Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Journal of University Studies for Inclusive Research

Vol.10, Issue 11 (2022), 8414-8433

USRIJ Pvt. Ltd.,

IMPRESSIONS AND PERCEPTIONS OF COLLEGE OF EDUCATION GRADUATE STUDENTS ABOUT THEIR EXPERIENCE WITH FLIPPED VIRTUAL CLASSROOM

Dr. Ebtesam S. Alhabeeb

Assissant proffesor of Curriculum and Instruction, Faculty of Education, University of Jeddah, Saudi Arabia.

ebtesamalhabeeb@gmail.com

Abstract

this mixed-method research explores education graduate students' impressions about learning via flipped virtual classroom strategy, and their perceptions about its implementations in K-12 education. For the research purpose, a questionnaire was designed to collect both qualitative and quantitative data from 64 graduate students enrolled in a required course taught via flipped virtual classroom. Descriptive statistical analysis and thematic analysis were applied simultaneously. Findings showed that education graduate students have positive attitudes towards the implementations of flipped virtual classrooms in higher education, and they believe that flipped virtual classrooms are appropriate for K-12 and have mentioned some supposed advantages. Also, they highlighted some expected difficulties of applying the strategy in K-12 within three axes: teachers and students' readiness, implementation in the classroom, and preparation at home. Research implementations and limitations are declared.

Keywords: *Flipped classroom. Virtual learning. Higher education. K-12 general education.*

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Introduction

Rapid developments in technology have made distance education easy and more effective, as a result, the teaching-learning process becomes more flexible, innovative, and student-centered. Applying technology in education allows learning to occur independently or collaboratively; in synchronous or asynchronous environments; and using different device types, through internet access (Singh & Thurman, 2019).

In line with rapid technological development, students nowadays are digitally literate and highly media-savvy, therefore they prefer and feel more at ease with innovative and dynamic teaching approaches that incorporate cutting-edge technology in the classroom (Webb & Doman, 2020).

For teachers, due to the advantages of using technology in teaching and learning, they have applied the virtual model of many effective teaching strategies by enhancing them with digital and new-edge technology involving online learning models by presenting these strategies in an entirely virtual model. Specifically, use of technology during and after the COVID-19 crisis created a huge impact on shifting education from the traditional face-to-face classroom to the virtual one. And since that time, many virtual approaches in the field of educational technology have appeared and are becoming increasingly popular globally, specifically in higher education (Chen, Wu, & Marek, 2017; Yeşilçınar, 2019). Since one of the educational priorities is improving learning and performance, several research investigations have been conducted on technology integration and its impact on the learning process (Davies, 2011; Januszewski & Molenda, 2008). Flipping the classroom as one method of utilizing technology to aid learning and it may become a viable option for providing an effective learning environment for future learners (Doğusoy, 2020).

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Literature Review

Flipped classrooms to date have typically been applied in a blended or full classroom (Ahmad & Arifin, 2021). Sohrabi & Iraj (2016) defined a flipped classroom as "what has been traditionally done during class time, i.e., class presentations, is shifted to home activities, and what has been traditionally done at home, i.e., homework and projects, are transferred to classroom activities" (p.543). According to Tang et al., (2020), in the flipped classroom model, the content is typically delivered through online videos created by the teacher or a third party. Abuhmaid and Mohammad (2020) provide an example of how students can effectively start the learning process before class by watching the short instructional videos that have been assigned on their own. This may help pupils turn back to learning positively. In fact, this reimagining of the classroom paradigm (Tang et al., 2020), allows for students to discuss content, construct meaning, and obtain feedback in a much more interactive and dynamic learning environment. (Al-Naabi, Al-Badi & Kelder, 2022). Bergmann & Sams (2012) had stated ten years ago that the concept of flipped classroom is not new, but it took researchers and educators a while to recognize its enormous potential. However, recently, much research has been done to examine the efficacy of the flipped classroom in a traditional model and in a virtual online model. According to our reviewed studies, the flipped model in education. in general, (1) yields the desired academic achievements and high performance of students (Fischer & Yang, 2022; Thai, Wever & Valcke, 2017; Akçayır & Akçayır, 2018; Hsiao et al., 2019; Al-Shehri & Al-Hafiz, 2021; Purwanto, 2020), (2) enhances student learning and motivation (Bhagat, Chang & Chang, 2016; Thai, Wever & Valcke, 2017; Yesilçinar, 2019), (3) improves students' positive attitudes (Akçayır & Akçayır, 2018; Thai, Wever & Valcke, 2017) and (4) helps diverse learners through the application of a student-centered approach (Purwanto, 2020).

