Research Article:

Online Flipped Classroom in English Language Grammar Learning During the COVID-19 Pandemic

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ABSTRACT

Online learning was widely promoted during the COVID-19 pandemic to replace conventional classroom teaching. During this traumatic situation, this study examined the use of the online flipped classroom approach (OFCA) to teach English language grammar to the pre-service teachers based on the active learning strategy referred to as Discover, Learn, Practice, Collaborate and Assess (DLPCA). A mixed-method study was used in this study. A survey questionnaire, open-ended questions and reflection were collected to identify their pre-service teachers' experiences. The findings indicated that students were satisfied with the OFCA and their reflections revealed that OFCA was significant in their development as future educators. The lessons conducted and findings are discussed with the hope that these innovative pedagogical practices might benefit teachers and practitioners who are looking for effective approaches when they need to conduct their classes in a fully online learning environment.

Keywords: flipped classroom, pre-service teachers, English language, grammar, pandemic

INTRODUCTION

The COVID-19 pandemic circumstances have led to a digital revolution as there is an intense uptake of technology in the higher education context. Due to the continuous increase in cases around the globe and the new strands of viruses, educators are left with no options but to embrace digital and hybrid formats. This may imply that online learning may last longer than expected and teaching and learning practices should be brave to explore, create, develop and implement modes that would be feasible for educators as well as students. It becomes ever more important to understand how teachers become agents who act, negotiate, and integrate pedagogical and digital resources, into meaningful teaching practice and limiting constraints. These expectations coupled with socio-emotional needs during the precarious situation, have raised the bar for educator preparation (Darling-Hammond & Hyler, 2020).

The COVID-19 pandemic has brought a plethora of suggestions aimed at educators and most of these suggestions were related to technology tools and materials that could be used to teach in the virtual environment (Bates et al., 2021). According to Rapanta et al. (2020, p. 924), "teachers have been offered hundreds of 'tips and tricks', mostly without the contextualizing knowledge needed to judge which teaching tactic is likely to work where."

Therefore, central to the success of teaching during emergency contexts is what Burde et al. (2016, p. 619) described as "structured, meaningful and creative activities that improve emotional and cognitive well-being in students." At the same time, it is also pertinent for educators not to only consider resources in the professional communities but also to acknowledge the value of available informal tools and web resources to make drastic innovations for a successful endeavour. Markauskaite and Goodyear (2017) rightly noted that successful teaching leans on the extraordinary efforts to "assemble an epistemic space" in which collective, as well as individual aims are prioritized by considering practical knowledge and other educators' digital materials and digital resources (Damsa & Jornet, 2017).

Against this backdrop, this study intends to innovatively design the course content for English language grammar learning in an online flipped classroom approach (OFCA) based on the Discover, Learn, Practice, Collaborate and Access (DLPCA) strategy. In the present study, we examined the Malaysian pre-service teachers' experience in the OFCA with a number of synchronous and asynchronous tools that they have never experienced before. It is hoped that these experiences will reveal the intricacies of digital pedagogies to future teachers who might be seriously depending on the virtual environment in years to come. Furthermore, research-based principles reported that learners are motivated to learn when they are experiencing interest, personal choice and control in the task assigned to them (Caine, 2011) alongside multiple pathways to personalise learning (Reigeluth & Karnopp, 2013).

Embedded within this aim, the researchers also examined pre-service teachers' reflections that guided them to any forms of teaching competence. Reflections are essential to investigate the outcome of any teaching-learning activities (Riedinger, 2006) and self-realization will lead to effective learning practices and innovative ideas that can benefit the learners. Also, reflections are correlated with motivation to learn and eventually improve learning outcomes (Cornelius-White, 2007). As asserted by Darling-Hammond (2005), "it is not enough to prepare good teachers to send them out to school" (p.4) but preparing teachers to be flexible and adaptive to learning approaches.

The flipped classroom approach seems to be the most practical approach during the pandemic as it integrates asynchronous and synchronous discussions. The main aim for choosing flipped classroom in this study is to increase the pre-service teacher participation in their learning activities instead of passively sitting during the synchronous discussion. Extant research recognized the important interplay between flipped classrooms and English language learning (Lee & Walace, 2018; Hung, 2018; Fathi & Rahimi, 2020). The empirical studies on the flipped classroom thus far suggest the findings that fall during the pre-COVID era allow students, as well as teachers, to experience face-to-face classroom interaction. However, during the pandemic, conventional classrooms were halted and were replaced with synchronous discussions (e.g, video conferences). Therefore, the flipped classroom during the pandemic is full online instruction.

