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A RHETORICAL-BASED VIEW TO PROMOTE EFL LEARNERS' CRITICAL THINKING AND PROBLEM-SOLVING IN AUTHENTIC LANGUAGE

Abstract

Thinking and problem-solving represent a crucial realm for building information. They require various grounds for knowledge structures. These knowledge structures can be expressed in a real or authentic scope of communication which needs rhetorical reasoning. The latter can be expressed in well-organised universal macrostructures. In the light of this requirement, the article reports on an experimental research which was conducted to investigate the effect of the authentic rhetorical structure of various genres on students' thinking and problem-solving skill. In this respect, 120 third-year randomly selected students of English divided into Control and Experimental Groups were involved in the study. A pre-test and a post-test were administered to both groups to measure their performance before and after the treatment. The comparison of the results and scores of both tests allowed showing some amelioration in EFL students' critical thinking and problem-solving skill via the rhetorical structure of various authentic genres and registers.

Keywords: authentic genres, authentic rhetorical structure, critical thinking, problem-solving.

1. Introduction

Language comprehension and text processing represent the basic ground for any foreign language learner. Indeed, the thinking skill and problem-solving strategies are always present when it comes to developing capacities of understanding and processing information effectively. At the cognitive level, EFL learners require specific techniques to find the most accessible ways which help them adapt in new situations and unfamiliar contexts of processing the information. For this reason, taking a critical stance at the various aspects of language guides learners into better interpretation of the message inferred from any material they encounter. In this realm, when it comes to an authentic application of language knowledge, many requirements should be raised because the problem-solving skill interferes to cope with the difficulty of that real situation. Hence, authentic materials represent a source of genuine knowledge structures as crucial aspects of language. They require a considerable attention into the various rhetorical features which characterise in turn the realm and scope of authentic communication vis-à-vis the foreign language context. These basic rhetorical features can be expressed through: language patterns and macrostructure, language functionality, and metadiscourse markers. The article reports on an experimental study which was conducted to describe the effect of this rhetorical manipulation of language on students' critical thinking and problem-solving skill.

2. Literature Review

2.1 Critical Thinking and Problem-solving Skill

Thinking is a crucial capacity which is part of the human mental activity. The processing of information included in the latter associates students' background knowledge

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and the new learned information. In this respect, there are various connections at the level of the human mind to cope with new contexts of understanding. This activity similarly involves a problem-solving integration whenever there are problems in comprehension. Cognitively speaking, the thinking skill is processed through a deep reasoning along the various tasks and activities in any learning context and more particularly in reading (cf. Grabinger et al., 1995; Williams, 1998; Perry, 2014). Here, a critical stance may interfere to overcome any problematic situations encountered by learners as part of their “self-regulation strategies” (cf. Birtwistle, 1991; Waters & Waters, 2002).

In the same line of thought, thinking critically when encountering any reading material is entailed initially by the instructor/teacher to process the information effectively via accurate interpretations. The latter encourage crucial skills such as: “self-planning”, “self-monitoring”, “self-regularity”, “self-questioning”, and “self-reflecting”. When taking into consideration these skills, students will promote “self-awareness” and self-autonomy. These strategies make learners more efficient and autonomous in planning and organising their own learning environment, besides asking questions and finding explanations for any source of failure in understanding. This is part of developing a deep reflection and reasoning when dealing with reading materials (Ahmadi et al., 2013). Hence, in any problematic context, mainly in reading as an activity which requires a problem-solving process, students seek to cope with difficult situations using explanation of terms and understanding language structures in order to communicate successfully in the foreign culture.

