Wikispaces: A Social Constructivist Approach to Flipped Learning in Higher Education Contexts

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ABSTRACT

This paper describes an attempt to integrate flip teaching into a language classroom by adopting wikispaces as an online learning platform. The purpose of this study is to examine student perceptions of the effectiveness of using video lectures and wikispaces to foster active participation and collaborative learning. Flipped learning was implemented in an English writing class over one semester. Participants were 27 low intermediate level Korean university students. Data collection methods included background questionnaires at the beginning of the semester, learning experience questionnaires at the end of the semester, and semi-structured interviews with 6 focal participants. Because of the significance of video lectures in flip teaching, oCam was used for making weekly online lectures as a way of pre-class activities. Every week, online lectures were posted on the school LMS system (moodle). Every week, participants met in a computer room to perform in-class activities. Both in-class activities and post-class activities were managed by wikispaces. The results indicate that the flipped classroom facilitated student learning in the writing class. More than 53% of the respondents felt that it was useful to develop writing skills in a flipped classroom. Particularly, students felt that the video lectures prior to the class helped them improve their grammar skills. However, with respect to their satisfaction with collaborative works, about 44% of the participants responded positively. Similarly, 44% of the participants felt that in-class group work helped them interact with the other group members. Considering these results, this paper concludes with pedagogical suggestions and implications for further research.

Key words: *Flipped Classroom, Active Learning, Collaborative Writing, Student Perceptions.*

1. INTRODUCTION

Recently higher education in Korea has been undergoing a paradigm shift moving away from teaching-as-instruction towards self-directed learning with a particular focus on learner autonomy. As a result, school curricula have been mainly designed for learning achievement rather than course content. This emerging trend in higher education created higher interest in flipped learning.

By definition, flipped learning can be seen as a pedagogical approach to blended learning. In a flipped classroom, the typical activities of classroom lectures followed by homework assignments in a traditional class are reversed in order, and these are often integrated with online videos [1], [2]. In other words, a flipped classroom is named in that way since the learning process is flipped from its traditional scheme.

However, flipped learning is not equal to online-video mediated learning [3]. It is, rather, the interaction and the meaningful learning activities that occur during class hours that is most important.

The flipped approach consists of many potential benefits including: opportunities for active learning and collaborative learning, missed lectures in the class, self-paced learning, and ''just-in-time'' type instruction. The underlying principles supporting the flipped learning approach are embedded in theoretical understandings of active learning [4]-[6].

Active learning in this study is conceptualized as a notion that involves "students in doing things and thinking about the things they are doing" [4] (p. 2).

According to [7], students' thinking in active learning is concerned with Bloom's [8] taxonomy of educational objectives, ranging from lower to higher and simple to complex levels of cognitive thinking. It is well known that students in the flipped classroom are given more opportunities to develop higher order thinking under teacher guidance and with peer support.

Recent implementations of flipped learning are applicable to the category of enhancing blends that attempts to provide enhanced rather than similar experiences of traditional classroom teaching with the use of web 2.0 technologies in blended learning environments [9]. Web 2.0 tools provide educators and researchers with the opportunity to go beyond traditional classroom formats and develop student-centered learning environments.

Wikis, as one of the Web 2.0 tools, have been popular to aid collaborative learning in the area of second language learning. A wiki can be viewed as a freely expandable collection of interlinked web pages, a hypertext system for storing and modifying information [10], [11]. For example, Lund [9] highlights that wikis enable participants to have a collective approach to language development and production. Group members go through several stages of drafting, revising, editing, and publishing.

Particularly wikis have been used to promote collaborative writing in the field of second language learning. Also wikis are known as highly democratic and decentralize individual power because of an equal opportunity to edit and reconstruct entries [11].

Although a few studies have reported the use of wikis on second language writing [11], [12], there still remains a need to explore how a wiki fosters process writing within the context of flipped classroom at the collegiate level. This study thus presents mediated collaborative learning involving 27 beginning level students of English writing who co-constructed wiki pages on the basis of small group activities. Specifically this study focuses on the examination of student perceptions of the effectiveness of using video lectures and wikispaces to foster active participation and collaborative learning.

2. SOCIAL-CONSTRUCTIVIST APPROACH TO THE FLIPPED CLASSROOM

This section provides a discussion of the flipped approach grounded in a social-constructivist view to the learning process to make space for a collaborative and facilitated exercise for L2 writing.