The research questions for this study are:

1. What are pre-service teachers' experiences of OFCA in learning English language grammar?

2. What are the teaching competencies that the pre-service teachers gained from the OFCA?

This study is considered significant and it will have an impact on pre-service English language teachers. Pre-service teachers are in a key position to nurture young learners and if they experience active learning (e.g., online interactions, online collaborations, self-regulated learning, personalised learning), they are most likely to apply such practices in their teaching (Hakkinen et al., 2017). An attempt to understand how technology tools enhance pedagogical practices may improve the selection of relevant multimedia and technology tools which in turn will improve the online teaching and learning practices. However, there are still limited studies that emphasised how active learning can be visible for pre-service teachers (Geeraerts et al., 2018).

LITERATURE REVIEW

Online Learning during the COVID-19 Pandemic

The COVID-19 pandemic made the use of the online environment as the only way of conducting teaching and learning activities. Online learning is deemed appropriate

to be adapted during the pandemic situation as this approach allows asynchronous and synchronous discussions to take place effectively. Therefore, the global and massive shift to online learning has resulted in research on various aspects and disciplines dictated by the COVID-19 pandemic. Among the widely tackled area of research is the topic related to readiness. This is an important area of research since educators and students needed to go online during the looming lockdowns, and little is known about the social, emotional and technical readiness. The fledging scholarship on readiness during the pandemic suggests that students were experiencing social and emotional stress (Annamalai, 2021; Handel et al., 2020; Roman & Plopeanu, 2021). For example, Handel et al. (2021) in Germany, investigated social-emotional perception among students and discovered stress-related emotions such as worry and tension since they were overloaded with work related to digital pedagogies.

Similarly, a study by Roman and Plopeanu (2021) showed that Romanian students were experiencing psychological distress and troubled with online learning and highlighted problems related to Internet access, family issues and limited space at home. In India, a study by Chaturvedi et al. (2021) reported on students' anxiety and stress levels and urged the authority to take appropriate measures to enhance learning and mitigate the negative impact on learning caused by the pandemic. Meanwhile, Ionescu et al. (2021) conducted a sustainability analysis of e-learning education during the pandemic in Romania. In Portugal, Assunção Flores and Gago (2020) examined national, institutional and pedagogical responses during the pandemic and particularly focused on the teachers' practicum 'real practice' versus 'an ideal(ised) practice'. These studies also suggest several contingencies such as extra effort and time to mitigate the negative impact on learning caused by the pandemic.

A number of studies documented the quality of learning as the implementation was sudden. Students and teachers have never had adequate experience in a virtual learning environment with minimal support (Bozkurt et al., 2020; Hodges et al., 2020). Further, large-scale studies conducted by Aristovnik et al. (2020) and Bozkurt et al. (2020) involving a number of countries demonstrated that students are adapting well to the virtual teaching and learning experiences. Watermeyer et al. (2021) reported on institutions' support and trust in online learning resulted in the perceived effectiveness of digitalised pedagogies.

In the respect of knowledge building community and developing, and using frameworks as a guide, findings from studies elucidated how existing framework guides educators to conduct their teaching. A number of studies were also related to developing a framework and a knowledge-building community. For example, the use of online flipped classrooms in various disciplines has shown positive learning outcomes (Annamalai et al, 2021; Hew et al., 2020). Annamalai et al. (2021) in her study developed a framework for pharmacy students to experience an effective online flipped classroom. Meanwhile, Tan et al.'s (2020) chemistry teaching practices were guided by the Community of Inquiry model. Rap et al. (2020) employed a research-based approach guided by the Technological

Pedagogical Content Knowledge (TPACK) while Amin and Sundari (2020) investigated the use of video conferences, learning management systems and mobile applications during the pandemic. Meanwhile, Thomas (2020) developed a virtual course as a self-paced learning module that revolves around the notion of 'triggering event' suggested by the CoI model.

