Student Response to Using Wiki in Written Discourse

Persis Rodrigues  
*Berjaya University College of Hospitality, Malaysia*

Simon John Williams  
*The Higher Colleges of Technology, Men’s College, Sharjah Dubai*

Malachi Edwin Vethamani  
*University of Nottingham Malaysia Campus*

© The Author(s) 2016. This article is published with open access by Taylor’s Press.

Abstract

The use of Web 2.0 tools such as blogs, Wikis, and podcasts have brought both language instructors and learners to experience the effectiveness of online learning approach. The contribution of online applications has promoted a positive learning experience between individual and collaborative learning among the learners. Wiki is one of the online learning tools to support the learners in their written discourse. This paper presents the findings of student feedback towards using Wiki for written discourse in a 6-week Intensive English Programme (IEN). A total of 8 participants took part in this study, and collection of data was carried out via interviews. The results indicate that the learners experienced positive learning attributes in using Wiki. The implications of this study are discussed along with the suggestions for further research.

Keywords: Collaborative learning, computer-based instruction, Cooperative learning, web 2.0 tools, Wikis

INTRODUCTION

Background to the Study

The development of computer-mediated interaction has greatly diversified in the fields of teaching and learning (Tinio, 2002; Chapelle, 2003; Kenning, 2007). The various forms of online interaction supported by the recent features of computer technology are often referred to as Web 2.0 including blogs, Wikis, and social networks (Warschauer and Grimes, 2007). These new online platforms promote collaborative and interactive activities in many educational fields. One of particular relevance is the use of Wikis, which supports collaborative writing activities among language learners. The primary attribute of the Wiki enables users to engage in a collaborative and social nature where open editing feature is present (Leuf & Cunningham, 2001). Furthermore, the applications of Wikis have been well-documented and researched, especially in teaching writing both in English as a second language (ESL) and English as a foreign language (EFL) contexts (Bradley, Lindstrom &

* Correspondence author: Persis Rodrigues  
Email: persis.rodrigues@berjaya.edu.my
Student Response to Using Wiki in Written Discourse


Statement of Problem
Some language learners often prefer teacher feedback to peer feedback in the ESL writing class, because they do not see the importance of having collaborative learning in their written discourse (Zhang, 1995). Apart from receiving teacher feedback, some language learners prefer to work individually because the learners perceive that writing task is actually aimed at the individual’s ability (Storch, 2005). Hence, a Wiki is used as an online learning tool to encourage positive collaborative learning in written discourse (Mak and Coniam, 2008).

Objective of the Study
This paper aims to explore student feedback of using Wiki for written discourse in a 6-week Intensive English Programme (IEN) at a Malaysian university.

Research Questions
The research questions are used to achieve the objectives of the study:

1. How useful do the participants find writing on a Wiki to develop their writing skills?
2. What are the participants’ feelings towards using Wikis in the written discourse?
3. How do Wiki features facilitate the improvement of the participants’ written discourse?

Limitations of the Study
Such findings are limited to exploring the student response of using the Wiki. These findings are based on interview sessions. Therefore, no broad generalisations will be made in this study.

LITERATURE REVIEW
The following literature review addresses the keywords related to the study:

Definition of Web 2.0
Web 2.0 is social software that enables social connections, group interactions, collaboration in Web spaces and online information exchange (Bragg, 2007, p.3). In recent years, Web 2.0 tools such as blogs, Wikis, and podcasts, Myspace, Twitter and Facebook have attracted a number of users in the world. The features of Web 2.0 technologies facilitate learners in doing more interactive and versatile learning tasks with the teacher and peers. Thus, these tools are used as open platforms for micro-content, collective authoring and participatory webbing (Alexander, 2006).

Wikis as Part of Web 2.0
This study will focus on the use of the Wiki. The founder of the Wiki, Ward Cunningham, developed this collaborative tool in 1994. Cunningham used the term Wiki, originally from a Hawaiian word for quick. Leuf and Conningham (2001, p.4) further elaborates that Wikis are “freely expandable collection of interlinked web pages, a hypertext system for storing and modifying information – a database, where each page is easily edited by any user. The definition of Wiki is further defined as a kind of server software, which allows users to freely and easily construct and edit web page content using any web browser in which hyperlinks are accessible (Widodo and Novawan; 2012, p. 2). Augar, Raitman and Zhou (2004) further highlight that the main feature of the Wiki is it allows a user to “visit, read, re-organize, and update”.