Given that recent issues in CALL literature shows an increased attention to social and contextual aspects of language learning, this incremental trend towards a social perspective on SLA is clearly visible [13]. Adopting a socio-constructive perspective to SLA implies a shift from theories of universal grammars and innate structures to a view of language as cultural conventions and sets of resources [14]. In a social constructive view of SLA, the learner is not simply an individual who encounters a language learning process and assimilates vocabulary and syntax. Instead, the learner is seen to participate in diverse speech communities where he draws on social resources (other participants, institutional affordances), material resources (PCs, networks, applications), and semiotic resources (signs, genres) [15].

A key tenet of the social-constructivist model of learning is that cognition cannot be separated from its social, institutional, and historical contexts. That is, learning is a social process that involves members of a discourse community who construct knowledge together to complete a shared task [16]. Therefore, knowledge is shaped and collectively (re)constructed through negotiation of meaning and self-reflection [17].

In parallel, the essential principles supporting the flipped learning are grounded in theoretical understandings of active learning. According to [18], "an active learning continuum" moves from simple tasks on one end to complex tasks on the other as a conceptual framework to help language teachers map out active learning strategies. One fundamental aspect of flipped learning is that students in the flipped classroom are given much more opportunities to improve higher order thinking skills under teacher guidance and with peer support as needed [19].

This study thus employed an active learning strategy called *wikis* that belongs to the camp of collaborative learning, among various subsets of active learning. Examples of active learning involve group discussions, collaborative learning, problem-based learning, and inquiry-based learning [18]. Particularly, applying wikis to support students' collaborative learning has been promoted by many second language educators [19]-[21].

Linking with a social-constructivist turn to online writing, wikis involve collaborative interactions grounded in the social-constructivist paradigm of language learning [22], [23]. The nonlinear approach to process writing in wikis appears to be different from the traditional process of writing which mainly focuses on individually produced writing.

A wiki in the present study is defined as "a system that allows one or more people to build up a corpus of knowledge in a set of interlinked web pages, using a process of creating and editing pages" [24] (p.5). Using simple HTML markup language, students easily add and edit contents via any Web browser without prior programming knowledge. In addition, wikis record individual changes and keep track of extensive page histories. The most popular example of a Wiki is known as the online encyclopedia, Wikipedia.

Furthermore, a wiki can act as a medium for the writing process that enhances peers' collaboration and collective scaffolding. Students in the wikispace assist each other in composing and revising contents in order to produce better writing.

Taken together, these educational uses of wikis can provide several pedagogical benefits [25], [26], including

- evolutionary knowledge building and progressive problem-solving
- explaining diverse and contradictory ideas, synoptic evaluation and definitional synthesis
- critical questioning and reflection
- the ability to avoid premature judgement and engage in complex and nuanced analysis of others' work

3. METHODS

3.1 Participants

Action research was employed as research methodology because it is a cyclical process of reflective practice that is suited to educational contexts [27], [28]. It is a method of research to improve direct practice. The implementation of action research includes sequential steps comprising: idea conception and fact-gathering; planned change and implementation; evaluation and review that lead to modification of practice and further planned change [28]. First, a suitable wiki program was identified that was freely available and compatible with the institution's existing LMS (moodle).

Following a review of related literature on the flipped approach to the L2 classroom, the wikispace was created with the nature of basic collective scaffolding and then subsequently promoted through teacher guidance. Students' participation was continuously monitored in online group discussions mediated in the wikispace and via moodle activities while data gathering techniques in the wikispace supported reflection as the basis for creating planned change in the future.

The study was set up using video lectures and wikispace program for an English writing course offered in a research university in the spring 2016.

Participants were 27 Korean university students who took the writing course as their elective course at a research university. Student background questionnaires were administered at the beginning of semester. The analytical results of student background questionnaires showed that overall students in the writing class were low intermediate English language learners.

The majority of the students were from the computer engineering department (19 of them) and the remaining students came from college of design and nursing school. The students enrolled in this course met weekly in a computer room, where each of them had access to a desktop computer. None of the participants had any flipped classroom experiences prior to this study, though one-third of them had blended learning experiences.

3.2 Instructional Procedures of the Flipped Class

This study was carried out in a period of 15 weeks. The flipped paradigm was introduced to students at the beginning of the semester, and students were told that they were required to watch one video lectures per week that was available on a school LMS system (moodle). Because of the significance of video lectures in flip teaching, *oCam* which is a user-friendly video recording program was used for creating weekly online lectures as a way of pre-class activities.

After watching about 20-minute online lecture, students were required to solve related exercise questions and upload their answer sheets to the school LMS board. In addition, the program *wikispaces*, freely available software, was adopted for the flipped class because wikis are not available the course management system at the researcher's institution.

