

## Investigating Students' Perception of Using Wikis in Academic Writing

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### ABSTRACT

*Wikis are emergent technologies which are increasingly used in writing classrooms. These web-based, authoring tools have been used in academic writing classrooms and specifically for collaborative work. This study investigated students' perception of using wikis for collaborative writing. Four-hundred twenty four undergraduate students enrolled in an academic writing course participated in the survey. In the course, students wrote, revised and submitted group research reports via wikis. This paper discusses two main issues, the first is to determine group participation level during group work via wikis and the second is, to identify the preferred collaborative writing mode. Findings indicate that students did not face major problems working together online. On the one hand, the students reported that wikis were useful for data storage and group work task completion. In addition, they claimed that using wikis for group work encouraged group participation. On the other hand, the students argued for the preference for face-to-face discussion during collaborative writing.*

*Keywords: wiki; collaborative work; perception; group participation; face-to-face discussion*

### INTRODUCTION

The development of a variety of easy-to-use Internet publishing tools is recently evident (Richardson 2009). These tools are changing the way people, including students at all levels, interact with the world (Solomon & Schrum 2007, Pramela Krish, Marlyna Maros & Siti Hamin Stapa 2012). Learning has become more personal, yet at the same time more connected to the surroundings, and with more potential for connected and collaborative activities among students (Kukulsak-Hulme & Traxler 2007). Multimedia language laboratories are equipped with relevant software and hardware for students to use during and after class hours. Students are also able to access the internet easily. In many language lessons, web-based tools that are readily-available on the internet are often adopted in classroom activities.

The implementation of information and communication technology in writing classrooms has been found to be advantageous in developing students' writing skills (Cunningham 2000, Goldberg, Russell & Cook 2003) and facilitating their writing process (Lee 2004, Ware 2004). Through the years, writing instructors have used software, word processors, and synchronous or asynchronous computer-mediated communication (CMC)

tools to facilitate the teaching of writing. Today, Web 2.0 applications like blogs, wikis, and Facebook offer alternative platforms for the teaching and learning of writing. These applications are termed as the ‘social software’ (Kear et al. 2010). According to Godwin-Jones (2003), these softwares are the “second generation Web which offer powerful opportunities for online collaboration” (p. 12).

One of the tools that have been created specifically to support collaboration is wikis (Augar, et al. 2004). Wikis are editable, web-based free authoring tools, which allow users and visitors to edit or modify the contents of the wikis directly on the page (Augar, et al. 2004, Tonkin 2005, Boulos et al. 2006, Wang & Turner 2004, Charles & Ranmi 2007). This feature makes wikis feasible for collaborative work because editing is simple and group participation and writing progress can be easily monitored (Carr et al. 2007, Chen et al. 2005, Elgort et al. 2008).

Research on collaborative writing via wikis have shown that it is the tool of choice (compared to blogs and forums) for a number of purposes including its use for collaborative translation of target language materials into the students’ first language (Miyazoe & Anderson 2010). In addition, writing on wikis increases students’ audience awareness and attention to formal aspects of the writing (Kuteeva 2010). In the study by Elgort et al. (2008), they reported that working in groups through the use of wikis encourages individual participation. The study also found that wikis can serve as an effective data storage for group artifacts.

However, there is a paucity of research regarding students’ receptiveness towards using wikis for collaborative writing (Zailin 2010). It is essential to carry out this study because the use of technology in the academic world is pervasive and it is deemed important for the students to be exposed to the technological tools to prepare them for the real world. Hence, the current study aims to bridge this gap.

#### USING WIKIS IN THE WRITING CLASSROOM

The potential of wikis in language learning, specifically writing has been lauded by a number of researchers who feel that wikis are “powerful digital tool for knowledge development because it facilitates formal, topic-centric, depersonalized interaction” (Warschauer & Grimes 2007, p.12) in which each writer can further contribute to the text. Research on wikis in the classroom has also gleaned positive aspects of the tool: wikis facilitate transparent online interactions, erases some of the boundaries between author and reader (Chen et al. 2005, Richardson 2007), empowers students when they feel that they have ownership and authority of their learning (Raitman et al. 2005), enhances social interaction amongst students online (Augar et al. 2004), increases foreign language students’ exposure to a variety of topics online (LeLoup & Ponterio 2006), increases audience-awareness in collaborative writing projects (Chang & Schallert 2005), motivates students to produce the best texts since they will be published online (Warschauer & Grimes 2007), enhances ESL students’ writing performance (Wang et al. 2005) and its openness is conducive for collaborative process writing activities (Carr et al. 2007).