The studies reviewed above are attestations of how extensively and immensely the studies in the field of online during the COVID-19 pandemic have grown and expanded within a year. Nevertheless, researchers have expressed the need for more studies, especially studies related to innovative pedagogical practices (Annamalai et al., 2021; Hew et al., 2020; Miller et al., 2020; Thomas, 2020). Thomas (2020) asserts that online teaching and learning practices should reflect educators' "commitment to diversity, equity, and inclusion; culturally responsive pedagogy" (p. 10). Similarly, Miller et al. (2020) in their study related to online learning during the pandemic during the COVID-19 pandemic concluded that the educators need to respond and consider the importance of teaching, social and cognitive presences in designing their teaching and learning activities.

These researchers have called for more studies and suggested the following for successful implementation of teaching and learning practices during pandemic circumstances: (i) establishing clear goals and learning objectives; (ii) integrate multiple ways of learning and providing an abundance of resources; and (iii) provide an active learning environment. The current study attempts to address this in a meaningful way and to innovate digital pedagogical practices in the teaching of English language grammar to the pre-service teachers.

METHODOLOGY

A mixed-method was used in this study. Three types of data were collected in this study, namely, survey, open-ended question response and students' reflection, to triangulate the data and to provide the reliability of the collected data. Onwuegbuzie and Johnson (2006) suggested that the use of multiple items in collecting qualitative data is to provide an in-depth description and thorough understanding of the participants' experience which is an abstract construct that needs to be defined and measured.

Participants

The present study was conducted at TTSP (pseudonym) Institute of Teacher Education in the northern region of Malaysia during the first semester of the 2021/2022 academic year. Participants' average age was 20. They have completed their high school examination and have just entered the Institute of Teacher Education for semester one. They have never used OFCA before entering the Institute of Teacher Education. A total of 53 (45 females and eight males) participants were selected using convenience sampling, which

permitted the researchers to select the participants based on accessibility and proximity (Creswell, 2008). The participants were informed of the aim and the nature of the study and they were assured the data were only used for research purposes. The participants responded anonymously in the survey.

Research Procedure

In this study, students were experiencing full online instruction. The institute had adopted 60% of asynchronous discussion and 40% synchronous discussion. The study has adapted the DLPCA strategy by Lapitan et al. (2021). The study was conducted in the second half of the semester during the COVID-19 pandemic.

The aims of the 14-week course (November 2020 till April 2021) for the pre-service teachers are to be able to:

1. Demonstrate an understanding of grammatical items and structures in a variety of contexts.

2. Apply correct grammatical rules in a variety of contexts.

3. Analyse grammatical items, structures and errors in language use.

4. Use grammatical items and structures accurately and appropriately in a variety of contexts.

Table 1 shows the components of DLPCA with an explanation of how the grammar component, materials and technology tools are used in English language grammar teaching. The details of the activities performed by the individual students, students working in groups, and the educator are illustrated in Table 1. The topics covered are Word Classes, Tenses, Subject-Verb Agreement, Sentence Types, Moods, Phrases and Clauses, Sentence Patterns, Reported Structures and Cohesive Devices. Due to space constraints, only topics related to Active voice, Subject-Verb Sentence Types and Moods were detailed based on the DLPCA strategy in Table 1. The activities in Table 1 are related to asynchronous discussions while synchronous discussions were planned once a week via Google Meet to facilitate learning and to clear their doubts related to tasks and assignments in the asynchronous discussion comprehensively.