Since wikispace was used as a learning platform to promote collaborative and reactive writing skills and to deepen engagement with post-writing activities, students participated in group work mainly online during class hours (see Fig. 1).
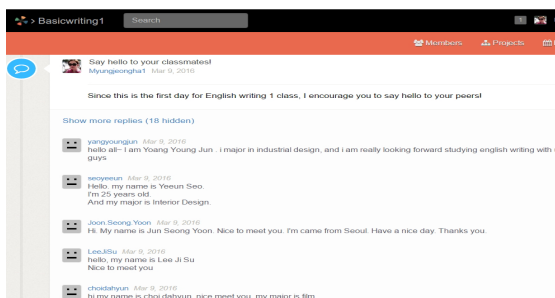

Fig. 1. Screenshot on the English Writing Class Created in the Wikispace

As illustrated in Fig. 2, in-class activities were divided into three major phases including grammar review, rhetorical analysis, and individual writing. An initial in-class session provides an overview of grammar component students learned in advance through online lectures. Students were directed to solve further questions to develop grammar competence. They usually worked in small groups to complete a given task. The second phase of in-class session is to correct sample writing. The third phase is to individually produce short paragraph writing on the given topic.
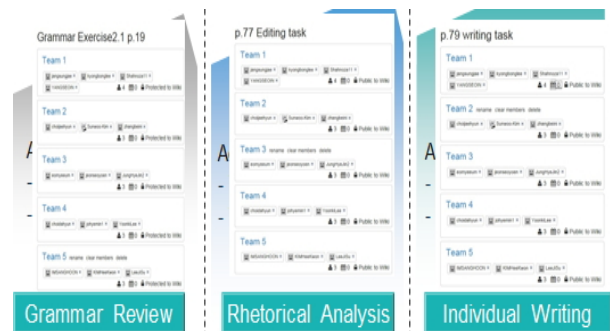

Fig. 2. Overview of In-Class Activities

As for the post-class work, the students were instructed to complete their paragraph writing and then post it on wikispace. Students were also required to edit and revise their writing. Self-editing was employed to make students facilitate conscious control and understand writing strategies. In addition, students were required to edit and revise group members' writing. The employment of peer-editing was intended to socialize learning process as well as composing process. Finally, teacher's feedback of students' writing tasks was given at the wikispace.

3.3 Data Collection and Analysis

Data Collection methods involved background questionnaires at the beginning of semester, learning experience questionnaires and semi-structured interviews with 6 focal participants at the end of semester. Background questionnaires were distributed to gather students' background information including age, gender, English language proficiency levels, experience of blended learning, and exposure to flipped classroom.

A learning experience questionnaire was administered to all the participants at the end of this instructional intervention to gauge their learning experiences throughout this process. The questionnaire contained a series of five-point Likert scale items and open-ended questions developed by the researcher to examine the students' learning satisfaction and attitudes, with a focus on material design. To obtain more detailed information of the students' perceptions of flipped classroom experiences, the researcher conducted individual interviews with 6 focal participants.

With respect to data analysis methods, a series of five-point Likert scale items were analyzed using the function of Google docs while interview transcripts and the responses to the open-ended items extracted from the questionnaires were coded based on content analysis procedures to generate

possible themes pertaining to the research goal. These analytical results were also triangulated across all the data sources, and then verified with a member-checking technique to assure the validity and reliability of this research.

4. RESULTS

Given that there is the primary significance of two components including video lectures and collaborative learning in a flipped classroom, this section presents the analytical results related to student perceptions to video lectures and collaborative learning in the writing class.

4.1 Video Lectures as Pre-class Activities

The analytical results of questionnaires reveal that overall the structured flipped classroom facilitated student learning in the writing class. In response to item 1, ''It was useful to develop my writing skills in a flipped classroom'' more than 53% of students responded with either strongly agree or agree. As shown in Fig. 3 below, 13 out of 24 respondents showed their positive responses to flipping the classroom.
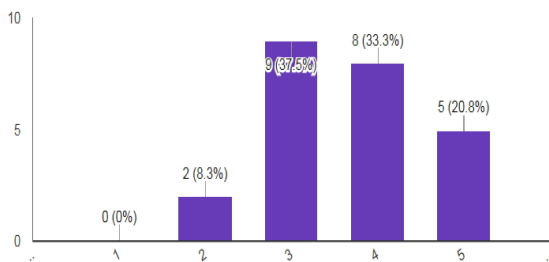

