

**THEORETICAL FRAMEWORKS OF USING WIKI TECHNOLOGY IN FOREIGN LANGUAGE CLASSES**

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**Abstract:** *The researcher identifies the research theme investigated in the current body of literature: perceptions of wiki-based collaborative writing, and effects of tasks. Each theme is sub-categorized into different research strands, and the synthesized findings regarding these strands are further discussed. In addition, the researcher indicates pedagogical implications, identifies the research gaps, and addresses potential research directions for wiki technology in foreign language classes.*

**Key words:** *wiki technology, collaborative writing, investigation, the history of wikis, IT technology.*

## **INTRODUCTION**

The term “wiki” is derived from the Hawaiian phrase, wiki-wiki, which means quick. Wikis are commonly regarded as collaborative mediums to promote content sharing and knowledge co-construction. As convenient communication and collaboration tools, various wiki applications were rapidly adopted in enterprise in early 2000s and later widely used in education. It is a piece of software that allows users to freely create and edit the content of web pages. All wiki applications have three functioning tabs: “Editing”, “History”, and “Discussing”. “Edit” function allows the users to change or revise the page regarding the texts, images, or hyperlinks; “History” function reflects the changes the page has gone through with the color coding of deleted and inserted texts; and “Discuss” function enables the users to collaborate through messages about the page contents and revisions. Through features like user editability and detailed page history, wikis serve as powerful mediating artifacts for collaboration and support for collective production. Wikis enable participants to “collaboratively generate, mix, edit and synthesise subject-specific knowledge within a shared and openly accessible digital space”. Specifically, wikis enable students to share information and to engage in each other’s learning through student to student decision-making opportunities in group projects.

The popularity of wikis has begun to capture the attention of researchers and teachers in foreign language teaching, especially in foreign language writing. In the computer mediated communication (CMC) contexts, writing is moving in the direction of “a more social construction of the activity and interactivity of writing” (Pennington, 2003, p. 304). Ware and Warschauer asserted, “asynchronous discussion formats, in particular,

are believed to combine the interactive aspect of written conversations with the reflective nature of composing” [1]. A wiki, as an asynchronous communication tool, supports many tenets of composition that are valued, including collaboration, continual revision, and communal knowledge formation (Purdy, 2009). The affordance of wikis eases the collaborative process, facilitates interactions, and develops student writing [2]. Being “intensively collaborative”, wikis have been widely used as popular platforms for collaborative writing in language classrooms [3].

### **METHOD**

As this review focuses on using the wiki, an emerging instructional technology, in foreign language classes, six recognized journals which are particularly devoted to research and instructional practice in computer assisted language learning (CALL) were selected for review. The researcher reviewed the articles published in the six CALL journals via keyword (“wiki”/“wikis”) searching in the database of Google Scholar, and found sixteen articles addressing the use of wikis, including eleven empirical studies and five non-empirical studies.

Since this review study is particularly interested in empirical research so as to provide the implications for future research on the use of wikis in second/foreign language classes, the researcher closely examined twenty-one empirical studies published in peer-refereed journals. However, this does not preclude the value of non-empirical studies, which provide theoretical insights and/or suggest pedagogical implications. For instance, Zorko shared her successful experience of using wikis as online collaborative environments in blended learning at English classes for Specific Purposes (ESP) course [4]. This article offered valuable insights for language practitioners in terms of pedagogy, content, design, and potential risks.

### **FINDINGS AND DISCUSSION**

Regarding the research methods, the majority of the research applied the case study approach, seeking to provide an in-depth understanding of using wikis in the foreign language classes. Qualitative data were predominant in most studies, drawing on multiple data sources. For instance, Li and Zhu set each small group interaction as a “bounded system”, and tracked the archived logs from wiki “Discussion”, “Page”, and “History” in each group to identify the patterns of computer-mediated interaction in wiki-mediated collaborative writing [6]. Also, the researchers analyzed the data from semi-structured interviews to evaluate the influence of interactional patterns on students’ perceived learning experiences. A few other studies adopted mixed methods, drawing on both qualitative and quantitative data. For example, Elola and Oskoz conducted a statistical analysis to compare the differences between the collaborative writing and individual writing in terms of fluency, accuracy, and complexity, and afterwards adopted a qualitative approach to examine the students’ perceptions of potential benefits of using wikis for collaborative work. In addition, Wichadee adopted a quantitative method to compare students’ English summary ability before and after instruction via wikis [7].

Worth noting, there were various instruments employed in this body of research, including archives of wiki pages, questionnaires, interviews, written reflections, observations, and video recording. To name a few, examined the production of a wiki through the analyses of videotaped lessons, archived wiki pages, and questionnaires. Kuteeva also employed several research techniques to examine the impact of wikis on student writing, including participant observation, text analysis, and a self-report questionnaire [8].

Regarding the research at a university level, many of the studies were conducted in English for General Purposes (EGP) classes, and four of them were in ESP courses. This suggested that the use of wikis for ESP instruction is emerging, and the benefits of wikis is not solely related to language acquisition skills, but can also be linked with disciplinary knowledge construction. In these studies, student participants ranged from two to over one hundred. In many studies, students worked in small groups, which consisted of three to four members. In a small number of studies, students worked in pairs, whereas a whole class of students collaborated in a class wiki writing in Kessler (2009) and Kessler and Bikowski (2010).

