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Integrating Critical Thinking Skills in Reading Courses at the University Level The Case of Faculty of Letters and Humanities, Beni-Mellal, Morocco

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Abstract
Critical thinking has been used and debated since the time of great philosophers such as Plato and Socrates. Its real origin is deeply rooted in the logic and questioning process used by these early philosophers. In recent times many scholars and researchers have conducted studies concerning the benefits and effects of critical thinking skills in different disciplines to the extent that now we are speaking about critical thinking movement whose benefits are much discussed in educational curricula. In language learning, activities that enrich learners' conceptual knowledge ranging from listening, reading, speaking, and writing tasks can foster critical thinking skills. Within this framework, a study was carried out at Sultan Moulay Slimane University, Faculty of Letters and Humanities in Beni-Mellal. The aim of this study is twofold. First, to see the possibility of integrating critical thinking skills in reading courses; second, to investigate the attitudes of the students towards such integration of critical thinking. Two research tools were used: an experiment followed by a questionnaire. The findings revealed that after the experiment, which consisted of exposing the students to tasks involving critical thinking when dealing with the reading skill, the students developed an awareness of critical thinking skills and dispositions. They developed the ability of interpretation, analysis, inquisitiveness, truth-seeking, problem-solving, evaluating information and decision making. Besides, their attitudes towards the integration of critical thinking while dealing with reading were reported to be positive.
Keywords: attitude, awareness, critical thinking, reading

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1. Introduction

Over the past few years, there has been a growing concern in the integration of what are called 21st century skills in education ranging from the development of various types of competencies, soft skills and critical thinking skills. Orientations towards these various issues have become a necessity of modern education. The current research based paper deals with the issue of critical thinking as a basic cognitive skill in language education. It reports the findings of a study that was carried out at Sultan Moulay Slimane University, Faculty of Letters and Humanities in Beni-Mellal, Morocco. This study consists of a systematic integration of critical thinking in reading courses through the adoption of the interactive approach to this skill. The attitudes of the students towards such integration of critical thinking were also investigated.

The organization of this paper will be as follows. The state of art related to critical thinking skills will be presented first showing its importance in education. After this, we present the study we conducted starting from the statement of the research problem, specifying the research questions, the research tools, the setting and the participants. Later on, a section will be devoted to the presentation and discussion of the findings showing the attitudes of the students towards integrating critical thinking in the reading skill. Finally, the paper will conclude with some pedagogical implications based on the benefits of integrating critical thinking in reading through the interactive approach.

2. What is critical thinking?

Critical thinking is not a new concept. It dates back to the remote past, especially to the Greek philosophy where it was deeply rooted in Socratic questioning which constitutes the heart of critical thinking. Nowadays critical thinking is considered a basic 21st century skill to the extent that it is a primary goal of higher education (Flores, Matkin, Burbach, Quinn,& Harding, 2012; van Gelder, 2005). Critical thinking is generally defined as a complex competence consisting of knowledge, skills, and dispositions (McPeck, 1990). This concept has received the attention of many scholars resulting into numerous definitions.

Actually the variety of definitions of critical thinking indicates that there is always a debate concerning its precise meaning and scope. Some of these definitions emphasize the skills of critical thinking whereas others emphasize its process. Other definitions focus on its dispositions. To mention some of these definitions, there is that of Facione (1986, p. 222) who defines critical thinking as “the ability to properly construct and evaluate arguments”. The focus here is on the evaluation of information. According to Paul, Adamson, and Martin (1989), critical thinking consists of the art of thinking about thinking in order to improve thinking. The focus is on the process of thinking, its clarity and the meta-cognitive aspect. For Ennis (1992), critical thinking is a mental activity of evaluating arguments or propositions. The focus, here, is on the evaluation of information before taking action. Scriven and Paul (1997) give a broader definition of critical thinking. They define it as "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by observation, experience, reflection, reasoning, or communication as a guide to belief and action." (p. 1)

It should be mentioned that a researcher's own field of study or discipline strongly influences how critical thinking is defined and what it can be used for (Halonen, 1995; Moore, 2013). For example, according to educational researcher Ennis (1985, p. 45), "critical thinking is reflective and reasonable thinking that is focused on deciding what to do or believe." Siegel (1990), who is influenced by educational philosophy, defines critical thinking as rational thinking involving some reasoning. These definitions highlight the different emphasis that researchers put on particular aspects of critical thinking.