Wikis can be used in writing instruction especially in a collaborative and process writing classroom. Its “transparency and openness allows for timely intervention by educators and peers to ensure that students receive useful feedback and guidance at early and intermediate stages of the process” (Carr et al 2007, p. 280). Furthermore since wikis are fully editable, collaborative writing with other students is more feasible since users only need access to a Web browser to engage in writing and to provide feedback. Editing can be done directly onto the written work rather than on a separate page or section like in blogs or forums. This makes it “less burdensome to make small, spontaneous edits” (Chen et al. 2005) since the tool allows for more minor editing without the hassle of sending emails back and

forth or re-circulating edited documents to collaborating team members for peer review. The changes made are apparent when team members access the wikis site and use the *History* function. As a result, more ideas are contributed, reflected and improved because changes especially in the form of feedback can enhance and encourage the writing process. The ease of editing also enhances students' sense of ownership because any work that is put up on the site is perceived as 'validated work' increasing their motivation to write (Raitman et al. 2005). Wikis can offer a platform for collaboration, co-production of texts, and interaction throughout the writing process (Bruns & Humphreys 2005, p. 27). O'Reilly (2005) acknowledges the potential of this tool as being an instrument for "collective intelligence" in the teaching of writing.

#### USING WIKIS FOR COLLABORATIVE WRITING

Constructivism encourages learning through interaction with others such as the teacher and peers. Through such interactions each individual's zone of proximal development (ZPD) is enhanced and meaningful knowledge construction can occur. Collaborative writing emphasizes constructivists' theories through activities which encourage individual or shared production of written work (artifacts). Often with collaborative writing, students work in groups to produce a piece of written work such as a report, an essay or article. In a more traditional approach, collaborative writing activities such as group discussions are conducted face-to-face. However, it is increasingly done using computer-mediated tools (both synchronous and asynchronous). Wikis are now becoming prevalent in computer-supported collaborative writing (Augar et al. 2004, Forte & Bruckman 2007, Kear et al. 2010, Miyazoe & Anderson 2010).

In any collaborative work, group participation is an essential component. Wikis' editable features allow multiple-editors to any work posted on the site. The group members become both readers and writers of the work in progress. Each group member can build on the others' contributions through their individual contributions. Wikis record each group members' contribution which will be evident through the *History* function on each wiki page. Teachers can monitor each student's contribution to the group work as well as the group's progress by using this facility too. Feedback and comments can also be provided on the wiki page itself to facilitate the group's writing progress.

In their study, Elgort et al. (2008) predicted that wikis' 'openness' in allowing multiple-editors to edit the work at any time and the fact that wikis are asynchronous computer-mediated tools can encourage a more equal participation among group members. The question then is to what extent do wikis truly encourage equal participation and equality of roles among group members? The current study aims to investigate students' participation level during their collaborative writing task and their perceptions of using wikis for collaborative writing. Also, the study explores the wikis' functions believed to be useful as viewed by the students.

#### THE STUDY

The purpose of this study is to investigate students' perceptions of using wikis for collaborative writing; specifically in terms of group dynamics and participation, wiki functions used by the students and their preferred mode for collaborative writing. The research questions guiding this study are:

1. How does the use of wikis for collaborative writing affect group participation?
2. Which functions of wikis do the students use to complete the task as a group?

3. How do the students feel about using wikis for collaborative writing as compared to face-to-face mode?

## METHODOLOGY

In this study, wikis were used as a collaborative writing tool in an academic writing course, for a period of one semester. At the beginning of the semester, a briefing was conducted with the students, and consent was obtained before including them in the study.

The students were then introduced to wikis, for instance, how to create their own accounts and how to invite relevant users to be the members of their wikis. The weekly outline of the course schedule was strictly adhered to, in which both the wikis and face-to-face approaches were applied during the teaching and learning sessions, where appropriate.

