

EFL Learners' Higher Order Thinking and Technology Based Instruction in Literature Case Study of Biskra Univesity 2nd year Students

Nadia Rezig Betka

Department of Foreign Languages, Division of English
University of Biskra, Algeria

Abstract

The presence of higher order thinking aspects in EFL learners' productions constitutes one of the major achievements of the teaching process. It denotes learners' ability to think, analyze and draw conclusions about the taught information. Different approaches were implemented to promote EFL learners' critical thinking but they were limited into questioning strategies that raise speculation. The present paper is an investigation of the advantages of implementing technology devices to promote Algerian University EFL learners' higher order thinking. Noticing that their written productions in literature carried almost no critical thinking aspects, this case study attempts to check the usability of E learning in developing EFL learners' ability to think critically through a qualitative method of research. The study is based on data obtained from a questionnaire administered to second year students on their attitude towards replacing the traditional classroom by a technology classroom. An E-learning test was initiated through Emails to deliver and correct home works where analysis and speculation questions were designed. The results showed that 83% of the sample were in favour of change and admitted that they spend more than 2 hours a day using their digital devices for entertainment as well as for research. Learners' answers to the test questions carried analysis, reliance on evidence and argumentation. E learning can motivate EFL learners to combine research with learning in foreign languages classrooms.

Keywords : E learning, Higher order thinking, Teaching literature, Technology based instruction

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Introduction

Critical reflection promotion is one of the best outcomes of pedagogical policies, since it enables the learner to develop a balance in reasoning and evaluate issues considering facts and evidence. In the academic, context, higher order thinking or critical thinking development entails a complete view of the information presented ; a better comprehension, interpretation and results in accurate analysis and treatment of data. It is a valuable feature of brilliant students who flexibly consider and review view points and reach conclusions after analysis. Many scholars (Paul 2005; Facione & Facione, 2007; Moore, 2004) point at the relevance of critical reflection as a skill to the foreign language teaching process in terms of the methods implemented and materials used such as using speculative texts instead of informative ones to encourage learners to interpret and analyse data instead of storing them and urge them to participate in discussions and opinion gaps to exchange ideas and evaluate each others' viewpoints which entails a vivid classroom with a high interaction level.

Literature Review

1-Higher Order Thinking in Philosophy and Cognitive Psychology

Critical pedagogy was and old concern for Philosophy as well as cognitive psychology before being a concern for education (Lai, 2011, p .4) . Philosophers' school of thought view the critical thinker as an example of perfection (Paul, 1992, p.9) by attributing to him ideal features like being inquisitive in nature, open minded, flexible, fair minded, has a desire to be well informed, understands diverse viewpoints and is willing to both suspend judgment and consider other perspectives. Facione, (as cited in Lai, 2011, p.5).

In cognitive psychology, scholars who belong to the behaviourist school and empirical research tradition believe that focus should be put on how people think rather than how they would think in an ideal state. (Sternberg, 1986) which implies that cognitive psychology defines critical thinking by critical thinkers' skills and behaviour.

Thus, philosophers focus on the process of critical thinking while cognitive psychologists believe that since the process is not observable, focus should be put on its outcomes that can be observed. For this, the definitions of critical thinking provided by philosophers and cognitive psychologists differ.

Cognitive Psychologists define critical reflection as the mental processes, strategies and representations people use to solve problems, make decisions and learn new concepts (Sternberg,1986, p.3) while philosophers give to critical reflexion definitions such as :Discipline, self directed thinking that exemplifies the perfections of thinking, appropriate to a particular mode or domain of thought' (Paul, 1992, p. 9) and, 'Judging in a reflective way what to do or what to believe' (Facione, 2000, p. 61)

Higher Order Thinking in Education

Bloom's (1956) taxonomy starts by comprehension and ends with evaluation including three highest levels : analysis, Synthesis and evaluation. (as cited in Kennedy et al. 1991) The educational approach to critical thinking, unlike philosophy and cognitive psychology is based on experimentation and observation of teaching and learning processes while (Bussham et al, 2010, p. 1) views higher order thinking as :

The general term is given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyse and evaluate arguments and truth claims ; to discover and overcome preconceptions and biases ; to formulate and present convincing reasons in support of conclusions and to make reasonable, intelligent decisions about what to believe or what to do. Which implies that, in education, the terms critical thinking encompasses both views in philosophy and cognitive psychology.