A close analysis of all these definitions reveals that in critical thinking, there are some skills which are involved ranging from observation, interpretation, analysis, inference, evaluation, explanation and meta-cognitive skills. There is also integration of high order thinking skills (HOTS) which are related to Bloom's taxonomy of educational objectives (Bloom, 1956). According to this taxonomy, there are six levels of the cognitive domain: knowledge, comprehension, application, analysis, synthesis, and evaluation. Higher order thinking skills, related to critical thinking, are those skills at the top three levels of the above mentioned taxonomies, namely analysis, synthesis and evaluation. The taxonomies at the lower level, namely knowledge, comprehension and application are also involved, to some extent, in critical thinking.

Related to critical thinking skills, there are seven critical thinking dispositions that were identified in the California Critical Thinking Dispositions Inventory (CCTDI), see (Facione, Facione, & Sanchez, 1994). These range from inquisitiveness which refers to the desire to learn, systematicity or having the sense of being organized, analyticity which involves the way one reasons to solve problems. There is also truth-seeking, open-mindedness, self-confidence and maturity. It is noticed that there is some overlap when comparing the list of critical thinking skills and critical thinking dispositions. They are, even, dependent on each other (Bailin, 2002).

3. Why is critical thinking important?

Critical thinking is important for learning and in daily life because all types of thinking are signs of our existence and this is what makes us different as humans. The French philosopher Descartes early mentioned this in his cogito: "Cogito, Ergo Sum", known in English as "I think, therefore I am" (Sumner, 2015, p.7). In the same respect Cottrell (2005) argues that using some of the basic skills involved in critical thinking is a requirement of everyday activities.

Without thinking, learning cannot take place because all content to be learnt must be intellectually constructed and processed. In a sense critical thinking creates the willingness to develop one's knowledge and point of view as we continue to examine and re-examine ideas that may seem obvious.

In the field of language learning, critical thinking underlies the basic skills of reading, writing, speaking, listening and communication. It is in these language areas that students can have opportunities to engage in critical thinking process. This process is of paramount importance as it enables learners to make observations, distinguish between facts and opinions in the continuous information they are exposed to, ask good questions, and use sound logic and reasoning bearing in mind the three levels of comprehension, factual, inferential and evaluative.

Another point in favour of critical thinking is seen in the characteristics which critical thinkers themselves enjoy and which make them see the world with continuous critical minds that make them go beyond the reasoning of simple-minded people. Critical thinkers always base their views on evidence and always overcome confusion. They are always curious and they always engage in problem solving. Besides, they embrace challenges and never take the easy way out. They see critical thinking as a life-long process of assessment. Above all they wait till all facts are analyzed before making judgments (Ennis, 1985; Facione, 1990; Willingham, 2007).

Briefly, then, critical thinking involves the process of healthy skepticism which itself involves the processes of questioning, reasoning and evaluating information before reaching the final decision. We dare say it is a path to freedom from half-truths, prejudices and consequently acts as a liberating force from dogmatic fallacies.

4. Core critical thinking skills and questions to develop them

According to Facione (1990), critical thinking skills involve such core skills as interpretation, analysis, evaluation, inference, explanation and self-regulation. Interpretation refers to comprehension and the ability to understand the significance of a wide variety of experiences, situations, data, events, conventions, beliefs and procedures. Analysis refers to the ability to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation. As for evaluation, it implies assessing the credibility of information and assessing the logical strength of the actual or intended inferential relationships among different forms of expressions. Inference stands for being skillful at identifying the elements needed to draw reasonable conclusions and consider the relevant information to deduce the consequences flowing from data, statements and descriptions. As for explanation, as a core skill, it is about justifying the adopted reasoning in terms of arguments and evidence. The last core skill is called self-regulation. Again according to Facione (2013), this refers to the ability:

> To monitor one's cognitive activities, the elements used in those activities, and the results deduced, particularly by applying skills in analysis, and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's results. (p.7)

Two sub-skills are involved here and which are self-examination and self-correction.