Student perceptions were examined based on their responses to a questionnaire. The questionnaire which was adapted from Elgort, et al. (2008) consisted of 39 questions divided into 3 sections covering issues pertaining to demographics, computer literacy and access, wiki functions used and perceived to be useful, as well as group participation and assignment (Table 1). The survey for this study was administered at the end of the course, i.e. after the students used wiki for one semester.

TABLE 1. Questionnaire Sections

Section A	Demographic Information
Section B	Computer Literacy & Access
Section C	Group Assignment
	Group Work
	Face-to-face Work
	Group Objects Functions: Group Websites (WIKI)

The questionnaires were distributed to 424 undergraduate engineering students enrolled in an academic writing course at a technical university in Malaysia. The students were from 14 intact classes taught by four lecturers. The division of participants according to gender is as follows (Table 2):

TABLE 2. Division of participants according to gender

Number of students ( $n = 424$ )	
MALE	FEMALE
34.4%	65.6%

Although four lecturers taught the students from different classes, threats to validity were minimized (Fraenkel & Wallen, 2006) by the following procedures: The lecturers were trained on how to use wikis for collaborative writing by a trainer and the course was guided by a teaching plan and module. These four lecturers then made use of the slides which were used for their wiki training to train their students on wikis.

The students were asked to work in groups of three to complete a task. Each group had to set up their own wiki site for the purpose of collaborating on the task. The main task for the course was writing a research report based on the research conducted by each group. Students were required to collaborate on completing the task including the writing task via wikis. This means all work was done via wikis, for example, writing the drafts of the report, uploading reference articles and drafting survey questionnaire.

### GROUP TASK

In each group the students must discuss with one another to find a suitable research area to carry out the study. The research areas were chosen by the respective group themselves and some examples of the research conducted were on Plagiarism, Computer-mediated Learning and Sexual Education in Schools. Based on the findings of the survey, they prepared and wrote a research report. Apart from the final report, each group had to write a report proposal prior to the commencement of their research. The students used questionnaire formulated during the course to collect the data. Figure 1 illustrates the instructions given to all groups.

Write a 2,500-3,000 word research, excluding abstract, bibliography, illustrations and appendixes. The format of your assignment should include the following components:

- a. Introduction: You should state your thesis statement and explain what will follow in the rest of the paper.
- b. Literature review: Read from a variety of sources of information such as books, journals, newspapers and internet sources
- c. Research methodology: Explain briefly the research method you used to obtain your information such as interviews or questionnaire.
- d. Findings & Discussion (This is supported by your survey findings.)
- e. Conclusion & Recommendations (Here you summarize your research and propose suggestions for the topic.
- f. Bibliography (Include references in APA style and ensure that the references are from reliable sources such as books and journals)

FIGURE 1. Instructions for group task

### WIKI DESIGN

The lecturers had their own wikis, called the anchor wiki. The role of the anchor wiki is similar to the course management system. It also serves as the link to all the groups' wikis. Wiki functions allow for the lecturer's wiki to be directly hyperlinked to each group's wiki. This function enables discussions to be carried out between the lecturer and students and among the students themselves. It also enables the lecturer and students to review each group's progress and perhaps provide feedback. Figure 2 is the wiki design as applied for the course.

