

## **Impact of Wiki-based Feedback on Grammatical Accuracy of Iranian EFL Learners' Writing Skill**

Roya Vahedipour, Sobhe-Sadegh Institute of Higher Education, Isfahan, Iran

*vahedipour@ymail.com*

Ehsan Rezvani\*, Department of English, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

*rezvani@khuisf.ac.ir*

### **Abstract**

This study was designed to investigate the effects of providing feedback in the interactive environment of wiki on improving the grammatical accuracy of Iranian EFL learners' writing skill as well as the attitudes of Iranian EFL learners' toward receiving feedback via wiki. To do so, 50 intermediate Iranian EFL learners, who were chosen by an OPT (Oxford Placement Test) participated in this study and they were divided into two groups, experimental and control group. Both groups were given identical writing tasks. In control group, though, the first drafts were reviewed traditionally in a pen and a paper fashion, whereas in the experimental group, they were reviewed by peers through wiki to provide feedback on the grammatical accuracy of writings. The second drafts all were reviewed by the instructor. The results revealed that using wikis to provide feedback on students' writing can have a significantly positive effect on improving their grammatical accuracy in a writing task. Moreover, the experimental group was found to outperform the control group on the post-test indicating that there was a significant difference between the effects of providing feedback in wiki vs. providing traditional feedback on the grammatical accuracy of Iranian male and female EFL Learners. With regards to the students' attitude toward using wiki, a majority of the learners welcomed the application of wiki for EFL writing.

**Key word:** feedback, grammatical accuracy, writing skill, wiki, attitude

### **Introduction**

During the latest decades, computer-assisted language learning (CALL) that integrates information technology and English writing has attracted a greater amount of attention because of the rise in Internet-based learning (Fitzpatrick & Davies, 2003; Fotos & Brown, 2004). More than a decade ago, Lanham (1993) emphasized the importance of incorporating computer technology into writing and mentioned that most students live in a world of electronic text, spending a great amount of their time reading and writing on computers. Recently, scholars have also stressed the use of computer technology in foreign language teaching. Warschauer and Kern (2000), for example, supported network-based language instruction, while Schultz (2000) foretold the importance of computer technology in foreign language writing.

Prensky's (2001) idea of "Digital Immigrants" - adults who are relatively newcomers to teaching and learning with digital tools –lead the researchers to reconsider the current teaching strategies to meet the digital expectations of the new learners as "Digital Natives", who have been born into a digital world and see the tools as typical ways for communicating and learning.

Williams (2005) discussed several things as she described the features of the possible advantages of peer feedback. First, such feedback gives learners a real audience for their writing, and it can let them entertain multiple perspectives of their draft. Next, it can help reduce anxiety that they might otherwise experience related to the teacher's authoritative comments. This way, students may be given more opportunities to participate in the writing process. Finally, in the

process of peer revision, during group interaction, students can be involved in all four language skills, including writing, speaking, listening, and reading. Through this kind of interaction, they can be given more chances to build good relationship with their peers and associate positive emotional feelings with creating numerous compositions in their foreign language class.

With the development of computer-assisted language learning, the integration of peer feedback and Wiki technology into English writing courses has changed into an innovative means of integrating teaching and learning facilities in classrooms for writers of English as a second language. However, few researchers have investigated learners' experiences and perceptions of taking advantage of Wiki as a collaborative platform and of peer feedback in the process of English writing.

### **Literature review**

In the second language classroom, providing learners with feedback in a timely manner is substantially difficult to achieve. It can easily face delays, and whatever the merits of the feedback, such delays may decrease the beneficial effects for learners. Gibbs and Simpson (2004) also mentioned however inferior students' immediate feedback was to that of the instructor; it could still influence students' writing far more than instructors' feedback that comes later. Furthermore, sometimes instructor' feedback is too complicated and authoritative, so learners may, in many cases, misunderstand the genuine meaning of it in a particular context (Gibbs & Simpson, 2004; Yang, Badger, & Yu, 2006). In addition, the possibility of evaluating the writings by peers could encourage the learners to devote more time and effort to enhance their writings (Gibbs & Simpson, 2004; Pope, 2001; Tsui & Ng, 2000).

As computer technology develops, new dimensions have been introduced to traditional written feedback practices. A new form of feedback that has been appeared with the development of internet is electronic feedback- digitally written form transmitted by means of internet. This form delivers the concepts of oral and written feedback into the electronic field (Tuzi, 2004). DiGiovanni and Nagaswami (2001) stated that “computer conversations are a form of hybrid communication that lets students respond spontaneously, yet offers them the opportunity to reflect on their ideas, rehearse their responses, and respond at their own pace” (p.269). Warschauer (1997) proposed that, “the special characteristics of online communication-- that it is text-based and computer-mediated, many-to-many, time- and place-independent, and distributed through hypermedia links—provide an impressive array of new ways to link learners” (p.475).

