IMPACT OF BELIEFS ABOUT LEARNING A LANGUAGE ON SYNTHESIS OF READING AND WRITING

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ABSTRACT

This article presents the results of a study carried out among 48 sophomores of a Sri Lankan university to find out the relationship between the beliefs about language learning (reading and writing) and their ability to synthesis information from different sources into one piece of writing which summarizes the information from the texts. It also investigated the impact of synthesizing activities in learning achievement. The participants produced the results of this study in which three different texts on the same topic were read, and then a summarized text reveals that the ability of the participants to integrate and organize the content improved when their beliefs about reading and writing are transactional. It also revealed that there is a positive relationship between the quality of synthesized production and learning.

Keywords: beliefs about learning, reading, summarize, synthesis and writing

INTRODUCTION

The impact of writing on students' thinking and learning processes has been postulated by various theoretical models and corroborated in numerous investigations in recent decades (Alodwan & Ibnian, 2014, Dokchandra, 2018, Dyan & Cate, 2009). The epistemic function of reading is equally well known: it

allows not only to access information but also to transform it into knowledge (Dobler & Eagleton, 2015:220). Reading and writing are among the most powerful technologies available to us to learn and think.

In this context, the hybrid tasks, those whose resolution requires reading and writing, possess the characteristics of comprehension and discourse production (Bracewell, Frederiksen & Frederiksen, 1982; Spivey, 1997). The elaboration of a report, a summary, or a synthesis of several texts implies the integrated use of the cognitive operations involved in reading and writing. In hybrid tasks, the combination of both provides alternative perspectives that encourage thinking and learning (Fitzgerald & Shanahan, 2000). This epistemic potential resides, at least in part, in the possibility of using a more recursive than linear procedure: by going back and recurrently from the source text (s) to the text itself, the information is understood, elaborated, integrated and organized in a process that can lead to more or less substantive changes in the knowledge with which it is addressed.

Throughout high school and college, students will be faced with the performance of multiple tasks of this type, some intuitively simpler and others more complex. The learning potential increases in the more complex hybrid tasks: those that refer to two or more source texts require the preparation of writing in which the author must decide the content and structure. These tasks simultaneously formulate the student a content problem -what I have to say (taking into account what I have read) - and a rhetorical problem -how I have to say it (fitting my voice among other voices) -, whose resolution can lead to transform their knowledge due to the processes of understanding, integration, and elaboration that they imply.

Several learners have considered the realization of synthesis from several texts as a hybrid task with a high level of complexity (Flower et al., 2017, Segev-Miller, 2014, Spivey, 1997). Elaborating a synthesis writing requires organizing, selecting, and connecting the information coming from different texts. To synthesise, the student needs to understand the ideas of the source texts and their organization, see how they relate to each other and select the ones they will include in their writing. Also, it must find a common thread, as well as generate a new structure that allows it to integrate, relate, and organize the contents in an original text. Carrying out this task involves reading the source and produced texts, reexamining them on numerous occasions and correcting and reworking the writing itself in a recurrent process, which requires the development of metacognitive strategies -evaluate, plan and revise - and inter-textual processing, which allow the transformation of information at three levels: conceptual, rhetorical and linguistic (Segev-Miller, 2014).

The elaboration of synthesis is a demanding task even for students of advanced educational levels and with a good level in reading and writing (Mateos & Solé, 2009), and perhaps for that reason, it is proposed and performed less frequently than others, though the teachers and students consider it useful to deepen learning. Recent research establishes the complex relationship between written synthesis and learning processes (Cerdán & Vidal-Abarca, 2008) as well as the need to consider the variables that affect it. Some of these variables have repeatedly demonstrated their explanatory function: previous knowledge about content (Boscolo & Mason, 2003, Bråten & Strømsø, 2006); the general reading competence (Risemberg, 1996); the adequate representation of the task to be carried out (Flower et al., 2017); the strategy used -more linear or recursive (Lenski & Johns, 1997); and the degree of

familiarity with the task (Spivey, 1997). The influence on the reading and writing of other variables, such as epistemological beliefs - beliefs about the nature of knowledge (Hofer & Pintrich, 2002) and their acquisition (Schommer, 2014) - has been considered more recently.

