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College Student's Perceptions of Flipped Learning Experiences

[1]Keun Huh and [2]Jae Wook Yoo
[1]College of liberal Arts, Hannam University, Daejeon, Korea
[2]College of Business Administration, Konkuk University, Seoul, Korea

Abstract: This study explores college student's perceptions regarding experiences of flipped learning which is an evolving approach in the field of teaching and learning. About 35 college students majoring in the English language and literature participated in the study over a semester. A semi-structured survey was implemented at the end of the semester to collect data on the student's perceptions of flipped learning experiences. The questionnaire included three parts comprising pre-class learning in-class learning and overall satisfaction. Responses were analyzed as a percentage rate. Student's perceptions regarding the flipped learning experience were highly positive. Most students perceived that the online material formed an essential part of learning and that the pre-class supported their learning. All participants were satisfied with the pre-class learning components in this study. In terms of in-class learning, students perceived that they learned actively and increased their problem-solving ability through the in-class activities. The response regarding overall perceptions of the flipped learning experience indicated three major findings. Specifically, the students agreed that pre-class and in-class activities were well connected, their interaction opportunities increased and their degree of understanding of the content was heightened. Findings add meaningful suggestions for further research on flipped learning in that systematic and careful design are key to the success of the flipped learning class. Based on the findings of this study, more studies should be conducted on the role of teachers and effective ways to maximize student's satisfaction with the flipped learning approach.

Key words: Flipped learning, learner perception, instructional design, satisfaction, approach, conducted

INTRODUCTION

Due to the rapid development of Information Technology (IT), forms of teaching and learning have evolved in various ways. The flipped learning classroom is one such recognizable form of an innovative instructional approach in this IT-enhanced teaching and learning context (Hwang *et al*., 2015). Flipped learning is also referred to as the "flipped classroom," "inverted learning" and the "inverted classroom." The terms connote the definition of flipped learning, that is as an inverted version of the traditional classroom where in-class activities take place outside the classroom environment (Lage *et al*., 2000).

Various forms of the flipped learning classroom exist and many researchers have identified attributes of it. The most notable attribute of the flipped learning classroom is that it requires learners to individually participate in learning activities outside of class, mainly watching a video prior to class and allows learners to actively engage in classroom activities via. various interaction opportunities by assimilating their collective knowledge (Cilli-Turner, 2015). Scholars have also proposed some characteristics arising from the flipped classroom (Abeysekera and Dawson, 2015; Bishop and Verleger, 2013; Kim *et al*., 2014) as follows (Stone, 2012): first, changes in the usage of class time, second, changes in the usage of time outside the class, third, design of time outside class for students to increase knowledge, forth, emphasis on peer interaction, student-teacher interaction and problem-solving skills and fifth, use of technology, specifically video.

To date, advantages of the flipped learning classroom have been found in diverse disciplines. For instance, the flipped learning mathematics classroom allows learners to work at their own pace (Fulton, 2012). Researchers have also found that agricultural engineering students taking a flipped learning class achieved significantly higher scores compared to those learning in a conventional classroom (Busato *et al*., 2016). In terms of English language learning, students who took a flipped class were found to have increased performance in grammar tests and writing (Gaughan, 2014; Murphree, 2014).

There are many other positive effects of the flipped approach. For instance, many studies have proven that students can increase their participation in learning activities and be more cooperative learners in a flipped learning class, since, it provides an active learning

Corresponding Author: Jae Wook Yoo, College of Business Administration, Konkuk University, Seoul, Korea

environment that is formulated by the instructor in advance (Gaughan, 2014; Murphree, 2014). Moreover, learner engagement and empowerment are improved in the flipped learning environment (Saulnier, 2015). In addition, student's self-regulation is enhanced in the flipped learning environment (Lai and Hwang, 2016; Sletten, 2017).

However, most importantly, academic achievement is improved through flipped learning (Lee *et al*., 2017). In other words, the main contribution of flipped learning is to student's achievement as it promotes both individual and collaborative learning. Although, a few studies have shown negative effects of the flipped classroom (Fulton and Gonalez, 2015; Gundlach *et al*., 2015), substantial studies have reported that the flipped learning classroom at the very least is not harmful to learning.

Meanwhile, scholars reviewing flipped learning have pointed out that one of the most critical and fundamental elements of flipped classrooms is their instructional design (Hwang *et al*., 2015). In general, the flipped class is designed according to three distinct stages: before class in class and after class. In the before-class stage, the instructor uploads a short video which outlines the key content for in-class learning to an online space such as a Learning Management System (LMS) provided by the school server. During the in-class stage, the instructor provides several modes of activity, including quizzes, discussions and problem-solving and collaborative activities. Students therefore have wide opportunities for student-centered learning during the face-to-face class. The teacher's role in the in-class stage is transformed to that of facilitator and monitor, rather than one-way knowledge transmitter. Accordingly, the teacher is given more opportunities to provide specific feedback to individual students while they are working on activities. In the after-class stage, students are usually required to write reflective notes or take a short test based on what they have learned. In other words, students are supposed to review and monitor their learning process after the in-class stage.