Teachers and students commonly use technology to collaborate on writing tasks; however, the research on its efficacy on L2 writing has not kept up with the progression in the use of technology in ESL instruction (Tuzi, 2004). Of the research explicitly investigating electronic/online peer feedback, the findings are generally inadequate about its effects and the quality of students' later revisions. While some studies on students' perceptions largely emphasized the benefits of computer-mediated peer review, such as a lower level of anxiety (Kelm., 1992); more active and balanced participation (Arbaugh, 2000; Kem, 1995; Sullivan & Pratt, 1996); more interactions (Erben, 1999); and a greater amount of language production (Beauvois, 1992), other researchers (Guardado & Shi, 2007; Liu & Sadler, 2003; MacLeod, 1999; Ruth, 2003) observed that students have a tendency to consider CMC less effective for synchronous communication and emphasized the need of face-to-face oral discussions.

Different instruments and changes in computer technology cause different types of e-feedback to be made and the resulting revisions in turn. The fast speed of technology development also may indicate that the findings in previous studies might no longer be valid or pertinent to existing contexts. There are far fewer technical problems (e.g., long processing time,

unstable software, low accessibility of the Internet, small capacity) with the electronic tools presently available. For instance, the technical problems of the use of floppy discs observed in Liu and Sadler's (2003) study is now solved by the acceptance of modern tools (e.g., flash drive). Besides, with the prevalent use of mobile devices and wireless technology, the differences between working in traditional classrooms and computer labs have become fuzzy.

Recently, with the growth of Web 2.0 technology, the wiki has been attaining growing attention as a standard for group writing because of its 'intensely collaborative' nature (Godwin-Jones, 2003, p. 15). Previous research (Lee, 2010; Lund, 2008) reported that the affordance of wikis facilitates collaborative process, eases interaction, and advocates student writing development.

### **Wiki**

Wiki may be an acronym and stand for "what I know is" (Ajjan & Hartshorne, 2008), and the word also means quick in Hawaiian (Toker, Moseley, & Chow, 2008). In fact, a wiki is a Web site that can be edited by anyone and therefore it is made up of the joint contributions of all the wiki users (Ajjan & Hartshorne, 2008; Godwin-Jones, 2003). Chase (2007) compared wiki with a beehive because, in both, there is "cooperation, division of labor, and reciprocity" among users as they work together to make it (p. 8). Each member shares its ownership, the organization is clear, and it competently assists teamwork and sharing.

Due to the great amount of collaboration in a wiki, Lamb (2004) defined a wiki as being "ego-less, timeless, and never finished" (p. 38), with the structure and content of the wiki provided by the users and consistently updated and discussed. Because information on a wiki can be quickly built up either for the whole Web or a more private audience, "it represents a prime example of 'writing as thinking' and a place where such thought can be revisited, reused, and repurposed" (Bonk, Lee, Kim, & Lin, 2009, p. 135).

In an ESL training program in Mexico City, 40 learners were asked to collectively define the word culture using a wiki (Kessler, 2009). The researcher found that most learners tended to focus on content over accuracy on their pages and that there was a great amount of collaboration as evidenced by the peer editing. The learners mentioned that if the errors were not distracting to readers, they did not see any importance in correcting them, even though the instructions motivated them to focus on both meaning and form. Although the instructor might have been hopeless that the students did not focus on form, the students said that they particularly enjoyed the wiki project due to its lack of focus on form.

The outcomes of this study are different from those of Arnold et al. (2009), who noticed that their students focused more on accuracy than content while editing their wiki pages. Perhaps the parameters of their task were more accuracy-focused and therefore made the learners engage in more form-focused corrections than meaning-based corrections. The outcomes of a separate study on Wikipedia; however, correspond to those of Kessler (2009), where it was found that changes made to Wikipedia entries are also generally more macro structural in nature; users more often add content rather than omitting what is there or engaging in structural changes (Jones, 2008).

One more research has focused on patterns of interaction in collaborative wiki writing. Drawing on the archived wiki History records, Bradley, Linstrom, and Rystedt (2010) found three distinct patterns of interaction when pairs of learners co-constructed writing in an ESP course: a shortage of visible interaction, where only one individual created a full piece of text; cooperating with one another, where individuals worked in a parallel fashion; and collaboration, where individuals were involved in each other's ideas and jointly wrote the essay. Within a

German-as-a-foreign-language context, Arnold, Ducate, and Kost (2012) recognized more collaboration patterns when learners revised more parts, but more cooperation patterns when they made content changes. To follow Storch's (2002) account of interaction patterns with respect to "equality" and "mutuality," Li and Zhu (2013) tested wiki records supplemented with wiki Page and History records, and obtained three distinct patterns of interaction in EFL group wiki writing: collectively contributing/mutually supportive, authoritative/ responsive, and dominant/withdrawn. Just the same as in the face-to-face setting, Li and Zhu (2013) mentioned that wiki-mediated interaction affected learners' writing performance and learning experience: The groups showing the first two patterns reported in the interviews more learning chances than the group demonstrating the third pattern.