The task is also an important element which deserves examination, because the appropriate task promotes critical thinking and collaboration, and the tasks may affect students' collaborative interactions. In the reviewed studies, some tasks concerned expository/argumentative essays (e.g., Elola & Oskoz, 2010; Kuteeva, 2011), some tasks concerned narrative type, such as story writing (Chao & Lo, 2009; Ducate et al., 2011), and others were involved with culture in the target language (Kessler, 2009; Lund, 2008). Part of the tasks specifically emphasized the appropriate use of certain grammatical points (e.g., Lee, 2010). Moreover, authentic task was particularly employed in Mak and Coniam (2009), and the task closely related to the students' discipline was also designed in Alyousef and Picard (2011). Several different wiki applications were used in this body of literature. A total of thirteen studies mentioned the specific wiki applications. Among them, five studies used Wikispaces, four PBwiki, now called PBworks, two MediaWiki, one Wetpaint, and one XWiki. These applications share many similarities as well as some differences [10].

Writing quality/writing skills are significant aspects that reflect students' actual learning. Mak and Coniam (2008) addressed the positive impacts of wikis on students' writing product. They reported that students wrote more than what was required and that their sentences were more complex and creative than usual, due to the collaborative nature of the task and the audience. Moreover, Wichadee (2010) examined students' English summary writing ability after the wikibased collaborative writing activities in an EFL course. Quantitative analysis of the writing scores suggested that students' summary writing skills significantly improved. However, not so encouragingly, Elola and Oskoz did not find the superiority of the collaborative writing product when comparing wiki-mediated collaborative writing and individual writing. They reported that the wiki-based

collaborative writing had no statistically significant differences in fluency, accuracy, and complexity, compared with individual writing [11].

Alyousef and Picard (2011) designed wiki-based writing tasks pertaining to the students' discipline in an ESP course. They analyzed student writing texts, including the discussion of five academic questions, and one business report, drawing on both Hyland and Tse's and Hyland's metadiscourse models. They compared the students' use of interpersonal metadiscourse features in the wiki discussion pages and in the report [12]. Results showed that the students used most spoken-like interactional metadiscourse markers such as engagement markers and self-mentions in wiki discussion pages, while they highly employed hedges and attitude markers, the distinct features of academic writing, in the report. The researchers indicated that the use of wikis enhanced the students' awareness of audience and their grasp of academic genre. The above two studies suggested the great potential of using wikis as a learning tool in ESP courses.

Other research reported the perceived benefits of wikis. Students viewed many advantages of using wikis for collaborative learning. Most students perceived that wikis are fun and interesting tools to share knowledge [13], and also motivating for learning. For instance, Lee (2010) found that wikis fostered students' motivation to be self regulated due to the peer interaction and individual accountability in the wiki-based collaborative work. Also, students stated that collaborative writing and peer feedback in wikis helped them develop better essays in terms of content, structure, and grammar [14]. Moreover, wiki-based collaborative writing enabled students to scaffold each other in content development, and gain more perspectives of a certain topic. For example, in Lund (2008), students particularly appreciated "the multi-voicedness and reciprocity of contributions as well as aggregated output" (p. 48) in the wiki environment [15]. In addition, Zorko (2009), and Lin and Yang (2011) reported that students liked the immediate teacher feedbacks that the teachers provided via wikis, which greatly facilitated their collaborative work.

Despite many benefits of wikis perceived in the body of literature, some studies revealed that students complained about the technical hardships of wikis [16]. Lund (2008) reported formatting problems, i.e., the students could not save their edits in the selected font or color. These technical problems may discourage the use of the wiki as a collaborative platform. Part of the students were also concerned with unequal contribution among the participants [17]. As Li and Zhu (2011) revealed, one student withdrawing from participation disrupted the collaborative learning experience of group members in the wiki-mediated collaborative writing. Moreover, some students preferred the combination of other synchronous CMC tools (e.g., Messenger) to communicate and co-construct knowledge, since the wiki, as an asynchronous tool, is not as convenient as the chatting applications to exchange instant messages. Accordingly, there are some affordances and constraints of wikis for collaborative learning.

## **CONCLUSION**

In this review of literature, the researcher examined the past empirical studies published in peer-reviewed journals on using wikis in foreign language classes. The findings indicate that wikis, as emerging Web 2.0 technologies, have been increasingly implemented for foreign language instruction at different educational levels, i.e., tertiary, secondary, and primary levels, throughout the world, including Europe, America, Asia, and Australia. The body of research is informed by a variety of theoretical perspectives, especially sociocultural theory. Case study approach drawing on qualitative data is mostly adopted to explore students' writing process and interactional behaviors, and their perceptions of using wikis for collaborative writing. The wiki writing tasks vary from the traditional classroom genre: narrative, exposition, and argumentation, to the authentic practical task and the task closely linked to academic discipline. Specifically, four main research themes were discussed, and the research findings regarding nine research strands were particularly synthesized.

There is still a lack in the textual analyses of writing products that students co-construct in wikis (Kost, 2011; Kuteeva, 2011). A close examination into linguistic, rhetorical, and discourse features of students' essays posted in wikis will contribute more to the research body of both collaborative writing and genre analysis. Future study can further explore the use of wikis in ESP instruction, and scrutinize how exactly the wiki platform positively impacts students' acquisition of genre knowledge and academic writing. Also, qualitative studies account for a great percentage of the current body of research. Therefore, quantitative studies assessing the effect of wikis on second /foreign language learning are greatly encouraged. In addition, the present study found that the majority of the studies have been conducted in university settings and in the EFL/ESL classrooms. The future research needs to further investigate how wikis are being used by various learning groups (i.e., learners of different languages) in the primary and secondary educational settings and in some other informal learning contexts.

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