Fig. 3. Student Perceptions of the Flipped Classroom

Particularly students felt that the video lectures prior class helped them improve grammar skills. As the graph below shows, about 52% (13 out of 25) of students responded with either strongly agree or agree.
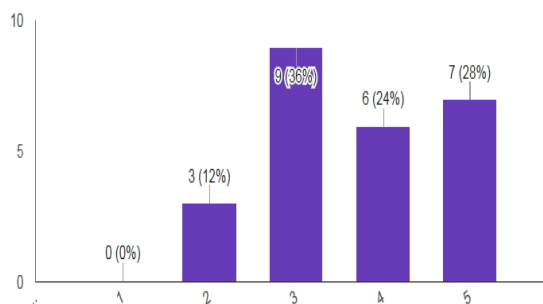

Fig. 4. Student Perceptions of the Effectiveness of Video Lectures on Their Learning

Table 1 presents the detailed information of student voices elicited from focal group interviews about the employment of video lectures as pre-class activities. The result of interviews reveals why students' responses to video lectures are so positive.

Table 1. Students' Comments on Video Lectures

Focal participants	Comments
1	Most of all, it was good to have a preview of what we would learn in class.
2	It was easier to follow the teacher's video lectures because of the relevant speed of recorded speech.
3	For me, watching video lectures were much more enjoyable than reading paper-based materials.
4	Somehow video lectures enabled me to get motivated to do self-directed learning.
5	I usually liked to watch video lectures repetitively until I have a fuller understanding of grammar components.
6	It was more interesting to watch video lectures than to read a textbook by myself.

As Table 1 specifies the students' comments of the use of video lectures in a flipped classroom, Overall students were able to have a preview of grammar skills with their autonomy. Also they were able to cover course material at a pace that conforms to their learning styles. As self-paced learning has been widely studied in the education literature, it is reasonable to argue that watching video lectures enabled them to get self-motivated.

As of video lectures under this study, two types were provided for students; one type was to solve related exercise questions right after watching video lectures and the other one was to watch video lectures only without any additional task offered. This was intended to compare students' preference between the two types. Interestingly, about 84% of respondents (21 out of 25) preferred the integration of video lectures with problem solving questions (Fig. 5). This result indicates that most students need productive learning process as well as receptive learning process to fully internalize what they were taught.
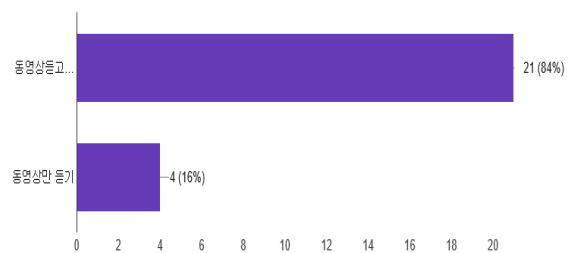

Fig. 5. Students' Preference to the Types of Pre-Class Activities

4.2 Collaborative Learning as In-Class Activities

With regard to learning satisfaction of collaborative works during class, about 44% of participants responded positively. In response to the item "I was satisfied with collaborative works during class" 11 out of 25 participants showed their positive response while 10 participants responded with neither agree or disagree and the rest of them were not satisfied with collaborative works as in-class activities. (Fig. 6)
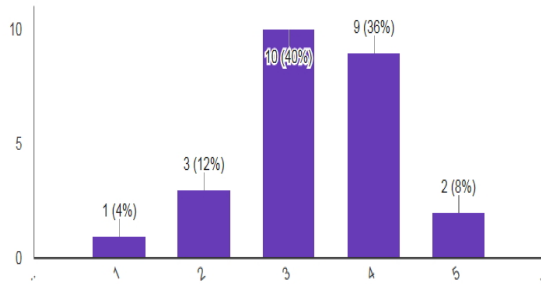
Fig. 6. Students' Satisfaction Associated with Collaborative Learning Experience

Similarly, only 44% of participants perceived that in-class group work helped them interact with other members. This result indicates that group interactions in the flipped class did not occur enthusiastically (Fig. 7). As shown in Fig. 7, 14 out of 25 participants showed kind of moderate or negative responses to the effects of collaborative learning on group interaction.
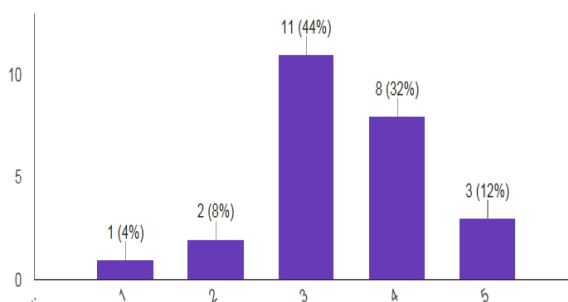