As in other countries, Iranian EFL classes and technology have been closely intertwined for many years- using televisions, data shows, computers, and cellphones. Computer Assisted Language Learning (CALL) (Levy, 1997, p. 1) has been practiced by many of educational institutes, language institutes, and schools. The only noteworthy study on using wiki in Iran, however, is the one by Khoii, and Arabsarhangi, (2009). This quantitative research, titled as "The Effect of Wikis' Collaborative Environment on the Improvement of Iranian EFL Learners' Writing Skill" was conducted on students of junior high school aged 14-16. The result of this study revealed that learners who were exposed to collaborative learning through the wiki environment outperformed those who experienced writing without the wiki or individually.

There is a bunch of L2 research in Iranian context comparing the traditional and computer-mediated modes of TEFL, but the majority has focused on the effects of web 2.0 tools on reading comprehension (e.g., Rashtchi, M., & Hajihassani, H, 2010; Behjat, F., Bagheri, M. S., & Yamini, M., 2012; Rahimi, A., Ebrahimi, N. A., & Eskandari, Z., 2013; Khany, R., & Khosravian, F, 2013). Khoii & Arabsarhangi (2009) asked questions about whether working in wikis has any effect on the improvement of Iranian EFL learners' writing skill, but ran their class on pbworks.com (one of alternative websites that offer wiki tools) that is not as popular as wikispaces.com and does not have as many facilities as the later one. Hoping to fill the gap in the literature in this area, the present study aimed to examine the potential effects of providing feedback in the interactive environment of wiki on improving the grammatical accuracy of Iranian EFL learners' writing skill as well as the attitudes of Iranian EFL learners' toward receiving feedback via wiki.

### **Research Questions**

To achieve the purpose of the study, the following research questions were addressed:

- Q1. Does providing feedback in the interactive environment of wiki improve the grammatical accuracy of Iranian EFL learners' writing skill?
- Q2. Is there any significant difference between the effects of providing feedback in wiki vs. providing traditional feedback on the grammatical accuracy of Iranian EFL learners writing accuracy?
- Q3. What are the attitudes' of Iranian EFL learners toward providing feedback via wiki?

### **Method**

#### **Participants**

This study was conducted in Mehrab Amid's Tutoring system in Isfahan with access to around three hundred English learners, some of whom were attending the Amid's classes at the time of running the study and others were in touch with the system through online social clubs.

An invitation to participate in this research was sent to all accessible EFL learners. To make the invitation tempting the course was offered free of charge.

74 were accepted to attend the study. Afterwards, they were screened by an OPT (Oxford Placement Test) that consisted of 60 questions of cloze tests, multiple choice tests, and comprehension tests. Among all, the ones who gained 60 to 80 percent correct answers were selected by the researcher. Accordingly, 50 participants were selected to participate in this study. They were both males and females whose age ranged between 20 and 40.

### **Instruments**

To conduct this study, the following instruments and materials were used:

#### **OPT**

An Oxford Placement Test including 60 items of three types of tests (cloze tests, text comprehensive questions, and multiple choice tests) was picked to screen the participants for homogeneity.

#### **Writing Pretest**

The first session of the course was devoted to a writing test. Participants were asked to write a paragraph on a topic. The student's writings were checked by the researchers for grammatical accuracy only because the study was solely concerned with any improvement in this particular area in the learners' writings. As such, the learners were penalized for every grammatical mistake they made, and their writings were scored on a scale of 0 to 20.

#### **Writing Posttest**

Another writing test with a given topic was designated to evaluate the participants' progression at the end of the course. It was held on the last session and was scored according to the same criteria explained above for the pretest.

#### **Textbook**

*Writing in Paragraphs from sentence to paragraph* (Zemach, D. E., & Islam, C., 2005) was the name of the book which was taught as the source book through the treatment course.

#### **Wiki Account**

A password protected account was registered on [www.wikispaces.com](http://www.wikispaces.com) and the participants were invited to join the account via their emails or or given the entrance code. Both methods led students to a page in [wikispaces.com](http://wikispaces.com) asking them to insert their email addresses and a password before joining the group.

#### **Questionnaire**

A Close-ended Likert-scale type questionnaire was designed to measure the participants' perceptions and attitudes toward providing feedback via wiki. It consisted of 20 questions to which students had to respond based on 5 choices from "Strongly agree" to "Strongly disagree". The questionnaire was given to two faculty members in the English Department in Sobhe Sadegh Institute of Higher Education for validity check. Moreover, the reliability index obtained (0.71) ensured the reliability of the questionnaire.

## Procedures

As mentioned above, 74 EFL learners took the OPT, and finally 50 were picked out to attend the course. It was a previously planned course of 14 sessions that was free of charge. After choosing the participants, they were divided into two groups, one experimental group and one control group. There were twice-a-week meetings for each group, both with the same instructor. The first session was assigned for taking the pre-test and the last one for the post-test. The other 12 sessions were devoted to covering the whole twelve units of the book.