In this line, the well-known work of Schommer (2014) has led this author to postulate that subjects with more sophisticated epistemological beliefs (that is, those who tend to consider the complex, uncertain, procedural nature of the knowledge) obtain better results in tasks of text comprehension, in the supervision of comprehension and the elaboration of appropriate conclusions. Bråten and Strømsø (2004) and Strømsø, Bråten, and Samuelstuen (2008) investigate the impact of beliefs on multi-text comprehension tasks; their results also show that the most sophisticated ones favour the making of inferences that these tasks demand. Qian and Alvermann (1995) find that students with sophisticated beliefs draw conclusions that take into account the tentative nature of the information that serves as a reference, while those with more naive beliefs tend to elaborate, for the same information, conclusions of character absolute. Taken together, these investigations offer arguments to the hypothesis that the processes linked to understanding are sensitive to the more or less implicit beliefs with which reading is approached.

LITERATURE REVIEW

In a close perspective, although different and much less explored, some studies point to the influence of specific beliefs about reading (Schraw & Brunning, 2008, 2015) and writing (White & Bruning, 2005) in performing tasks that they demand them. In the case of reading, the implicit models or belief systems that

these studies reveal are related to the motivation, objectives, and strategies that the reader adopts and influence how it interacts with the text. The transmissive model conceives reading as a linear, unidirectional process; the information is presented by the author and received by the reader. Learning from the text is, from this model, a process of transmitting a clear and unambiguous knowledge, in which the reader proceeds to an objective analysis of the structure and content of the text. For the transactional model, understanding is a dynamic process in which the reader organizes information and develops new meanings thanks to his knowledge and experience; reading is, therefore, an active process of construction and transformation in which objective and subjective indicators are interrelated, and the text is related to oneself (Schraw & Bruning, 2015). Readers with high transactional beliefs are more directed to the construction of a mental model of the text and get a better global understanding of it, even though they may remember fewer ideas or facts than those who remember readers with more transmissive beliefs, who seem predisposed to direct understanding towards more isolated and superficial aspects (Schraw & Bruning, 2008).

The empirical identification of these beliefs is usually made through a questionnaire (Reader Belief Questionnaire, (RBQ, Schraw, and Brunning, 1996), or Beliefs About Language Learning Inventory (BALLI, Horwitz, 1993). When responding, the participants describe themselves as "from completely disagree" (1) to "totally agree" (5) in each of the items in RBQ. Its use has confirmed the existence of "transmissive" and "transactional" beliefs about reading, as well as the fact that both are independent, that is, that a person's transactional beliefs are not necessarily related to the transmissive. A reader can hold beliefs about the significance of the meaning the author of the text

intends to convey, and these are independent of what he or she may have about their role in the construction of meaning.

Schraw (2008) and Schraw and Bruning (2015) investigate the influence of some beliefs in the comprehension of narrative and expository texts; the transactional ones are related to the construction of meaning, with the use of in-depth processing strategies, with the global interpretation of the text and with the memory of information, while the transmissive beliefs have little effect on the reading results of narrative texts, and a negative impact on the expository texts. The reader with firm transactional beliefs understands the text by constructing a situation model, based on his prior knowledge, interpretation, and personal experience (Dai & Wang, 2007). Therefore, the transactional readers who are more involved and able to relate what they read with their experiences would be in a better position to carry out a deeper and more global reading, as well as to generate more personal and critical responses to the texts.

Dai and Wang (2007) confirm the positive effect of transactional beliefs in the reading of narrative and expository texts. These learners also report a consistent negative effect of the transmissive beliefs for the understanding of both types of text. For the learners, the greater involvement of readers with transactional beliefs can induce them to incorporate not only the previous experiences responsible for finding a personal meaning to a narrative but also the knowledge that allows them to attribute a deeper meaning to the information contained in them — an expository text. The transactional model, which for Dai and Wang (2007) reflects, in the specific field of reading, more sophisticated beliefs, appears as a decisive element when it comes to explaining the influence of beliefs on reading in comprehension.

The works by White and Bruning (2005) has also confirmed the existence of diverse beliefs about writing (transmissive and transactional) and their impact on the written product. The logic followed by the learners is identical to the one used to investigate beliefs about reading: they elaborate through successive studies a questionnaire of 15 items (Writing Beliefs Inventory) validated with a broad sample, which has allowed to identify two factors: the transmissive (= .78) and the transactional (= .76). From their research, they link transactional beliefs with greater personal involvement in writing, better levels of the textual organization, development of ideas, and general quality of writing. It can be expected, therefore, that students with firm transactional beliefs write better and manifest levels of learning deeper than those with low transactional beliefs.

