Investigating Language Learning Context Influence: An Approach to Iranian EFL Students' Critical Thinking Ability

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Abstract: Investigating to which extent language learning context affect Iranian EFL students' critical thinking, this study was conducted to clarify the relationship between the variables. To achieve this purpose 90 EFL students in upper intermediate level of Payamnoor University selected, and equally divided to two groups of 45 person, the experimental group (n=45) with modern context of language learning by a web 2.0 environment on the internet and control group (n=45) with traditional context of language learning in regular classes. Sandra Lee M.C. Kay's *Researching Second Language Classroom* book, published in 2008, was given to the both groups during 10 session of 120 minutes of study as a material. Pretest/posttest assessments and statistical package of social science (SPSS) t-test analyzed procedures clarified that experimental group's language learner have a stronger critical thinking ability than control group ones. Confirming positive relation between language learning context and critical thinking ability of EFL learners, the results also show a strong willing of students to use modern, technological, more accessible, and new ways of learning.

Keywords: Language learning context, Critical Thinking Ability, Web 2.0 Environment, Web Assisted Language Learning, Mobile Assisted Language Learning

1. Introduction

By the advent of widespread internet based applications invention through last twenty years bring an interest all over the world for educational purposes and as a result the web invention then promotion was done such as web1.0 invented and then promoted to web 2.0 with more capabilities which could be very crucial for education especially language learning. Taking part individually or by peers' group, no time limitation, no place limitation, and inexpensive internet cost are some advantage of web 2.0 usage in learning beside sharing the students assignments on the widest network to improve communicative skills and also strong the critical thinking abilities of EFL learners. As in traditional classes teachers attendance with managerial, pedagogical, technical, and social roles are also essential and important for better learning in web assisted language learning (WALL) Berge (1995). Although Hamilton et al. (2001) mentioned that the grater and faster information access process occur in electronic learning but web related language teaching research numbers are not many in Iran. Being difficult to define and measure, critical thinking has many definition and levels which complete one another. The logical, reasonable, and deliberative thinking about thinking process of Flavell (1979) is a comprehensive expression of critical thinking ability.

As research writing and critical thinking is vital in successful language teaching/learning, language developing, and doing scientific research especially in English as the most popular international language of felids of study all around the world. All of the Iranian students must work on writing and critical thinking skill to ensure success in language learning, scientific writing, developing critical thinking and communicating with other people of the world. Often, however, in Iran critical thinking is consider less important than other language skills courses and is given less importance than others in universities and teachers' lesson planning. One of the criticism about critical thinking teaching among Iran universities' students is that the critical thinking are boring but nowadays writing and critical thinking is essential skills and have important influence in learning a second language for being able to communicate with others without misunderstanding.

2. Literature Review

Theoretically frame of the present study was based on Vygotsky (1978), Felder and Silverman (1988), Paul (1993), and Berge (1995) suggestions which approve the teacher's roles and teacher-student interactions in language learning. By looking at Khandaghi (2012) and, works the identification process of an accurate conclusion besides mastering the reasoning elements could be seen. Dividing critical thinking in two groups of micro and macro cognitive strategies, Paul (2003) also introduced eighteen macro and nine micro essential critical thinking skills which are crucial for strengthening deep critical thinking among language learners with different learning style.

Paul and Elder (2008) work stipulated the critical thinking by skills, reasoning elements, intellectual standards, and intellectual traits in an active, skillful conceptualizing, applying, analyzing synthesizing, / evaluating information collected by, observation, experience, reflection, reasoning, and communication as a guide to belief and action. They also mentioned that being responsive to variety of subjects, issues, and purposes is incorporated interwoven model of thinking such as philosophical thinking, scientific thinking, mathematical thinking, historical thinking, anthropological thinking, economic thinking, and moral thinking.

Pardison (2000) finding showed that thinking critically is purposeful, and self-regulate judgment that have analysis, interpretation, evaluation, and inference, evidential, conceptual, methodological, criterion logic, and contextual considerations explanations as results.

Being intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information gathered by observation, experience, reflection, reasoning, and communication as a rubric to belief and action introduced by McDade (1995).Scientific method applied by ordinary people to the ordinary world is another definition of critical thinking which Schafersman (1991).