Table 1. Activities related to English language grammar learning via OFCA

Topic	Discover	Learn	Practise	Collaborate	Assess
Verbs	(1) Powerpoint on Verbs (2) Youtube (videos) - Professor Grammar (3) Online interactive exercises (4) Online quizzes (5) Collins Cobuild English Grammar e-book	(1) Watch Professor Grammar on Youtube (https://www.youtube.com/watch?v=SFpdPiL_iVA) (2) Read Powerpoint (3) Present what you have learnt in graphic forms	(4) Let's play charade (5) Let's have some online interactive exercises (https://www.grammar-monster.com/glossary/base_form.htm#exam)	(6) Let's be Professor Grammar! • Create your own videos on Verbs with reference to ebook (group)	(7) Complete the exercises on verbs in Language Development 1
Active and Passive Voice	(1) Powerpoint on Active-Passive Voice (2) Online notes (3) Online interactive exercise (with answers) (4) Language Description 1 (book)	(1) Read the powerpoint attached and complete the tasks in the powerpoint before synchronous class. Materials: Notes by lecturer & online notes (https://www.ef.com/wwen/blog/teacherzone/three-activities-teach-passive-voice/; https://www.pinterest.com/pin/180636350289449439/ http://wiki.ubc.ca/images/a/ad/Active_vs._Passive_Voice_In-Class_Student_Final.docx; https://www.teach-this.com/grammar-activities-worksheets/passive)	(2) Complete online interactive exercises (https://courses.lumenlearning.com/styleguide/chapter/practice-activities-active-and-passive-voice)	(3) In pairs, make own notes on Words with reference to Language Description 1. (4) Upload notes to Google Classroom to be shared with others.	(5) Complete exercises on Chapter 12 (pp. 119–129).
Subject–Verb–Agreement (SVA)	(1) Powerpoint on SVA (2) Two videos– videos on popular songs with SVA rules. (3) SVA topic in Language Description 2 (book). (4) Google Slide template for students to make their own notes by filling in the GS.	(1) Watch two videos. (https://vimeo.com/243316277; https://vimeo.com/243309263) (2) Read notes in Language Description 2(p. 82–11 rules)	(3) Complete exercises on SVA in Language Description 2.	(4) In groups of three, create notes based on the rules in Language Description 2 by using the Google Slides template provided. • Students can communicate via the chats in Google Slides.	(5) Select a song and identify the rules for each SVA in the song. • Present in class • Submit the video, lyrics and explanation of the SVA rules to Google Classroom.

Table 1. (*Continued*)

Topic	Discover	Learn	Practise	Collaborate	Assess
Sentence Types	(1) A song (video) by Justin Bieber on GC. Video 4a and Video 4b- Screencasts recorded by the lecturer on the topic 'Sentence Types'. Online interactive quizzes.	(1) Listen to the song by Justin Bieber, to learn about the three different sentence types: Simple Sentence Compound Sentence Complex Sentence https://www.youtube.com/watch?v=6pDSjOcFM3U (2) Make notes while viewing the video. (3) View Video 4a and Video 4b.\ https://screencast-o-matic.com/watch/cDiuoKiEfT	(4) Complete the online interactive quizzes. https://www.turtlediary.com/quiz/identifying-sentences-as-simple-compound-or-complex.html	(5) Respond to how you felt about the activities conducted on GC by writing simple sentences in the chat box.	(6) Write a reflection on how you felt about the activities conducted and identify at least one simple sentence, one compound sentence and one complex sentence in the reflection.

Figure 1 illustrates the teaching of finite and non-finite clauses based on the five components of DLPCA
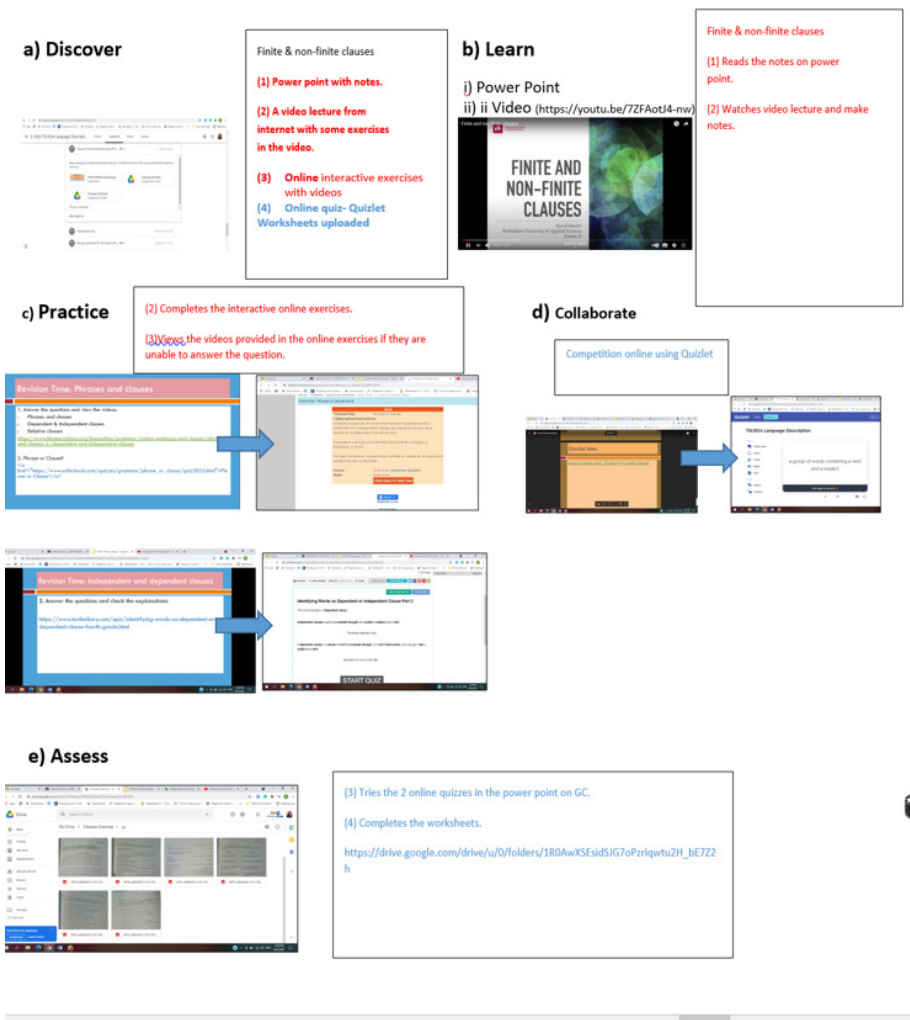