The issue of the thinking skill in reading and the way it is related to investigate learners’ ability to read effectively is of great importance in pedagogy and EFL learning. Clay (1987) introduced an “analogy” between reading and driving in which “the brain’s capacity to handle reading is much like the brain’s capacity to handle driving” (as cited in Birtwistle, 1991, p.152). In other words, treating any situation and problem is monitored in the thinking zone of learners in which the tutor plays an important role to guide learners through making associations between previously treated situations and new problematic contexts. Here, for instance, he tries to help students activate their background knowledge in order to explain unfamiliar words or comprehend the content of a text. Thus, when learners are taught how to deal with problematic contexts, they learn at the same time how to think critically via the questioning skill and monitoring the way which helps them understand during processing (Van Essen, 2008).

Earlier on, Williams (1998) sees that there must be a focus on the issue of considering critical thinking in teaching a foreign language, because it gives a space for learners to deal with authentic situations. Problem-solving as an effective strategy is required in this process to find the possible solutions when encountering problematic situations. For instance, the teacher presents contexts or statements which require thinking critically and he tries to give them at the same time hints in order to help them in the interpretation of the hidden meaning inferred. This is part of problem-based learning (PBL) in which the teacher prepares challenging situations for students and takes the role of tutoring to guide them in the classroom during practice (Grabinger et al., 1995). They try to think through these situations and suggest solutions. This view is better applied with authentic contexts especially via their rhetorical realisations.

Moreover, taking a critical stance when dealing with any reading material is associated with the process of understanding and evaluating what is needed from what is read. The main focus is creating meaning and seeking the basic interpretation and translation of the ideas inferred from the material. Experienced readers who read frequently try to deal with any ambiguity at the lexical or at the conceptual (content) level via strategies of guessing and comparing the content of the present or the new context of the reading material with what was already available in their background knowledge, or schemata (Widdowson, 1983). Similarly, in the case of explaining any confusion of unfamiliar words encountered in the new context, learners

will be aware of these “inconsistencies” and try to guess mainly the meaning of words based on the context of use (contextual clues) in order to solve this problem. Hence, learners’ background knowledge is always present when trying to cope with a new context of learning (op. cit, 1998).

2.2 Rhetorical Features of Language Authenticity

Learners need an authentic context to language teaching, because the pedagogical requirements are in recurrent modifications and change. This is depending on the need to consider new approaches and methods in dealing with the variety of the genuine contexts. Teachers act as evaluators of learners’ situation trying to develop approaches and methods for their learning environment, because “learners are no longer passive recipients of the teaching process” (McCarthy, 2000, p. 17), where they should develop new capacities of ‘autonomous’ learning. The authenticity of the context of learning is required in developing these capacities in terms of cognitive awareness for language elements. In this respect, processing language data is realized in an interrelated way that stimulates authentic language learning and the purposeful manipulation of language during processing the information. In other words, the interpretation of a text which is reflected in an authentic context is based on considering the way the units of meaning are related to one another. This is again built upon a rhetorical analysis and interpretation of the message communicated in the authentic material.

The rhetorical point of view of language is specified through a description and analysis of structure with its conventional rules. Van Dijk (1980) encourages a linguistic point of view of discourse which is based on semantic combinations among the macrostructure of discourse. Respectively, this overall organisation is represented in the functionality and typology of discourse which in turn helps in the identification of the whole message as representation of sequenced sentences. This representation is an amalgamation of texts which refers to the arrangement of the units of meaning.

Furthermore, Martin (2002) focuses on two main language typologies: Expository and narrative. He describes them based on the conceptualisation of Grabe (2002) who in turn calls the latter ‘the family of narrative discourse’ which is characterised by being ‘typically episodic’ in nature (i. e., based on a given sequence of events). Narratives reflect the chronology of events in a formation of causality with the need for further explanation with some texts. For example, ‘personal recounts’ as part of history genre tell about the personal experience of individuals without the need to explain other details.