In the educational field, Tonkin (2005) recommends that the use of Wiki has four main categories:

1. Single-user: This allows individual students to write and edit their own thoughts and is useful for revision and monitoring changes in understanding over time.

2. Lab book: This enables students to peer review notes kept online by adding, for example, commentary or annotations to existing lecture notes or seminar discussions.

3. Collaborative writing: This can be used by a team for joint research such as a group project, essay or presentation.

4. Creating a topical knowledge repository for a module cohort: Through collaborative entries, students create to insert course content that supplements.

These Wiki categories offer both language teachers and learners choices they could choose from their assigned tasks. With these categories, the language teachers and learners can implement them in a more integrative way to create more dynamic learning activities inside and outside the classroom.

Howe (2006-2007) further categorises the types of processes within the Web 2.0 technologies such as the Wiki as varying modes of interaction with knowledge, such as you make it, you name it, you work it, and you find it. You make it refers to the user as a contributor of new knowledge; while you name it describes contributors develop tags for the shared information. You work it explains how contributors work together to develop collections of posted information. You find it means the contributors find topics, trends, and overviews of other contributors in one Wiki. In the same online platform, the users have the potential to share knowledge in all of these roles among themselves.

Wikis have been named “an effective tool for educators” (Robinson, 2006). Ben-Zvi (2007) argued that collaborative writing assignments through Wikis encourage learners to revise each other’s pieces and truly reflect on and evaluate what is being put together. For instance, each time a Wiki is edited, a separate tracking feature makes note of what changes were made and who made those changes. In other words, it archives the changes and the persons who made them in a single platform. Such situation can be found in Canole de Laat, Dillon, and Darby’s study (2006) on undergraduate student responses towards using Wikis. The researchers concluded that editing or revising someone else’s work developed new forms of evaluation skills that enabled the students to analyse and make constructive decisions about new content.

Through Wikis, learners are able to further improve their writing skills such as identifying spelling errors, revising grammatical structures including punctuations and lexicons, and improving the essay content (Singh, Harun, Safinas & Fareed, 2013). Wikis also enable learners to gain more content area knowledge because of student contributions in collaborative work (Lian, Hoon & Abdullah, 2011). Therefore, the task of collaborative writing in the context of ESL helps language learners to experience more in an authentic environment.

Limitations of Wikis

Zurita (2006) found that there were some inconsistencies or challenges in using the Web 2.0 application. For instance, inconsistencies in technical issues are bound to happen during the learning process among the learners and instructors as well. Managing group work is another
challenge for instructors to ensure every single learner is able to access Wiki. Another limitation of using the Wiki is student expectations on how the instructions should be delivered so that the learning objectives are met.

RESEARCH METHODOLOGY
This study uses only qualitative method in investigating the student response to using Wiki. Interviewing the participants give the researchers an opportunity to gain a comprehensive understanding of various comments towards using Wiki in their written discourse. Such research design (qualitative) is adopted to develop intensive knowledge of some related cases (Robson, 2002).

Participants
The participants in this study were aged between 17 and 25 years old. 8 participants took part in this qualitative study. This study was carried out on Lower Intermediate students (LI) whose level was decided by an English Entrance Test (EET). In this level, all the participants had to complete the 6-week programme.

Context
During the six-week programme, the participants were required to work together in small groups to research some information and build shared knowledge on the assigned topic. In order to facilitate this collaborative process, the participants were required to use the Wiki platform to support the construction of shared information of the given topic. Hence, the Wiki provided an online platform to store, organise and display the developing content as the participants worked together to post, revise, edit and reply. The participants had the entire 6 weeks to collaboratively research their topic and produce the final outcome of their written assignments.

Guidelines were given for what should be included in the Wiki and the participants were given a rubric that would be used to assess their written work. Based on Table 1, the rubric was divided into four categories, which are content, structure & main idea, grammar & sentence structure, and vocabulary & punctuation. The rubric was simplified to suit the participants’ level of Lower Intermediate and embedded onto a Wiki page. The rubric was freely accessible to the students at all times.

