

Wiki and Google Drive Technological Tools: Expediters versus Hindrances

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ABSTRACT

This study aimed at investigating the effectiveness of wiki tool and Google Drive in enhancing the motivation, project work, and research skills of the twelfth graders of a public school in Lebanon. The subjects of the study were one English as a Foreign Language EFL group (n=17) whose ages range from 16 to 19 years old. The data were collected by means of two questionnaires and the subjects' projects, and Google Drive surveys. The findings conveyed that the subjects revealed great motivation towards group work and projects upon using the wiki tool and Google Drive, and proved that the structure of the wiki allowed for language learning, and the Google Drive helped students quickly obtain the data required for their project's findings. The researchers' recommendations are urging the teachers of all levels to use the wiki tool and Google Drive as vital tools to enhance students' motivation and collaboration skills.

Keywords: wiki, Google Drive, ISTE, EFL, Motivation, research skills, Public school, Surveys

1. INTRODUCTION

The use of innovative technological tools in pedagogy has contributed to original teaching and learning practices and boosted creativity and collaborative and interactive learning such as group work and project research. Wikis, which are effective technological tool, have resulted in

novel ways of engaging learners in collaborative and communicative environments that lead to independent and autonomous learning. This complies with the theory of constructivism which states that meaningful learning occurs through active construction of knowledge, social interaction, and reflection. Harriman (2007) asserted that in constructivist environments, learners are actively engaged in interpreting the external world and reflecting on their interpretations. Ward Cunningham used the word wiki (the Hawaiian word meaning quick) to name the collaborative tool he developed for use on the Internet in 1994. Wikis are fully editable websites; any user can read or add content to a wiki site. This functionality means that wikis are an excellent tool for collaboration in an online environment. Thus, this collaborative feature of wikis make them conform to the principles of cooperative learning. In cooperative learning, learners perform collaboratively in heterogeneous groups to assist the learning of other group members. Johnson, Johnson, & Holuboc (1998) pointed out that cooperative learning allows for positive interdependence, individual accountability, face-to-face interaction, collaborative skills, and group processing.

Wikis have great potential as a tool for online collaboration. Wikis promote peer interaction and facilitate the sharing and distribution of knowledge and expertise amongst a group of learners (Lipponen, 2002). Collaborative learning exercises are student centered and enable students to share authority and empower themselves with the responsibility of building on their foundational knowledge (Myers, 1991). Users of wiki can visit, read, reorganize and update the structure and content (text and pictures) of a wiki as they see fit. This functionality is called “open editing” (Leuf & Cunningham, 2001). According to Lev Vygotsky (1978), learners develop socially when they collaborate with their more capable peers. In this context, wiki helps with the materials that can be presented in a variety of formats (text, pictures, audio, video, multimedia) embedded to cater to students’ needs. Harriman (2010: p. 78) asserted that a prior analysis of the learning context, together with negotiation, foster language awareness and promote learner autonomy. This way, both teacher and students can participate in curricular decision, as well as in choosing the most efficient methods that take into account cultural, social and personal variables. Wikis also enable students to share information and to engage in and scaffold each other’s learning through student to student decision-making opportunities in group projects (e.g., Ducate, Anderson, & Moreno, 2011; Lee, 2010; Li & Zhu, 2011). A wiki, as a communication tool, supports writing that are valued, including collaboration, continual revision, and communal knowledge formation (Purdy, 2009). In addition, each wiki has a unique set of features which can make it more suited for inclusion in an e-learning environment. Most wikis support tracking of wiki edits or updates.

The wiki project aims at enhancing students’ and teacher’s involvement in collaborative online content creation with special emphasis on developing autonomous study skills. The structure of the wiki space allows for a work-in-progress approach to differentiated learning. It is important to implement a collaborative learning environment believing that local context adaptations in terms of motivation, time and resource constraints are necessary for ESP/EAP curricula to cater for a variety of needs pertaining to general communication, and professional, social and personal development (Kommers, 1992; Kovacic, Bubas, & Zlatovic, 2007a).

McCoy (2011) highlighted the preference of today’s learners in utilizing the internet search engines for learning resources, but they might experience high anxiety level and speech apprehension during the language learning process; however, engaging students in producing their own projects allows the entire learning experience to take place in an anxiety –reduced environment leading to increasing their self-confidence due to the interesting nature of projects (Bennette, 1988; Kinnaman, 1993; and Clovis, 1997). Material development for the English language classroom has

always been associated with the advance of technology. As students take on creative roles while working on authentic, real-life themes in their video, they would be able to practice real-life language not only among themselves but also among other users of the language outside the classroom.