These results, obtained mostly in research with university students, indicate that more consistently and to a greater extent than concerning transmissive beliefs, transactional beliefs seem to have an impact both on reading comprehension and written composition. However, its presumed influence on hybrid synthesis tasks that involve the reading of several texts and the elaboration of the writing of their own from the integration of the information they provide has not been investigated. Is there an effect of transactional beliefs on the quality of the syntheses made -measured by the degree to which they select and integrate the essential ideas of the source texts and organize them in their writing? Is there a relationship between the quality of the synthesis and the level of learning shown by the learners in the resolution of a specific test?

Objectives of the study

The study presented attempts to answer two questions, explicitly forming the following objectives:

* to investigate the relationship between students' transactional beliefs about reading and writing and the quality of the synthesis writing that they elaborate on.

* To investigate the relationship between the quality of the synthesized writings developed and the degree of learning that students achieve on the content of the synthesis after its completion.

Based on the positive influence of transactional beliefs in comprehension tasks and written composition revealed in the research reviewed, we hope that students who hold more transactional beliefs about writing and reading elaborate written syntheses of higher quality, with more significant level of organization and integration, than those who hold less transactional beliefs both in terms of writing and reading.

Likewise, we hope that the synthesis of higher quality by students will be linked to a greater degree of learning of the content of the texts and, especially, to comprehensive and deep learning. On the contrary, we expect that the production of those with a lower level of quality and elaboration is related to a lower level of learning and, above all, to more straightforward and more superficial learning.

RESEARCH METHODOLOGY

Variables

Following the above, in this work, students' transactional beliefs about reading and writing have been considered as independent variables, and the quality of the synthesized text produced and the level of learning that students reach at the end of the synthesis task as a dependent.

Participants

The participants in this study were 48 sophomores (27 girls and 21 boys) who were majoring in Economics. Their ages ranged between 22 and 25 years. They were selected at random from a global sample of 98 second-year students, who were studying at a university in Sri Lanka.

Instruments

Three texts were prepared, with an average length of about 300 words and in which complementary information was included on the general theme of the synthesis: the impact of foreign intervention on the economy of Sri Lanka. The first one (307 words) was adapted from the textbook used by the students and included a table. The second (302 words) was developed from various sources and included new data that adds information to that of the first. Both are expository and present data and facts, without explicit evaluations of them. On the contrary, the third text (299 words), elaborated again from diverse sources, explicitly presents the different impacts, especially of the foreign aid received

and its role in the outcome of the economy. Two senior lecturers in Economics accepted the appropriacy of the texts to the average level of the participants.

In order to identify students' beliefs about reading and writing, the Reader Belief Questionnaire (RBQ) questionnaires (Schraw and Bruning, 1996) and Writing Beliefs Inventory (WBI) (White and Bruning, 2005 revised version) were used. The reliability obtained for the transactional scale, the object of investigation of the present study, is adequate for both questionnaires (transactional scale of the RBQ, = .61, the transactional scale of the WBI, = .75).

Procedure

In order to obtain a measure of students' reading competence, their scores on the three continuous assessment conducted by their ESL lecturer were considered. The three selected texts used in the study are expository, and their understanding requires integrating the information presented. The selected questions have a reliability of .64. In turn, the level of prior knowledge of students on the topic of the synthesis was obtained through a questionnaire of six multiple-choice questions. The reliability obtained in this case is = .62.

In order to evaluate the knowledge that the participants showed once the task was finished, a test composed of 11 questions of different complexity was elaborated: on the one hand, some that involve retrieving information from the texts (6 multiple choices, = .61); interpret it (2 multiple choice and one open) and questions whose response involves reflection from the information provided in the texts (2 open). After agreeing on the correction criteria, the students' answers to the open questions were analyzed and scored by three independent judges; all were teachers of ESL at this university (the Kappa

indexes were .81 for the interpretation question, 72 and .70 for the first and second question of reflection, respectively).

The development of the synthezised text by the students took place in the context of a teaching sequence on the contents of Economics. In this framework, and at the request of the teacher, the students were required to prepare a written synthesis, based on the information obtained by reading the three texts on the topic of the impact of foreign intervention on the economy of Sri Lanka.

In a session before the completion of the synthesis task, students' beliefs about reading and writing were identified, using questionnaires about reading (RBQ) and writing (WBI). Also, in this first session, the general level of reading competence and initial knowledge of the students on the subject of the synthesis was evaluated.

