



Students' acceptance of flipped learning through Google application

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ABSTRACT

Since the COVID-19 pandemic plagued the globe, there has been an increased reliance on technology for teaching and learning. Technology has become essential for the continuity of the teaching and learning process at various levels of study. In this technology-based teaching and learning, various approaches can be used to help students master learning content. One approach that is often used is flipped learning, which requires students to explore learning content before the class begins. The objective of this research is to identify students' acceptance of flipped learning in second language acquisition classes based on Google applications. This is a descriptive study, and a questionnaire was distributed to students to determine their level of acceptance. The questionnaire focused on content design aspects, flipped learning, and Google applications. Additionally, students were asked to provide their reflections after participating in this type of learning. This research involved 85 students in the final year of the bachelor of Arabic studies program at Universiti Sultan Zainal Abidin in Malaysia. The collected data from the questionnaire was then analyzed to determine the mean value for each item to determine the level of student acceptance. While reflective writing is studied by identifying themes related to student acceptance. The study's findings indicate that students had a high level of acceptance for learning Arabic with flipped learning via Google application. The students' reflections were also positive, with themes emerging around increased knowledge, improved technology handling skills, the formation of more creative and critical thinking skills, and the positive impact of group activities. Flipped learning has great potential for implementation because students are more prepared to follow the class. Google application is an excellent choice because it is user-friendly and easily accessible.

Keywords: acceptance, Arabic learning, flipped learning, Google application

INTRODUCTION

Different technology-based methods of learning have been utilized, and one of them is flipped learning. This approach, which became prevalent around 2012, emphasizes the use of technology as the main tool for learning (Lee et al., 2017). Flipped learning differs from traditional learning in that it requires both teachers

and students to take an active role in constantly improving their skills and knowledge. In this approach, teachers plan learning activities that involve students, while students independently explore the learning material before class and actively participate in discussions during class (Brewer & Movahedazarhouli, 2018; Educause Learning Initiative, 2012; Lee et al., 2017). Flipped learning consists of two main components: independent learning outside the classroom that is aided by technology and focuses on basic knowledge, and active learning activities in class that emphasize critical knowledge (Giannakos et al., 2015). The implementation of flipped learning has four main pillars according to Hamdan et al. (2013): A flexible environment, a learning culture, planned content, and professional educators.

According to Leustig (2020), the flipped learning concept can be categorized into three main phases: before, during, and after class. Prior to the lesson, students are required to explore the content to obtain basic information related to the topic. During the lesson, students interact with teachers and peers to enhance their understanding of the subject matter. Following the lesson, students can reinforce their knowledge through exercises. This flipped learning strategy provides students with greater flexibility in accessing content, promotes active engagement in learning, and offers teachers the opportunity to assist, engage, and customize learning for their students during class time.

From the previous study, it is clear that flipped learning involves students taking on an active role in exploring, reading, and comprehending the content prior to the start of class. Students are expected to have a solid grasp of the fundamental concepts related to the subject matter. As the class proceeds, more complex and critical learning content is actively discussed with the guidance of teachers and classmates. This approach leads to a more active and effective learning environment, as students have already acquired the basic knowledge required before the start of class.

Flipped learning is seen as very suitable to be carried out at the higher education level due to various factors including being implemented in an environment with many students. By implementing a flipped learning approach, students are given the opportunity to develop important skills in this century including critical thinking, creativity, communication and collaboration in the learning process (Marcey & Fletcher, 2014).

In a learning environment that puts emphasis on the use of technology, the implementation of a flipped learning approach is deemed highly suitable. Nevertheless, the chosen application or tool must be appropriate and cater to the diverse backgrounds of all students. This is due to the fact that limitations pertaining to the use of technology during instructional sessions include issues with internet accessibility, inadequate proficiency in managing technological applications, unsuitable equipment, and an unfavorable setting (Norasyikin & Siti Salwa 2021). Thus, it is imperative to carefully select a fitting application that can address the needs of all students, regardless of their backgrounds and circumstances.

One of the applications that is highly accessible to internet users and provides excellent free services is Google. Founded in 1998, Google has expanded continuously since then. It features a range of applications that support teaching and learning, such as Classroom, Docs, Drive, Gmail, Meet, Sheets, Slides, and many others. The application is easy to use and access, and it supports the use of the Arabic language. With the multitude of features offered by Google, it is the preferred choice for use in the teaching and learning process.

Research Objectives

This study aims to identify the level of student acceptance on a flipped learning prototype based on a Google applications for a second language acquisition course.