Additionally, there are specific linguistic features characterizing the context of genres. History genres, for instance, whether personal recount, autobiographical recount, biographical recount, historical account, factorial explanation, or consequential explanation, have certain rhetorical features which help in understanding and interpreting the information. Such rhetorical features are shaped through metadiscourse markers, language patterns, macrostructure, and language functionality (Martin, 2002). In this respect, specifying the type of situation or genre is determined by the whole functionality of the piece of discourse or genre. Identifying or recognising the typology of texts (i. e, text types) is considered as another facilitator to comprehend the message communicated by the writer. The typology of texts follow their functionality which can be descriptive, expository, persuasive, argumentative, and informative depending on the context of communication whether to inform, persuade, expose, argue or simply to describe something. This is at the higher level of communication. Hence, there are levels of describing genres in terms of “rhetorical/generic values”, “genre colonies”, and “individual genres”. The first deals with real and social criteria for description. The second reflects the wide contextual frames of analysis. The third “individual genres” are the prototypical productions of various text types resulting in different genres such as: “book blurbs”, “book reviews”, “advertisements”, “sales letters”, and “job applications” (Bhatia, 2002). Similarly, metadiscourse markers help in understanding the intertextuality of the piece of information or discourse. They are linguistic links that guide

the reader through the progression of the author's ideas in the piece of discourse. They make the connection between the various arguments and parts of information achieving the coherence of the whole textual unit. Metadiscourse markers as textual signals keep the relationship between the ideas of the author via cohesive links (moreover, furthermore, first, finally, as a result). They also have an interpersonal identification through the impact of the piece of discourse on the reader via markers identifying the author's point of view like in: believe, think, admittedly, probably, undoubtedly, of course, etc. (Hyland, 2003).

Likewise, metadiscourse signals have two main types: Interactive and interactional. The first one represents signals of the connection between the ideas of the author or the involvement of the arguments within the piece of discourse. It involves: "transitions", namely, furthermore, additionally, moreover; "frame markers" such as first, second, or finally; "code glosses" as, for example or for instance. The writer of the academic discourse or genre respectively uses these markers to signal the progression of his/her ideas, the logical connection of those ideas, besides any necessary explanations and exemplifications. Further interactive markers are: "endophoric markers" which point to any tables, diagrams, and sections in the academic or disciplinary genre through signals like: 'as mentioned in the above table', 'in section 4', 'see fig. 1'; besides "evidentials" which refer to previous literature said in the academic field (x argues that, y (2002), according to z) (Hyland and TSE, 2004).

Furthermore, the interactional function of metadiscourse markers, as classified by Hyland and TSE (2004), is expressed through: "hedges", "boosters", "attitude markers", "self-mentions", and "engagement markers". First, "hedges" are signals that represent the author's doubts around the topic of the piece of discourse (might, maybe, might be, perhaps, etc.). Second, "boosters" emphasise upon the ideas (clearly, in fact, undoubtedly, definitely, etc.). Third, "Attitude markers" express the author's opinions and attitudes (agree, fortunately, unfortunately, etc.). Fourth, "self-mentions" refer to the presence of the author (I, me, our, etc.). Finally, "engagement markers" are used when the writer wants to note any idea or aspect in the piece of discourse to signal it to the reader (you can see that, note that, consider, etc.). Thus, when relating students' critical thinking or the sense of analysis with the rhetorical consideration of language, their capacity of comprehension will be managed effectively as will follow presently.

3. Methodology

3.1 Participants and Context

This study represents an experimental research which was conducted to see the importance of a rhetorically-based view of authentic language to promote learners' critical thinking about the message communicated in various genres or registers. The participants involved in the study are randomly chosen 120 third-year students of English from the Department of English at the University Mentouri Brothers, Constantine 1, Algeria. They are divided into a Control Group and an Experimental Group of sixty students each. Students of both groups were given a pre-test to check their awareness and manipulation of the information presented in the material. The latter is an authentic newspaper article in which students were asked about the topic of discussion, the purpose of the author, the overall function and the macrostructure of various genres and registers. After the treatment, a post-test which serves the same purpose of analysing the information from a critical manner was administered to students.