In a second session, the students elaborated on the written synthesis. This session, like the previous one, was developed in the context of the usual classroom, was presented by the lecturer of Economics, and in the presence of the researcher. The instructions to carry out the task was indicated to the students orally and in writing. They referred, in the first place, to the general theme of the texts and were told that they should read it as many times as they wanted, to later elaborate a text of their own that would pick up and relate the essential information of the readings on this subject. They were also informed that they could take notes and make drafts before the preparation of the final synthesized text.

Each student was provided with a copy of the three reference texts for the preparation of the synthesis. No additional limitations were indicated regarding the extension of the same. All the participants were able to complete the task within a maximum period of 75 minutes. Finally, in a third session that took place the day after the written synthesis was prepared, the level of post-task knowledge was evaluated using the achievement test on the content of the texts.

RESULTS

The written products elaborated by the students were analyzed by three independent judges, attending to three dimensions that allow to identify conceptually relevant differences in the quality of the synthesis texts (Segev-Miller, 2014, Table 1): textual organization (degree of inter-rater agreement measured with the Kappa index was: .78), the selection of the information necessary to comply with the task (K = .70) and the integration of the information present in the reference texts (K = .82). Before the analysis, the essential information units for the adequate resolution of the task were determined. Likewise, through a similar procedure, the information nuclei of the texts that needed to be integrated in order to achieve a coherent synthesis were defined. For each of the dimensions, a response scale was established based on the greater or lesser quality of the processed product.

Table 1: Dimensions used to analyze the written products, indicating the assigned values

	Juxtaposed summaries of 2 or more source texts	1
Text organization	Alternate fragments of the two or more source texts (copy)	2
	Text with own structure	3
Selection of information necessary to comply with instructions	Selection of totally insufficient information (less than three information cores, or five or more erroneous cores)	1
	Selection of partial and problematic information. (4/5 information cores, or 3/4 wrong cores)	2
	Selection of sufficient information (6/9 correct information cores)	3
Integration of information from reference texts	No integration of information	1
	Partial integration of the information present in the texts (1-2 integrations)	2
	Sufficient integration of the information present in the texts (3-4 integrations)	3

The responses obtained in the various administered questionnaires (beliefs about reading and writing, reading comprehension, and level of prior knowledge) were coded and analyzed using the statistical package SPSS version 20.

As we expected, a positive correlation also emerges between the transactional factor in reading and the integration of the information in the texts (r = .268, p <.05), although, in this case, the results of the regression analysis do not allow us to state any prediction. We have not found significant relationships, positive or negative, between the selection of information and the transactional beliefs about reading and writing.

Quality of the elaborated synthesis text and learning outcomes (Objective 2)

One of the dimensions used to evaluate the quality of the synthesis, the integration of the information in the source texts, correlates positively with the results obtained in the three variables analyzed in the post-task learning test (see table 3): retrieve information present in the texts (r = .343, p <.01), interpret the information (r = .358, p <.01) and reflect from the information present in the texts (r = .427, p <. 01). Likewise, the remaining two dimensions, the organization of the synthesis text and the selection of information, correlate positively with the variable reflecting on the information in the learning test (r = .235, p <.05 and r = .279, p < .05, respectively).

First, descriptive analyses of the variables considered were carried out. In order to respond to the objectives and hypotheses proposed, a correlational analysis was carried out, which was followed by regression analysis.

The descriptive analyses showed that the participants in this study had a relatively high level of reading competence (M = 9.19, SD = 2.36, maximum score 14). In the previous knowledge test, the students obtained an average of 3.17 correct answers of a maximum of 6 points (SD = 1.76), and an average of

1.31 incorrect answers (SD = 1.07). Based on the results obtained, it is observed that the students in our sample held somewhat more transactional beliefs in reading (M = 3.62, SD = 0.73) than in writing (M = 2.54, SD = 0.33), although the difference between the two is not significant. About the dependent variables considered, the analysis made highlights the difficulty that students find in general terms to prepare the syntheses, according to the number of texts produced that have their structure, include the necessary information, and adequately integrate information from the three texts (Table 2).