RESEARCH METHODOLOGY

This research is both quantitative and qualitative. Questionnaires were delivered to students as part of the quantitative research. Students were requested to submit their reflections after completing the course for a qualitative study. This research involved 85 students in the final year of the bachelor of Arabic studies program at Universiti Sultan Zainal Abidin in Malaysia. The student has completed a 14-week course in second language acquisition. They were given a distributed questionnaire consisting of four main constructs, namely content, design aspects, flipped learning, and Google applications. The questionnaire was presented in a Likert scale format, ranging from strongly agree to strongly disagree. For the first construct of content, there were seven items, while the second construct of design aspects had eight items. The third and fourth

Table 1. Mean scores of content findings

S/N	Item	Mean
1	The language used is easy to understand.	4.46
2	The provided content helps students to understand it more easily.	4.59
3	The additional links provided in the content help students to reinforce their understanding.	4.58
4	Appropriate training provided.	4.49
5	The provided discussion space provides an opportunity for students to interact and express their ideas.	4.35
6	Students can relate the content of this material to what has been and will be learned.	4.44
7	The content of the learning material complies with the DCI of the course.	4.48
Overall mean		4.48

Table 2. Mean scores of design aspects

S/N	Item	Mean
1	Google Sites design is easy to use.	4.31
2	The instructions stated in the material are clear.	4.38
3	The website design is attractive.	4.42
4	The text in the material can be clearly read.	4.46
5	The graphics used are able to help students better understand the content.	4.53
6	The colors used are able to attract attention.	4.50
7	Students are free to drop in and out of this material at any time.	4.70
8	Students have their own time space in exploring this material.	4.64
Overall mean		4.49

constructs also contained eight item questions. The collected data was analyzed, and a minimum score was determined to assess whether the students' level of agreement was low, moderate, or high.

Furthermore, the students were requested to write reflections regarding their experience with flipped learning using Google applications. These writings captured their opinions, comments, and suggestions without any limitations.

RESEARCH FINDINGS & DISCUSSION

Students' acceptance of flipped learning based on Google applications for second language acquisition course was identified through two instruments. These instruments are questionnaires and reflective writing.

Questionnaire

The questionnaire that was given to the students implemented a Likert scale with five points. It consisted of four constructs: content, design aspects of Google Sites, flipped learning, and Google applications. The collected data was analyzed, and the minimum score was determined to gauge the level of acceptance among the students, categorized as high, moderate, or low. The interpretation of the minimum score was consulted in [Table 1](#) to determine the level of acceptance. Furthermore, the students were requested to provide their reflections on their experience with flipped learning using Google applications, allowing for their thoughts, opinions, and suggestions to be recorded without any restrictions.

Content

Based on [Table 1](#), the data interpretation shows that the listed module content items in the survey are at a high level with an overall minimum score of 4.48. The item "the provided content helps students to understand it more easily" recorded the highest minimum score (M=4.59), followed by the item. The additional links provided in the content help students to reinforce their understanding' (M=4.58). Furthermore, the item "the provided discussion space provides an opportunity for students to interact and express their ideas" (M=4.35) shows the lowest minimum value compared to other items. However, this value is still interpreted as high.

Design Aspects Using Google Sites

Based on [Table 2](#), the interpretation of the data shows that students' perception of the design aspect of using Google Sites is at a high level with an overall mean of 4.49. All items recorded a mean score at a high

Table 3. Mean scores of flipped learning aspects

S/N	Item	Mean
1	The material provided is suitable for flipped learning.	4.42
2	Students can access this material at any time regardless of time and place.	4.71
3	The notes found in this material can be downloaded to make it easier for students to make references.	4.65
4	The flipped learning approach can attract students to learn Arabic.	4.53
5	The flipped learning approach can improve students' understanding when learning Arabic.	4.51
6	The activities provided are suitable for flipped learning.	4.47
7	Flipped learning is an effective learning approach.	4.48
8	Students will become active through a flipped learning approach.	4.39
Overall mean		4.52

Table 4. Mean scores of Google application usages

S/N	Item	Mean
1	Google application used in flipped learning is ideal.	4.45
2	Google apps are easily accessible.	4.49
3	Google apps are user friendly.	4.49
4	The use of Google Sites as a platform for sharing information with students is appropriate.	4.46
5	The use of Google Forms for reinforcement testing is appropriate.	4.39
6	The use of Google Docs and Google Slides for information sharing is appropriate.	4.53
7	Video sharing via YouTube is appropriate.	4.44
8	Google Drive for virtual storage is appropriate.	4.64
Overall mean		4.48

level. The item that recorded the highest mean value was "students are free to drop in and out of this material at any time" with a value of 4.70 followed by the item "students have their own time space in exploring this material" with a value of 4.64. Next, the item "the graphics used are able to help students better understand the content" with a value of 4.53. The item "Google Sites design is easy to use" recorded the lowest mean value of 4.31.