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

In higher education, research has shown that, in addition to the above advantages of flipped classroom, it fosters creativity for university students (Al-Zahrani, 2015) and allows the flexibility for both the students and instructors (Bergmann & Sams, 2012; Davies, Dean & Ball, 2013; Akçayır & Akçayır, 2018). Thus, most university students had positive perceptions and attitudes towards learning through flipped classrooms format (Ahmad & Arifin, 2021; Akçayır & Akçayır, 2018; Zainuddin & Attaran, 2016; Al-Derybi, 2016). Furthermore, it was discovered that future teachers are positive about the technology use in the classroom (Doğusoy, 2020), and the use of flipped classrooms in many disciplines is primarily encouraged to increase students' engagement, metacognition, satisfaction, and self-efficacy, along with many other learning outcomes (Al-Samarraie, Shamsuddin & Alzahrani, 2020; Yesilçinar, 2019; Akçayır & Akçayır, 2018; Khalifeh, 2022; Ahmad & Arifin, 2021; Rai et al., 2020; Mosquera Feijóo, Suárez, Chiyón & Alberti, 2021).

However, some research has identified obstacles that emerge when applying the flipped classroom format. For example, the time required for teachers to develop the digital materials, and for students to master them (Al-Samarraie, Shamsuddin & Alzahrani, 2020; Ahmad & Arifin, 2021), And other technical issues such as the limitations of space for the material attached to the platform (Prada, Hernández & Gamboa, 2019). The success of using the flipped classroom is established with institutional support, students' general learning styles and preferences, and students' preparation and bearing while doing self-learning at home (Akçayır & Akçayır, 2018), especially, when applying the flipped classrooms on a larger scale (Goedhart, Blignaut-van Westrhenen, Moser & Zweekhorst, 2019).

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Research Purpose and Problems

In agreement with the results of previous studies within the field, there is potential for flipped learning as an innovative teaching approach, especially, considering the unexpected shift from traditional to online teaching and the closure of university campuses worldwide during the coronavirus emergency, instructors have tried many effective teaching methods in online model in higher education, and one of these strategies is flipped learning through virtual classrooms. This paper aims to investigate the reflections of graduate students at the College of Education at University of Jeddah about their experience with flipped virtual classroom FVC, and their perceptions about applying the method in K-12 learning. The findings are anticipated to be put to use by instructors and curriculum designers to support pedagogical decisions on how to modify instruction and materials to meet the needs of both teachers and students for online flipped virtual classroom learning. To answer the **research problem**, two sub-questions emerged:

1. What are the impressions of graduate students at the College of Education about the applications of FVC?
2. What are the perceptions of graduate students at the College of Education about applying FVC in K-12 classrooms?

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Methodology

To answer the research question, a mixed method research design was utilized through use of a semi-structured written interview and questionnaire. The questionnaire was developed by the researcher with the aim of collecting data about the students' reflections about their experience being taught through FVC in higher education, as well as their perceptions about the implementations of the strategy in K-12 classrooms. The questionnaire was divided into two parts. The first part was designed in a Likert scale format to reveal participant's impressions about their experience learning via FVC, and the second part contained two open-ended questions to collect qualitative data about their perceptions about the application of FVC in K-12 education.

Regarding the research participants, the research took place at the College of Education at University of Jeddah within the required course in the educational master's degree program during the second semester of school year 2020. Students from two different classes/groups had been taught using FVC by the same instructors, all of whom were invited to participate in the research.