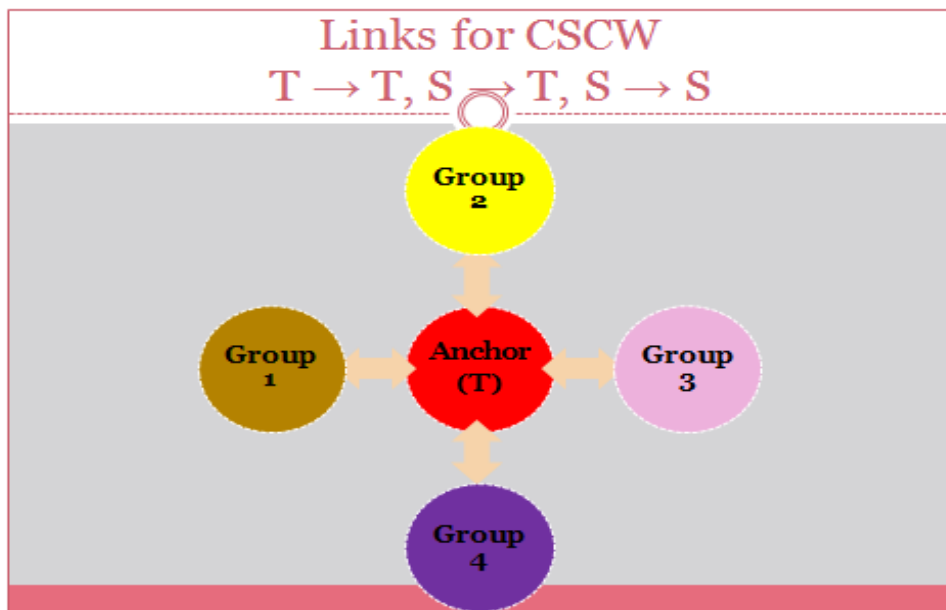


FIGURE 2. Wiki design for the course

The wikis software used for the course was from wikispaces.com. It was chosen because of its user-friendly functions and prompt support from the helpdesk. Based on the researchers' experience, the helpdesk provides feedback to enquiries within 24 hours. As such, students would not face technical difficulties, should there be any, for an extended period of time. Figure 3 is a sample of a group's account.

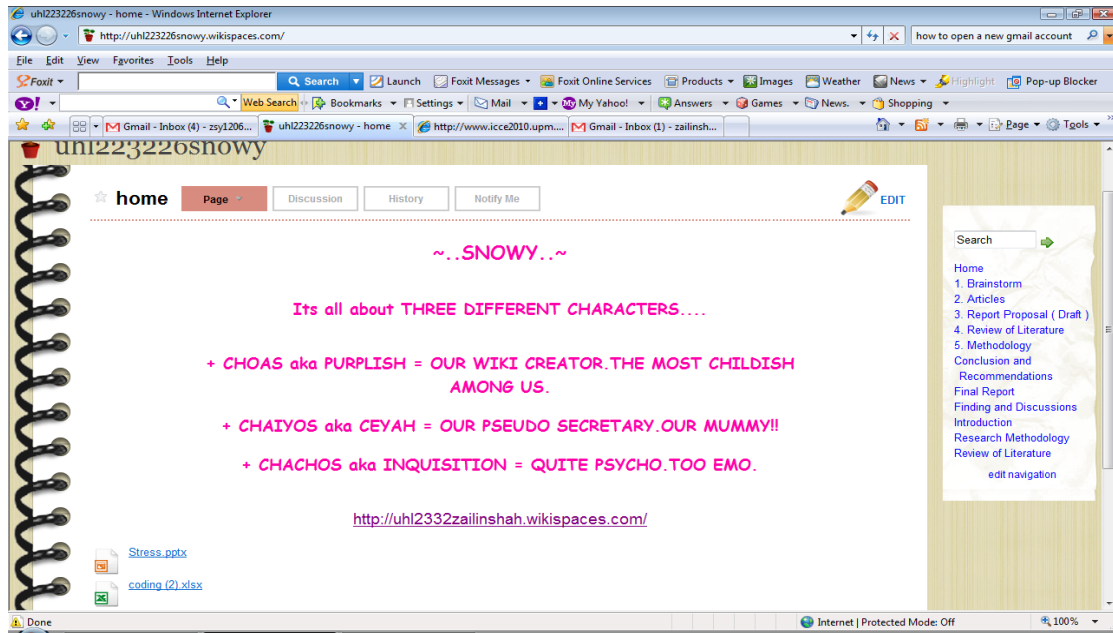


FIGURE 3. Sample of group wikis

## FINDINGS

### GROUP PARTICIPATION

Students' views on group dynamics, group participation and the preferred mode for collaborative writing were obtained. In terms of group dynamics, most of the groups (79%) had chosen a leader (49.8%) and each member of the groups had clearly assigned roles (69.1%). The students also claimed that all their group members did a fair share to complete the assigned task (70.1%). In general, they were satisfied with their group's efforts in completing the task via wikis (75%).