Flipped Learning

For the flipped learning construct, the overall mean is 4.52, which is at a high level (Table 3). The item "students can access this material at any time regardless of time and place" recorded the highest mean of 4.71. this is followed by the item "notes found in this material can be downloaded to make it easier for students to make references" with a mean score of 4.65. While the item "students will become active through a flipped learning approach" shows the lowest mean value of 4.39. other items are between the mean value of 4.47-4.53.

Google Application

The overall mean for Google application construct is 4.48 (Table 4). The highest mean score was recorded by the item "Google Drive for virtual storage is appropriate" with a value of 4.64 followed by the item "the use of Google Docs and Google Slides for information sharing is appropriate" (M=4.53). The item that recorded the lowest mean reading was "the use of Google Form for reinforcement testing is appropriate" with a value of 4.39. while for other items, the mean value is between 4.44 and 4.49. According to the results of the presented questionnaire, all constructs demonstrated a high mean score, indicating that students were positively inclined towards the implementation of flipped learning based on Google applications. These findings align with the study conducted by Putri et al. (2022), which revealed that the use of Google applications in flipped learning led to an increase in student motivation and proficiency level. Similarly, Suryawan et al. (2021) found that implementing this learning approach also contributed to an enhancement in students' mastery level. In addition, previous research on students' readiness to follow flipped learning found that students are indeed ready to participate in flipped learning (Jiang et al., 2021; Mahat et al. 2021; Tomas et al., 2019).

Reflective Writing

Along with the questionnaire, students were requested to provide their reflections on their experience with flipped learning utilizing Google application. The reflections gathered have yielded several themes,

including an increase in student knowledge, enhancement of technology proficiency, cultivation of creative and critical thinking abilities, and the positive influence of group work. The themes are determined based on the frequency of their mention by the students. However, the issue of internet access remains a challenge. The following sections provide detailed information on the themes identified from the student reflection feedback.

Increased Knowledge

According to the students' reflections, they have recognized that using flipped learning based on Google applications has led to an improvement in their knowledge. This approach has been perceived as a new and effective way of learning. The following are the main themes that emerged from the students' reflections regarding their knowledge:

"I can develop my knowledge because the questions, notes, and videos are all on one platform that is easily accessible by students" (P_5).

"Google Sites are very helpful in terms of items and content for second language acquisition learning. We can access information quickly and easily" (P_7).

"I can train myself to search for information before learning and brainstorm with friends" (P_26).

"I can gain new knowledge by using the flipped learning method because students can search for knowledge more deeply" (P_34).

"I can learn new knowledge before entering the classroom and be more prepared for discussions" (P_44).

"My knowledge is increasing, and I can analyze and compare new information with existing knowledge" (P_54).

"In my opinion, flipped learning has a positive impact on knowledge. This is because my knowledge before learning was at a low level. When I follow flipped learning, I am required to study first before entering the topic so that I understand what is to be taught and what I am learning. In fact, following this flipped learning can provide clear understanding to me because the teacher teaches and repeats what my friend has been taught" (P_61).

"In my opinion, flipped learning is very suitable for use as it makes students more active in searching for relevant materials and information, and having basic knowledge before starting the learning process. Google applications also play a role in finding various information and saving related notes" (P_63).

"The knowledge obtained from this course is very interesting. Flipped learning makes students more prepared. If previously, students only came to class to listen, now they need to equip themselves with knowledge and skills. Furthermore, this learning method helps to build the character of students. Students do not have to rely on teachers as the source of notes. They are responsible for their own learning" (P_67).

"Flipped learning should be applied because it can make students more active. This is because students need to search for materials and prepare before the learning session begins" (P_77).

Technology Management Skills

Students also stated that through this flipped learning their skills in handling technology are increasing. In addition, they also admit to gaining new knowledge related to applications that can be used. The following displays students' reflections related to technology management skills.

"I gained skills in using Google applications such as Google Sites and Google Form" (P_46).

"Students are more proficient in using technology such as Google applications, especially Google Sites, which is used in this subject" (P_48).

"My skill in searching for additional information on the internet has increased. My skill in presenting to classmates so that they understand has also improved" (P_53).

"The skills I gained from flipped learning include learning about new applications that can be used to handle quizzes and websites that can be used to create interesting slides. It also fosters my confidence and courage when conveying what I understand about the topic" (P_61).

"New skills can be acquired such as digital skills" (P_68).

Formation of Thinking Skills More Creatively & Critically

The ability to think more creatively and critically is one of the skills that students acquire while following flipped learning. This is because, students need to prepare first by trying to understand the learning content that will be discussed in class. The following is a student statement.

"Improving critical thinking skills and expanding students' perspectives" (P_10).

"Enhancing students' ability to articulate their ideas and knowledge, as well as courage in asking questions and facilitating discussions" (P_12).

"Developing the ability to think broadly and learn how to find and understand information better" (P_25).