During the 12 sessions, the 12 unites of the introduced book were instructed with the same method in both groups. After each session, participants of both groups were supposed to write a paragraph on a given topic. The participants in control group delivered the assignments on the following session, but in the experimental, the assignments were emailed to the instructor.

After receiving the assignments, the instructor was to act differently in each group:

a. In the control group, on the delivery day, one or two were chosen, read out by the writers, and discussed by peers. After that, all the papers were reviewed and given written feedback by the instructor. The assignments were returned to the participants on the following session. Finally, the participants were supposed to rewrite them and hand them over to the instructor for a second time review.

b. In the experimental group, the writing assignments which were sent to the instructor via email were posted on the wiki pages (each task one single page) as they were shown anonymous. Afterwards, all the participants were supposed to read their classmates' assignments and review them within 24 hours it was posted. Then, learners were supposed to take the last step and rewrite their own texts. The revised texts were submitted to the instructor, again, via email. These were assumed as their final draft, and, therefore, were commented only by the instructor.

For each task a single subpage was made. Some items were added to the top of all subpages repeatedly; they consisted of the tips on the types of feedback, the links to an online dictionary (<http://www.ldoceonline.com/>), some English learning websites (e.g. <http://www.englishpage.com/prepositions/phrasaldictionary.html>, <http://www.goodluckielts.com/ielts-writing-keywords.html>), and some efficient documents like the pdf files of the course book and a picture dictionary.

On 12<sup>th</sup> session, a writing posttest was held to explore how much each approach has affected the Iranian EFL learners' grammatical accuracy in writing.

## Data Analysis and Results

### Answer to the First Research Question

As it was stated above, the first research question was “Does providing feedback in the interactive environment of wiki improve the grammatical accuracy of Iranian EFL learners' writing skill?” To unravel the possible effect of wikis on the EFL learners' grammatical accuracy in writing, the grammar scores of writing pretest and post-test of the learners in the EG were compared via a paired-samples *t* test. Table 1 shows the results of descriptive statistics performed for this purpose.

**Table 1.** *Descriptive Statistics for Comparing the Pretest and Post-test Grammar Scores of the EG Learners*

Tests	<i>N</i>	Mean	<i>Std. Deviation</i>	<i>Std. Mean</i>	Error
Pretest	25	12.21	2.35	.36	

Post-test	25	17.83	2.17	.44
-----------	----	-------	------	-----

For the EG learners, the post-test mean score ( $M = 17.83$ ) was noticeably larger than the pretest mean score ( $M = 12.21$ ). Whether this difference between the pretest and post-test scores of the EG learners were statistically significant or not could be determined by checking the  $p$  value under the *Sig.* (2-tailed) column in the paired-samples  $t$  test table below:

**Table 2.** Paired-Samples  $t$  Test Results for Comparing the Pretest and Post-test Grammar Scores of the EG Learners

	$t$	$Df$	<i>Sig.</i> (2-tailed)	<i>Std.</i> Deviation	<i>Std.</i> Error Mean	95% Confidence Interval of the Difference	
						Lower	Upper
Pretest-Post test	16.31	24	.000	3.51	1.28	-2.36	3.21

According to Table 2, there was a statistically significant difference between the pretest and post-test grammar scores of the EG learners since the  $p$  value was found to be smaller than the specified level of significance ( $.000 < .05$ ). It could, thus, be concluded that the treatment (using wikis) helped intermediate EFL learners improve their grammatical accuracy in writing significantly.

### Answer to the Second Research Question

The second research question was “Is there any significant difference between the effects of providing feedback in wiki vs. providing traditional feedback on the grammatical accuracy of Iranian EFL Learners?” In order to explore the difference between the EG and CG learners regarding their grammatical accuracy, the grammar scores of their writing pretests were compared by means of an independent-samples  $t$  test. This was done to ascertain they were not substantially different with respect to their grammatical accuracy at the outset of the study. An independent-samples  $t$  test was used again to compare the EG and CG learners’ grammatical accuracy scores after the completion of the experiment. Table 3 presents the descriptive statistics related to these analyses:

**Table 3.** Descriptive Statistics for Comparing the EG and CG Learners’ Grammar Scores on the Writing Pretest and Post test

	Groups	$N$	Mean	<i>Std.</i> Deviation	<i>Std.</i> Error Mean
Pretest	EG	25	12.21	2.34	.85
	CG	25	11.98	2.38	.16
Post-test	EG	25	17.83	1.81	.65
	CG	25	14.65	2.56	.44

As is shown in Table 3, on the writing pretest, the grammar mean score of the EG learners ( $M = 12.21$ ) was slightly more than the grammar mean score of the CG learners ( $M = 11.98$ ). However, on the writing post-test, the difference between the EG learners’ grammar mean score

( $M = 17.83$ ) turned out to be considerably more than that of CG learners ( $M = 14.56$ ). To check the statistical significance/insignificance of these differences between the grammar pretest scores of the two groups and between their grammar post-test scores, the researcher needed to examine the  $p$  value under the *Sig.* (2-tailed) column in Table 4