The fact that the research population is composed of graduate students from the College of Education makes their voices strong enough to be considered in the findings. This is because they employed their cognitive background as specialists in the field, alongside with their experience in enrolling in a course taught using the FVC method. Their voice could provide us with a clear vision of the possibility of its application in general education. Especially since K-12 students may not be able to participate in such studies nor provide accurate data. This study gives us the desired data to discover, but through the lens of education graduate students instead of K-12 students.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

After students completed all course requirements, they were invited to participate in the research. This was crucial to ensure that there was no conflict of interest. The invitations to the electronic questionnaire and written interview were administered to graduate students online through the classes' social media groups due to quarantine circumstances. Finally, a total of 64 applications were received. To assure the credibility of the questionnaire data and to have more illustrations about the results, data from the open-ended questions were collected and analyzed simultaneously with the qualitative data. Quantitative data were analyzed using descriptive statistics, and the qualitative data were analyzed through thematic analysis. In qualitative research, one of the most popular types of analysis is thematic analysis (Braun and Clarke, 2006). It places a strong emphasis on locating and examining patterns (or "themes") within qualitative data. To generate themes from the raw data, two levels of analysis were applied using the post-coding method. The credibility and reliability of both the open-ended and the Likert scale questionnaire were considered using the triangulation and intercoder reliability. The triangulation of the data by utilizing more than one data type or collection tool (such as questionnaires and interviews) may allow researchers to gain additional understanding of phenomena and boost the credibility of the study findings (Creswell, 2012).

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Result and Discussion

Both quantitative and qualitative data were collected and analyzed in the light of the main research questions and presented as follows:

First research question: What are the impressions of graduate students at the College of Education about the applications of the FVC teaching method?

Table (1): Graduate students' answers about them imprisons regarding the flipped virtual classroom

	Suitable for postgraduate programs		Promote critical thinking		Accomplish educational goals quickly		Helps increase attention and focus		Stimulate the participation of students during the lecture		Contribute to long-term learning effect		Increase learning motivation		It helps in exchanging ideas and information among students		It helps in building relationships between students		Can be used with different K-12 courses		I am willing to implement the inverted virtual classroom strategy with my students in the future	
Strongly Agree	47	73%	38	59%	36	56%	35	55%	38	59%	40	63%	35	55%	38	59%	27	42%	18	28%	44	69%
Agree	13	20%	24	38%	22	34%	23	36%	21	33%	18	28%	25	39%	21	33%	22	34%	27	42%	17	27%

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Disagree	2	3%	2	3%	4	6%	6	9%	5	8%	2	3%	2	3%	1	2%	9	14%	17	27%	3	5%
Strongly Disagree	2	3%	0	0%	2	3%	0	0%	0	%0	4	6%	2	3%	4	6%	6	9%	2	3%	0	0%
Grand Total	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	**100**	**64**	100

To answer the first research question, quantitative data was collected and statistically analyzed. The findings (see table 1) showed significant agreement from the graduate students about the advantages of using flipped virtual classroom. Almost half of the total answers demonstrated "strongly agree." The highest number of frequencies was in the question "Suitable for postgraduate programs" as 47 of the participants (73%) answered "strongly agree." In general, graduate students show good agreements on all advantages. The total agreements under each question in (table 1), including "It helps in exchanging ideas and information among students; Increase learning motivation; Contribute to long-term learning effect; Stimulate the participation of students during the lecture; Helps increase attention and focus; and Accomplish educational goals quickly" were above 90%. The question, "It helps in building relationships between students" demonstrated 76% of total agreements, which is considered low in comparison with the other questions and answers.