Table 2: Percentage of response in the different variables used for the analysis of the synthesis

Quality of the synthesis		%
Text organization	Juxtaposed summaries	64.9
	Alternate fragments (copy)	24.6
	Text with own structure	10.5
Selection of information necessary to comply with instructions	Selection of totally insufficient information	29.8
	Selection of partial and problematic information.	59.6
	Selection of sufficient	10.5
Integration of information from reference texts	No integration of information	56.1
	Partial integration of the information present in the texts	28.1

Sufficient integration of the information present in the texts	15.8

The values obtained for the second dependent variable, the level of learning achieved, places the students in the sample at a medium level in the three dimensions considered: retrieve the information (6 points), M = 3.42; SD = 1.59; interpret it (4 points), M = 2.37; SD = 1.13; and reflect on the information (4 points), M = 2.07; SD = 1.13.

Writing and reading beliefs and synthesis quality (Objective 1)

Considering the different dimensions related to the quality of the produced text, our results show a positive correlation (r = .337, p <.01) between the transactional factor in writing and the degree of organization of the synthesized text produced (table 3). In turn, this last grade correlates negatively with reading competence (r = -.248, p <.05).

Table 3: Pearson correlation matrix for the variables considered in the study

Variable	2	3	4	5	6	7	8	9	10	
Reading competence	.179	-.124	.140	.397**	-.248*	.209	.094	.043	.092	.
Correct prior knowledge		-.252*	.100	.138	.077	.239*	.207	.490**	.289*	.4
Incorrect prior knowledge			-.034	-.263*	.213	-.313**	-.120	-.232*	-.051	-

Writing: transactional beliefs	.344**	.337**	.056	.134	.075	-.022	.
Reading: transactional beliefs		.128	.156	.268*	.180	.115	.
Textual organization			.128	.156	.268*	.180	.
Selection of information				.216	.216	-.034	.2
Information integration					.343**	.358**	.4
Retrieve information						.230*	.4
Interpret information							.
Reflect from the information							

$p<.05$*; $p<.01$** Pearson correlations unilateral contrast.

To test the hypothesis corresponding to objective 1, a hierarchical regression analysis was performed (table 4), which showed that transactional beliefs about writing contribute to explaining 10.5% of the variance in the scores obtained by students in the organization of the synthesis text, $F (1, 44) = 5.495$, p = .023 while reading competence is excluded when it is introduced in the model.

Table 4: Result of the hierarchical regression analysis

Criteria variable: Organization of the synthesized text

Steps and variables	B	R^2	F	R^2
Step 1	.324*	.105	5.495*	.086
Writing: Transactional beliefs				

Note: The Reading Competency variable is excluded from the model.

$p < .05$ *. The values correspond to standardized regression coefficients.

As we expected, a positive correlation also emerges between the transactional factor in reading and the integration of the information in the texts ($r = .268$, $p < .05$), although, in this case, the results of the regression analysis do not allow us to state any prediction. We have not found significant relationships, positive or negative, between the selection of information and the transactional beliefs about reading and writing.

Quality of the elaborated synthesis text and learning outcomes (Objective 2)

One of the dimensions used to evaluate the quality of the synthesis, the integration of the information in the source texts, correlates positively with the results obtained in the three variables analyzed in the post-task learning test (see table 3): retrieve information present in the texts ($r = .343$, $p < .01$), interpret the information ($r = .358$, $p < .01$) and reflect from the information present in the texts ($r = .427$, $p < .01$). Likewise, the remaining two dimensions,

the organization of the synthesis text and the selection of information, correlate positively with the variable reflecting on the information in the learning test (r = .235, p <.05 and r = .279, p < .05, respectively).

The correct prior knowledge correlates, also, with the different measures of the learning test: retrieve the information (r = .490, p <.01), interpret the information (r = .289, p <.05) and reflect on from the information (r = .427, p <.01). Based on the hypothesis related to objective 2, hierarchical regression analysis was carried out by introducing, first, the variables related to the quality of the synthesized product (Tables 5, 6, and 7).

When the criterion variable is to retrieve information, the integration variable of the information of the source texts in the synthesis predicts 11.8% of the variance, F (1, 45) = 7.221, p = .01. When introducing the correct prior knowledge in the model, this variable adds 19% in the variance percentage explained, F (1, 44) = 12.232, p = .000.

In the case of interpreting information from the learning test, the variable integration of information in the synthesis is 12.8% of the variance, F (1, 44) = 7.921, p = .007. The correct prior knowledge variable is excluded from the model.

