and sentence completion). She found a positive correlation between perceived interest and both sentence completion and multiple choice, but there was no positive correlation between perceived interest and recall. She however found that prior knowledge and perceived interest were correlated.

Different results were found in Erçetin's (2010) study. This author explores the effects of topic interest and prior knowledge on text recall and annotation use of second language learners engaged in reading a hypermedia text. Results indicated no meaningful relationship between topic interest and prior knowledge. Moreover, topic interest had a significant main effect on text recall while prior knowledge did not.

On the contrary, a positive influence of prior knowledge on reading comprehension as measured by multiple choice tests, but not of interest was found in Eidswick (2010). Correlations between interest and prior knowledge were significant only for topics

related to famous individuals. The topics which had statistically significant correlations were also those with the highest interest-prior knowledge configurations.

Analysis of the results showed higher scores for the high interest-high prior knowledge text than for those of the other texts but no significant differences between the test scores for high interest-low prior knowledge and low interest-low prior knowledge texts. Eidswick (2010: 160) concludes that these results may provide support for a positive influence of prior knowledge on reading comprehension, but not for a similar influence by interest. Another interpretation is that both interest and prior knowledge influence reading comprehension although in a different way.

As we can observe, the results of the studies that have been conducted both in L1 reading and L2 reading about the effect of interest and prior knowledge on reading comprehension show little concordance. In order to clarify this issue, we will consider an additional variable, that is, the reading comprehension measure used to assess reading comprehension.

## 2.2. The measurement of reading comprehension

In the previous review of the literature we observe the use of several assessment methods in the studies, namely written recall, multiple choice questions and open-ended questions. However, there is no analysis of the effect of the method of assessment on the results obtained in terms of reliability and validity. Brantmeier (2006) is the only study to our knowledge that uses several assessment methods in an attempt to compare how readers perform on different types of tasks. For her purpose she chose three assessment tasks: written recall, multiple choice and open-ended questions. She found that perceived interest was related to sentence completion items and multiple choice items, but not to recall. She hypothesizes that the reader's assessment of perceived interest may relate better with a task where students write a brief response (multiple choice tests and open-ended questions) and admits that more in-depth studies must be carried out that approach this question.

The literature suggests that some tasks may influence how readers interact with a text and how they reconstruct its meaning. Thus, Wolf (1993: 484) distinguishes between tasks requiring constructed responses and tasks requiring recognition and selection. Like Shohamy (1984), he attributes the better readers' performance on the multiple choice items than on the open-ended and cloze test items to the different language processes to do the task and supports Shohamy's (1984) conclusion that while multiple choice questions may require comprehension and selection, open-ended questions may require comprehension and production.

Written recall tasks require constructive responses (Bernhardt 2011; Heinz 2004; Riley and Lee 1996). The written recall protocol is considered an integrative task which provides a rich sample of the readers' individual construction of the text (Heinz 2004). According to Riley and Lee (1996), written recall is an integrative task that reflects the constructive processes involved in reading as opposed to discrete-point tasks which are narrow in scope and reflect a compartmentalized reading of a text. Bernhardt (2011)

refers to written recall as a test which is integrative in nature and does not deny the role of the reader in meaning construction.

Based on the previous literature, we can define the three assessment measures as follows: Written recall is an assessment method which implies an individual construction of the text. Open-ended questions have limits placed on the construction of possible answers and multiple choice questioning is a limited-response task which implies selection of the correct answer by eliminating others.

## 3. Research hypotheses

The present work aims at examining the effect of perceived interest and prior knowledge on L2 reading comprehension via several assessment tasks. The literature uses these assessment measures considering each one individually. However, we have focused on the differences among assessment methods that involve different cognitive processes.

We formulate the following hypotheses:

- Hypothesis 1: The greater a reader's perceived interest, the greater his reading performance measured by means of test that implies an individual reconstruction of the text (written recall).
- Hypothesis 2: The greater a reader's perceived interest, the greater his reading performance measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions).
- Hypothesis 3: The greater a reader's perceived interest, the greater his reading performance measured by means of a test characterized by a limited reconstruction of the text (open-ended questions).
- Hypothesis 4: The greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of a test that implies an individual reconstruction of the text (written recall).
- Hypothesis 5: The greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions).
- Hypothesis 6: The greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of a test characterized by a limited reconstruction of the text (open-ended questions).

## 4. METHODS AND PROCEDURES

## 4.1. Participants

Participants were 129 students enrolled in an intermediate level English course at the University of Oviedo.