Findings also showed graduate students' attitudes toward applying FVC in K-12. Although they show, based on their experience during the course, a huge agreement on the merits of using FVC in higher education, their agreement was not the same with use of FVC in K-12 education. Approximately 30% of the participants did not agree on FVC suitability for K-12 classrooms. Still, most of this group (the 30%) were willing to add teaching via FVC to their academic experiences, and a total of 96% of all participants agreed on that. In other words, 44 of 64 participants strongly agree that they have the intention to implement the FVC strategy with their students in the future.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Similar results from previous studies parallel the findings in this study as most university students had positive perceptions and attitude towards learning through the flipped classroom format (Ahmad & Arifin, 2021; Akçayır & Akçayır, 2018; Zainuddin, & Attaran, 2016; Al-Derybi, 2016). Other findings regarding the benefits of the flipped virtual classroom came along with most findings from the previous studies such as Bhagat, Chang & Chang (2016); Thai, Wever & Valcke (2017); and Yesilçinar (2019) as they agreed that a flipped classroom format enhances student learning from one side, and enhances their motivation from the other side, which was proved by this study. Also, this study's findings indicated that FVC enhances critical thinking and that meets with the Al-Zahrani (2015) finding that a flipped classroom environment can foster creativity. The good agreements between this research and other findings could be due to the fact that the phenomenon under study was a reaction to a global crisis, COVID-19, and its forces on distance education, therefore international education systems have exchanged experiences about distance learning, and efforts are united globally. Much research in this regard coincided, and this played a major role in approximating and aligning the results.

Second Research Question: What are the perceptions of graduate students at the College of Education about applying the FVC in K-12 education?

To answer the second research question about the education, graduate students' perceptions, qualitative data was collected and thematically analyzed within two questions as follows:

Participants about Their Perspectives of the Implementations of FVC in K-12

Thematic analysis of the raw data shows that graduate students believe that FVC would be an effective teaching method in K-12 education. When participants were asked about their opinion regarding applying the FVC strategy in K-12, most of the education graduate students (49 participants) believe it is "….an effective, help full, and thrilling strategy for learners." They illustrated, from their points of view, that FVC would enhance learning motivation: "Its application

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

in schools will be pleasing and motivating to learn"; and "It is highly possible as it increases the motivation of learners and provides them with academic and life skills." Also, it meets students' needs as one stated: "there is a qualitative shift in educational applications and the generation has become proficient in the use of technology, especially after the pandemic." Many of the participants think FVC can enhance students' engagement, such as "there will be interaction by students, which makes the learning process more positive."

However, one participant believes it would be more effective with upper K-12 grades only since learners in lower grades lack the required cognitive development and learning skills. Due to that, a few participants, who did not agree on the effectiveness of FVC in K-12, specified that it may be necessary to have pre-training for young learners, as one claimed: "appropriate, but it is necessary to ensure the cognitive and skill readiness of learners." Another participant allocated the effectiveness of FVC in K-12 to be "…. after training and preparing them [learners] on its technological applications." Additionally, some of them believe that applying FVC in K-12, in general, could be "Possible only if it is known to the students." Another specified: "it required learner's awareness of its importance."

Findings from the raw qualitative data indicated that participants believe that FVC brings flexibility in learning delivery. Some participants believe it is "very possible….it may even be easier than traditional flipped classroom"; and others justified "Its application in K-12 will be worthy, especially with distance education due to the shortage of time"; also, some think "It can be applied in [K-12] and contributes greatly to facilitating the content delivery."

Regarding teachers, the findings uncovered crucial elements that education graduate students believe are important for teachers to consider when applying FVC. Participants highlighted that it "can be applied with literature topics only" and not recommend with practical studies like math and physics. Others claimed that "The teachers are required to strengthen their technical skills for designing digital content" and some of the participants believed it would cause fatigue for teachers "…unless, learning materials had been designed in advance." Another said, "Teachers need a

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

preplan" for learning process via FVC. Others suggested that teachers should not rely on FVC as the only teaching strategy, rather "Use it for enriching the lesson." Moreover, although "It is very nice to apply it, but not for all lessons or all classes so that the student does not feel bored, so diversity is necessary" as some participants believed. Also, some participants suggested: "Inform and involve students of the full plan in advance" and assert teachers to "continuous follow-up to avoid students' leakage."