Finally, the results obtained indicate that when the criterion variable is to reflect from the information contained in the texts, the integration of information in the synthesis accounts for 18.2% of the variance, F (1, 45) = 12,046, p <.01, being excluded from the model the variables organization and selection of information in the synthesis text. When the correct prior knowledge is added, this variable, together with the integration of the

information help is 30.7% of the variance (F (1, 44) = 11.738, p = .000), thus increasing by 12.5% the prediction capacity.

Table 5: Result of the hierarchical regression analysis

Criteria variable: Retrieve information-learning test

Steps	Variables	B	R^2	F	R^2	ΔR^2
1	Synthesis information integration	. 343*	. 118	7.221*	.102	.118
2	Synthesis information integration	.242*	.316	12.232**	.290	.198
3	Correct prior knowledge	.456**				

p <.01 **, p <.05 *. The values correspond to standardized regression coefficients.

Table 6: Result of the hierarchical regression analysis

Criteria variable: Interpreting information -learning test

Variable	B	R^2	F	R^2

Synthesis information integration	.358**	.128	7.921**	.112

Note: The correct prior knowledge variable is excluded from the model.

p <.01 **. The values correspond to standardized regression coefficients.

Table 7: Result of the hierarchical regression analysis

Variable criterion: Reflect from the information -a test of learning

Steps and Variables	B	R^2	F	R^2	ΔR^2.
Step 1 Synthesis information integration	.427**	.182	12.046**	.167	.182
Step 2 Synthesis information integration	.346**	.307	11.738**	.281	.125
Correct prior knowledge	*.362**				

Note: The Textual Organization and Information Selection in the synthesis variables are excluded from the model.

p <.01 **. The values correspond to standardized regression coefficients.

Written and reading beliefs and other variables considered

In addition to the above relationships, other interesting and, to some extent, expected relationships appear among the beliefs of writing and reading of students and other variables controlled in the design. Our data (see Table 3) indicate a relationship between the transactional beliefs in reading and the general level of reading competence of the students (r = .397, p <.01). These beliefs also correlate negatively with the previous incorrect knowledge (r = -.263, p <.05). On the other hand, the selection of the information necessary for the synthesis correlates positively with the level of correct prior knowledge (r = .239, p <.05), and negatively with the incorrect (r = -.313, p <.01).

Finally, an expectable result based on what is found in multiple investigations appears when comparing the results obtained by the students in the transactional scales according to the gender variable. Girls scored significantly higher in the transactional writing factor than boys ($_{student}$ (48) = 2,273, p = .027, M (female) = 34.25 vs. M (male) = 31.75).

DISCUSSIONS AND CONCLUSIONS

Our research pursued a double objective: to investigate the possible impact of transactional beliefs on reading and writing in the elaboration of written syntheses from various sources, and to analyze the relationship between the quality of these syntheses and the learning achieved. Concerning both, our study brings some new findings. The main one, without a doubt, is the fact of approaching the impact of specific beliefs (versus general epistemological beliefs) in an explicitly hybrid task (versus comprehension task, or composition task) and secondary students; As far as we know, this is a problem not yet

explored in this population. Secondly, we have opted for an analysis in terms of components, both to establish the quality of the synthesis writing and to determine the learning achieved. This strategy allows unraveling something more suggestive and complex relations between reading, writing, and learning.

Taking our first objective as a reference, the results point, to a large extent, towards the hypotheses formulated. The synthesis texts produced by students with more transactional beliefs about reading and, above all, writing show a higher degree of textual organization (compared to the juxtaposition or list of ideas) and a higher level of content integration of the various texts. These results point in the same direction as those found by White and Bruning (2005) and reinforce the idea of considering the beliefs about reading and writing of students as a variable that affects the quality of the products they produce.

Additional support for these results is derived from another study carried out within the framework of the general project in which we work, carried out in this case with university students of psychology (Cuevas *et al.*, 2008). In this research, the transactional beliefs in reading correlated positively and significantly with the transactional beliefs in writing, and also, they also correlated positively when performing a written argumentation task from different sources.

However, transactional beliefs do not seem to influence the third dimension used to evaluate the quality of produced syntheses, the degree to which students select the necessary (relevant) information to perform the demanded task. This result is compatible with that found by Schraw (2000) when he examines the relationship between reading beliefs and the success obtained in a multiple-choice test on the main ideas of a narrative text: neither transactional nor transmissive beliefs could be related to the completion of the

task. Schraw (2000) interprets this result as a consequence that all "good" readers, regardless of whether their beliefs are more or less transactional, need to identify relevant information. According to Schraw and other researchers (Alexander & Jetton, 2000; Bråten & Strømsø, 2004), the selection of information could be related to a greater extent with other variables, such as level of reading competence of the students or their prior knowledge on the subject. Our results seem to point in the same direction since this criterion of quality of the synthesis text correlates significantly and positively with prior knowledge correctly and negatively with the incorrect prior.