The majority of students (66 %) spent 1 to 3 hours each week working on wikis. The students accessed their wikis at various spots through the wireless access available throughout the campus. However, the most popular choice for the students to work on their wikis was from the hostel (84 %) and during language classes at the language laboratories (67 %). Due to the tight class schedules, students completed the specific assignment relevant to the main task only within two conditions; after their classes ended at the hostel and during the lessons when the lecturers would give them time to complete the task.

### WIKIS FOR COLLABORATIVE WRITING

The students were asked for the amount of time that they spent on the task in either the face-to-face mode, online mode or working individually. Most of them claimed that they spent most of their time collaborating face-to-face (Figure 4):

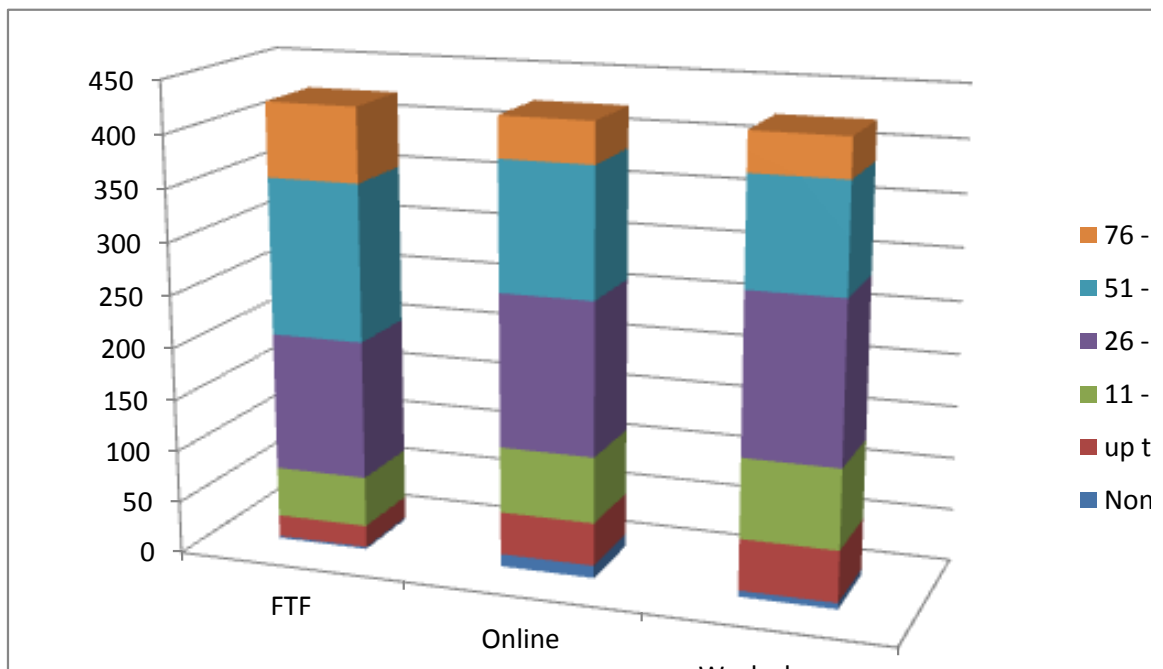


FIGURE 4. Mode of work

Thirty-five percent (35%) of the students said that they spent between 51% to 75% of their collaborative work in a face-to-face mode, 35% spent between 26% to 50% of their time on the task in an online mode whereas 37% preferred to spend between 11% to 25% of their time working individually.

The result also pointed to the fact that the students worked better in a face-to-face mode (69%). The students claimed that the face-to-face mode was the most effective way to collaborate on this task (73%) and that face-to-face group interaction was more productive than the virtual ones (78%). One of the reasons for this was that some students did not feel comfortable publishing their work online for course mates to read. In spite of this, the students could still recognize the advantages of using wikis for group assignments (78%). In fact, 55% of the students recommend using wikis for writing assignments.