The questions used to trigger critical thinking vary according to the different core skills involved in critical thinking. These questions are shown with some examples in Table 1, adapted from Facione (2013):

Table 1: *Core skills involved in critical thinking and some examples of corresponding questions*

Critical thinking core skills	**Types of questions**
Interpretation	What is this? How should we understand this?

	What is the best way to categorize this? How can we make sense out of this?
Analysis	Why do you think that? What is your reason for making that claim? What are the arguments pros and cons? What is your basis for saying this? How can we accept that claim?
Inference	What conclusions can we draw from this? What does this evidence imply? What are the consequences of doing things this way? What solutions do you recommend?
Evaluation	How credible is this claim? How strong are the arguments? Why should this be trusted?
Explanation	What were the specific findings of the investigation? Why do you think that was the right answer? How would you explain this?
Self-regulation	How good was our methodology, and how well did we follow it? How good is our evidence? Our position on this issue is still vague, can we be more precise? Can we justify our belief with evidence and information?

Source: Facione (2013)

It should be stressed that all the types of questions mentioned in Table 1 involve critical thinking skills and call for some reflections and dispositions before formulating the answers and making decisions. Pedagogically speaking, the integration of such types of questions in language education and language skills is highly appreciated to equip learners with thinking skills and to equip them with solid knowledge immunity to prepare them for evaluating information in this era of uncontrolled globalization.

5. Presenting the experiment

Having taught some courses related to reading at the university, we noticed that the students were familiar with just an initial level of comprehension which is factual comprehension that they previously had sufficient training in (before they joined the university). There was an urgent need to move forward with reading to higher levels of comprehension namely to the inferential and the evaluative levels which involve critical thinking skills. This constituted the ground of our experiment in the current study. The coming sections shed light on this study.

5.1. Research methodology used in this study

5.1.1. Statement of the problem

It was noticed while dealing with reading courses at the university that students are generally limited to factual comprehension or information explicitly stated in the text. They lack some strategies to deal with higher levels of comprehension, specifically inferential comprehension going beyond what is directly stated in the text. They also lack strategies to deal with evaluative comprehension which is a more sophisticated skill since the reader has to respond more critically to identify the truth and the value of what is said. Some dissatisfaction was felt on the part of the researcher concerning the simple way which first year students of English studies at Sultan Moulay Slimane University, Faculty of Letters and Humanities in Beni-Mellal dealt with reading courses.

5.1.2. Research questions

Related to the problem we identified, two research questions were put forward to guide our study. These questions are the following:

1. How can we make students aware of critical thinking skills and dispositions?
2. What is the attitude of the students to integrating critical thinking skills when dealing with reading tasks?

5.1.3. Research tools, setting and participants

Having noticed that students enrolled in the first year, English studies at Sulan Moulay Sliman University, Faculty of Letters and Humanities in Beni-Mellal lack strategies to deal with reading comprehension from a deeper perspective, we decided to integrate some strategies related to critical thinking skills while dealing with reading. It was a sort of experiment which was controlled to see if it yields any changes. The experiment lasted for a whole semester in the year 2017-2018. At the end of the experiment, we administered a questionnaire to a target population of 120 students (males and females) among those who were exposed to the experiment to see the changes that happened while dealing with reading tasks from a critical thinking perspective and to see the attitudes of the students towards such integration of critical thinking.