The Expected Difficulties of the Implementations of FVC in K-12

Based on the participant's experience in FVC, and based on their educational background and teaching experiences, their answers uncovered the expected difficulties of applying FVC in K-12 classrooms. These findings came as the "other face of the coin" and enrich the previous findings within three main themes as follows:

Teachers' and students' readiness: In light of their experiences, 20 of the participants believe that the major obstacle that could face teachers and students in K-12 when applying FVC is the unavailability of or weak internet connection. Seven participants do not think students in K-12 would have available devices at home to work on, as one said: "It is difficult for all students to have electronic devices and an internet network." Another one asserts: "Because of their young age, and the lack of equipment with them constantly."

Moreover, according to six participants' point of view, the difficulties of applying FVC in K-12, could be the weakness of cognitive qualification and vocational training for both the teacher and the learner. As one of them mentioned: "I expect the difficulty is that the students do not know it well and may not be able to deal with the videos." Another said: "Inadequate training in the use of technical skills for teachers and students". These findings support the previous suggestions by some participants that FVC could be effective strategy in K-12 only if teachers can strengthen their technical skills, and if it is possible to provide pre-training for young learners.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Implementation in the classroom: Six of the participants indicated the difficulty of classroom management as one of the biggest obstacles expected when applying the FVC in K-12, due to a large number of students in the classroom, as well as the limitation of time and lack of skill in managing discussion and activities in the classroom. As one of the participants suggested: "The session limited time and the large number of students sometimes……."as obstacles cause loss of control over the classroom, and another participant explained: "The large number of students in the class make it hard for the teacher to control over the discussion stage, problem solving, and activities in flipped virtual classroom."

Five other participants believe that the lack of student engagement could be a major obstacle that faces teachers when applying flipped virtual classroom. Five other participants thought that: "students in K-12 classroom might not take it [seriously]." More expected difficulties during the implementation were mentioned such as students' "…. failure to manage content," "students' contempt during the presentation," or "……. inability to deliver the information and follow up on students."

Preparation at home: Qualitative data highlights some other difficulties that graduate students believed teachers in K-12 would face when utilizing a flipped virtual classroom format. Specifically, obstacles related to preparation of the material at home. Eleven participants claimed that there is no guarantee for teachers that students will watch the video at home carefully. One of them stated: "The students' lack of interest in the educational material sent by the teacher, whether it was a video clip or something else." One reason could be, as seven participants justified: "…poor learning motivation." Others believe that could happen because "….it is not a suitable learning method for all students."

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

On the other hand, teachers might be expected, as well, to face some challenges during the preparation at home. Participants mentioned that the preparation for video and materials and follow up with students to be sure the prepare for the lesson is time consuming from five participants' point of view, as one of the said: "It takes a lot of time for the teacher to prepare the lesson," and three others asserted it is required more efforts as well: "Preparation for the inverted virtual lesson requires early preparation from the teacher" and "It is difficult for the teacher to communicate with the students outside school hours and follow them up to prepare for the lesson. This requires effort and time."

In conclusion, findings emerged from the qualitative analysis and related to the second research question revealed that education graduate students support and have positive attitudes toward teaching via FVC in K-12 education. They believe in its effectiveness as it enhances learning; meets students' needs; and boosts their engagements. However, some participants believed it is more appropriate for upper grades and requires cognitive awareness, suggesting pre-training for young learners. Also, participants indicated that FVC makes learning more flexible and easier, and overcomes the time concentration to facilitate content delivery. In addition, education graduate students provided teachers with some suggestions like dedicated FVC to literature courses; strengthening their technical skills; having digital materials prepared in advance; involving students as stockholders; and keeping follow-up with students. However, education graduate students believe that many obstacles might also emerge. These obstacles related to the readiness for teachers and students, preparation, and implementation.

These previous findings in accordance with evidence from past research highlights the positive attitudes of participants in higher education toward the implementations of FVC in K-12 (Mosquera Feijóo, Suárez, Chiyón & Alberti, 2021) and towards teachers' use of technology in K-12 classrooms (Doğusoy, 2020).