#### WIKI FUNCTIONS

The findings indicated that most of the students (96.2%) used wikis for the first time. Some students (44.1%) faced problems such as the network downtime and the difficulty to upload documents when using wiki for the task while 55.4% said that they did not face any difficulty. The three wiki functions most frequently used by the students were the *Edit page*, *Manage Wiki* and *My Wikis*. The students stated that these functions were among the most useful ones because they are essential platforms for collaborative writing. This is particularly so with the edit button which allows group members to contribute and collaborate on the task with ease. The students also agreed that wiki is useful as a repository for collecting and organizing information for the task (65%), and for presenting the results and findings of the group task. The wiki functions used by the students and found to be useful for collaborative work are summarised in Table 3:

TABLE 3. Wiki functions used and found to be useful by the students

Functions	% Used ( <i>n</i> = 424)	% Useful ( <i>n</i> = 424)
Edit page	71	56
Email/ message	20	31
Discussion	35	42
History	35	38
Notify Me	15	19
My Wikis	48	35
My Account	29	20
Help	4	8
Recent changes	44	40
Manage Wiki	58	45

## DISCUSSION

The students collaborated well via wikis and group participation results indicated that most of the group members participated equally. This confirms the claim made by Elgort et al. (2008) that wiki encourages more equal participation among the group members. In addition, the group dynamics in wiki was found to be similar to the face-to-face collaboration. Perhaps the students have often been exposed to group work because when they formed a group, they immediately knew that a leader had to be selected and tasks were assigned to each group member so that work load was equally shared.

Most of the students who were involved in this study considered the ability to write, rewrite and edit the work done in a group to be very useful, especially when this can be done fundamentally anytime and anywhere without being constrained by the class hours. Essentially, flexibility that wikis offer facilitated students' collaborative writing process. O'Reilly (2005) claims that this tool can be used successfully in collaborative writing. In the context of the present study, the writing, editing, feedback and amendments can be made collectively on the wikis as part of the tasks of academic report writing. The students did not face difficulty in using wiki although this was the first for many of them. The training provided them with sufficient information to use the tool for the group task. In addition, the lecturers were able to help the students during class hours when they faced difficulty in using wikis.

The second research question was to identify the functions provided by wikis that were most accessed and effective in assisting learning in general and completing tasks in particular. In relation to the usefulness to the writing process, most students used "Edit page", "Recent changes" and "Discussion" functions on wikis. Fundamentally, these choices of most used functions are related to interactivity and flexibility. The students found these functions useful because they offer easy access to each group member's contribution. The functions also gave them room for unconstrained modification on the written work. The functions frequently used by the students suggested that they were collaborating on the task well and that they were able to work on the task using several useful wiki functions. This affirms Godwin-Jones (2003) as well as Zailin's (2010) claims that wiki offers opportunities for virtual collaboration among group members. When the students are provided with the opportunity for working collaboratively among their peers, it may anchor their understanding of the task. This finding may also be related to the Constructivist view that learning can be enhanced through interaction with others and such interaction may take place during collaboration work, as evident in Boulos et al. (2006) and is further corroborated by the finding in the current study.

In addition, students can monitor each other's contribution to the group task through the functions provided by the wiki functions (Carr et al. 2007, Chen et al. 2005, Elgort et al. 2008). This is a clear advantage of wikis of which Carr et al (2007) acknowledge as being



“transparent”. The process that goes on wikis provides means of tasks completion and recording of all the activities. These records are accessible to all students and teacher, making it transparent and explicit as what Carr et al. described:

The transparency, openness . . . and ease of use of wikis constitute powerful affordances for collaborative process writing. At the simplest level, transparency of the writing process allows for timely intervention by educators and peers to ensure that students receive useful feedback and guidance at early and intermediate stages in the process. At a deeper level, this transparency reveals endemic challenges in facilitating collaborative process writing that are not unique to online interventions. (p. 280)

This transparency provides opportunities for students to be more reflective in their writing and make use of the features mentioned earlier is essentially required for wikis to be effective in the light of this argument.

The functionality of these features is not only effective as an online means of interaction, but it is also expanded to the face-to-face approach. The discussions that take place in class were mostly based on the activities that go on the wikis. The writing, editing, feedback and other interactions that happen online are virtually recorded and this gives the students space to work back and forth in the process of completing any written tasks assigned to them. On the other side of the coin, however, this transparency may pose to some extent a threat of insecurity in the students. Some students may feel that the ability of others to access and edit their work other than the teacher or the group members make them vulnerable to criticism. They are not comfortable with the fact that other users outside their class may be able to see errors that they make in their written work. This may cause reluctance in the students to fully exploit the wikis and its interactivity in the learning process. This affective factor is one of the limitations that teachers may have to face in using this digital tool in learning as well as other issues as put forth by Lundin (2008) such as the influence of a public audience on the written work done on the wikis and also issues on plagiarism. Apparently, areas of which there is a need for further study are still vast as issues that involve students and the use of technology is a process of evolution.