**Table 4.** Results of the Independent-Samples  $t$  Test for Comparing the EG and CG Learners' Grammar Scores on the Pretest and Post-test

	Levene's Test for Equality of Variances		$t$ test for Equality of Means				95% Confidence Interval of the Difference		
	<i>F.</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean Difference	<i>Std. Error</i>	Lower	Upper
Pretest	.19	.43	.36	48	.39	.23	2.63	-4.53	3.67
Post-test	.08	.68	2.13	48	.000	3.18	3.81	-4.10	2.29

Based on the information presented in Table 4, there was not a statistically significant difference in grammar pretest scores for EG ( $M = 12.21$ ,  $SD = 2.34$ ) and CG learners ( $M = 11.98$ ,  $SD = 2.38$ ),  $t(48) = .36$ ,  $p = .39$  (two-tailed). However, the  $p$  value was less than the significance level ( $.000 < .05$ ) for the grammar post-test scores of the two groups, and, therefore, the difference between the EG ( $M = 17.83$ ,  $SD = 1.81$ ) and CG learners ( $M = 14.65$ ,  $SD = 2.56$ ) reached statistical significance. It could, thus, be concluded that the two groups had approximately the same level of grammatical accuracy before the commencement of the experiment, but after the completion of the experiment, the EG learners had a significantly higher performance on grammar compared to their counterparts in the CG.

### Answer to the Third Research Question

The third research question of the study was "What are the perceptions' of Iranian EFL learners of providing feedback via wiki?" The researcher did her best to elicit and reflect the EG learners' perceptions regarding the use of wikis for providing feedback on their written assignments, and could come up with the following results:

About two-thirds of the EG learners ( $f = 15$ ,  $p = 60\%$ ) welcomed the use of wikis for the purpose of improving their writing since they could learn from other learners' mistakes (as the feedback provided on the assignments could be seen by the peers). Around the same percentage of the EG learners ( $f = 16$ ,  $p = 64\%$ ) were in favor of the treatment since they believed collaborative work would produce more fruitful results compared with an individual completion of a task such as grammar, which was a burdensome activity for the learners. Thirteen learners in

the EG (52%) believed that in a wiki environment, they could take advantage of peer feedback in addition to teacher feedback, and thus learn in a more manageable way.

The fact that the treatment took place in a virtual environment was also seen as an auspicious supplement to the course in as much as most of the EG learners ( $f = 21$ ,  $p = 84\%$ ) admitted that they were happy (and stress-free) to learn in an environment different from the hackneyed classroom settings. Actually, they ( $f = 22$ ,  $p = 88\%$ ) found this experience interesting and motivating, and contended ( $f = 20$ ,  $p = 80\%$ ) that they would like to continue learning this way whenever possible. All in all, the EG learners approved of the use of wikis in writing classes, especially for the purpose of ameliorating their grammatical accuracy.

### Discussion

The present study was designed to investigate the potential effects of providing feedback in the interactive environment of wiki on improving the grammatical accuracy of Iranian EFL learners' writing skill as well as the attitudes of Iranian EFL learners' toward receiving feedback via wiki. Based on the first question, the first null hypothesis was formulated positing that: providing feedback in the interactive environment of wiki does not improve the grammatical accuracy of Iranian EFL learners' writing skill. To examine this hypothesis, a paired-samples  $t$  test was run. The results of data analysis revealed that the treatment (using wikis) helped intermediate EFL learners improve their grammatical accuracy in writing significantly because there was a statistically significant difference between the pretest and posttest grammar scores of the EG learners. Therefore, the results uniformly rejected the first hypothesis.

The findings of the present lend further support to those of Guth (2007) and Storch (2005) who have claimed that using wikis can improve the grammatical accuracy and complexity of EFL learners' writing skill. Moreover, our findings are also in line with that of Purnima Iyer (2013) who explored the effects of a somewhat similar technology, i.e. collaborative blogging, on improving the writing of Thai EFL students. Likewise, the findings of the present study are in line with those of Simsek (2010) who investigated the effect of weblog integrated writing instruction on students writing performance. His results indicated that weblog integrated writing instruction improved students writing skills.

On a broader level, the findings of this study corroborate the importance of collaboration as a central component of sociocultural learning theory proposed by Vygotsky (1978) because collaboration is indeed the foundation of wikis (Morgan & Smith, 2008). Thus, it can be claimed that rather than consuming static course materials individually, EFL wiki users are able to build knowledge collaboratively in the public space of the shared wiki (Neumann & Hood, 2009). Along the same line of research and in line with our findings, Arnold et. al. (2009) discovered that their learner focused more effectively on their writing accuracy after using a wiki.