"since critical thinking is aligned with the well-known method of scientific investigation: a question is posed and a hypothesis formulated, germane data are sought and collected, the hypothesis is further tested on the basis of the data, and conclusions are made at the end of the process. All the skills of scientific investigation map onto critical thinking abilities. So, critical thinking is scientific thinking" Hamid Ashraf et al. (2014).

Technology usage help improving and enhancing knowledge, and skills acquisition. In 21st century for competencies gaining and well-functioning in society it is necessary for students to learn about and with technology. Everyone everywhere are growing up in a vast series of contexts. Every aspects of their life isn't untouched by digital technology particularly active learning educational technologies with applied science with similar educational philosophy which are facilitative means in learning process with real world scenarios in which students directly engaged in critical thinking ability. Moreover technologies serve important role in districts, schools, and teachers, and schools in role supporting.

Web 2.0 is a place with multimedia ability in which many theorists, researchers, and experts share their theory and findings beside communication with others and feedback getting process. Leading to a huge amount of available information about scientific topics with educators formally and informally discussing them. "Moving forward wiki" powered by Scott McLeod, and "Support Bloggers" are example of sites that educational blogger and their area of interest lists are available in. Equipping students to organize learning process independently, increase course content access, schedule flexibility, better access to educational media choices, and flexible individual progress, technology usage make the users active and transfer learning responsibility to students.

Electronic learning (e-learning) possesses both communication and learning activities in internet networks, computers, cellphones, tablets, and other electronics means, by having particular looking Fry (2000) definition of e-learning is interactive send and receive of training, knowledge, and education through networks, online services, and other distribution technologies. Without the creation of knowledge, other important part of e-learning, the process of collaborative learning is also deficient. The web 2.0 environment as Gill (2006) demonstrated has power point, email exchange, web based actions, multimedia system, synchronous/asynchronous communication, live chat, virtual community capabilities. So EFL learners easily could achieve classroom, course materials, different learning style, more authentic materials on World Wide Web, and promote target language communication in online environment.

Recently teaching foreign language with new technologies such as computers, mobiles, tablets, internet base programs, and webs are growing world widely especially in Iran. We could find an extreme number of application in language teaching/learning but the vacancy of writing ability and critical thinking skills applications are obvious. This study intended to show how students could benefits more from critical thinking ability in doing research which ultimately affect scientific writing in second language area. By using web based application in this study the limitation of time and place of students will be eliminate and they could reach the professor class any time and everywhere in online or offline mode, which give the students opportunity to learn how to write and practice writing.

3. Research Questions

Achieving the goals of this research, the following research question (RQ) was posed:

RQ: Dose web 2.0 language learning environment has any significant effect on Iranian University EFL learners' critical thinking ability level?

To come up with acceptable reasoning and results for the aforementioned research question the following null hypothesis proposed:

Null hypothesis: web 2.0 language learning context has no effect on Iranian University EFL learners' critical thinking ability level.

4. Methodology

4.1. Participants

The present study participants were selected from among Iranian EFL freshman students in Iran PayamNoor University. The selection of 90 EFL learners was after placement test from among a large sample of male and female. An equal number of each gender tried to be selected to control the gender factor probable effects.

4.2. Sampling Procedure

Two placement tests were held at this level: the first one is the University English Entrance Exam which riddle test takers somehow at the same level of English. The second administered test was a solution placement test developed by Edwards in 2007. Ninety EFL learners between the ages of 18 to 22 divided randomly in two groups of 45 persons as below:

First control group class that received traditional teaching methods of researching, on the other hand experiment group class with web 2.0 based teaching method through a wiki space designed by the researcher on the internet.

The following table shows the final number of students in the study and the type of treatment for each sample group.

4.3. Materials

Understanding web 2.0 language learning context effects on Iranian EFL learners' critical level, made the researcher use two placement tests, a pretest, a posttest, and a treatment which are going to be explained in detail as below:

4.4. Placement Test

Edwards (2007) solution placement test was administered to select the research participants, the test design is for assessing general language proficiency knowledge as well as receptive and productive skills and the level of students. Three parts of the test were used, the first section contains 50 multiple choice questions about the grammar and vocabulary knowledge of elementary to intermediate level; Consisting of 10 graded items the second part measures reading comprehension, and the third section was a critical writing tasks which allows students to think critically and produce the language. Participants were divided in proficiency level based on their received scores and the test developer identified criteria's. English Entrance Exam of Universities shows that all of the freshmen had enough general proficiency in English. As a standard test the reliability and validity have been established by frequently usage for several years in Iran. It has also gain the validity of a standard test measuring the general proficiency of students.