Although, the above design represents a typical flipped learning class, other important elements directly or indirectly influence the effectiveness of this class type-for example, the content, materials, class size, technology, teacher and students. Thus, controversial results have been reported depending on diverse flipped learning contexts. Based on the results and implications of previous studies, therefore, some core factors that make for successful flipped learning have been suggested by researchers.

One of the most important prerequisites of flipped learning is technological support. Good teachers in flipped learning classes should be able to use technology well in order to provide effective and interesting lessons. If teachers do not develop their technology skills along with the mode of the class, students will not be able to clearly perceive the potential advantages of the new form of learning. In other words, without teacher's effort in terms of technology skills development, students will not be sufficiently motivated in flipped learning. Thus, the method will not be effective. In addition to technological support, teachers need to prepare appropriate pre-class materials, learner-centered activities, scaffolding strategies, classroom management and evaluation. Therefore, in order to implement a successful flipped learning class, the instructor's extensive preparation and good implementation are key (Hwang *et al*., 2015). Lastly, differentiating classes by disciplines contributes to positive outcomes of flipped learning such as academic achievement (Gundlach *et al*., 2015).

In spite of the challenges, the majority of studies have shown that flipped learning classes enhance, student's learning capability and promote student-centered learning (Lage *et al*., 2000). Moreover, student's motivation and learner autonomy increase in flipped classes (Cilli-Turner, 2015; Stone, 2012). In addition, the results of many previous studies have shown positive outcomes in terms of learner's perceptions, specifically, most learners have perceived the flipped class to improve their learning. However, relatively little research has been conducted at college level. Therefore, the present study explores how college students perceive flipped learning experiences as part of a mandatory course.

MATERIALS AND METHODS

Participants and context: The participants of this study comprised 35 college students majoring in English language and literature, who took an introductory course to English education for children. The objective of the course was to build student's basic knowledge about English language teaching for children by providing them with language teaching and learning theories. Most of the participants were sophomores and had not had any flipped learning experience before. The research was undertaken at a university located in the middle part of South Korea. The class met twice a week for 75 min per class across a 16 weeks semester.

Course design: The course of this study included various teaching and learning activities such as lectures, individual learning activities, quizzes, paired work, group work and whole-class discussions. Specifically, the

Table 1: Course outline

Phases	Activities/Materials	Design strategies
Pre-class	Motivation videos	Uploading materials
	PDF lecture notes	LMS monitoring
		Summary note taking
In-class	Quizzes	Team-based collaboration
	Discussions	Task sharing/presentation
	Mind-mapping/	Peer evaluation
	visual thinking	Smartphone applications
Post-class	Reflection journals	Providing feedback

course was designed to consist of three parts: pre-class, in-class and post-class (Table 1). The instructor employed team-based learning as the major teaching method for the course. For instance, team-based activities were used for discussions, collaborative tasks and a final project.

For the pre-class stage, the instructor created or edited 5-10 min video clips and uploaded them to the online portal site, hi-class, provided by the university. The students were required to watch the videos before they came to the offline class. During the in-class stage, students took a quiz on the pre-class content first. Next, students engaged in team-based activities according to the learning theme these included multiple types of classroom activities such as visual thinking, mind-mapping, pair-work discussions, creating questions, summary writing, developing learning materials and conducting presentations. For the post-class, students were required to look back on what they had learned and write a reflection report thereon. The reflection report was uploaded to hi-class and the instructor checked and monitored the student's comprehension regarding the content and attitude toward learning.

The survey: A semi-structured survey was implemented to collect data on the student's perceptions of their flipped learning experiences. The questionnaire consisted of three parts: pre-study in-class study and overall course. In addition, several open-ended questions were included in the survey. The responses to these questions provided more in-depth information on student's perceptions in terms of the positive and negative aspects of the flipped course.

RESULTS AND DISCUSSION

From the survey data, it was found that the students perceived that the pre-study helped them to understand the learning content. As shown in Table 2, they perceived the pre-class contains essential information on each unit. Students also perceived the study guide, time and speed of the pre-study to be sufficient. However, they were not satisfied with the time required for pre-class which they felt should have been shorter than 15 min. According to the survey responses, students felt that the pre-class

Table 2: Perceptions of the pre-class

Questions	Satisfied (%)	Dissatisfied (%)
Learning time	13 (37)	22 (63)
Learning components	35 (100)	0 (0)
Study guide provided by instructor	33 (94)	2 (6)
Degree of understanding	33 (94)	2 (6)
Speed of the pre-class video	33 (94)	2 (6)