## 4.2. Reading passage

The reading passage was selected after carefully looking at different texts. The text used was a 530-word narrative passage entitled *The stranger* selected from the Official examination papers from University of Cambridge ESOL examinations.

### 4.3. Assessment methods

In the written recall task, we asked participants, without turning back to the passage, to write down as much as they could about the passage just read. In the open-ended questioning task, participants had to complete a series of sentences according to the content of the text. These were created so that all possible answers are foreseeable, and the objectivity of scoring depends on the comprehensiveness of the answer key. For the multiple-choice method ten questions were elaborated for each passage. While creating the multiple choice items for the present study we followed Wolf's guidelines (1991) for writing multiple-choice questions. This researcher recommends that all items should be passage dependent so that the reader always needs to read a passage in order to choose the correct answer, that some of the items should be elaborated so that the reader could make inferences and that all the distracters in the multiple choice questions should be plausible (or believable) in order to prevent participants from immediately disregarding responses (see Appendix A for examples of open-ended and multiple choice items).

To test whether the assessment tasks were adequate for the intended purpose and the selected participants, we asked 5 native English speakers to complete the readings and assessment tasks prior to the experiment. All of them considered both the readings chosen and the tasks adequate for the readers' competence level and the purpose of the experiment.

## 4.4. Perceived interest questionnaire

The Perceived Interest Questionnaire (PIQ) was taken from Schraw et al. (1995), and it contained 9 items. It was slightly modified according to the text utilized for the present study. Thus, one of the items that referred to the implications of the reading text in Schraw et al. (1995) was not included in our questionnaire as it was not relevant for the topic of our text. Moreover, in one of items ("I thought the story's topic was quite interesting"), the original adjective was "fascinating", but we thought that the adjective "interesting" was more adequate for the topic of our text. For each item readers indicated the degree to which they agreed or disagreed with each statement. This instrument assessed feelings of personal interest (see Appendix B for the Perceived Interest Questionnaire).

## 4.5. *Topic familiarity*

We assessed topic familiarity with a 5-point scale (from 5: "I knew a lot about the topic" to 1: "I did not know anything about the topic at all).

## 4.6. Data collection procedure

Participants were told that they would read one passage and then complete comprehension assessment tasks. They were instructed not to look back at any previous pages while reading and completing all tasks. Participants were asked to read the text and complete five sentences based on the text; then they answered five multiple choice questions based on the passage and next they were asked to write everything they remembered from the text without looking back at the passage. After that, they completed the topic familiarity questionnaire. Finally, they completed the perceived interest questionnaire. The researcher was present at all data collection times to ensure that participants followed the instructions correctly.

## 4.7. Scoring and analysis procedure

In order to score the written recalls, we followed Riley and Lee's (1996) criteria to identify idea units in the text. According to these authors, the unit of analysis may be an idea or a proposition. Following these criteria, the researcher and an additional rater identified the total idea units for the text separately and then compared results. A template of idea units was then created for codifying purposes.

The idea units correctly reproduced in the text by each participant were analyzed. This was done by the researcher and an external rater separately. Finally results were compared.

In order to score the sentence completion test, we elaborated a template of correct and acceptable answers. The researcher and an external rater separately scored the exercises and compared results. Finally, these were compared with the template.

The same procedure was followed for the scoring of the multiple choice test. We elaborated a template of correct answers. The researcher and an external rater separately scored the exercises and compared results. Finally, these were compared with the template.

## 5. Results

The first analysis was conducted in order to examine the factor structure and internal consistency of the Perceived Interest Questionnaire (PIQ) for L2 reading. Factor analysis with a varimax rotation was calculated. This analysis yielded a single factor that accounted for 76.091 % of the total sample variation. The internal consistency of the PIQ using Cronbach's alpha reached 0.954. Factor loadings for each of the 10 items on the PIQ are given in Table 1. We can define this factor as individual interest or, in other words, the reader's assessment of his own feelings of interest.

| Questionnaire items  | Factor loadings |
|--|-----------------|
| I thought the story was very interesting.                              | (.728)          |
| I'd like to discuss this story with others at some point.              | (.718)          |
| I would read this story again if I had the chance.                     | (.678)          |
| I got caught-up in the story without trying to.                        | (.729)          |
| I thought the story's topic was quite interesting.                     | (.801)          |
| I think others would find this story interesting.                      | (.718)          |
| I would like to read more stories like this in the future.             | (.763)          |
| This story was one of the most interesting things I've read in Spanish |                 |
| in a long time.  | (.611)          |
| This story really grabbed my attention.                                | (.834)          |

Table 1. Items included in the perceived interest questionnaire (numbers in parentheses are factor loadings).