TABLE 1
Writing Rubric for Lower Intermediate

<table>
<thead>
<tr>
<th>Content (5 marks)</th>
<th>Very Good</th>
<th>Good</th>
<th>Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have expanded and explained my topic by collecting lots of research from books and online.</td>
<td>I sometimes expanded and explained my topic by collecting some research from books and online.</td>
<td>I didn’t expand or explain my idea so much because I did very little research.</td>
<td></td>
</tr>
<tr>
<td>I didn’t copy any content from information that I found online, in books or from friends.</td>
<td>I copied some content from information that I found online, in books or my friends.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structure Main Idea (6 marks)</th>
<th>Very Good</th>
<th>Good</th>
<th>Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>My essay has a clear introduction, main body sections and</td>
<td>My essay doesn’t have a clear introduction, main body or</td>
<td>My essay has only one big paragraph. The introduction, main body</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Journal of Interdisciplinary Research in Education Volume 6, Issue 1, 2016
Data Collection

In following Chenail’s (2011) discovery-orientated approach to interviewing, the researchers developed open-ended questions, so that participants were free to express their own ideas and recollections. The interview sessions were semi-structured and conducted by researchers who were not familiar to the participants. The interview questions were first peer-debriefed by researchers not involved in the study to assess questions that may be leading (Carspecken, 1996). The participants’ responses were then recorded and fully transcribed, after which Madison’s (2012) coding procedure was adapted whereby the researchers familiarised themselves with the transcripts by reading them numerous times. After which, the researchers began to note emerging clumps and generated themes. In total, eight participants were interviewed by the researchers and the subsequent transcriptions were tabulated.

**TABLE 2**

**Interview Questions**

<table>
<thead>
<tr>
<th>Research Question 1</th>
<th>Research Question 2</th>
<th>Research Question 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What was good about the Wiki?</td>
<td>4. Did you enjoy using the Wiki?</td>
<td>9. Did you use the Wiki help you improve writing?</td>
</tr>
<tr>
<td>2. What was bad about the Wiki?</td>
<td>5. Was it easy to use?</td>
<td>10. Did the edit features help you improve writing?</td>
</tr>
<tr>
<td>3. Do you think your writing is better than 6 weeks ago?</td>
<td>6. How long did it take to become easy?</td>
<td>11. Did you edit yourself</td>
</tr>
<tr>
<td>7. Do you want your next teacher to use a Wiki for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.</td>
<td></td>
</tr>
</tbody>
</table>

(Williams, S.J., 2012)
The participants were asked questions of which corresponded with the research question as indicated in Table 2. The questions were designed to elicit the past experiences of the students from their usage of the Wikis in class and in their writing. Considering the language level of the participants, the questions were phrased, without complex vocabulary or sentences structures.

Apart from the interview session, three essays were collected. The first two essays were edited by the researchers twice based on the writing rubric. The third essay was edited once based on sentence structure for the participants to understand the mistakes they made.

FINDINGS AND DISCUSSION

The findings of the study are presented according to the three research questions. The first research question addresses the participants’ feedback on using a Wiki to develop their writing skills. The second research question finds out how the participants feel about using Wikis in the written discourse, and the final research question further investigates to what extent Wiki features facilitate the improvement of the participants’ written discourse.

First Research Question

The first research question finds out how useful the Wiki is in helping the participants develop their writing skills. The findings of the first research question are organised according to three sections – The Advantages of Using the Wiki, The Disadvantages of Using the Wiki and The Improvement of Writing.

The Advantages of Using the Wiki

The two main advantages of using the Wiki were positive collaborative work and convenience. The ability to share thoughts, opinions and discuss with their group members was a major contributor for many participants, with the use of Wiki. Out of 8 participants, 3 felt that using a Wiki as a collaborative platform was beneficial. The Wiki allowed the three participants to communicate with their classmates and instructor on how to complete the assigned task. In addition, they could easily pose questions to the instructor after the classroom hours. This current finding has similar results with Othman’s (2007) research on investigating writing in a computer-mediated communication (CMC) language classroom. Othman (2007) found out that 20 students in the CMC group expressed their positive remarks on sharing thoughts and discussing with peers. In addition, this CMC group was less ‘afraid of the teacher’. The following Figure 1 describes the three positive feedback given by the participants:

<table>
<thead>
<tr>
<th>Question</th>
<th>Participant</th>
</tr>
</thead>
</table>
| "Mmm, I think I can. I can talk to the teacher very easily. I can ask some questions, and the teacher can reply me."
| (Participant 2)                                    |
| "Because it is easy to talk with teacher and finish homework."
| (Participant 3)                                    |
| "It was a simple website where I always can do – talk with my teacher, with my friends in my group. I can always download some files. Something from ... studying about it. Yes, I

"Mmm, I think I can. I can talk to the teacher very easily. I can ask some questions, and the teacher can reply me."

(Participant 2)

"Because it is easy to talk with teacher and finish homework."

(Participant 3)

"It was a simple website where I always can do – talk with my teacher, with my friends in my group. I can always download some files. Something from ... studying about it. Yes, I
always can connect with the teacher (download files and speak to the teacher).  

(Participant 6)

FIGURE 1  
Positive Feedback on Collaborative Work

The other participants felt that the Wiki was very convenient for them because they could access it anytime and anywhere. Participant 6 was pleased to use the Wiki because she could finish her work on time without worrying about the hardcopy. Both participant 5 and 8 felt that Wiki could help them minimise the error corrections on papers. In other words, they found that Wiki allowed them to edit their corrections until they submitted the final essay. These findings show that such occurrence of process writing allows the learners to keep editing their essays at their own pace without having to worry about what to submit to the teacher (Ismail, 2012). Figure 2 shows similar feedback given by participant 5 and 8 respectively.

“Um, can easy to, to, to um use to help me to type the word and if I write in the paper I will have some mistake but I typing Wiki space I can change it so...”  

(Participant 5)

“It is very convenient. You can use the Wiki to do your homework anywhere. You cannot use your pencil (good thing).”  

(Participant 8)

FIGURE 2  
The Convenience of Using a Wiki

The Disadvantages of Using the Wiki

The findings were surprising because only one participant showed no interest in online learning. This was partly because of her educational background in her country, where the participant had limited exposure to computers and Wikis software (Palloff & Pratt, 2005). In addition, the participant showed no interest in using a computer at all as she would prefer to use the old method: paper and pen. The participant further explained her feedback:

“Because Wiki is on the computer. I don't like computer. I don't like. I don’t know how to use it. For the first time, I use the computer. In China, I never use computer.”  

(Participant 4)

In order to run an online Wiki, participant 8 commented that an Internet connection was very crucial. Without the Internet connection, participants were unable to execute their online work within the given deadlines. In Canole, de Latt, Dillon, and Darby’s (2006) study, they found out that some students experienced frustration because of these technical challenges.

The Improvement of Writing

One of the most important and accessible features of Wiki writing is that it has a capability of providing both instructors and learners with logs and a history of their written tasks (Elgort, Smith & Toland, 2008). With these logs and a history of process writing, three participants felt that the Wiki helped them further improve their writing skills, especially when developing their confidence in writing more words. For example, Participant 1 was happy and confident that she could write more than 200 words. Apart from this, the participants felt that the edit features helped them expand their thoughts in writing especially when the
instructor provided the comments using the Wiki. From there, the participants were able to correct their mistakes immediately. One good example to support this idea is when Participant 3 commented:

“Because when we send the homework to the instructor, the instructor can give me some opinion or advice. I can write again. I can improve my writing.”

(Participant 3)

With this Wiki, both instructors and students create a learning environment in which they can together simultaneously follow the progress of an essay or a simple discussion on the assigned topic. In short, Wiki promotes instant learning from mistakes (Ismail, 2012).

Second Research Question
In answering research question 2 (what the participants’ feelings are towards using Wikis in the written discourse), the findings are presented into two parts. The first part describes whether the participants enjoyed exploring the Wiki; meanwhile, the second part further investigates whether the participants would like the next instructor to use the Wiki in the next level.