"Acquiring creative thinking skills, such as mind mapping, and improving memory retention" (P_32).

"Fostering critical thinking skills to comprehend the intended meaning in simple language" (P_54).

"Encouraging self-study skills, promoting student autonomy, and building student character" (P_45 & P_57).

"Cultivating learning skills, such as note-taking, self-understanding, and summarizing notes, as well as using tools like Canva and quizzes" (P_67 & P_82).

Group Activities Have A Positive Impact

During the flipped learning based on Google applications, students were given the opportunity to engage in group activities. According to the students' reflections, this activity allowed them to complete their work on time while receiving good cooperation from all members of their group. Students expressed their satisfaction with this approach, and their reflections related to group activities are listed below.

"The group members showed good cooperation in completing tasks and consistently shared ideas" (P_30).

"Working in a group went smoothly with a high spirit of cooperation within the group" (P_32).

"Collaboration went smoothly, and all group members showed good cooperation" (P_35).

"Working in a group went well because every task was completed on time and with good cooperation" (P_40).

"Being able to share ideas with group members and correct misunderstandings about the topic" (P_44).

"Working in a group can resolve confusion that may occur when working individually. As an individual, they can understand difficult topics better with explanations and discussions in the group" (P_54).

"Collaborative teaching facilitates learning from one another, solving problems together, and complementing each other's skills" (P_57).

"For me, collaboration is essential because it allows us to discuss and exchange ideas with friends. It is especially helpful in this flipped learning method" (P_61).

"This flipped learning also trains students to collaborate in groups to solve problems and issues related to the topics obtained. Group members need to discuss and interact together to understand the topic before presenting it to others" (P_63).

"Fostering cooperation among group members to think of solutions for given problems" (P_77).

Problems & Issues

The main issue that often arises when online-based learning is the interruption of internet access. The same issue also occurs in this study. Students complained that unstable internet access causes their learning process to be disrupted. Here are the problems faced by students.

"The problem of weak internet access makes it difficult for students to search for information or complete assignments that require internet usage" (P_43).

"The problem I faced when using Google Sites application is that I could not use it well because it requires fast internet access" (P_46).

"Low internet connectivity can sometimes cause problems in accessing Google application" (P_49).

"The problem that occurs when using this Google application is the weak internet connection" (P_55).

Based on the research findings that have been discussed and previous studies, flipped learning has great potential in improving the PdP process and increasing student achievement. The implementation of this flipped student approach provides an alternative to existing approaches that may have been used for a long time.

To sum up, the reflections written by the students indicate that they have experienced an increase in knowledge, improvement in technology management skills, development of creative and critical thinking skills, and positive impacts from group activities as a result of flipped learning using Google applications. The majority of students view flipped learning as beneficial to their learning process based on their reflections. Several previous studies, such as those conducted by Andujar et al. (2020), Bredow et al. (2021), Mohsin et al. (2021), and Wang and Zhu (2019), have also found that flipped learning has a positive impact on students' learning process, including increased interest and improved performance. Additionally, peer interaction, easily accessible learning materials, and active learning outcomes are among the reasons that make students more interested in flipped learning. Furthermore, a recent study by Chai and Hamid (2023) suggests that flipped learning can significantly improve student writing compared to traditional approaches.

CONCLUSIONS

Online learning has become an essential requirement in the education sector due to the various approaches it offers that can be adapted to different teaching and learning situations. The study's results indicate that students have a positive perception of flipped learning based on Google applications, making it one of the best options for fully online learning. Flipped learning enables students to understand the fundamentals of a topic before engaging in further discussions, resulting in better preparation and active participation.

The incorporation of Google applications such as Google Classroom, Google Docs, and Google Meet provides students with a user-friendly and collaborative environment in which to engage with the learning content and connect with their peers as well as their instructors. Students can use these digital tools to access materials at their own pace, study content as needed, and engage in meaningful discussions, eventually enhancing their learning experience. Furthermore, Google applications are user-friendly and easily accessible, making them a suitable medium for flipped learning. Thus, implementing flipped learning based on Google applications is a viable option for educators seeking to enhance their students' learning experiences. However, it is critical to recognize the potential obstacles that may develop while implementing flipped learning using Google applications.

For successful implementation, technical issues, restricted internet connectivity, and the need for teacher training and assistance are all factors to consider. Taking steps to address these issues will guarantee that the benefits of flipped learning are maximized and that all students have equal opportunities to engage and succeed. In conclusion, the combination of flipped learning with Google applications has the potential to transform traditional classroom settings and improve students' educational experiences in the digital age. Educators may develop an engaging and interactive learning environment that fosters student-centered learning and facilitates collaborative learning experiences by leveraging Google's features and resources. Further research and ongoing efforts to overcome implementation challenges will contribute to the continuous improvement and effectiveness of flipped learning approaches in education.

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