Before analyzing the hypotheses of the present study, we will first point out some descriptive statistical data obtained. These data show that open-ended questions are the most difficult of the three tasks for the students. They show that the highest scores for comprehension were obtained when written recall was used as an assessment task (mean=5.6192), followed by multiple choice questions (mean= 4.7475), and open-ended questions (mean= 4.0943).

Regarding the hypotheses formulated, a regression analysis was carried out to analyze the results obtained for each of them.

Hypothesis 1: The greater a reader's perceived interest, the greater his reading performance measured by means of a test that implies an individual reconstruction of the text (written recall).

Thus, we first analysed if the reader's perceived interest in the text affects the reader's performance measured by means of written recall.

The results (see Table 2) allow us to confirm hypothesis 1, that is, the greater a reader's perceived interest, the greater his reading performance measured by means of written recall. The perceived interest explains more than 17% of reading comprehension as measured by written recall. Moreover, these results are significant at p<0.001.

| Variables                    | B not standardized | Вета (В) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: WR SCORE |                    |          |         |       |
| Constant                     | 5.639              |          |         |       |
|                              | (0.000)            |          |         | 0.000 |
| PERCEIVED INTEREST           | 1.559              | 0.429    | 4.647   | 0.000 |
| R <sup>2</sup>               | 0.184              |          |         |       |
| R <sup>2</sup> adjusted      | 0.175              |          |         |       |
| F                            | 21.592             |          |         |       |
| Probability of F             | 16.835             |          |         |       |
| N                            | 97                 |          |         |       |

Table 2. Regression equation-relationship between perceived interest / written recall.

Hypothesis 2: The greater a reader's perceived interest, the greater his reading performance measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions).

The results (see Table 3) allow us to confirm hypothesis 2, that is, the greater a reader's perceived interest, the greater his reading performance measured by means of multiple choice questions. The perceived interest explains more than 20% of reading comprehension as measured by multiple choice questions. Moreover, these results are significant at p<0.001.

| Variables                    | B not standardized | Вета (В) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: MC SCORE |                    |          |         |       |
| Constant                     | 4.815              |          |         |       |
|                              | (0.000)            |          |         | 0.000 |
| PERCEIVED INTEREST           | 1.372              |          |         |       |
|                              | (0.000)            | 0.457    | 5.010   | 0.000 |
| $\mathbb{R}^2$               | 0.209              |          |         |       |
| R <sup>2</sup> adjusted      | 0.201              |          |         |       |
| F                            | 2.149              |          |         |       |
| Probability of F             | 17.675             |          |         |       |
| N                            | 96                 |          |         |       |

Table 3. Regression equation-relationship between perceived interest / multiple choice questions.

Hypothesis 3: The greater a reader's perceived interest, the greater his reading performance measured by means of a test characterized by a limited reconstruction of the text (open-ended questions).

The results (see Table 4) obtained do not show a significant correlation between the variables, since as we can observe, the significance level (0.133) is higher than 0.01, which means that it does not have a sufficiently high level of significance. Therefore, hypothesis 3 is not confirmed.

| Variables                    | B not standardized | Вета (В) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: SC SCORE |                    |          |         |       |
| Constant                     | 3.894              |          |         |       |
|                              | (0.000)            |          |         | 0.133 |
| PERCEIVED INTEREST           | 0.288              |          |         |       |
|                              | (0.000)            | 0.153    | 1.514   | 0.000 |
| R <sup>2</sup>               | 0.023              |          |         |       |
| R <sup>2</sup> adjusted      | 0.013              |          |         |       |
| F                            | 2.291              |          |         |       |
| Probability of F             | 20.495             |          |         |       |
| N                            | 97                 |          |         |       |

Table 4. Regression equation-relationship between perceived interest / open-ended questions.

Our results then show that the readers' perceived interest has a significant effect on reading comprehension when written recall and multiple choice questions are used as assessment methods, but not with open-ended questions tasks.

Hypothesis 4: The greater the reader's prior knowledge of the topic of the text, the greater his reading performance measured by means of a test that implies an individual reconstruction of the text (written recall).