Exploring the Wiki
Out of 8 participants, 6 enjoyed exploring the Wiki for their writing lessons. However, only two participants found the Wiki quite challenging. Participant 4 did not enjoy using the Wiki entirely because of her limited computer skills. This insufficient skill further hindered her from using the Wiki features. Apart from computer skills, English proficiency was one of the contributing factors why Participant 5 was unable to use Wiki that much:

“Ah yeah, my first time to use Wiki I feel it’s hard cause my English is not well at the time so I tried if I want to finish my solo work (inaudible) so now it is easy than writing on paper.”

(Participant 5)

Although the participants enjoyed using the Wiki, four of them found it quite challenging to use in the beginning. The main reason was they were not exposed to a Wiki before. Hence, the participants needed to learn new features such as editing buttons, group work page and so on. Nevertheless, it also depends on the participants’ computer skills. Participant 1 took a week to explore the features; whilst Participant 2 and 3 respectively took about three days and one day to understand how a Wiki functioned. This finding is parallel with another study which argues learners have limited or no experience of using Wiki. Wichadee (2013) reported that the participants had no prior experience of Wiki use before undertaking the course. Moreover, the participants were rather excited to know more about Wiki.

Wiki as a Future Platform for Writing Lessons
Seven participants would prefer the next instructor to use Wikis in their writing lessons. For instance, Participant 5 felt that the Wiki could help edit the errors countless times without using papers, because correcting many errors on papers could be messy. Besides correcting errors, the participants would prefer Wikis as a communication tool for sending messages to the next instructor. These findings show that the transparency feature of Wikis has contributed the development of collaboration work among learners traceable and retrievable to the instructors (Carr et al., 2007). However, only Participant 4 expressed her preference towards using papers because she could scribble many words or phrases on one piece of paper. Moreover, Participant 4 preferred to highlight and circle important words or phrases so that she could remember those highlighted phrases. The following comments were given by
the same participant:

“Paper. In level 2 my teacher we are in the paper writing and the teacher can check. I am used to paper. I like making notes. Circle and highlight. In China, a long time I like this. In Malaysia change. I don’t like.”  

(Participant 4)

**Third Research Question**

The third research question finds out whether the Wiki was helpful in improving students’ writing skills. The findings of the last research question are described in only one part: *The Benefits of Editing Features*.

*The Benefits of Editing Features*

The main benefit of using Wikis is the editing features which allow learners to experience the drafting process. During the drafting process, students collaboratively explore the editing features to further improve their writing skills (Widodo & Novawan, 2012). For example, five participants found the editing features were very useful because the participants could easily identify the mistakes and correct them immediately. Among the five participants, Participant 6 felt that the editing features allowed the instructor to edit and comment on the mistakes. Hence, the highlighted mistakes were clearly stated on one page which allowed the participant to focus on without having to rewrite the entire essay.

“Yes, I like it because in paper if you did mistake you must to write it again. Because when I write something and the instructor change it he said change it, he can write in my essay change this and change this and I can change it. I remember it.”  

(Participant 6)

Participant 1, 2 and 8 also expressed preference towards the editing features, because they could see some improvement in their writing skills respectively. Figure 3 shows similar feedback given by these three participants:

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Interesting. I can understand where I mistake.”</td>
<td>Participant 1</td>
</tr>
<tr>
<td>“I think it is good. I think it is good. It is very useful to improve my writing. I find my mistake I can check and check again.”</td>
<td>Participant 2</td>
</tr>
<tr>
<td>“Yes, It is helpful. If you want, for example, if this sentence is wrong, the teacher can help me to change it.”</td>
<td>Participant 8</td>
</tr>
</tbody>
</table>

**FIGURE 3**

*The Benefits of Using Editing Features*

Apart from those four participants, Participant 7 could use the editing features to edit the essay anytime and anywhere. Furthermore, Participant 7 could see the improvement in their writing skills, because of re-editing the essay three times. Re-editing the essay more than three times was not good because Participant 7 felt that it could be boring.

On the other hand, Participant 4 disagreed that the editing features were helpful. The main reason for this was that she was unable to make additional notes next to the words or phrases on Wiki. In other words, Participant 4 would prefer a red pen to highlight the notes.