Schwartz (2004) reported that wikis have been successfully implemented by 24 universities in Canada, UK, USA, New Zealand, and Germany for distance learning programs in applied disciplines. Wiki technology and wiki tools are efficient instruments for implementing collaborative learning in teaching English as a Foreign Language (EFL). Technology plays a vital role in “improving learner’s learning experience” and providing “support real world, constructivist, collaborative, problem solving learning experiences” (Anderson, J., 2002). As seen by Dudley-Evans and St John (1998: p. 125) a flexible needs analysis should take into account “learners as people, as language users and as language learners” (Dudley-Evans, T., St. John, M.J., 1998).

2.PREEVIOUS STUDIES ON THE IMPLEMENTATION OF WIKI IN CLASSROOMS

Several studies examined the effect of wiki and collaborative interaction on the learning process.). As Miyazoe and Anderson (2010) pointed out, “[...] collaborative learning fostered by scaffolding- provides a main support” (p. 185) for the use of wikis in education. In addition, Kuteeva (2011) revisited Bakhtin’s dialogism (1986), endorsing that the dialogic nature of language use involves learner collaboration and dialogue, and analyzed the meta discourse used in collaborative writing to explore the impact of wikis on reader-writer relationship. Kuteeva (2011) investigated the impact of wiki in learning the genre knowledge of writings posted in wikis. Moreover, Kessler and Bikowski (2010) examined the collaborative learner autonomy in the technology-mediated learning contexts. Kuteeva (2011) also examined the impact of wikis on student writing, including participant observation, text analysis, and a self-report questionnaire. The task is also an important element which deserves examination, because the appropriate task promotes critical thinking and collaboration (Zorko, 2009), and the tasks may affect students’ collaborative interactions (Lee, 2010).

Other studies investigated the efficiency of wiki in enhancing the writing of expository/argumentative essays (e.g., Elola & Oskoz, 2010; Kuteeva, 2011), and narrative essays, such as story writing (Chao & Lo, 2009; Ducate et al., 2011), and other studies examined the influence of wiki in enhancing cultural awareness (Kessler, 2009; Lund, 2008). Some studies investigated the wiki role in using certain grammatical points (e.g., Lee, 2010), in employing authentic task (Mak & Coniam 2009), and in employing a task closely related to the students’ discipline (Alyousef & Picard 2011). Few studies examined the patterns of interaction in small groups during collaborative writing process (e.g., Li & Zhu, 2011). Woo et al. (2011) analyzed the revision types with respect to both content and forms. These revision types echoed the findings in Kost (2011), which addressed such meaning changes as additions, deletions, and substitutions. However, different results were identified in other studies which revealed that students focused on meaning rather than forms during collaborative writing (e.g., Kessler, 2009; Woo et al., 2011). Another research area lies in the discussion of writing texts and the impact of wikis on writing quality and writing skills (e.g., Mak & Coniam, 2008; Wichadee, 2010), and the use of meta discourse in wiki-based writing (e.g., Alyousef & Picard, 2011; Kuteeva, 2011). Alyousef and Picard (2011) designed wiki-based writing tasks pertaining to the students’ discipline in an ESP

course. Moreover, Lundin (2008) investigated the effect of the use of wiki in first year composition classes. The findings revealed that wikis were efficient in developing four categories of interest in composition classes: composition, collaborative writing, critical interaction and online authority. Along the same line, Mohammad (2010) examined the effect of using wikis on the development of prospective English as a Foreign Language teachers' written performance. The results showed the use of Wikis enhance the efficiency of writing collaboratively, boosted group work and facilitated creating a positive learning experience.