4.5. Pretest

Pretest is a critically writing assessment administered in control and experimental group. A sample writing skills test were held in two parts which firstly students thought critically and wrote a 400/500 words essay about English language researching by 60 minutes, then examinees read an essay and made the correction in grammar, punctuation, usage, and style in 30 minutes. Students' writing proficiency was similar to each other's without any extra writing practice.

4.6. Posttest

Examining the impact of web 2.0 language learning context on students' level of critical thinking in essay writing performance, posttest of critical thinking and writing a paper about a subject of second language learning.

4.7. The Textbook: Researching Second Language Classroom

The textbook was researching second language classroom by Sandra Lee Mc Kay, published in 2008, with four units in which reader familiarized with second language research in first session, the second season is about data collection instrument, available data analysis processes are in chapter three, and final unit contains research report writing results.

4.8. Web 2.0 (Wiki Space)

A wiki space was developed by the researcher to provide web based environment as a substantial part of the research and experimental group's participants had to use it for sending and receiving materials and their assignment through it. Fulfilling the needed materials of the course, this space has book, direction, teaching videos, topics, feedbacks, examples, and etc. in it. In addition participants were given an email address which they used in a case that there was any internet crashes.

5. Procedure

5.1. Data Collection

Oxford Solution Placement Test (OSPT) was administered, between participants of 18 to 22 years old and two selected group were characterized as follow:

1. 45 EFL learner in control group to receive instruction as usual way of teaching without internet.

2. Other 45 participants in experimental group to receive treatment in web2.0 environment.

The only difference between these two groups was their web-based application. Both groups participated in critical thinking writing course for 10 session of 120 minutes, two sessions each week. The experimental group used a Wiki space environment during the course and student-teacher relation is in wiki space all the time. But working in hard copy form and traditional way is for control group participants.

5.2. Data Analysis

The ending process of this study was a posttest administration. Analysis of variance (ANOVA) conducted on pretest scores for homogeneity. The Statistical Package for the Social Science (SPSS) version22 used for statistics analyses.

Descriptive statistics such as frequencies, means, percentages, and the variance (ANOVA) to show the groups' differences were obtained, to investigate the students' writing performance and critical thinking differences.

5.3. Results

Table 1. *Descriptive Statistics for the Mean Comparison of the OSPT between Experimental Group and Control Group.*

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR0000	1	45	38.4444	5.18380	.99762
	2	45	38.8462	3.58544	.70316

1= Experimental group, EG
2= Control group, CG

Based on table structure in (http//: www.europeanevaluation.org) no significant difference between the mean scores of EG and CG groups could be seen (the mean score for experimental group is 38.4444 and that for control group is 38.8462 that is a difference of .4018 which is not a significant difference). In order to be more objective regarding the claim of homogeneity of the two groups an independent sample t-test was run between the

scores of OSPT of control and experimental groups, the results of which are presented in table 2. It is clear that the *p value* is greater than that of expected (.062>.05) and the t-observed is -.327 which is lower than the t-critical from the table of t-scores, it means that the observed difference was not significant and two groups were homogeneous in terms of their proficiency level. Research went on safely with these two groups.

Table 2. *Results of the Independent Samples Test of the OSPT between two groups of research.*

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
OPT	Equal variances assumed	4.364	.062	-.327	88	.745	-.40171	1.22884	-2.86871	2.06529
	Equal variances not assumed			-.329	83.353	.744	-.40171	1.22053	-2.85800	2.05458

5.4. Research Hypothesis Investigation

Present study was formulated to test dose web 2.0 language learning environment has any significant effect on Iranian University EFL learners' critical thinking ability level?

Table 3. *Descriptive Statistics for the Mean Comparison of the Writing Pretest between Experimental Group and Control Group.*

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
pretest	Control	45	3.1346	1.65262	.32411
	Experimental	45	3.0185	1.70114	.32738

According to table 3, the mean difference of pre-test for the two groups is 0.1161 (the mean for control group being 3.1346 and for experimental group 3.0185) which is not statistically significant. Since a meaningful difference was not detected, there was no need to run an independent samples t-test. This could mean that all of the participants' writing performance at the onset of the study was nearly the same, so any change in their behavior could be attributed to the treatment used in the study. These findings further support the results of OSPT which confirmed the homogeneity of the participants prior to the experiment.