Table 3: Perceptions of the in-class

Questions	Satisfied (%)	Dissatisfied (%)
Active participation	29 (83)	6 (17)
Active learning	34 (97)	1 (3)
Problem-solving ability	35 (100)	0 (0)
Clarification of unclear content	32 (91)	3 (9)
Study planning ability	27 (77)	8 (23)
Effective learning	32 (91)	3 (9)
High interactivity	34 (97)	1 (3)

study helped to enhance their understanding of the learning content and increase their interest in class. Students wrote other positive opinions as follows:

- Because I watched a video before the class, boredom in class was reduced
- I already learned at home, so, I could easily grasp what I learned in class
- Because of the pre-study, I could obtain more detailed knowledge
- Because I could watch the pre-video several times, I watched it until I understood the content. It gave me more chances to learn in-depth about the content

The results of this study show that most of the students (94%) clearly understood the learning content. This result conflicts with a previous research finding that students hold a negative perception of flipped learning. In the previous study, the researcher analyzed and found that heavy tasks, a high level of difficulty, technical issues with listening tasks and a low level of connectivity between pre-class and in-class were major challenges of the flipped class. Therefore, the positive results in the current study may have resulted from minimizing those challenging elements by providing a reasonable number of tasks of appropriate difficulty, familiar tools and a high level of relevance between on- and offline activities (Lee, 2016).

In terms of the classroom study, Table 3 shows the result of student's perceptions of in-class study. The most notable result is that all the students strongly perceived their own problem-solving ability to have increased. In addition, most of the students perceived that they learned actively and clarified learning content during the class. They also perceived their study planning ability and interactions with peers and the instructor to have improved.

Table 4: Perceptions of the flipped learning experience

Questions	D* (%)	A (%)	SA (%)
Increased interest in content	4 (11)	20 (57)	11 (31)
Increased concentration of class	4 (11)	15 (43)	16 (46)
Connection between pre and in-class activities	0 (0)	16 (46)	19 (54)
Increased interaction between the student and the instructor	1 (3)	20 (57)	14 (40)
Overall satisfaction	4 (11)	18 (51)	13 (37)
Increased interest of the class	6 (17)	17 (49)	12 (34)
Degree of understanding regarding the nature and content of the course	1 (3)	22 (63)	12 (34)

*D: Disagree, A: Agree, SA: Strongly Agree

The survey results show how students perceived the in-class activities and their attitudes toward the classroom-based learning. The following sentences are examples of how students felt about the in-class activities:

- I had to complete most tasks in the class with my partner and had to actively participate in all the activities
- I could understand the learning content, effectively while working on the team project in the class
- I could not be lazy and had to keep concentrating on my work because I had to participate in the team task

As shown in Table 4, regarding the student's overall perceptions about the flipped learning experience, 88% (51% agreed and 37% strongly agreed) of the students were satisfied. Specifically all students perceived the pre-class and in-class activities to be relevant. The results show that the course was effectively designed and adequately reflected the purpose of flipped learning. In previous studies, several researchers have indicated that the most critical challenge of the flipped learning classroom is making systematic connections between online learning and offline learning (Butt, 2014; Strayer, 2012). Namely, they emphasized that the success of flipped learning depends on the relevance of pre-class activities to those conducted in class (Hwang *et al*., 2015). Therefore, student's positive perceptions regarding the connection between pre-and post-class activities reflects that the current study provided a good learning environment for them.

In the open-ended questionnaires, students expressed that they liked the flipped learning class for reasons such as the following:

- It enabled me to fill in the gaps that I was lacking
- I knew in advance what I would learn, so, I felt secure in the class
- I felt that I clearly understand every single aspect of the course

In summary, the student's positive perceptions on the flipped learning experience in the present study support the result of previous studies (Doman and Webb, 2014, 2015); Findlay-Thompson and Mombourquette, 2014). Specifically, as found in a majority of empirical studies, the flipped learning class increased learner's participation, interest and concentration with respect to learning (Davies *et al*., 2013; Enfield, 2013; Strayer, 2012).

CONCLUSION

The findings of this study suggest that redesigning existing college courses to make them flipped learning courses is worthwhile for both students and instructors. The data indicate that student's interactivity, participation, problem-solving ability and study planning ability increased throughout the flipped learning experiences. This implies that the flipped learning experience can encourage college students to become more active and self-directed learners.

SUGGESTIONS

Based on the findings of the current study, several suggestions can be made for future research on flipped learning classrooms. First, for the pre-class activities to be effective, well selected, varied and short videos (15 min maximum) should be prepared to capture student's attention. Second, for effective face-to-face learning, carefully organizing pre and in-class activities that are clearly connected is vital. Third, sufficient time should be provided for in-class activities, so that, students have enough opportunities to discover and adapt what they have learned. Fourth, teachers need to provide scaffolded feedback on student's work, monitor individual achievements and properly control the classroom environment. Finally, to make post-class work effective, teachers need to provide consistent monitoring and encourage students to reflect on what and how they have learned. In conclusion, to make flipped learning effective, teachers need to make an effort to study and reflect on their flipped classroom design to ensure its effectiveness.

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