3.CONTEXT OF THE STUDY

Wiki projects allow students to express their thoughts and feelings, thereby gaining valuable knowledge. It's also a good problem-solving tool; Technology, in general, plays a vital role in teaching English, and the wiki and Google Drive tools enhance group collaboration, discussions and reports in particular, and the wiki raises students' motivation and helps in making the practice of conducting projects through using the Google Drive surveys feasible and interesting. Wiki platform also serves as a facilitator for writing, and students enjoy uploading and using authentic material including pictures and music they choose. The Lebanese public schools employ similar teaching and learning standards, textbooks (Grade 12 official English language textbook) and regulations being monitored and supervised by the Republic of *Lebanon Ministry of Education & Higher Education*. The present study was carried out in one of the secondary public schools in Beirut, Lebanon. Its main goal was to investigate the impact of the implementation of integrating the wiki tool and the Google Drive forms into classroom. The EFL students' projects were analyzed with respect to five themes adapted from Elsev Ltd (2013): 1) Implementation of the wiki project; 2) Obstacles faced during the production; 3) Level of satisfaction upon completion of the wiki project based on Google Drive surveys; 4) Elements that led to the success of the wiki project; and 5) Relevance of wiki project to language learning. The study also addresses three of the ISTE standards.

4.THE PURPOSE OF THE WIKI AND GOOGLE DRIVE STUDY

The current study was designed to investigate the impact of the wiki tool and the Google Drive survey on enhancing the 12th graders' research projects made by employing Google Drive Surveys and using the videos, pictures, files, and surveys to conduct their projects. The study also examines if the motivation towards research projects is increased after using the Google Drive surveys. For this purpose, the present research study addresses the following questions:

1. Does the use of wiki encourage students to make their own research projects?
2. Do students demonstrate motivation to use the Google drive in their research projects?
3. Do students demonstrate efficient use of Wiki project skills?
4. Do students conduct efficient Google Drive project surveys?

5.METHODOLOGY

5.1Method

In the present study, data were collected quantitatively to analyze the participants' learning experience in Wiki and Google Drive project work.

5.2 Instructor

The instructor, a native speaker of Arabic, has been teaching English as a foreign language for over seventeen years in the English department of public secondary school and of some universities. She has an extensive experience in teaching and coordination at Public Secondary Schools. Moreover, she had utilized Web resources for teaching writing prior to this research project. One of her tasks in this research was providing the writing instruction to participants in the study group.

5.3 Participants

This research was conducted in a public school in Lebanon. The participants of the study are 17 twelve graders in a public school. The group consisted of 17 students whose ages range from 16 to 19 years old. They received 6-hour- English instruction a week. The 2 -week instruction given to the participants covered the listening, speaking, reading and writing skills.

5.4 Instruments

The data were collected by means of 2 questionnaires and 2 rubrics (Appendices I & II) to evaluate the participants' projects and the Google Drive surveys. The first questionnaire was adapted from Wiki Use Questionnaire (Chen, 2008) to collect data on the participants' motivation and use of wiki. The questionnaire has 25 items, with 2-point likert scale. There are two subscales in the questionnaire: Use of Wiki (12 items) and Students' Motivation (13 items). The internal consistency of the Use of Wiki subscale was found to be good (the Cronbach alpha >0.8), and the the internal consistency of the Students' Motivation was found to be satisfactory (the Cronbach alpha >0.6). Another questionnaire was devised to examine the participants' motivation towards the use of the Google Drive in their research projects. The internal consistency was computed and found to be satisfactory (the Cronbach alpha >0.6). Moreover, a Rubric for Wiki Editing (Piedra, Chicaiza, López, Romero, & Tovar, 2010) was used to evaluate the participants' wiki projects, and a Survey and Data Collection Rubric (Fermilab Education) was employed to evaluate the Google Drive surveys conducted by the participants.

5.5 Procedure

A preliminary instructional session, conducted by one of the researchers, was instrumental in providing the participants with all the steps to be carried out by them to employ effectively the wiki and Google Drive tools. The teacher modeled to participants creating a wikispace about a certain topic so that the participants were able to conduct their project and start discussions related to their topic. The researcher investigated the effectiveness of the wiki and the Google Drive in enhancing the collaboration, research and writing skills of students. Wikispaces.com was chosen to be the wiki environment due to its low cost, ease of use, and variety of features. Details about setting up the wiki environment were available. Participants were asked to carry out some activities so that they learn how to use all the functions and applications of the wiki. Indeed, participants received instructions pertinent to the use and the functions of the wiki, and then they received instructions related to the use and functions of Google Drive.