5.2. Data presentation and discussion

The aim of the first part of the questionnaire was to double check the observation we made about the students which was related to lack of strategies to deal with reading comprehension from a deeper perspective. An analysis of students' responses related to the strategies which they were familiar with before joining the university (as shown in Figure. 1) reveals that all the participants (100 %) were familiar with tasks related to global factual comprehension. Likewise, the participants were familiar with vocabulary tasks and multiple choice tasks. Such tasks are related only to factual comprehension. It should be noted, however, that there was a minor manifestation of tasks related to inferential comprehension and tasks related to critical thinking with only 10 % of the participants admitting familiarity which such tasks. What is striking is that there is a total absence of tasks related to evaluative comprehension.

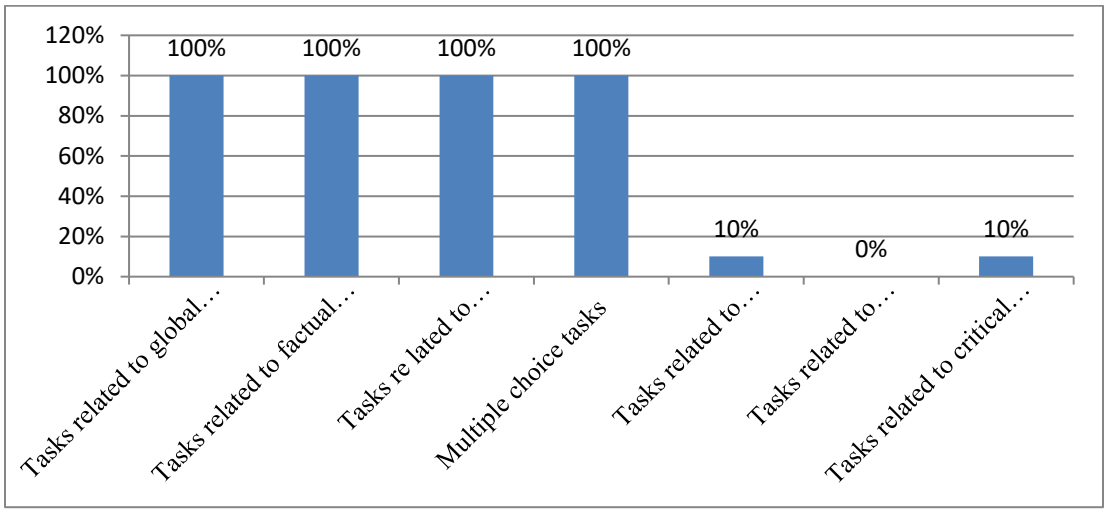

Figure 1: Tasks which students were familiar with while dealing with reading before joining the university

The aim of the second part of the questionnaire was to see if any changes occurred after having the students exposed to the experiment. More analysis of the data we got from the students through the questionnaire shows that some changes occurred. The students become, with varying degrees, familiar with tasks related to text analysis and understanding details as declared by all the respondents (100 %). Also all the participants admitted that they are now familiar with tasks involving guessing word meaning. A change is also noticed related to inferential comprehension or reading between the lines because 88 % of the participants are now familiar with tasks involving these issues. As for tasks related to evaluative comprehension and responding critically to information in texts, 85 % of the participants declared that they are now familiar with such activities. Figure 2 clearly shows these changes.