Critical Thinking Visible Aspects

Bussham et al.(2010) consider eight standards of higher order thinking which are: clarity, precision, accuracy, relevance, consistency, logical correctness, completeness and fairness.

Clarity

Clarity is an essential requirement in educational settings, before we evaluate a learner's statement or idea, we need to fully understand it, which can not be possible if the learner has no complete conception of what he thinks.

Precision

Precision is highly evaluated as an essential feature in scientific domains in general, but in social sciences, precision aids the learner to cut through personal views, uncertainties and confusions. The ability of learners in a foreign language classroom to precisely ask questions and provide answers reflects his thoughts' clarity and decreases ambiguity.

Accuracy

The correct information is the ground for a correct information treatment. If learners do not attribute due importance to the accuracy of information and its truthfulness, their productions will reflect their lack of accuracy.

Relevance

Relevance is a symptom of the learner's thoughts' line continuity and complete comprehension of issues' dimensions. Irrelevance is distracting and confusing.

Logical Correctness

To think logically is to reason correctly, to be able to draw well founded conclusions, to think critically we need well supported beliefs to link them to conclusion that logically follow them. (Bussham et al, 2010, p. 6)

Completeness

One of the main features of learners' higher order thinking is their deep and thorough reasoning, based on a complete view and consideration of issues.

Consistency

There are two types of inconsistency that should be avoided : the logical inconsistency which means believing in inconsistent things, and practical inconsistency which implies saying one thing and doing another. Consistency constitutes a basic characteristic of higher order thinkers that denotes their continuous search for stable and fixed beliefs.

Fairness

Impartiality and objectivity and freedom of distorting biases are all important criteria of the critical thinkers, they prevent learners from leaning to a given position with no founded reasoning.

Technology Based Instruction Classrooms

New technologies are challenging academic cultures which are the ways in which we learn, teach and research in universities as stated by Elhers and Schnekengerg, (as cited in Wankel & Blessinger, 2013, p.112). Nowadays, the networked student and networked teacher became so familiar and the students' continuous need to be well acquainted with the current complex digital devices' potentialities is now conventional. Moreover, the gap between students' and teachers' knowledge about digital tools is considerable. It constitutes, according to Brown (2012 p.51), a real barrier to reaching a universal best practice in education.

Technology classrooms are defined as a set of technologies that facilitate students' participation in learning activities in the classroom, they can be viewed as participatory tools that mediate discourse in the classroom. (Wankel & Blessingerr,2013, p. 5) It might refer to digital tools in general ; interactive white boards, desk top computers, laptops, smart phones and tablets. In these classrooms, students implement these devices for investigating data, achieving and submitting homeworks and interacting with their classmates as stated by Odera & Ogott (as cited in Altun 2015, p.23).

Technology tools for communication, collaboration, social networking... in particular, these tools have transformed how parents and families manage their daily lives and seek entertainment, how teachers use materials in the classroom with young children and communicate with parents and families, and how we deliver teacher education and professional development. In today' schools all over the world, the information technologies are more powerful tools to teach, to motivate and to make the subjects more interesting (Altun 2015, p.22)

The study**Background of the study**

At Biskra University English classes, the relatively elevated number of students that exceeds 60 students in one group and with over 10 groups in the 1st, 2nd and 3rd years, the traditional classroom can no longer be satisfactory. Teachers face difficulties in delivering lessons and correcting tests.

This situation hinders the application of new strategies in developing students' higher order thinking which needs specific activities provided through internet. For this reason, we pojected to initiate our research by measuring English learners' predisposition to technology- based instruction before designing tasks and activities that promote English learners' critical thinking.