3.2 The Treatment

The experimental study took 5 months of instruction focusing on an extensive practice to improve the critical ability of students. This is represented in their reflection on the rhetorical nature of various authentic genres. Students of the Experimental Group dealt with two types of authenticity: Real-world authenticity and disciplinary authenticity. The former is shown in seven newspaper articles and the latter is presented through three part-genres: An abstract of

medical studies, an introduction section in a sociology article, and a section of an article in economics.

3.3 Treatment Materials Analysis and Description

The treatment materials were critically analysed in terms of content and form. The first one is about a context where students manipulate the authentic information in a critical manner and the second emphasises the rhetorical realisation of that information. Hence, when dealing with real-world authenticity in newspapers language, students tended to analyse critically the contextual knowledge or the information presented. For instance, in reporting on a particular problem, students considered its particular Problem/Solution network of communication via a description of a situation (time and place)/problem (causes)/responses/evaluation macrostructure. Additionally, for articles of an argumentative nature like editorials, students took a critical stance of the information through: the topic of discussion, location, participants, event, problem, and solution.

As far as the disciplinary authenticity is concerned, students dealt with the authentic content of academic articles or genres through previewing the material and making assumptions about the topic of discussion. This is practiced via an abstract of an academic article in medical studies which is considered as an independent discourse or part-genre. It can be understood on its own as it might help the reader preview about the whole study of that material before actually reading it. In addition, the authentic disciplinary knowledge is also analysed through another part-genre which is an introduction section in a sociology article. Here, students dealt with the way the information is initiated in an academic realm through locating the main purpose of the article. Within the same context of the treatment, students of the Experimental Group practised also the way they make a content overview of another part-genre which is an article in economics. The analysis of form of these academic genres includes consideration of metadiscourse markers. For instance, when the author says “from this perspective” or “it was unfortunate”, this signals the author’s attitude. Again, when the writer says “in fact”, “it is true”, “certainly”, and “it is clear that”, these are markers of a point of emphasis (a booster). Thus, students made an analysis and description of the metadiscourse markers used in the academic genres, besides identifying the functionality of the whole unit of meaning. This helped them cope with any problems in comprehension as problem-solving tools and think critically about the various conceptions and arguments mentioned.

4. Results and Discussion

The results of the pre-test and the post-test of the Control Group and the Experimental Group (Henceforth PreCTL, PostCTL, PreEXP, and PostEXP) are compared according to the required statistical measures. They represent the mean of scores, frequency distribution of students’ scores, and the t-test level. All of these statistical inferences help the evaluation of any change(s) in the students’ performance. The following table summarises these measures:

Table 1.

Mean, Median, Mode, Standard Deviation, and Variance of the Control and Experimental Groups in the Pre-test and the Post-test

	PreCTL	PostCTL	PreEXP	PostEXP
Mean	6,95	6,67	6,70	12,25
Median	7,00	7,00	7,00	13,00
Mode	6	9	8	15
Std. Deviation	2,43	2,58	2,33	3,15
Variance	5,91	6,70	5,46	9,91
Range	8	9	9	12
Minimum	2	2	2	6
Maximum	10	11	11	18

The above table shows the mean of learners' scores as an important measure to see the difference of their performance in the pre-test (before the treatment) and the post-test (after the treatment). The Control Group's mean in the pre-test is 6.95 and in the post-test is 6.67. So, there is no significant improvement in the performance of the Control Group when comparing its means in the pre-test and the post-test. Concerning the Experimental Group, the mean in the pre-test is 6.70 and in the post-test is 12.25. As a preliminary observation at learners means, a significant improvement in the performance of students of the Experimental Group is noticed when comparing their pre-test and post-test. However, the mean in isolation is not enough to make sure definitely of the validity of the results. There are further statistical requirements to be considered in the phase of evaluation vis-à-vis the median, mode, range of scores, variance, standard deviation, and most importantly the t-test level.