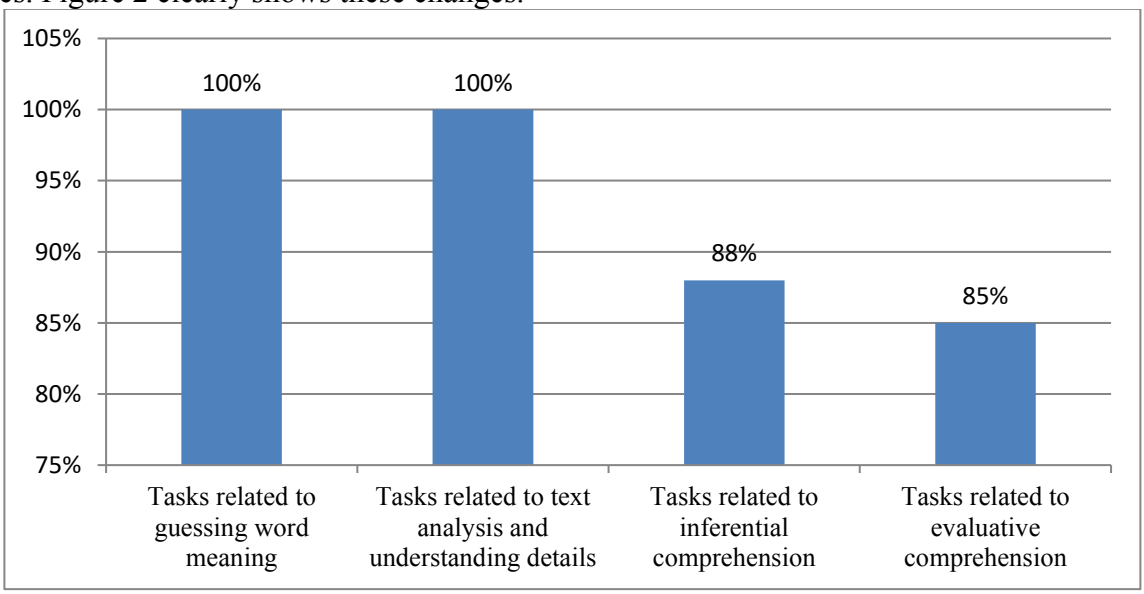

Figure 2: Tasks involving some critical thinking which the participants got familiar with

After conducting the experiment, it was noticed that there was an awareness of critical thinking skills and dispositions on the part of the students. Such awareness is proved by the third part of the questionnaire which checked the participants' ability to do some tasks involving critical thinking. All the participants (100 %) admitted that they can describe the problem dealt with in a text. Besides 96 % of these participants admitted that they consider various options to solve a problem or answer a question. The majority of the participants (86 %) added that they need to evaluate the credibility of information and to judge if a given evidence supports a claim, and not take every information for granted. What is striking is that 92 % stressed that they can engage in a sort of questioning while reading a text. It must be pointed out that all these tasks are related to critical thinking. Figure 3 shows this.