Fig. 7. Student Perceptions of the Effects of Collaborative Learning on Group Interaction

In the same vein, about 44% of participants (11 out of 25 participants) responded positively to the item, "Discussing with classmates helped me learn." As illustrated by Fig. 8, 10 participants responded with neither agree or disagree and 4 participants showed somewhat negative response.
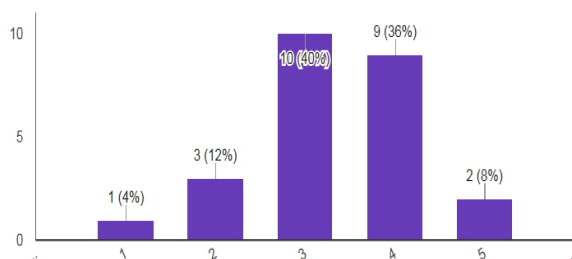

Fig. 8. Student Perceptions of the Effects of Group Discussions on Their Learning

As shown in Table 2, the result of focus group interviews revealed why their responses to collaborative learning were not that positive.

Table 2. Students' Comments on Collaborative Learning

Focal participants	Comments
1	It was difficult for me to communicate with my peers in wikispace because of frequent absence of group members
2	Because I was not so familiar with online group discussions in wikispace, I could not participate actively.
3	I like face to face group work more than online group work.
4	I don't think computer-based work only encourages us to interact each other for learning
5	We did not know each other so well, which made us reluctant to participate actively.
6	I was not able to reply on my peers' feedback because of their low language proficiency levels.

As Table 2 shows, overall students had difficulties in communicating with their group members in wikispace because of frequent absence of members as well as unfamiliar interface of wikispace as learning platform.

Also the lack of face to face interaction in the flipped classroom was one main factor for their negative responses to collaborative work. This implies that group interaction would occur constructively after the combination of face to face interaction and online interaction is considered in the instructional design.

5. CONCLUSION

The purpose of this study was to examine the possible impacts of flipping the classroom on English language learners' learning attitudes and their participation. This paper has shown how students responded to flipped learning in an English writing course over one semester, with a particular focus on engaging students in the flipped classroom through video lectures and wikispace. Data from learning experience questionnaires and focal participant interviews were analyzed in this study to gain insights into the English language learners' flipped classroom experiences.

The findings revealed that in general flip teaching facilitated student learning in the writing class over the semester. With regard to the use of video lectures, about 52% of participants strongly felt that the video lectures prior class helped them improve grammar skills. This result highlights the importance of learner autonomy embedded in self-paced learning. In contrast, more than 50% of students did not show positive response with regard to the potential benefit of collaborative learning in wikispace.

Because the objective of this study was to examine the possible impacts of the flipped classroom approach for English language learners in an English writing course, the findings from this study are not generalized due to limited sample size. The positive results of the study are thus restricted to the specifically situated research context and the particular technological tools used in the learning environment.

Nevertheless, this study contributes to the related literature by expanding the application of the flipped classroom approach to EFL classroom at collegiate level. Similar to other previous studies grounded in English writing classes, this research has demonstrated the feasibility of the flipped classroom approach to facilitate English language learners' autonomous learning in blended learning contexts, suggesting that this pedagogical approach is applicable to transform English writing courses that are usually taught deductively for varying class sizes.

Another strength of this study is that it represents a structured attempt to flip English writing lessons using the Wikispace active learning strategy, though students' perceptions and participation appeared to be somewhat moderate or negative.

Drawing on the findings of this research, there are some pedagogical implications and suggestions. First, language teachers and researchers should be aware of individual differences and preferences in order to implement flip teaching successfully in the situated contexts.

According to different learning styles, students' engagement levels and satisfaction appeared to be varied in this study. Second Individual students' academic performance levels need to be considered for effective group assigning. Students in this study felt that they did not benefit from group work because they could not fully reply on each other's feedback. If collective scaffolding would occur, the mixing of high performing students and low performing students will be ideal.

Language teachers and researchers are constantly adopting new technological tools and pedagogies. Flip teaching can be one of the most promising approaches to the integration of technology and active learning strategies.

Future research is guaranteed to explore the effects of well-structured versus ill-structured flip lessons on student learning, using different active learning strategies. In addition, empirical studies embedded in experimental design need to be followed in order to examine the effects of flip teaching on students' learning outcomes, with different language proficiency levels.

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