The results (see Table 5) allow us to confirm hypothesis 4, that is, the greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of written recall. The prior knowledge explains more than 16% of reading comprehension as measured by written recall. Moreover, these results are significant at p<0.001.

| Variables                    | B not standardized | Beta (B) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: WR SCORE |                    |          |         |       |
| Constant                     | 2.380              |          |         |       |
|                              | (0.000)            |          |         | 0.000 |
| PRIOR KNOWLEDGE              | 1.664              |          |         |       |
|                              | (0.000)            | 0.412    | 4.693   | 0.000 |
| R <sup>2</sup>               | 0.169              |          |         |       |
| R <sup>2</sup> adjusted      | 0.162              |          |         |       |
| F                            | 22.025             |          |         |       |
| Probability of F             | 3.104              |          |         |       |
| N                            | 109                |          |         |       |

Table 5. Regression equation-relationship between prior knowledge / written recall.

Hypothesis 5: The greater the reader's prior knowledge of the topic of the text, the greater his reading performance measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions).

The results (see Table 6) allow us to confirm hypothesis 5, that is, the greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of multiple choice questions. The prior knowledge explains 2% of reading comprehension as measured by multiple choice questions. Moreover, these results are significant at p<0.1.

| Variables                    | B not standardized | Beta (B) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: MC SCORE |                    |          |         |       |
| Constant                     | 3.617              |          |         |       |
|                              | (0.000)            |          |         | 0.000 |
| PRIOR KNOWLEDGE              | 0.533              |          |         |       |
|                              | (0.078)            | 0.170    | 1.780   | 0.078 |
| $\mathbb{R}^2$               | 0.029              |          |         |       |
| R <sup>2</sup> adjusted      | 0.020              |          |         |       |
| F                            | 3.169              |          |         |       |
| Probability of F             | 5.560              |          |         |       |
| N                            | 101                |          |         |       |

Table 6. Regression equation-relationship between prior knowledge / multiple choice questions.

Hypothesis 6: The greater the reader's prior knowledge of the topic of the text, the greater his reading performance measured by means of a test characterized by a limited reconstruction of the text (open-ended questions).

The results (see Table 7) allow us to confirm hypothesis 6, that is, the greater the reader's previous knowledge of the topic of the text, the greater his reading performance measured by means of open-ended questions. The prior knowledge explains more than 18% of reading comprehension as measured by written recall. Moreover, these results are significant at p<0.001.

| Variables                    | B not standardized | Beta (B) | t-value | P     |
|------------------------------|--------------------|----------|---------|-------|
| Dependent variable: SC SCORE |                    |          |         |       |
| Constant                     | 2.230              |          |         |       |
|                              | (0.000)            |          |         | 0.000 |
| PRIOR KNOWLEDGE              | 0.892              |          |         |       |
|                              | (0.000)            | 0.435    | 5.015   | 0.000 |
| R <sup>2</sup>               | 0.189              |          |         |       |
| R <sup>2</sup> adjusted      | 0.181              |          |         |       |
| F                            | 25.154             |          |         |       |
| Probability of F             | 5.793              |          |         |       |
| N                            | 109                |          |         |       |

Table 7. Regression equation-relationship between prior knowledge / open-ended questions.

According to the results obtained in the present study, we can affirm that prior knowledge of the topic of the text has a significant effect on the reader's comprehension, so that the greater the familiarity with the topic of the text the better the reading comprehension performance, regardless of the assessment method chosen.

## 6. Discussion

The results obtained in the present work show the significant effect of the two factors approached, prior knowledge and perceived interest on L2 reading comprehension, as we had hypothesized.

Prior knowledge has a positive effect on the reader's comprehension irrespective of the assessment method used. This result confirms L1 research by Alexander et al, (1995), who showed a positive correlation between prior knowledge and recall, and Baldwin et al. (1985) who found a significant correlation between prior knowledge and

comprehension assessed by multiple choice questions. It however contradicts Schraw et al. (1995)'s results that showed that prior knowledge was unrelated to recall. It also contradicts most L2 studies such as Brantmeier (2006), who showed that prior knowledge was not significantly related to recall, multiple choice or sentence completion; and Erçetin (2010), who did not find a significant correlation between prior knowledge and recall. It must be highlighted that our results differ from those of previous studies in that they clearly show the significant positive effect of prior knowledge on reading comprehension regardless of the assessment method used.

Thus, unlike the previous L1 and L2 studies examined our study shows that prior knowledge affects reading comprehension when assessed via three different reading assessment methods: a method that implies a reconstruction of a text, a method that implies a limited reconstruction of a text and a method that implies selection.