Method

By applying the Holistic Critical Thinking Scoring Rubrics elaborated by Facione in 1994, (Appendix A) we could evaluate second year English learners' written productions in literature examination in terms of Critical thinking standards' presence. The evaluation shows clearly that

the answers of only 12 % of the selected sample (80/440) carried aspects of higher order thinking. Students' answers were descriptive and carried generally the standard justifications presented by the teacher during the course ; no personal appreciation or argumentation by the learner is delivered. Students do not rely on events or time chronology to justify their answers, they rather limit themselves by the content of the course even in speculative questions such as 'How can you relate the church to Middle Ages' literature ? The students find difficulties in answering questions such as : are you in favour of ? Comparing, giving another interpretation or opting for a standpoint different from the author's.

The Questionnaire

To collect data on English learners' readability to a radical change in the EFL classroom from a traditional one into a technology integrated to help English learners in developing Higher order thinking skills In this perspective, we administered a questionnaire (Appendix B) to randomly selected groups among the ten groups registered. The focal points in the questionnaire are :

- The daily amount of time students spend with their digital devices.
- The types of activities they use the devices in.
- Their conception of the use of digital devices in education
- Their conception of E-learning
- Technology aspects that attracts learners.

After piloting the questionnaire, the students were informed it was administered and answered by the total number of the sample during one session.

Email Assignments

By using Emails in instruction, we aimed to give learners a personal space to use the internet in the classroom, receiving a distinct question for each student and mainly to be able to make research on it during an hour that is dedicated to the assignment, then writing his answer and send it back to the teacher., It was clearly explained to the students that the answers should be short and that they should use academic writing. The question designed were : Comparing literary movements, Comparing writers' themes and styles, Providing an opinion on a literary period, providing a summary of a written text, criticizing a review and developing an argument.

Findings and Results

The students' answers to the questionnaire denoted that : about 66.66% of the participants possess a personal computer that they use for at least 2 hours a day in addition to other devices such as smart phones, while 26.66% use it all day long. As far as students' use of their digital devices, the answers denoted that : 33.33% watch movies and videos, 23.33% use it for chatting with friends through different websites, 40% state that their use of the computer is mainly for assignments and research, while a little number of students is using the computer and the other available devices for entertainment. As far as their appreciation of the digital tools and whether they use them only when need be, 83% of the students stated that they like using technology in all cases because it is useful, fast, enjoyable and enables them to know what happens in the world, the news, to post hopeful statements to others and to be continuously in touch with their large families. It is noteworthy that 26% of these participants have no idea on E-learning but

they recognize that technology eases lesson delivery, motivates students and makes the content of the lesson more interesting. It is also noteworthy that among the participants, 48% consider that writing constitutes their major difficulty in learning English

As far as the assignment, the majority of students' provided well written answers, brief but coherent and containing valuable data. The students used facts and events to argue for their answers and presented a wider view about the question, they used examples and more than one interpretation of the same idea. They were motivated, willing to write more if time was available. 46.33% of the respondents obtained the average mark in the assignment and 35.66% obtained a mark between 13/20 and 16/20, while 18% of the sample obtained marks between 6 /20 and 8/20.

Discussion

In Algeria, Developing EFL learners' linguistic competence is a priority for programs' designers. For that, EFL educational programmes undergo systematic changes continuously. The English textbooks are subject to content and form alteration for the sake of improving the teaching outcomes. This improvement tackles mainly the amount of information included and the number of exercises designed but not the type of exercises ; students are trained to transform sentences, follow a given example and change tences but are not trained to analyze, compare or interpret information. For this reason we could notice in the present study that EFL learners' written productions were mainly descriptive and carried no aspects of higher order thinking. Through implementing technology, the participants in the present study have benefited from the assignment to rely on their own comprehension and attempted to write an original answer based on the information they find through research in addition to their taught information. This broke their habitual learning custom to revise or learn by heart and raised their motivation.

