The Effect of Perceived Interest and Prior Knowledge on L2 Reading Comprehension via Several Assessment Methods in a Higher Education Context

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Abstract

The aim of the present study is to examine the effect of perceived interest and prior knowledge on EFL reading comprehension. Participants were 227 undergraduates with advanced competence in English. With respect to the method, participants had to read a 450-word text entitled Wales. After that, they had to complete a Perceived Interest Questionnaire (PIQ), which consisted of 9 items and two assessment tasks: a written recall and a multiple choice task. The results of our study show the significant effect of perceived interest and prior knowledge on L2 reading comprehension. Thus, comprehension assessed via written recall and multiple choice questions had higher scores when readers read texts related to their interests. Besides, prior knowledge had a positive effect on the reader's comprehension irrespective of the assessment method used. This study concludes that different assessment tasks may be crucial factors that affect the relationship between factors like interest and prior knowledge, and L2 reading comprehension.

Keywords: interest, prior knowledge, L2 reading, written recall, multiple choice.

1. Introduction

Reading elements like motivation, interest and background knowledge are considered by some reading experts like Bernhardt (2000, 2005, 2011) significant components that seem to contribute the most to second-language reading performance. With respect to reading, recent research on the predictors of successful reading comprehension in a second language (L2) has been focused on motivational factors (e.g., Koda, 2007; Nassaji, 2002, 2003; Xu and Durgunoğlu, 2019).

Bernhardt's (2005, 2011) sees reading as an interactive process involving the combination and integration of various sources of knowledge and devises an L2 reading model that could capture this interactive nature. This is a three-dimensional model that includes three knowledge sources: L1 literacy knowledge, L2 language

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knowledge, and 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 model how knowledge sources help or substitute other inadequate or nonexisting sources, that is, what they use to compensate for such deficiencies.

The present study examines interest and background knowledge as variables involved in this L2 reading process. It intends to contribute to this research topic exploring the relationship between interest, background knowledge and L2 reading comprehension via different assessment tasks in a higher education context and focussing on students at an advanced level of English language competence.

2. Review of the literature

In the last few years several studies have approached 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. Some authors did not find a relationship between topic interest and/or L2 readers' knowledge of the topic (e.g. Carrell and Wise 1998; Joh, 2006).

On the contrary, studies by Erçetin (2010) and Brantmeier (2006) found a positive correlation between both perceived interest and/or prior knowledge, and reading comprehension. Erçetin (2010) concluded that topic interest had a significant main effect on text recall while prior knowledge did not. Brantmeier´s (2006) results varied according to the assessment tasks used. Thus, she found a positive correlation between perceived interest and two assessment tasks, i.e., sentence completion and multiple choice, but she did not find a positive correlation between perceived interest and written recall. In the same vein, Lahuerta (2013) studied interest and reading comprehension using different assessment methods. She found a positive effect of perceived interest and prior knowledge on university students´ L2 reading comprehension. Specifically, the results showed that comprehension assessed via written recall and multiple choice questions was enhanced when readers read texts related to their interests and that prior knowledge had a positive effect on the reader's comprehension irrespective of the assessment method used. Isusi and Lahuerta (2016) analysed familiarity and interest on foreign language reading comprehension of secondary education students. The comparison is made in general terms, and also by gender, L2 proficiency level, and assessment method (written recall and multiple choice). The results show that (a) the influence of familiarity outscores significantly that of interest; (b) as proficiency improves, the influence of both variables diminishes; (c) gender does not seem to affect reading comprehension of not gender-biased texts; and (d) the multiple choice task seems to help comprehension to a large extent. In a recent work, Asgari, Ketabi and Amirian (2019) conclude that selecting the instructional materials based on learners' interest areas could improve their performance in L2 reading comprehension

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As we can observe, the results of the studies reviewed about the effect of interest and prior knowledge on reading comprehension show little concordance. In order to clarify this issue, the present work aims at examining the effect of perceived interest and prior knowledge on L2 reading comprehension via several assessment tasks in a specific context, a higher education context.

3. Research questions

The following Research Questions were formulated:

Q 1: Is there a significant relationship between readers´ perceived interest and their reading performance when this is measured by means of test that implies an individual reconstruction of the text (written recall)?

Q 2: Is there a significant relationship between readers´ perceived interest and their reading performance when this is measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions)?

Q 3: Is there a significant relationship between readers´ previous knowledge and their reading performance when this is measured by means of test that implies an individual reconstruction of the text (written recall)?