With regard to the second research question and the second null hypothesis, which posited "There is no significant difference between the effects of providing feedback in wiki vs. providing traditional feedback on the grammatical accuracy of Iranian EFL Learners", an independent-samples  $t$  test was used to compare the EG and CG learners' grammatical accuracy scores after the completion of the experiment. The results of data analysis presented in the previous chapter demonstrated that after the completion of the experiment, the EG learners had a significantly higher performance on grammar compared to their counterparts in the CG. In other words, the second null hypothesis was also rejected and it can be concluded that the treatment (i.e. receiving feedback through wikis) helped EG learners achieve better grammatical accuracy results in their writing.

The findings from examining the second null hypothesis are in line with those of Neumann and Hood (2009) who, in a comparative study, discovered that the students in the wiki group were more cognitively engaged than the students writing in the traditional group and their performance also far outweighed the performance of their counterparts in the traditional writing group. Similarly, our findings lend further support to those of Mak and Coniam (2008) who reported that, in an educational setting where writing is deemed as a product, EFL learners involved in a wiki writing task outperformed those with a traditional one.

A plausible explanation for such findings might come from the fact that wikis are user-friendly, easily accessed, and low-cost (Zorko, 2009), and when they are employed in writing they can foster attention to forms, collaboration, and democratic learning, with all participants taking the role of expert and novice (Neumann & Hood, 2009).

The third research question of the study was “What are the perceptions’ of Iranian EFL learners of providing feedback via wiki?” The researcher elicited and reflected the EG learners’ perceptions regarding the use of wikis for providing feedback on their written assignments. It was found that, similar to the findings of (Lund, 2008), Matthew et al. (2009); Schroeder (2009), and Zorko (2009), most of the EFL learners welcomed the use of wikis for the purpose of improving their writing since they could learn from other learners’ mistakes as the feedback provided on the assignments could be seen by the peers.

Moreover, most of the EG learners ( $f = 16, p = 64\%$ ) were in favor of the treatment, similar to the participants in Schroeder’s study (2009), since they believed collaborative work would produce more fruitful results compared with an individual completion of a task such as grammar, which was a burdensome activity for the learners.

Nevertheless, our findings run counter to those of other researcher (Guth, 2007; Lee, 2010; Lin & Kelsey, 2009), who have reported that not all students are open to the idea of wikis. It should be noted that while students may not always enjoy editing their peers’ contributions, revising classmates’ additions and working collaboratively on a wiki does engage them in critical thinking skills and improves their writing skills (Matthew et al., 2009; Neumann & Hood, 2009).

Moreover, most of the EG learners ( $f = 21, p = 84\%$ ) admitted that they were happy (and stress-free) to learn in an environment different from the hackneyed classroom settings. Actually, they ( $f = 22, p = 88\%$ ) found this experience interesting and motivating, and contended ( $f = 20, p = 80\%$ ) that they would like to continue learning this way whenever possible. Such findings are in line with those of Cole (2009) who suggested that students are more inclined and motivated to use technology when they perceive it as fun. In other words, having partners or teachers outside of the classroom as collaborators or readers could be genuinely motivating and even fun for students.

### **Conclusions**

The following major results were reached upon the completion of the experiment: (a) the experimental group displayed evidence of significant improvement from pretest to posttest, giving rise to the conclusion that using wikis to provide feedback of students’ writing can have a significantly positive effect on improving their grammatical accuracy in a writing task, (b) the experimental group was found to outperform the control group on the posttest leading us to the conclusion that there is a significant difference between the effects of providing feedback in wiki vs. providing traditional feedback on the grammatical accuracy of Iranian EFL Learners. In other words, wikis appear to be more effective in this regard, (c) most of the subjects surveyed in the study had a positive attitude toward using wikis for a writing task, reporting that it was an

interesting, motivating, stress-free experience. In fact, it was found that the majority of learners were in favor of using this technology in a writing EFL classroom.

To sum up, wikis were found to assist Iranian EFL learners to improve their grammatical accuracy while writing. Moreover, there were main advantages of using wikis in teaching writing skills as concluded in this study. For instance, the application of wikis was found to be beneficial in terms of motivating students to write and providing more cooperation between teacher and learners.

According to the aforementioned conclusions, the results of this study are relevant to language learning and teaching in general and teaching writing skill in particular. In fact, the findings of this study brought about some pedagogical implications for EFL teachers, learners, and curriculum developers. Given the benefits of wikis reported in the present study, the findings showed that EFL teachers can use wikis in their writing classes and for assigning writing tasks in order to improve their learners' quality of writing. Furthermore, the present findings indicated that employing wikis in writing classes was beneficial in making the learners motivated and interested to write in an EFL context. In other words, it is hoped that the findings of the present study will encourage EFL teachers to pay closer and more consummate attention, to the application of new technology (especially wikis) in their classes.

In addition, it is also hoped that the findings of our study motivate EFL learners to take more responsibility for their own by using new technologies like wikis. To put it simply, a well-developed skill of using wikis as employed in this study as well as other technologies used in other studies can provide EFL learners with a wide range of interesting and motivating ways to improve their writing skill. In sum, EFL learners are expected to think twice about the role of technology in language learning.