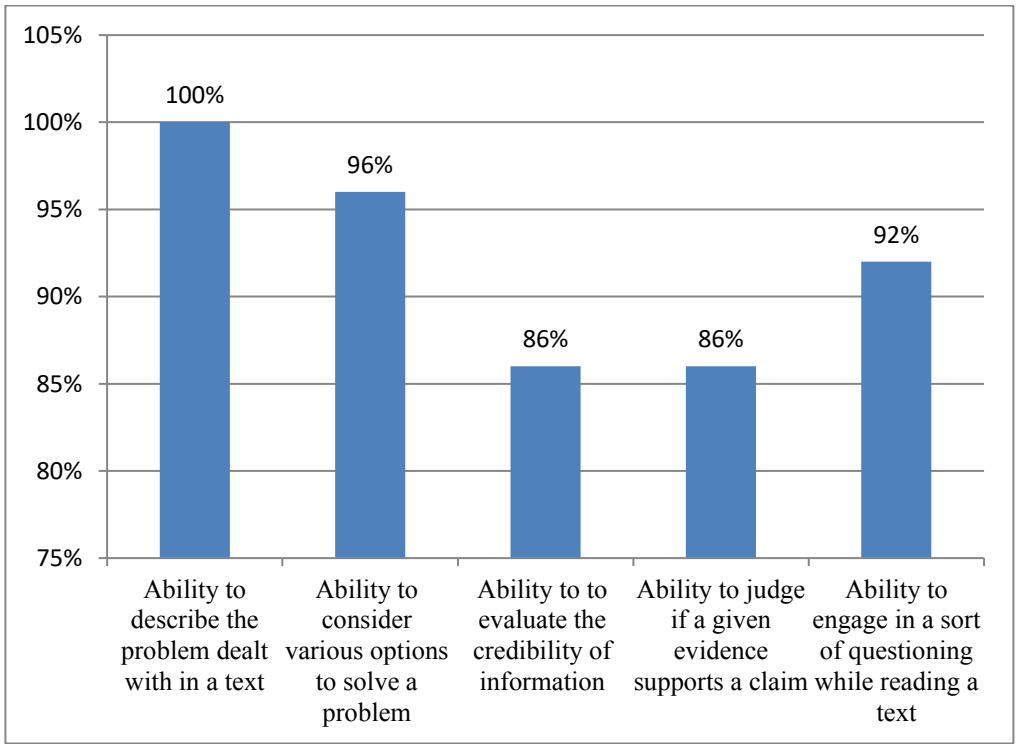

Figure 3: Awareness of critical thinking skills after the experiment

Related to the section on students' awareness of critical thinking skills, the participants were asked to rate their critical thinking ability in a scale ranging from very poor, poor, good, very good and excellent. Figure 4 shows this rating. What is worth noting is that the participants' choices fall in the three last options and no one opted for the option very poor or poor. 84 of the participants representing 70 % declared that their critical thinking ability is now good, 29 of the participants representing 24.17 % declared that their critical thinking ability is very good and 7 participants representing 5.83 % declared that their critical thinking ability is now excellent. Despite the challenges facing the measurement of critical thinking ability, the positive declaration of the student indicates that the students have some change and satisfaction with the way they approach reading now with critical thinking orientation.

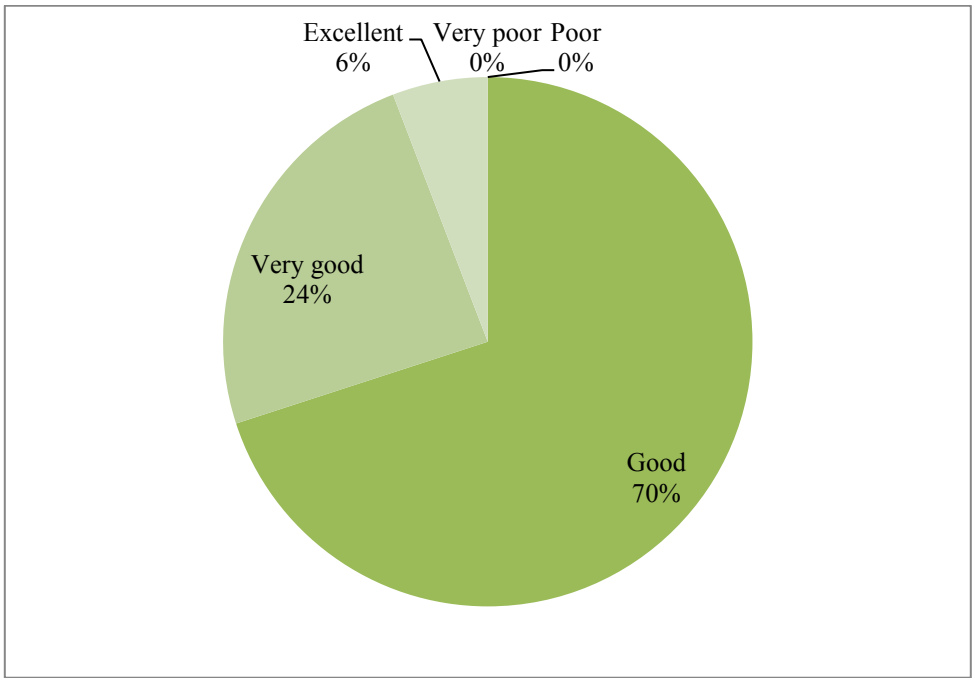

Figure 4: Rating of students' critical thinking ability

5.3. Attitudes of the students to the integration of critical thinking in reading tasks

The objective of the last part of the questionnaire was to investigate the attitudes of the participants towards the integration of critical thinking tasks in reading. To limit the scope of these attitudes, we included the view of Fisher (1995) who mentioned some attitudes related to critical thinking ranging from enthusiasm about reasoning, development of thinking habits by means of questioning thoughts and the will to look for and find the truth of information. To investigate the attitudes of students to critical thinking in this study, a number of questions were devoted for this purpose from which the participants' attitudes were detected. Data reduction emerging from these questions is shown in Table 2.