Figure 1. Example of a grammar lesson based on DLCPA

Instruments

Three instruments were used to collect data-survey, open-ended question and reflection report. Data collected from these three instruments were used to triangulate the data, identify and determine the themes, and establish reliability of the data collected (Gray, 2009).

Survey

There are two main sections in this survey: Section A solicited demographic information of the pre-service teachers, i.e., age and gender; while Section B comprised 13 items related to motivation, effectiveness, engagement, and overall satisfaction. The four constructs used a 5-point Likert scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

Open-Ended Questions

Open-ended questions explored students' advantages and disadvantages of the asynchronous and synchronous discussions and the data were categorised into themes using Braun and Clarke's (2006) thematic analysis. The six steps in thematic analysis are:

1. Becoming familiar with the data and transcribing all data.
2. Generating codes.
3. Classifying codes into themes.
4. Reviewing and refining themes.
5. Concisely defining and naming themes.
6. Producing a report from the emerging themes which is descriptive, analytical and argumentative narrative.

Reflection Report

The participants were asked to reflect on their overall participation in the online environment based on the Kirkpatrick model (Kirkpatrick, 1976). More than half of the samples agreed to write their reflections but only 20 participants were selected on the basis of theoretical saturation which took place when new themes stopped emerging from the qualitative data (Parker & Northcott, 2016).

The questions that guide their reflections are:

1. How is your feeling about the online teaching and learning activities for Language Description?
2. Did your grammar knowledge improve?
3. Is there a change of attitude towards the learning of grammar as a result of online learning?
4. Is there a change of behaviour in English language grammar learning as a result of your experience with the online teaching and learning activities?
5. What is the effect as a whole? (For example, as future teachers, what do you plan to do with the experience gained?)

Students' reflections were given pseudonyms as IR1, IR2, IR3… Readers should observe that the qualitative data were used as they were written, and no changes were made to their sentence structures. As a result, they might appear with grammar and sentence structure mistakes and errors.

Validity and Reliability

A pilot study was not conducted for this study. However, the instruments were validated by two researchers in the field of educational technology and English language learning. The items in each construct were adapted based on the Chen Hsieh et al. (2017) survey. Three of the four constructs had high Cronbach alpha scores, which were 0.95 for motivation, 0.96 for effectiveness, and 0.97 for engagement. A reliability test was not conducted for overall satisfaction since it was just a single item construct intended to examine whether their online experiences have fulfilled their satisfaction. For the qualitative findings, two coders were employed to code the open-ended questions. They met and discussed, reaching an agreement on coding. To address trustworthiness, the qualitative data were looked at matters related to dependability, credibility, transferability and confirmability (Denzin & Lincoln, 2005). Member checking, referential adequacy and peer briefing were established to ensure credibility.