Finally, taking into consideration one of the many issues involving students, the third research question attempted to gauge the students’ perceptions on their involvement in the learning process using wikis. Findings reveal that most students even though they are satisfied with the use of wikis for collaborative work, still cannot surpass their preference for face-to-face mode as well as the needs for interacting with the lecturer face-to-face. This brings down to the question of whether wikis are merely tools in the learning process or can it play a more significant role in terms of the students’ involvement. The students however spent less time collaborating via wikis than face-to-face. This could be due to two reasons: first, this was the first time most of the students were using wikis for the academic purpose and second, wiki is an asynchronous tool with delayed information received. The students felt that discussions via wikis were not as effective or productive as discussions and collaboration in a face-to-face mode (synchronous communication). Even though some studies propose that wikis’ editable feature contributes to its powerful element for collaboration, the students perceived this as tedious, i.e. correcting each other’s work or contributing to the task via wikis is demanding as opposed to be doing this via face-to-face.

Drawing on the social constructivist framework, the mere role as a tool may not be sufficient to place wikis on the same ground. Ede and Lunsford (1990) talked about teaching and collaborating, of which they argued that “collaboration has enormous and largely untapped potential to support the teaching of rhetoric as a social process”. This makes sense only if the involvement of students in the collaborative work on wikis is taken on more

constructively. Students' apparent preference for face-to-face over the online mode, after two decades of Ede and Lunsford's argument still hold the truth to the "untapped potential" of the collaborative work in the present study on the use of the wikis in a constructivist context. This clearly calls for further exploration on how to enhance the use of this online teaching tool in terms of students' involvement since they are the core entity of the whole process.

Nonetheless, as the results highlighted, the students did not entirely oppose the use of wikis in the writing classroom. They appreciated the idea of sharing and storing numerous files related to the task via wikis at any point of time and hence, allowing the group members to have easy access to the documents. Also, the fact that the wiki system offers transparent monitoring of the individual member's contributions to the task may have enhanced the group participation level. Finally, using wikis as the platform to provide feedback to each other is another integral part of the wiki function that provides a conducive setting for providing feedback in a non-traditional teaching and learning medium. To conclude, the students in the current study perceived that their experience of writing and collaborating via wikis was valuable and they would recommend the tool to be employed for writing classrooms.

## CONCLUSION

The current study is aimed at investigating students' perception of using wikis for collaborative tasks in a writing classroom. In general, although wiki is a relatively new authoring tool used typically in the writing classroom, the finding of this study has highlighted its potential for computer-supported collaborative writing task. The functions offered through the various wiki functions are found to be facilitative particularly for easy monitoring and easy access to groups' written work. The changes and potentials that wiki brings to the domain of teaching and learning are undeniable. Occasionally clogged with hurdles that mainly involve students' reluctance on its uses in writing tasks, carrying out further studies is one of the solutions that may shed some light on this issue. Research that requires educators to consider approaches and strategies in facilitating more constructive interactions among students is of utmost importance. Students' involvement should be made a platform of which a study is to embark and such study should take into consideration the affective factors that are mainly the concerns needed to be tackled and explored. A more in depth qualitative inquiry, such as an interview may be able to acquire different perspectives from the students on this issue.

Another possible area that research can be conducted is on the use of wikis as part of the assessment and evaluation. In view of process writing framework, evaluation using Wikis may provide a sound environment for development of rubrics and assessments as had been attempted in Lai & Ng's (2010) study. This is due to the fact that Wikis is a virtual repository of activities that take place collaboratively as well individually online. To date, studies on this area has been rare and to ensure the integration of Wikis to be more efficient, testing and evaluation is one area of teaching and learning that needs to be explored, thus unleashing the "untapped potentials" of this digital tool.

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