Table 1 shows a difference between the performance of the Control Group and the Experimental Group in the pre-test and the post-test. As it is shown, the median (the value which mediates between the scores distribution) is 7 in the PreCTL, PostCTL, and PreEXP; while, in the PostEXP it is 13. Additionally, the mode (the frequent score in a set of scores) is 6 in the PreCTL, 9 in the PostCTL, 8 in the PreEXP, and 15 in the PostEXP. So, the median and the mode of the Experimental Group scores when compared to the Control Group show a positive performance.

Again, what is noticed from the previous table is the range of scores of PreCTL are between 2 as the lowest score and 10 as the highest score and in PostCTL are between 2 as the lowest and 11 as the highest. However, the Experimental Group's scores are between 2 as the lowest score and 11 as the highest in the pre-test and between 6 as the lowest score and 18 as the highest score in the post-test. Hence, the range of scores distribution of the Experimental Group is better than of the Control Group's. Moreover, the table shows that the variance (PreCTL/2,43, PostCTL/2,58, PreEXP/2,33, and PostEXP/3,15) and the standard deviation (PreCTL/5,91, PostCTL/6,70, PreEXP/5,46, PostEXP/9,91) record a rising point in the PostEXP. This proves that there is amelioration in the performance of the students of the Experimental Group.

In addition to all of the previously mentioned statistical inferences, there is one remaining crucial element in the statistical assessment called the t-test. The t-test is of great importance to precise the exact improvement of students. The following table shows the t-Test level recorded for both groups.

Table 2.

The t-test Value

		Paired Samples Test							
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PreCTL - PostCTL	.283	3,488	,450	-.618	1,185	.829	59	.532
Pair 2	PreEXP - PostEXP	-5,550	1,788	,231	-6,012	-5,088	-24,029	59	.000

The present research deals with a paired sample t-test comparison between the performance of the Control and the Experimental Groups in the pre-test and the post-test. The recorded means of both groups in the two tests have shown an improvement. In this respect,

there should be a consideration to see whether the difference in the performance of the Control and the Experimental Groups before and after the treatment did not happen by chance. Table 2 reporting the t-test value shows the measures of comparison: The “Mean”, the “Std. Deviation”, “Std. Error Mean”, lower and upper confidence intervals, “t” (t-score), df (degree of freedom), and the p-value as sig. (2-tailed) column which is the most important measure when considering the significance of the difference in the performance of both groups. The last column shows two main comparisons between the PreCTL group and PostCTL group measures and most importantly comparison between the PreEXP group and PostEXP group. This can be seen when considering the p-value as lesser than the standard alpha. 05, besides the t-test value between 0 and 1, the measures of comparison are significant. This means that the difference of performance is not caused by mere chance. Thus, this is representing an improvement in students’ performance and confirming the positive effect of the treatment.

5. Conclusion and Implications

The present experimental investigation reflects the students’ need to consider the critical point of view of authentic language. Students of the Experimental Group were exposed to a variety of generic and rhetorical structures in which they practised and analysed the information effectively. In this respect, taking a critical stance of the arguments expressed in each material was mastered to some extent by students via the extensive practice applied with them. The statistical evaluation of learners’ performance when comparing the results of the Control Group and the Experimental Group in the pre-test and the post-test proves better their progression, because they become more focused on the main elements of the ideas and arguments presented in the piece of genre.

Hence, students can cope with the critical side of language through analysing the information as updated form of knowledge like in the real-world authenticity and highly structured information as in the disciplinary authenticity. The rhetorical consideration of language is a reflection of presenting the information to readers as it was noticed in the real-world authenticity of newspapers language. This is reflected in the authenticity of style and content which helps students in turn during the process of comprehension and information processing. So the information, whether it is a news report or an argumentative article on any issue in politics, economy, and society, helps raise interesting discussions between students. Through this, they will be able to analyse the situation, consider the problems presented, and evaluate the opinions suggested. Consequently, when varying the authentic scope into the disciplinary authentic communication in terms of the different genres dealt with by students in the treatment, the rhetorical consideration is extended and helps them deal with the authentic material in a more logical way.

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