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Moreover, findings about the use of FVC in classroom as it "meets students' needs" promote the findings of Purwanto (2020) that use of online flipped classroom helps diverse learners since it is a student-centered approach. Also, another finding about "bringing flexibility in learning" matches with Bergmann & Sams (2012); Davies, Dean and Ball (2013); and Akçayır & Akçayır (2018) who indicated that flipped classroom allows the flexibility for both students and instructors.

Concerning the findings about difficulties in using FVC in K-12, some of these results have been found in previous studies. For example, the time limitations and a large number of students indicated in this study as an obstacle of the application of FVC in K-12. These findings come across similarly to the findings of Goedhart, Blignaut-van Westrhenen, Moser & Zweekhorst (2019) about the large-scale classroom, and the findings of Al-Samarraie, Shamsuddin & Alzahrani (2020); and Ahmad & Arifin (2021) about the teacher's time limits.

Nevertheless, some expected difficulties indicated by the current study such as "the lack of student engagement" which is in contrast with the findings of Al-Samarraie, Shamsuddin & Alzahrani (2020): Yesilçinar (2019); Akçayır & Akçayır (2018); Khalifeh (2022); Ahmad & Arifin (2021); Rai et al. (2020); and Mosquera Feijóo, Suárez, Chiyón & Alberti (2021) as they indicated that flipped classroom models increase students' engagements. This discrepancy might be due to the differences in the nature of this study, as it investigated the strategy in virtual classrooms rather than traditional classrooms, so the distance could impact student engagement level. Also, the difference of the education level or background of the participants in previous studies could be the reason for why children are more eager to engage with technology than adults, if they don't find themselves already in it.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Conclusion

The current mixed-method study explored education graduate students' impressions about their own experience learning via FVC, and to discover their perceptions as educators about the applications of FVC in K-12 education. Findings confirmed participants' positive attitude toward utilizing FVC in higher education, and expected more advantages of applying it in K-12, such as enhancing learning, satisfying students' needs, and boosting their engagements. On the other hand, education graduate students think that there will likely be many challenges. These challenges centered on implementation, preparation, and readiness for both instructors and students.

The results of this study show a promising way of enhancing FVC benefits that can be used by academic decision-makers and teachers to highlight the benefits of FVC in education and the necessity of starting training and educational programs so that teachers and students may effectively implement FVC.

Additionally, being aware of the difficulties that students might experience in a FVC environment can help decision-makers in the field of education think about the usage of efficient solutions to overcome those challenges.

Finally, we need to carefully adjust this study's findings for application in practice and conduct additional research on them. This is because this study is an ethnography and participants' responses on the scale items were subjective and prone to recall bias by nature. In addition, differences in the ways flipped classes have been implemented, and the types of activities and materials designed and applied could cause variations in research findings.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

References

Abuhmaid, A., & Mohammad, A. (2020). The impact of flipped learning on Procrastination and students' attitudes toward It. *Universal Journal of Educational Research, 8*(3), 566–573. https://doi.org/10.13189/ujer.2020.080228

Ahmad, D., & Arifin, M. A. (2021). Exploring student achievement and perceptions in an online flipped grammar course. *Indonesian Journal of Applied Linguistics, 10*(3).

Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computers & Education, 126,* 334-345.

Al-Naabi, I., Al-Badi, A., & Kelder, J. A. (2022). Implementing flipped learning during Covid-19 in Omani higher education: EFL teachers' perspectives. *Issues in Educational Research, 32*(2), 413-433.

Al-Samarraie, H., Shamsuddin, A., & Alzahrani, A. I. (2020). A flipped classroom model in higher education: a review of the evidence across disciplines. *Educational Technology Research and Development, 68*(3), 1017-1051.

Al-Zahrani, A. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on higher education students' creative thinking. *British Journal of Educational Technology*, 46(6), 1133-1148.

Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. USA: International Society for Technology in Education.