Finally, EFL materials developers and syllabus designers are expected to integrate different forms of technology in their materials more than before. In fact, they are recommended to change their view of technology as a second-rate teaching priority and involve various exercises, activities, and tasks carried out by technologies in their materials. For instance, as suggested by our findings, they can benefit from wikis as an easy to apply, inexpensive, and unobtrusive methods of drawing the learners' attention to their mistakes in writing.

### References

- Ajjan, H., & Hartshorne, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *Internet and Higher Education, 11*, 71-80.
- Arbaugh, J. (2000). Virtual classroom characteristics and student satisfaction with internet-based MBA courses. *Journal of Management Education, 24*, 32-54.
- Arnold, N., Ducate, L., & Kost, C. (2009). Collaborative writing in wikis: Insights from culture projects in German classes. In L. Lomicka, & G. Lord, *The next generation: Social networking and online collaboration in foreign language learning* (pp. 115-144). San Marcos: TX: Computer Assisted Language Instruction Consortium.
- Arnold, N., Ducate, L., & Kost, C. (2012). Collaboration or cooperation? Analyzing group dynamics and revision processes in wikis. *CALICO Journal, 29*, 431-448.
- Beauvois, M. (1992). *Computer-assisted classroom discussion in French using networked computers*. University of Texas. Austin: Unpublished PhD thesis.
- Behjat, F., Bagheri, M. S., & Yamini, M. (2012, January 1). Web 2.0-Assisted Language Learning: Using Technology to Enhance Reading Comprehension. *International Journal of Social Sciences and Education, 2*(1), 247-259.

Bonk, C., Lee, M., Kim, N., & Lin, M. (2009). The tensions of transformation in three cross-institutional wikibook projects. *Internet and Higher Education*, 12, 126–135.

Bradley, L., Linstrom, B., & Rystedt, H. (2010). Rationalities of collaboration for language learning in a wiki. *ReCALL*, 22, 247–265.

Chase, D. (2007). Transformative sharing with instant messaging, wikis, interactive maps, and Flickr. *Computers in Libraries*, 27(7), 52–54.

Cole, M. (2009). Using wiki technology to support student engagement: Lessons from the trenches. *Computers & Education*, 52, 141-146.

DiGiovanni, E., & Nagaswami, G. (2001). Online peer review: An alternative to face-to-face? *ELT Journal: English Language Teacher Journal*, 55(3), 263.

Erben, T. (1999). Constructing learning in a virtual immersion bath: LOTE eacher education through audiographics. *WORLDCALL: Global Perspectives on Computer-Assisted Language Learning*, 229-248.

Fitzpatrick, A., & Davies, G. D. (2003). *The impact of new technologies and internet on the teaching of foreign languages and on the role of teachers of a foreign language*. online: The Directorate General of Education and Culture of The European Language Network.

Gibbs, G., & Simpson, C. (2004). Conditions under which assessment supports students' learning. *Learning and Teaching in Higher Education*, 1, 3-31.

Godwin-Jones, R. (2003). Emerging technologies: Blogs and wikis: Environments for online collaboration. *Language Learning & Technology*, 7, 12-16.

Guardado, M., & Shi, L. (2007). ESL students' experiences of online peer feedback. *Computers & Composition*, 24(4), 443-461.

Guth, S. (2007). Wikis in education: Is public better? *WikiSym '07*. Montréal.

Iyer, P. (2013). Effects of collaborative blogging on communicative skills in writing of Thai University EFL students. *English for Specific Purposes World*, 14(39), 54-63.

Jones, J. (2008). Patterns of revision in online writing: A study of Wikipedia's featured articles. *Written Communication*, 25, 262–289.

Kelm. (1992). The use of synchronous computer networks in second language instruction: A preliminary report. *Foreign Language Annals*, 25(5), 441-454.

Kem, R. G. (1995). Restructuring classroom interaction with networked computers: Effects on quantity and characteristics of language production. *The Modern Language Journal*, 79(4), 457-476.

Kessler, G. (2009). Student-initiated attention to form in wiki-based collaborative writing. *Language Learning and Technology*, 13, 79-95.

Khany, R., & Khosravian, F. (2013). The application of Wikipedia for enhancing Iranian EFL students' reading proficiency. *Proceeding of the global summit on education*, 135-142.

Khoii, R., & Arabsarhangi, Z. (2009). The Effect of Wikis' Collaborative Environment on the Improvement of Iranian EFL Learners' Writing Skill. *International Conference" ICT Language Learning"*.

Lamb, B. (2004). Wide open spaces: Wiki, ready or not. *Educause Review*, 39, 36-48.

Lanham, R. A. (1993). The implications of electronic information for the sociology of knowledge. In S. N. Katz, & M. Ester, *Technology, scholarship and the humanities: The implications of electronic information*.

Lee, L. (2010). Wiki-mediated collaborative writing: A case study in an elementary Spanish course. *CALICO Journal*, 27, 260–276.