Findings

In the following section, the quantitative data were supported by the qualitative data for the first research question. The rich nature of qualitative data tends to indicate more than one theme and these themes tend to intertwine with one another in the excerpts. Survey data obtained were analysed using the descriptive statistics frequency (f) and percentage (%). Table 2 illustrates the descriptive statistics for the online flipped classroom experience. At the end of the quantitative questions, students were asked about their positive and negative experiences of OFCA.

The open-ended questions gave meaning and support to the quantitative data. For familiarising the data, the most common words used were identified. When generating the initial codes, participants' keywords and their main ideas among the keywords were considered as initial codes. For example, "easy" (OE4), "convenient platform" (OE13) and "enjoyable learning" (OE35). These keywords were then converted to code 'motivation.' The initial codes were further examined repeatedly and further categorised according to similar characteristics to search for themes. The themes were reviewed to ensure whether the initial codes belong to the classification category.

For identification and data analysis, the qualitative data were identified using a systematic code. For example, OE1 referred to "qualitative data obtained from the 1st participant's open-ended questionnaire" and IR1 referred to qualitative data obtained from the 1st participant's reflective report.

Table 2. Descriptive statistics on students' online flipped classroom experience

	Items	Strongly Disagree f (%)	Disagree f (%)	Neutral f (%)	Agree f (%)	Strongly Agree f (%)	M	SD
	Motivation							
1	I enjoyed the online flipped classroom teaching approach for learning English grammar.	0	4 (7.5)	3 (7.5)	27 (50.9)	19 (35.8)	4.151	.8412
2	I feel more motivated in an online flipped classroom in learning English grammar.	1 (1.9)	2 (3.8)	14 (26.4)	24 (45.3)	12 (22.6)	3.830	.8930
3	I experienced pleasure in the online flipped classroom during the English grammar class.	0	1 (1.9)	7 (13.2)	31 (58.5)	14 (26.4)	4.094	.6868
	Engagement							
4	I participated and engaged myself more in learning English grammar in the online flipped classroom.	1 (1.9)	2 (3.8)	7 (13.2)	28 (52.8)	15 (28.3)	4.019	.8658
5	I became a more active English language learner in the flipped classroom.	1 (1.9)	2 (3.8)	12 (22.6)	24 (45.3)	14 (26.4)	3.906	.9044
6	I thought the time and effort I spent in the online flipped classroom for learning English grammar was worthwhile.	0	1 (1.9)	5 (9.4)	32 (60.4)	15 (28.3)	4.151	.6621
7	I devoted myself more to the instructional/class activities in the online flipped classroom during the English grammar class.	0	2 (3.8)	9 (17.0)	25 (47.2)	17 (32.1)	4.075	.8050
8	I spent more time and effort than usual on the online flipped classroom English grammar activities.	1 (1.9)	2 (3.8)	9 (17)	25 (47.2)	14	3.887	.9539
	Effectiveness							
9	I learned better in the English grammar online flipped classroom.	0	2 (3.8)	12 (22.6)	26 (49.1)	13 (24.5)	3.943	.7946
10	I think the flipped classroom learning guided me towards a better understanding of the course topics for English grammar.	1 (1.9)	0	8 (15.1)	31 (58.5)	13 (24.5)	4.038	.7586
11	An online flipped classroom is a better way of learning English grammar.	0	2 (3.8)	10 (18.9)	29 (54.7)	12 (22.6)	3.962	.7586
12	I think the flipped classroom is a more effective and efficient way to learn grammar	1 (1.9)	3 (5.7)	11 (20.8)	28 (52.8)	10 (18.9)	3.811	.8783
	Satisfaction							
13	Generally, I am happy and satisfied with this online flipped learning experience.	0	2 (3.8)	4 (7.5)	27 (50.9)	20 (37.70)	4.226	.7504

Motivation

In terms of motivation, 86% of the pre-service teachers are of the opinion that they enjoyed online learning for English language learning (M = 4.15). 84.9% admitted that they "experienced pleasure during the online classes" (Item 3) (M = 4.09) and a total of 67% believed that they were "motivated during the online learning" (Item 2) (M = 3.83). The open-ended questions elucidate that the increased motivation is because it was "easy" (OE4, OE14, OE26, OE29), "interesting and exciting" (OE14, OE37, OE35) and they mentioned it was a "convenient platform." (OE13, OE24, OE28, OE25). According to OE13 online learning made "me wonder what will happen. This makes the learning more interesting and exciting. We can share our ideas and knowledge with our friends." OE17 pointed out that it was "easy to access materials from lecturers and notes are arranged well." Similarly, OE18 found the online learning allowed one to "access tutorials whenever we can and reduce the use of papers. Furthermore, all notes are kept accordingly." OE35 explained that "we learn how to make our learning easy to understand, interesting and eventually enjoy learning."