Conclusion

The technology based instruction is nowadays a necessity to cope with EFL learners' abilities and interest in using the digital devices. One of the main best outcomes of an instruction is to develop learners' higher order thinking and its skills such as interpretation, analysis, synthesizing information and argumentation which are all possible through technology. In this investigation, the English students at Biskra univesity showed much appreciation of the digital tools use in their classroom and more ability to write freely coherent answers and motivated to make research at the same time. The present paper is a first step to the implementation of technology devices in Biskra EFL classroom to promote their critical thinking and to achieve best exploitation of this type of instruction for quality teaching.

Technology devises ensure application easiness and achievement of learning activities in a relatively short time. It is highly recommended to replace the traditional teaching approaches in EFL contexts by a technology based instruction to benefit from the immediate open access to information in classrooms. It can promote students' ability of data interpretation, analysis, evaluation and selection

About the author

Dr. Nadia Betka- Rezig is a lecturer at the English division of the foreign languages department in Biskra university- Algeria since 2004. Her research subjects are Psycholinguistics, literary

studies, higher order thinking, and technology classrooms. She is a member in a research team on the implementation of technology devices in teaching foreign languages since 2015.

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Appendix A : Holistic Critical Thinking Scoring Rubrics Facione (1994)

4- Consistently does all or almost all of the following:

- Accurately interprets evidence, statements, graphics, questions, etc.
- Identifies the salient arguments (reasons and claims) pro and con.
- Thoughtfully analyzes and evaluates major alternative points of view.
- Draws warranted, judicious, non-fallacious conclusions.
- Justifies key results and procedures, explains assumptions and reasons.
- Fair-mindedly follows where evidence and reasons lead.

3- Does most or many of the following:

- Accurately interprets evidence, statements, graphics, questions, etc.
- Identifies relevant arguments (reasons and claims) pro and con.
- Offers analyses and evaluations of obvious alternative points of view.
- Draws warranted, non-fallacious conclusions.
- Justifies some results or procedures, explains reasons.

- Fair-mindedly follows where evidence and reasons lead.
- 2- Does most or many of the following:
- Misinterprets evidence, statements, graphics, questions, etc.
 - Fails to identify strong, relevant counter-arguments.
 - Ignores or superficially evaluates obvious alternative points of view.
 - Draws unwarranted or fallacious conclusions.
 - Justifies few results or procedures, seldom explains reasons.
 - Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
- 1- Consistently does all or almost all of the following:
- Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.
 - Fails to identify or hastily dismisses strong, relevant counter-arguments.
 - Ignores or superficially evaluates obvious alternative points of view.
 - Argues using fallacious or irrelevant reasons, and unwarranted claims.
 - Does not justify results or procedures, nor explain reasons.
 - Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
 - Exhibits close-mindedness or hostility to reason.

Appendix B The questionnaire

Dear student, through the following questions, we intend to gather data for an investigation on EFL learners' attitude towards technology based instruction. You are kindly requested to answer them.

Questions

Circle the appropriate answer or give your own response :

- 1- Do you have a computer at home ? yes
 No
- 2- If yes , is it your personal computer ? Yes
 No
- 3- How much time do you spend in using the computer/phone in one day ?
- 4- What do you do exactly using these tools ? precise

- 5- Do you like using these tools or you use them only when need be ?

- 6- Do you frequently make searches on your computer for entertainment ? Yes No
- 7- If YES, precise the frequency : everyday once a month once a week
- 8- Do you use Facebook ? Yes
 No
- 9- What do you like in using Facebook ?
- 10- What do you think of E-LEARNING ?

- 11- Order the following skills in terms of their difficulty.
Speaking Reading Writing Listening
- 12- Do your EFL teachers use digital material in delivering the lessons
- 13- In case they do, give a percentage of the sessions where these materials are used among the total number of sessions
- 14- What attracts you most in using technology based instruction.

Thank you