The results also show that comprehension assessed via recall and multiple choice questions is enhanced when readers read texts related to their interests. The readers' perceived interest has not a significant effect on reading comprehension when openended questions tasks are used as assessment methods. Our results confirm the results obtained in L1 research by Alexander et al. (1995) and Schraw et al. (1995) that show a positive effect of interest on recall, and the results obtained by Baldwin, Peleg-Bruckner and McClintock (1985) that show a positive effect of interest on reading comprehension assessed by multiple choice questions. However, they partially contradict L2 findings (Brantmeier 2006) where analyses revealed a positive correlation between perceived interest and both sentence completion and multiple choice, but no positive relationship between perceived interest and recall was found.

The readers' assessment of their perceived interest relates better with two of the three tasks used in our study: written recall and multiple choice. According to our definition of these tasks, written recall tasks imply meaning construction and multiple choice tasks imply selection. Unlike Brantmeier's (2006) suggestion, the length of the task does not influence the reader's assessment of his feelings of interest since written recall implies a long response whereas in multiple choice tasks, readers choose the right answer from several options.

In our study, the reader's assessment of his own feelings of interest does not relate well with a task that implies a limited reconstruction of the text (open-ended questions), as opposed to a task that implies a free reconstruction of the meaning of the text (written recall) and a task that provides rich retrieval cues and is based on the selection of the right answer from the options provided (multiple choice). The lowest scores for comprehension were obtained when open-ended questions were used as assessment task, according to the descriptive statistical data. In view of these results, we conclude that tasks that have limits placed on possible answers and do not provide very rich cues are more difficult for the readers. This may influence the relationship between the reader's interest and his reading comprehension performance. All in all, more in-depth study of the characteristics of open-ended questions and their effect on readers' interest to confirm the results obtained in the present study.

## 7. CONCLUSION

Reading is a complex process that involves various elements like interest and prior knowledge that, as this study shows need to be taken into account when approaching readers' comprehension performance. An important contribution of this study is the importance of considering assessment methods examining the differences among them and how they may affect the relationship between both perceived interest and prior knowledge, and L2 reading comprehension. The results of this study are however limited since this study works with students from one level of L2 proficiency (intermediate) who read only one type of text, a narrative text. It seems clear that future research work should expand on the present findings by examining the effect of both perceived interest and prior knowledge on L2 reading comprehension across stages of acquisition with different text types. The results obtained in the present study may however be presented as a modest contribution to role of interest and prior knowledge as significant components of the unexplained variable of Bernhardt's (2005, 2011) compensatory model of L2 reading.

## Note

\* Correspondence to: Ana Cristina Lahuerta Martínez. Universidad de Oviedo. Facultad de Filosofía y Letras. Campus el Milán, Teniente A. Martínez s/n. 33011-Oviedo (Asturias). E-mail: lahuerta@uniovi.es.

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## APPENDIX A

## EXAMPLE OF OPEN-ENDED ITEMS:

Complete the sentences with information from the text.

- 1. The narrator's impression of the station that morning was that......
- 2. The narrator shows an interest in the grey-haired stranger because.....

## EXAMPLE OF MULTIPLE CHOICE ITEMS:

Circle the correct answer (A,B,C) based on the text

- 1. What was the narrator's impression of the station that morning?
  - A. People were making too much noise.
  - B. It was unusually busy
  - C. There was a lot of rubbish on the ground.
- 2. Why does the narrator show an interest in the grey-haired stranger?
  - A. He was fascinated by the stranger's questions.
  - B. He was anxious about the stranger's destination.
  - C. He was impressed by the stranger's skill with people.

#### APPENDIX B

## PERCEIVED INTEREST QUESTIONNAIRE

Indicate in a 1 (/disagreement) to 5 (strong agreement) scale the degree to which you agree or disagree with these statements about the text

- 1. I thought the story was very interesting. 1 2 3 4 5
- 2. I'd like to discuss this story with others at some point.1 2 3 4 5
- 3. I would read this story again if I had the chance. 1 2 3 4 5
- 4. I got caught-up in the story without trying to. 1 2 3 4 5
- 5. I thought the story's topic was quite interesting. 1 2 3 4 5
- 6. I think others would find this story interesting. 1 2 3 4 5
- 7. I would like to read more stories like this in the future. 1 2 3 4 5
- 8. This story was one of the most interesting things I've read in English in a long time. 1 2 3 4 5
- 9. This story really grabbed my attention. 1 2 3 4 5