5.6 Hindrances and expeditors of the current research study

The hindrances encountered by the participants were the followings:

1. Power outage
2. Weak Internet connectivity upon ensuring internet access
3. Initial unfamiliarity with wiki and Google Drive surveys
4. Fear of peer modifications taking place without a prior consent of all the members of the group
5. The seating chart of the classroom which hindered group work
6. Lack of computer - equipped classrooms
7. Initial lack of Internet access
8. Time consumption

Expeditors:

1. The teacher incessantly kept drawing the attention of students to the imperative need of saving their work upon the completion of each step for fear of the loss of the work done.
2. Weak Internet connectivity, this remained a constant problem and it had been dealt with by repeatedly saving the work accomplished.
3. The researchers modeled step by step before the participants the construction of the Google Drive survey items and the creation of each wiki page along with the insertion of script, videos, pictures , links and PPTs into their wiki pages. In the same vein, the researchers modeled the wiki online discussion process.
4. The researchers fear of peer non-notified modifications which might weaken the participants project by raising the awareness of the participants of the uses of the "save "button which enables them to retrieve the desired draft saved in accordance with a certain date.
5. The researchers addressed the seating chart and lack of computer assisted classrooms and Internet access hindrances by moving the class into the library which is equipped with round tables and Internet access and asked 6 participants belonging to the 6 groups to bring their laptops into the library.
6. As for overcoming hindrance 8, time consumption, this hindrance remained unsolved due to the uncontrollable intermittent Internet connectivity failure which in turn rendered time loss.

Agree

Disagree

6. RESEARCH FINDINGS

Descriptive statistics of collected data was conducted using the Statistical Package for the Social Sciences, version 20. The findings of the present research study revealed the efficacy of wiki and Google Drive technological tools in boosting the learning, collaboration and research project skills of the twelfth graders of a public school in Lebanon.

6.1 Findings of research question one

With respect to the first research question, the findings displayed in table 1 show that the use of wiki boosted the participants' motivation and encouraged them to conduct their research project in a stress-free and highly interactive environment.

6.2 Findings of research question two

The results of the data analysis on the Google Drive questionnaire show that all the participants believed that Google Drive allowed them to fill in surveys at their available time, and a lot of them (88.9%) considered that it saves time. Also, no participant preferred the paper and pencil survey to that via Google drive or considered filling in a survey via Google Drive a waste of time. Very few participants (5.9 %) found obtaining data via Google Drive complicated. However, the majority considered that Google Drive is an interesting technological tool in project work, is easy to use, facilitates interaction and conducting surveys to others, and enables them to gather data for their project findings. All in all, students demonstrate motivation to use the Google drive in their research projects.

6.3 Findings of research question three

To answer the third research question, data were computed from the participants' wiki projects which were evaluated according to a Rubric for Wiki Editing (Piedra, Chicaiza, López, Romero, & Tovar). The results, displayed in Table 2, reveal that students practiced Wiki research skills effectually with respect to Intellectual engagement with key concepts; structure, spelling, and grammatical error; content and understanding; and creative construction.

To cross-validate the results, a questionnaire on Wiki use was administered to the participants who perceived the wiki as efficacious tool in promoting collaboration and interaction and in enhancing project research skills. Statistical analysis show that 100 % of the participants agreed that the wiki enables them to contribute to others' work, and that they receive feedback on their postings from the instructor or other members in the wiki (items 9 & 7 respectively); and all of them disagreed that they find it difficult to manage information from many resources via the wiki (item 8). The majority of the participants (94.1%) agreed that the wiki is easy to use, and that their communication skills are more developed when the wiki is used in group work (items 1 & 12 respectively). Most of them (88.2%) agreed that the wiki facilitates research project through sharing ideas with other members; that it allows them to share link pages and multimedia content with others and to comment on others' work; that the wiki environment enables them to easily contact with others; that using the wiki increases their productivity in writing group tasks; and that they know how to post a new message to the discussion area in wikis and how to read a message posted on the discussion area in wikis (items 2, 3, 5, 4, 6, 10, & 11 respectively).

6.4 Findings of research question four

In order to find out whether the participants conducted efficient Google Drive project surveys, their surveys were evaluated according to a survey rubric (Fermilab Education). As table 3 demonstrates, participants were skillful in devising their Google Drive project surveys especially with respect to spelling and grammar, choice of responses, utility, and clarity of questions.