Table 2: *Attitudes of the students to the integration of critical thinking in reading tasks*

Question items	**NR**	**Yes**	**%**	**No**	**%**
Reading tasks should focus just on language development.	120	36	30	84	70
Reading tasks should involve critical thinking skills.	120	112	93.33	8	6.66
Reading tasks should include both language tasks and critical thinking tasks.	120	120	100	0	0
Tasks involving critical thinking motivate the students to discuss and voice different opinions	120	110	91.66	10	8.33
Critical thinking tasks develop students' analytical ability.	120	116	96.66	4	3.33

Critical thinking develops students' evaluative ability.	120	116	96.66	4	3.33
Critical thinking skills are necessary for the development of students' personality.	120	120	100	0	0
Critical thinking makes the students active learners instead of just consumers of information.	120	112	93.33	8	6.66
The inclusion of critical thinking in reading has improved my performance in reading comprehension.	120	112	93.33	8	6.66
Critical thinking makes language learning meaningful.	120	112	93.33	8	6.66

An analysis of the participants' responses related to their attitudes towards the integration of critical thinking in reading tasks reveals that generally speaking, there is a positive tendency to have critical thinking included in reading courses. The majority of the participants 93.33 % said that reading tasks should involve critical thinking skills and this is congruous with the view of Fisher (1995) related to enthusiasm about reasoning. All the participants 100 % added that reading tasks should include both language tasks and critical thinking tasks. Only 36 % of the participants still adhere to the old practice that reading tasks should focus just on language development.

The positive attitudes of the participants are also inferred from their belief about the merits of critical thinking. 110 of the participants representing 91.66 % hold the belief that tasks involving critical thinking motivate them to discuss and voice different opinions. Besides, all the participants (100 %) admitted that exposure to critical thinking skills is necessary for the development of their knowledge and personality. Related to this, 96.66 % of the participants added that critical thinking tasks develop students' analytical and evaluative ability. This is again related to Fisher (1995) specification on attitudes and the will to question every information. In addition to this, the majority of the students 93.33 % stressed that critical thinking makes them active learners instead of just consumers of information, claiming that the inclusion of critical thinking in reading has improved their performance in reading comprehension and has even made language learning meaningful for them.

5.4. Towards an interactive model to reading courses

It can be deduced from this study that the integration of critical thinking skills in reading courses and in learning, in general, is a timely issue. This is backed by its numerous benefits for the learners who are the citizens of tomorrow and who need to be equipped with sophisticated strategies to deal with the bulk of information which is available in this new era of globalization. Still, we are not advocating that critical thinking should be the only strategy to deal with reading. The intention is just to integrate it among other strategies to deal with the reading skill. Since we are dealing with students who are studying language, an interactive approach to reading will serve the purpose. So, how should this approach be conceived?

Reading has always been considered both a language problem and a reading problem. It is a language problem in the sense that it necessitates a mastery of an optimal level of language to be

able to decode text meaning. It is also a reading problem since it calls for some strategies to effectively make the most of the reading material. Three approaches to reading must be mentioned: the bottom-up approach, the top-down approach and the interactive approach. According to Nassir (2012), the bottom-up model is text driven; the reader relies much on text variables to make sense of what he/she reads. He/she begins with decoding letters, words, phrases and sentences to construct the meaning of the text. This model is related to a process of reading at the lower level whose aim is to get factual comprehension. The top-down approach, on the other hand, moves from the text to the reader who has to make use of his/ her knowledge of the world to make guesses related to text meaning. As for the interactive approach, it refers to that sort of interaction that occurs between the reader and the text. This approach to reading has gained ground because the reader does not rely solely on the top-down approach or the bottom-up approach. Instead, there is combination of the two approaches. This combination makes up for the deficiencies of one or the other approach. In this respect Grabe (2009) points out that meaning is not in the text only, readers, on their turn, contribute to the construction of the text with their background knowledge and interaction with the text. Within the framework of such interaction, the readers get in a position to develop abilities that help them make sense of what they read and explore opportunities to enhance critical thinking, Nassir (2012).