Besides the benefits of editing features, participants were also asked whether it was necessary to change the Wikis features. The six participants felt that the current editing features were
good enough to help them improve their writing skills except for Participant 1 and 7. For instance, Participant 1 was hoping to see a spell check in the Wiki features, because Participant 1 sometimes forgot certain words. Hence, with the additional feature of a spell check, it would help the participant remember the words. A spell check feature exists on the Wikis; however, is it attached to the user's browser that was probably not enabled on the user's computer. Apart from commenting the editing features, Participant 7 felt that the choice of uploading videos should be more varied. At the meantime, only YouTube videos were allowed to be posted on Wiki.

**IMPLICATIONS OF THE STUDY**

Several implications can be drawn from the research findings of this study. These implications are discussed in relation to the effectiveness of Wikis in the development of writing skills. The implications of the study can be divided into four sections: autonomous learners, pedagogical considerations, role of instructors and technical challenges.

**Autonomous Learners**

The impact of Wikis has brought significant development of writing skills among the ESL learners. The online platform helped learners gain much confidence in developing their writing skills because they could freely express themselves without being judged solely on the basis of a final submission of their essay. Hence, the learners are no longer shy, fear or worried in expressing their ideas in collaborative tasks (Ismail, 2012; Huffaker, 2005; Murray & Hourigan, 2008). Apart from gaining self-confidence, Wikis also encourages learners to have more sense of ownership and autonomy. However, the amount of instructor intervention and student autonomy in collaborative writing projects can influence the writing process, which should be taken into consideration (Kessler, 2009).

**Pedagogical Considerations**

Another impact is that the researchers should consider the pedagogical considerations because Wiki pedagogy can be a significant factor contributing to the quality of Wiki applications. In this ESL writing context, the researchers should first incorporate the recommendations of several learning approaches for a Wiki to be effectively utilised. For instance, the researchers should consider whether to include social constructivist, interactionist, cognitivist and expressivist approaches into their writing learning instructions (Ismail, 2012, p.26). These learning approaches create an environment where the promotion of learner-centered and collaborative learning are fully enhanced. In other words, successful student contributions on Wiki depend on the given task authenticity (Bower, Woo, Roberts and Watters, 2006).

**Role of Instructors**

There is a transformation of the role of instructors because the use of Wikis in education is related to the collaborative approach. Therefore, the use of Wikis in relation to collaborative learning depends on factors such as the effectiveness of the instructor in promoting group collaboration, creating the course conditions and climate for establishing an online community and engaging students to be active participants and favour students led activities. In other words, the role of instructors changes to that of a more facilitative role within the classroom (Palloff and Pratt, 2005).

**Technical Challenges**

A small number of participants in this study has limited computer skills. For this reason, the learners need to be fully literate and must become “proficient” in using the information and
communication technologies (Sternberg, Kaplan & Borck, 2007, p. 418). Otherwise, this can affect their motivation and desire to produce final outcomes via Wiki. Hence, instructional scaffolding is needed in the form of lab-based exercises to support the learners (Cole, 2009; Harsell, 2010).

RECOMMENDATIONS AND CONCLUSIONS
Based on the findings in this study, the instructor is able to provide more support as the Wiki allows that person to constantly monitor student progress via the student’s Wiki pages. Also, as the Wiki creates a learning environment for the students, they are able to refer back to it, not only to do their work but also to get more information about writing. In addition, the students are able to contact the instructor when they need help. For these reasons mentioned, Wikis may have aided the feedback process by providing the instructor with more first-hand information. In short, it is suggested to have clear expectations about the instructors’ roles in ensuring the effectiveness of Wiki in written discourse. Understanding that this research was rather small as it only involved 8 participants a more extensive sampling is therefore needed to validate the current findings and also to compare the current findings with other levels of Intensive English programme. In terms of research duration, the present study was not evaluated in detail as the time frame was rather short (6 weeks), which was certainly another limitation. Khatri (2013) argues that it can be challenging to teach writing skills to learners and try to assess them during a shorter period of time.

In conclusion, the potential educational benefits of Wiki have been fully utilised by the learners in written discourse. Nevertheless, there are learners who still prefer the conventional way of improving their writing skills. Technical challenges of using Wiki as new learning tools should not be overlooked because these challenges can reduce the learners’ motivation in progressing further. For this reason, training sessions are needed to address the academic and social aspects of Wikis within the classroom environment (Harsell, 2010).

REFERENCES