The findings have proved that the structure of the wiki space have allowed the participants to develop autonomous study skills, and the Google Drive helped students enjoy the feasibility of conducting questionnaires and efficiently and quickly obtain the data required for the analysis of their project's findings. As such, the ISTE standards 1, 2, and 3 have been met through the integration of the wiki and Google Drive in eleventh graders' projects . Thus, the participants of the study were able to demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology (ISTE Standard 1). Students used digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students were able to apply digital tools to gather, evaluate, and use information.

7.IMPLICATIONS AND RECOMMENDATION

7.1Implications

The editable feature of the wiki page is a motivation booster as yielded by the findings of the current study. Students can review their wiki pages anytime they want and can accordingly add or delete any information or visuals desired.

The features of the Google Drive survey allows the insertion of instructional videos which feasibly familiarise the recipients of the survey to properly and accurately submit their responses to the received survey. In alignment with the effectiveness of the Google Drive survey features, the students can easily obtain the statistical data simply by clicking the "view responses" button and such feature will reinforce the ethical use of information and the complete avoidance of employing any canned tables or figures. Therefore, plagiarism won't be noted and the ISTE standard pertinent to the ethical use of information and research fluency will be strongly implemented.

8.Conclusion

The use of wiki and Google Drive tools should be reinforced through employing these tools in the content of all subjects so that the participants can construct and internalise skills required for building their schematic inputs which will eventually boost learning.

Teachers of secondary classes should receive the adequate training on the use of the target technological tools not only to secure the alleviation of apprehension towards the integration of wiki and Google Drive into classrooms but also to ensure that the teachers will be capable of effectively handling the modeling process.

Modeling before students should be envisaged as a prerequisite for the successful implementation of Technological Tools such as the wiki and Google Drive.

Policy makers and stakeholders should perceive the integration of wiki and Google Drive into classrooms as a must so that they can facilitate the work modifications requested by the teachers in public schools.

An experimental study could be conducted on fully web-based class using wikis. The different interaction environment may reflect different results from those obtained in this study.

Similar studies could be conducted to examine the effects of wiki on different levels of EFL learners such as primary, junior high, senior high, etc. A bigger sample size with more participants is suggested.

| Table 1. | | Agree | Disagree |
|--|----|--------------|-----------------|
| 1. The wiki is an enjoyable technological tool in project work | 17 | 94.1 | 5.9 |
| 2. I feel comfortable when posting my work in the wiki | 17 | 94.1 | 5.9 |
| 3. The wiki makes me more motivated to share in group work | 17 | 100 | 0 |
| 4. I do not feel lonely in the wiki environment | 17 | 100 | 0 |
| 5. Sharing ideas in the wiki is an interesting activity | 17 | 94.1 | 5.9 |
| 6. The wiki environment is free of stress | 17 | 88.2 | 11.8 |
| 7. I feel pleasure commenting on others' postings | 17 | 94.1 | 5.9 |
| 8. I get more excited to communicate with other group members when the wiki is used | 17 | 94.1 | 5.9 |
| 9. I feel more nervous to share in group work when the wiki is used | 17 | 5.9 | 94.1 |
| 10. I got bored in the wiki environment | 17 | 5.9 | 94.1 |
| 11. I feel enthusiastic to receive feedback on my work in the wiki | 17 | 88.2 | 11.8 |
| 12. I feel more motivated to interact with other group members when the wiki is used | 17 | 100 | 0 |
| 13. The wiki environment discourages me to work with other group members. | 17 | 11.8 | 88.2 |

Table 2. Percent of Wiki Use Rubric

| | Poor | Regular | Good | Very Good |
|--|------|---------|------|-----------|
| Intellectual engagement with key concepts | 0 | 40.0 | 40.0 | 20.0 |
| Structure, spelling, and grammatical error | 0 | 0 | 40.0 | 60.0 |
| Content and understanding | 0 | 20.0 | 80.0 | 0 |
| Creative construction | 0 | 40.0 | 40.0 | 20.0 |

Table 3. Percent of Google Drive Rubric

| | Poor | Regular | Good | Very Good |
|----------------------|------|---------|------|-----------|
| Purpose | 0 | 10.0 | 40.0 | 50.0 |
| Clarity of questions | 0 | 0 | 40.0 | 60.0 |
| Choice of responses | 0 | 0 | 70.0 | 30 |
| Layout | 0 | 20.0 | 60.0 | 20.0 |
| Content | 0 | 30 | 60 | 10 |
| Spelling / Grammar | 0 | 0 | 0 | 100 |
| Utility | 0 | 0 | 70 | 30 |

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