Levy, M. (1997). *Computer-assisted language learning: Context and conceptualization*. Oxford University Press.

Li, M., & Zhu, W. (2013). Patterns of computer-mediated interaction in small writing groups using wikis. *Computer Assisted Language Learning*, 26, 61–82.

Lin, H., & Kelsey, K. (2009). Building a networked environment in wikis: The evolving phases of collaborative learning in a wikibook project. *Journal of Educational Computing research*, 40, 145–169.

Liu, J., & Sadler, R. W. (2003). The effect and affect of peer review in electronic versus traditional modes on L2 writing. *Journal of English for Academic Purposes*, 2(3), 193.

Lund, A. (2008). Wikis: A collective approach to language production. *ReCALL*, 20, 35-54.

MacLeod, L. (1999). Computer-aided peer review of writing. *Business Communication Quarterly*, 62(3), 87-94.

Mak, B., & Coniam, D. (2008). Using wikis to enhance and develop writing skills among secondary school students in Hong Kong. *System*, 36, 437–455.

Matthew, K., Felvegi, E., & Calloway, R. (2009). Wiki as a collaborative learning tool in a language arts methods class. *Journal of Research on Technology in Education*, 42, 51-72.

Morgan, B. and Smith, R. D. (2008). *A Wiki for Classroom Writing*. The Reading Teacher. Blackwell Publishing Ltd.

Neumann, D. L., & Hood, M. (2009). The effects of using a wiki on student engagement and learning of report writing skills in a university statistics course. *Australasian Journal of Educational Technology*, 25(3), 382-39.

Pope, N. (2001). An examination of the use of peer rating for formative assessment in the context of the theory of consumption values. *Assessment and Evaluation in Higher Education*, 26(3), 235-246.

Prensky, M. (2001). Digital natives, digital immigrants Part I. *On the Horizon*, 9(5), 1-6.

Rahimi, A., Ebrahimi, N. A., & Eskandari, Z. (2013). THE EFFECTS OF USING TECHNOLOGY AND THE INTERNET ON SOME IRANIAN EFL STUDENTS' PERCEPTIONS OF THEIR COMMUNICATION CLASSROOM ENVIRONMENT. *Teaching English with Technology*, 1, 3-19.

Rashtchi, M., & Hajihassani, H. (2010). Blog-assisted Language Learning: A Possibility in Teaching Reading to Iranian EFL Learners. *International Journal of Language Studies*, 4(4).

Ruth, R. (2003). *Computer-mediated peer response and its impact on revision in the college Spanish classroom: A case study*. Unpublished PhD thesis, University of South Florida.

Schroeder, B. (2009). Within the wiki: Best practices for educators. *AACE Journal*, 17, 181–197.

Schultz, J. M. (2000). Computers and collaborative writing in the foreign language curriculum. In M. Warschauer, & R. Kern, *Network-based language teaching: Concepts and practice* (pp. 121-150).

Simsek, O. (2010). The Effect of Weblog (blog) students' writing performance. *Procedia Social and Behavioral Sciences*, 2, 953-958.

Storch, N. (2002). Patterns of Interaction in ESL Pair Work. *Language Learning*, 52(1), 119-158.

Storch, n. (2005). Collaborative writing: Product, process, and students' reflections. *Journal of Second Language Writing*, 14, 153-173.

Sullivan, N., & Pratt, E. (1996). A comparative study of two ESL writing environments: A computer-assisted classroom and a traditional oral classroom. *System*, 24(4), 491-501.

Toker, S., Moseley, J., & Chow, A. (2008). Is there a wiki in your future? Applications for education, instructional design, and general use. *Educational Technology Magazine: The Magazine for Managers of Change in Education*, 48, 22-27.

Tsui, A., & Ng, M. (2000). Do secondary L2 writers benefit from peer comments? *Journal of Second Language Writing*, 9(2), 147-170.

Tuzi, F. (2004). The impact of e-feedback on the revisions of L2 writers in an academic writing course. *Computers & Composition*, 21(2), 217-235.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Warschauer, M. & Kern, R. (2000). Comparing face-to-face and electronic communication in the second language classroom. *CALICO Journal*, 13, 7-26.

Wheeler, S., Yeomans, P., & Wheeler, D. (2008). The Good, the Bad and the Wiki: Evaluating student generated content for collaborative learning. *British Journal of Educational Technology*, 39(6), 987-995.

Williams, J. (2005). *Teaching writing in second and Foreign Language Classrooms*. Boston: McGraw-Hill.

Yang, M., Badger, R., & Yu, Z. (2006). A comparative study of peer and teacher feedback in a Chinese EFL writing class. *Journal of Second Language Writing*, 15(3), 179-200.

Zemach, D. E., & Islam, C. (2005). *Writing in paragraphs: from sentence to paragraph*. Macmillan Education.

Zorko, V. (2009). Factors affecting the way students collaborate in a wiki for English language learning. *Australasian Journal of Educational Technology*, 25(5), 645-665.