Q4: Is there a significant relationship between readers´ previous knowledge and their reading performance when this is measured by means of a test characterized by recognition and selection of the right answer (multiple choice questions)?

4. Methods and procedures

4.1. Participants

Participants were 227 undergraduates with an advanced level of English competence. They belong to the following University degrees: Music History, Tourism and Modern Languages and their Literature.

4.2. Reading passage

The reading passage was selected after carefully looking at different texts. The text used was a 450-word passage describing Wales from a geographical, social, political and economic perspective entitled *Wales*.

4.3. Assessment methods

Two assessment methods were used, a written recall task and a multiple choice task. 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. 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.

4.3. Perceived interest questionnaire

The Perceived Interest Questionnaire (PIQ) was adapted from Schraw et al. (1995), and it contained 9 items. For each item readers indicated the degree to which they agreed or disagreed with each statement. This instrument assessed feelings of personal interest. The items were: I thought the text was very interesting; I'd like to discuss this text with others at some point; I would read this text again if I had the chance; I got caught-up in the story without trying to; I thought the text's topic was quite interesting; I think others would find this text interesting; I would like to read more texts like this in the future; This text was one of the most interesting ones I've read in a long time; This text really grabbed my attention.

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 to 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 answer 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

The text was divided into idea units by two different raters. Idea units were identified following Riley and Lee's (1996) criteria. Separately, the researcher and an additional rater identified the total idea units for each text and then compared results. A template of idea units was then created for codifying purposes. The text was divided into 21 idea units. The researcher and an external rater identified separately the idea units correctly reproduced in each text by each participant and compared results.

Sentence completion items were scored according to 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.

5. Results

A regression analysis was carried out to answer the four research questions formulated. With respect to the first research question, intended to examine if the reader's perceived interest in the text affects the reader's performance measured by means of written recall, the results (see Table1) show that the greater the readers´ perceived interest, the greater their reading performance measured by means of written recall. The perceived interest 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: *WR SCORE*				
Constant	5.439 (0.000)			0.000
PI	1.459	0.329	4.547	0.000
R^2	0.194			
R^2 adjusted	0.185			
F	21.592			
Probablity of F	16.835			
N	227			

Table 1 Regression Equation-Relationship Between Perceived Interest/Written Recall

With respect to the second research question formulated, results show that the greater the readers´ perceived interest, the greater their reading performance measured by means of multiple choice questions (see Table 2 below). The perceived interest explains more than 17% of reading comprehension as measured by multiple choice questions. Moreover, these results are significant at 0.001.

Variables	B not standardized	Beta (B)	t-value	P
Dependent variable: MC SCORE				
Constant	4.815 (0.000)			0.000
PI	1.472 (0.000)	0.477	5.000	0.000
R^2	0.189			
R^2 adjusted	0.172			
F	2.159			
Probablity of F	17.677			
N	227			

Table 2 regression equation-relationship between perceived interest

Regarding the third research question, results also showed that the greater the reader's previous knowledge of the topic of the text, the greater his/her reading performance measured by means of written recall (see Table 3 below). The prior knowledge explains more than 15% 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	2.580 (0.000)			0.000
PRIOR KNOWLEDGE	1.674 (0.000)	0.432	4.793	0.000
R2	0.159			
R2 adjusted	0.152			
F	22.125			
Probablity of F	3.304			
N	227			

Table 3 regression equation-relationship between prior knowledge / written recall

Finally, as Table 4 shows, we see that the greater the readers´ previous knowledge of the topic of the text, the greater tehir reading performance measured by means of multiple choice questions. The prior knowledge explains 12% of reading comprehension as measured by multiple choice questions. Moreover, these results are significant at $p < 0.001$ (see Table 4 below).

Variables	*B* not standardized	BETA (*B*)	t-VALUE	*P*
Dependent variable: MC SCORE				
Constant	3.717 (0.000)			0.000
PRIOR KNOWLEDGE	0.733 (0.078)	0.590	1.980	0.000
R²	0.129			
R² adjusted	0.120			
F	4.169			
Probability of F	5.760			
N	227			

Table 4 regression equation-relationship between prior knowledge / multiple choice questions

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.

Prior knowledge has a positive effect on the reader's comprehension irrespective of the assessment method used. It affects reading comprehension when assessed both via a method that implies a reconstruction of a text and a method that implies selection. Prior knowledge reveals itself as a significant factor to increase university reader's interest.

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 a significant effect on reading comprehension when written recall and multiple choice are used as assessment methods.

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 not in an individual way, but 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 (advanced) who read only one type of text (expository). 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.

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