Bhagat, K. K., Chang, C.N., & Chang, C.Y. (2016). The impact of the flipped classroom on mathematics concept learning in high school. *Journal of Educational Technology & Society*, 19(3), 134–142.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Braun, Virginia; Clarke, Victoria (2006). "Using thematic analysis in psychology". *Qualitative Research in Psychology*. **3** (2): 77–101.

Chen Hsieh, J. S., Wu, W. C. V., & Marek, M. W. (2017). Using the flipped classroom to enhance EFL learning. *Computer Assisted Language Learning*, *30*(1-2), 1-21.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.

Davies, R. (2011). Understanding technology literacy: A framework for evaluating educational technology integration. *TechTrends: Linking Research and Practice to Improve Learning*, 55(5), 45-52.

Doğusoy, B. (2020). Learning to Create Educational Digital Stories: Pre-School Prospective Teachers' Flipped Classroom Experiences. *Cukurova University Faculty of Education Journal*, *49*(2), 969-994.

Mosquera Feijóo, J. C., Suárez, F., Chiyón, I., & Alberti, M. G. (2021). Some web-based experiences from flipped classroom techniques in aec modules during the covid-19 lockdown. *Education Sciences*, *11*(5), 211.

Goedhart, N. S., Blignaut-van Westrhenen, N., Moser, C., & Zweekhorst, M. B. M. (2019). The flipped classroom: supporting a diverse group of students in their learning. *Learning Environments Research*, *22*(2), 297-310.

Hsiao, C. C., Huang, J. C., Huang, A. Y., Lu, O. H., Yin, C. J., & Yang, S. J. (2019). Exploring the effects of online learning behaviors on short-term and long-term learning outcomes in flipped classrooms. *Interactive Learning Environments*, *27*(8), 1160-1177.

Journal of University Studies for inclusive Research (USRIJ)
مجلة الدراسات الجامعية للبحوث الشاملة
ISSN: 2707-7675

Januszewski, A., & Molenda, M. (2008). *Educational technology: A definition with commentary*. New York: Routledge.

Prada, R., Hernández, C. A., & Gamboa, A. A. (2019, November). Different scenarios for the teaching of mathematics with the support of virtual platforms: Flipped classroom. In *Journal of Physics: Conference Series* (Vol. 1388, No. 1, p. 012046). IOP Publishing.

Purwanto, Andri. "Flipped Virtual Classroom Learning Model for the Course Study Discourse Analysis in Translation." *Scope: Journal of English Language Teaching* 5, no. 1 (2020): 01-07.

Rai, B., Zhu, J. Y., Koh, D. C., Xiaojuan, K., Krishnaswamy, L., Chandramohanadas, R., & Leong, P. K. (2020). An Investigation into the Impact of the Flipped Classroom with Active Learning on the Perception and Performance of Biology Nonmajor Students at the Undergraduate Level. *Journal of College Science Teaching*, *50*(2), 27-39.

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). American Journal of Distance Education, 33(4), 289–306

Sohrabi, B. & Iraj, H. (2016). Implementing flipped classroom using digital media: A comparison of two demographically different groups perceptions. *Computers in Human Behavior*, 60, 514-524.

Tang, T., Abuhmaid, A. M., Olaimat, M., Oudat, D. M., Aldhaeebi, M., & Bamanger, E. (2020). Efficiency of flipped classroom with online-based teaching under COVID-19. *Interactive Learning Environments*, 1-12.

Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: Looking for the best "blend" of lectures and guiding questions with feedback. *Computers & Education, 107,* 113–126. https://doi.org/10.1016/j.compedu.2017.01.003

Webb, M., & Doman, E. (2020). Impacts of flipped classrooms on learner attitudes towards *technology-enhanced language learning.* Computer Assisted Language Learning, 33(3), 240–274.

Yeşilçınar, S. (2019). Using the flipped classroom to enhance adult EFL learners' speaking skills. *PASAA: Journal of Language Teaching and Learning in Thailand, 58,* 206–234.

Zainuddin, Z., & Attaran, M. (2016). Malaysian students' perceptions of flipped classroom: A case study. Innovations in Education & Teaching International, 53(6), 660–670.