After the treatment, the participants were asked to take a writing post-test, the results of which is shown in the following Table.

Table 4. *Descriptive Statistics for the Mean Comparison of the Writing Posttest Between Experimental Group and Control Group.*

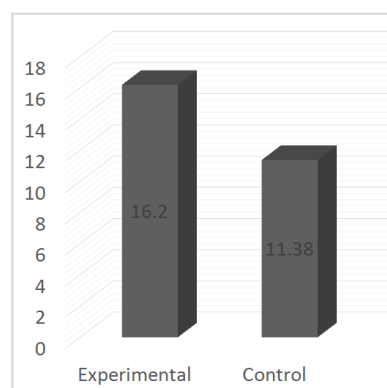|	Group	N	Mean	Std. Deviation	Std. Error Mean
pretest	Control	45	11.3846	1.84015	.36088
	Experimental	45	16.2037	2.02987	.39065

Figure 1. *Graphical Representation of the Means for Hypothesis One.*

The post-test mean for EG, or group A is 16.2037 which is higher than that of CG, or group B being 11.3846 having a mean difference of 4.8191. So it can be said that the two groups have changed in terms of their writing performance and that this change seems to be significant. In order to ascertain that the difference between post-tests of EG and CG group is significant, an independent sample t-test was run between the post-test scores of the two groups. Table 5 illustrates the results of this t-test.

Table 5. *Results of the Independent Samples t- test between Post-test Scores of Experimental Group and Control Group.*

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower	Upper
Control	Equal variances assumed	.136	.014	-.252	88	.802	-.11610	.46094	-1.04146	.80927
	Equal variances not assumed			-.252	83.995	.802	-.11610	.46068	-1.04095	.80876
Experimental	Equal variances assumed	.443	.009	9.044	88	.000	4.81909	.53283	3.74938	5.88879
	Equal variances not assumed			9.061	83.820	.000	4.81909	.53183	3.75130	5.88687

Since t-value for Experimental Group is equal to 9.061, which is greater than -.252 for that of Control group with an alpha= 0.05 (*p value*=.009<.05) and df= 88; therefore, the difference is statistically significant and that shows that EG outperformed CG. As depicted in Table 4 and further confirmed through independent samples t-test shown in Table 5, with regard to posttest scores, teaching critical thinking in web environments does lead to differences between experimental and control groups. Finally, based on the analysis of the results, research null hypothesis of the study was rejected since, as the results supported, training critical thinking in web environments has positive effect on writing performance of the students.

6. Discussion

Synchronous and asynchronous communication of teacher and language learners is a noticeable advantage of internet based language learning. Language learners are able to take part in classes individually or by peers' groups without any time and place limitation by a very low internet cost. Writing assessments comparison during the classes and at the end of the research showed a vivid answer to the research question. As Uzunboylu et al. (2011), identified that learners with wiki technology are able to get input, get comments, create, add, edit, and delete the content with ease and not much time consuming. The experimental class participants outperformed the control group regarding the taught second language research rules and this supremacy support the idea that web 2.0 language learning context beside, reinforce students' writing ability and critical thinking.

The above demonstrated facts are hope to shed more light on why control group displayed lower level of writing ability than experimental group.

7. Conclusion

As one of the few studies on this topic, the study, more specifically aimed in comparing the role of web 2.0 language learning context with critically thinking and writing classes. In other words the combination of traditional method and modern technology which result in a better and more prolific English learning as a second language. There were no statistically differences between the web based group and the control group at the beginning. However the results of this study there were improvement over time in writing performance and critical thinking for the web based group. Sharing critical thinking and writing instructions through a web is an effective language teaching tools to help EFL learners to improve their essay writing ability which is in agreement with other previous studies on essay writing progress. The usage of only web itself cannot undertake writing ability learning, It should be noted that computer and web couldn't replace teacher who is responsible for developing appropriate material for students, select learning activities, students' preparation for learning, conduct drills, and monitor students learning process. English teachers and specialist could benefit this finding for best materials designing and adaption to improve students 'writing ability. As revealed in the study as previous researches, like (Baharani, 2011; Vinther, 2011; and Wiebi & Kabata, 2011.) Web based language teaching and learning has many advantages like motivating students, giving detailed and immediate feedbacks, reducing anxiety, autonomy for learners, and flexible learning over traditional classes by using hypertext, hypertext, hypermedia, and multimedia in teaching process.

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