In the interactive approach, the role of the teacher is substantial to foster critical thinking in students. He/she should encourage them to move away from the lower level dealing with word recognition and basic factual comprehension to inferring text meaning, reading between the lines and dealing critically with what the text offers. The thinking skills that can be developed by interactive reading again, as mentioned by Nassir (2012), are summarized in the following points:

- Predicting: this involves making intelligent guesses and predicting what the whole text is about based on what the students know about the topic and the theme.
- Logical reasoning: this refers to that process of drawing conclusions and making inferences about the opinions, facts and information that feature in the text.
- Questioning: among the responsibilities of the teachers in this respect is to establish a culture of questioning the information which students receive and not to take everything for granted. This is actually related to some critical thinking dispositions mentioned earlier in this paper, especially the disposition of inquisitiveness.
- Problem-solving: this goes in line with the spirit of reading which is, basically, a problem-solving activity. The dispositions here are related to processing the information, identifying the problem, engaging in analyticity and later on reaching problem-solving.
- Formulating perspectives: the interactive approach to reading entails getting engaged in constructing meaning because texts do not have meaning, it is readers who give meaning to texts.

5.5. Pedagogical implications

Having covered the issue of critical thinking from different perspectives and having deduced that it is a component that needs to be integrated in reading courses within an interactive approach, we feel that some implications are worth mentioning.

The first implication to put forward is that fostering critical thinking skills would yield rewarding outcomes in education. This is congruous with Gelder's (2005: 41) statement that

"almost everyone agrees that one of the main goals of education, at whatever level, is to help develop general thinking skills." Teaching and learning English as a foreign language is, undoubtedly, one of the areas where critical thinking skills can be introduced, especially in reading to give meaning to language learning.

The second implication is that integrating critical thinking within the interactive approach to reading is a timely issue to develop critical thinking skills ranging from comprehension as a basic element, moving to interpretation, analysis, evaluation, inference, explanation and self-regulation. In this respect, the role of teachers is to raise students' awareness to the need to bear in mind these components of critical thinking and never hesitate to voice their views.

Another implication is related to the fact that integrating critical thinking skills within the interactive approach to reading develops critical thinking dispositions, too, such as inquisitiveness through questioning, analyticity through reasoning, truth-seeking through evaluating information, in addition to systematicity, open-mindedness, self-confidence and maturity.

One more implication of this study is that critical thinking skills contribute to motivating the students to read equipped with strategies to deal with whatever information and put it under scrutiny instead of passively receiving the bulk of information they are exposed to in this new era of globalization.

The outcome of all these implications is that a manifestation of critical thinking while dealing with reading is an indicator of quality and will contribute to having a generation of active and responsible students who will always question the information they receive. Besides, fostering a culture of critical thinking will undoubtedly empower the learners and de-emphasize the so-called spoon feeding instruction based on presenting and receiving ready-made information.

6. Conclusion

Critical thinking has become a timely issue in modern education. It is considered a substantial 21st century skill. Students need to be equipped with critical thinking skills ranging from interpretation, understanding information through logical reasoning and analysis, seeing things from different perspectives and problem-solving before evaluating information and making decisions. Besides, developing critical competence is among the essential cognitive skills to be integrated in the curriculum. Because critical thinking skills cannot be dealt with in isolation, there is a need to integrate them in language skills, especially in reading. Students' positive attitudes to such integration, as the current study has revealed, is an asset to invest on. Thinking skills should be, deliberately, incorporated within the interactive approach to reading to motivate the students and to make the reading skill make sense for them. In this respect, students' roles cannot be ignored. Students need to be aware of these reflective skills and they need to have ongoing practice in applying critical thinking in diverse ways. Teachers' responsibility should not be ignored as well. It is of paramount importance to guarantee a climate to foster the culture of inquisitiveness, truth seeking and questioning so that the reading material or any type of information can be analyzed, evaluated and correctly understood.

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