Thus, it seems that the impact of the transactional beliefs of reading and writing is more pronounced in aspects of the task that can be considered interpretive -the ones that demand the student's elaboration and personal construction. In a sense similar to the results obtained by White and Bruning (2005), our more transactional students also seem to go beyond the given information and manage to elaborate their own more integrated and organized texts.

Regarding the second objective, the relationship between the quality of the writing of synthesis and learning, the data obtained show a trend in the sense of our expectations. The relationship established between the criterion of textual integration and the three dimensions considered to evaluate the learning made (retrieve information, interpret it and reflex on it) seems to point to the fact that the processes necessary to integrate the information present in the texts in a unique and original product offers opportunities for learning. These results are compatible with those of other investigations that point to the epistemic nature of the elaboration of synthesis (Segev-Miller, 2014; Spivey, 1997) and, simultaneously, help to specify them. In this sense,

our data seem to indicate that the integration component of information may have a higher specific weight, or more important, than other components (such as the selection or organization of information, equally necessary in the preparation of synthesis) to explain the epistemic potential of this hybrid task. In a similar sense, Cerdán and Vidal-Abarca (2008) find a relationship between the integration of information from multiple documents and the achievement of a deep level of learning; the results obtained in our study, from a different perspective and using different tasks, point in the same direction and encourage perseveration in the analysis of the effect of the integration of information on the learning achieved (Solé *et al.*, 2012).

The fact that in our study the prior knowledge appears as a variable that together with the integration predicts the results obtained in some dimensions of the learning test (recovering information from the texts and reflecting on it) but not in other (interpretation of information) deserves a more detailed investigation. On the one hand, the fact itself constitutes additional proof of the already demonstrated strength of prior knowledge as an explanatory variable of understanding (Strømsø & Bråten, 2002) and learning. On the other hand, it could be that its impact was not homogeneous, but that it would vary depending on the dimension of the learning that is analyzed, as would seem to indicate the tendency shown by our results.

In any case, the strategy of identifying various components or dimensions-both to characterize the quality of the written material and the learning achieved-shows that the relationship between writing and learning is less direct and more complex to understand than it sometimes seems to be. This approach has advantages over more global approaches, while caters to specific components that can be investigated.

In summary, our study provides evidence of the relationship between hybrid tasks and learning and beliefs about reading and writing and the quality of writing. It is necessary to proceed to a hybrid analysis of the hybrid tasks and pay attention also to the reading processes that they imply and to the variables that affect them. Although research has shown that the ability to perform synthesis from several texts increases with the level of reading comprehension (Zhao, 2015), this variable receives less attention than it deserves.

In another sense, our study provides new evidence regarding the intrinsic difficulty of carrying out synthesis even though the participants of the sample are students of the second year of their undergraduate studies, accustomed to using reading and writing in ESL for instrumental purposes. In this regard, it should be noted that such competence does not enable, by itself, to perform tasks that require, in addition to understanding the reference texts, integrate, develop, organize and provide coherence and cohesion information from different sources in a proper text, which in turn demands planning, generating and reviewing. Learning these strategies is learning to use the epistemic potential of reading and writing; such learning is not easy, nor does it derive naturally from competence in composition or comprehension, so teaching them should be a goal of secondary and higher education.

The limitation that our study has is the fact of using questionnaires to access the beliefs of the students. Although this method is widely used and defended by numerous researchers, and although the questionnaires used in our study are commonly used and are reliable in our sample, it is risky to assume that they provide us with a detailed map of beliefs. Therefore, we interpret its result as a trend. However, the existence of these guidelines is vital for research and

teaching. It indicates that external analyses of writing processes and products are not enough, nor with the modeling of supposedly effective strategies or techniques for learning. Understanding the hybrid tasks, to be right with their teaching requires taking into account the point of view of the person who performs them and learns, incorporating his position before what is demanded. The analysis of beliefs about reading and writing refers both to the cognitive and logical aspects as well as to the feelings and affective reactions that these processes generate. In this sense, they constitute an element that must be incorporated into our efforts to understand these processes and their impact on learning.

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