Engagement

The mean score for most of the items for engagement reached 4 except for the item 5 "I became a more active English language learner" with a mean score of 3.90. The pre-service teachers elucidated that their engagement in the online environment was because they were able to interact with the content (OE18, OE39, OE43, OE46, OE53). OE39 explained that "I can do some research and study ahead since the notes are uploaded earlier. Besides, I like how I get to manage my own time as some classes are asynchronous so I can arrange my study timetable based on my preference." OE39 made a comparison that "in the traditional classroom student cannot fully focus on all the classes in a day. Especially where there is no break in between or cannot fully understand the classes whereas online learning can let students review the video or pre-recorded classes for a better understanding" (OE39).

For OE43:

> It is possible for me to have input and control over learning. By providing videos/materials/notes in the Google Classroom, students are given the freedom to learn at their own pace. Students may pause or rewind the lectures, write down the questions they may have and discuss them with their lecturers and peers in class. I loved this way of learning English Grammar.

Effectiveness

Over 73.6% of the participants believed that they "learn English better in the flipped classroom" (Item 9) (M = 3.94). Similarly, 77.3% of participants also asserted that "online is a better way of learning English grammar" (Item 11).' 71.7% concurred that online

learning is a "more effective and efficient way to learn" (Item 12). The qualitative data from the open-ended questions were able to explain the quantitative findings illustrated above.

According to the participants, online learning "saves time" (OE20, OE19, OE20, OE26, OE27). Other participants believed that classes can be conducted at anytime and anywhere no matter where they are (OE6, OE12, OE15, OE41, OE45). For example, OE41 claimed that "online learning is a time-saver, do not require much time to start a class." OE8 liked the idea of "asking lecturers questions or materials via Google Classroom" (asynchronous discussion) OE50 summarised the benefits*:*

We can learn anytime and anywhere as long there is a strong internet connection. The carefully selected asynchronous and synchronous has become a resource centre where the materials and interaction between teachers and peers are really useful and helps a lot in improving English myself.

Therefore, students were "prepared for their lectures as tasks are given much earlier" (OE7) and they found it "useful during the examination as the lecture materials are available online" (OE47).

Satisfaction

With a mean score of 4.22, 88.6% of the participants concurred that they were 'generally happy and satisfied with the online learning experience' (Item 13). OE33 for instance admitted that "it is an easy way to learn and it is less stressful." Also, "information can be relayed easier" (OE14), "easy to use and efficient" (OE31) and "better understanding" (OE24).

Negative Findings

Although a majority of the pre-service teachers expressed in the survey that OFCA contributed positively to their motivation, engagement, effectiveness and satisfaction, there were pre-service teachers who have reasoned their dissatisfaction with OFCA. Their dissatisfactions were related to time-consuming approach, health issues and Internet connection and stability.

Time-consuming Approach

After experiencing the OFCA, the pre-service teachers claimed that "it requires more time" (OE2) because it was "quite hard for the students to understand" (OE20). Learning became an issue "when one has to wait for a long time to get the answer to a particular question as he/she needs for the lecture or classmates to reply" (OE27). OE37 lamented that "we spend more time with our laptops rather than the people and I prefer it to be held face to face." As a result, "learning can be less interesting" (OE32).

Health Issues

Another challenge in using OFCA was health issues. Participants felt "having online flipped is not good for our eyes and health as we need to sit in front of our laptops for a very long time and it will constrain our eyes" (OE6). It was an onerous task to go online and "at times, it just drains out the energy and staring too much at the laptop just makes it worse" (OE15). Therefore, students tended to "sleep during classes" (OE4) and "face difficulties in attending classes online" (OE28).

Internet connection and stability

Many of the pre-service teachers highlighted their dissatisfaction related to the Internet connection and stability (OE8, OE20, OE35, OE26, OE51) that hampered their "interaction with their lecturers and sometimes the connection is bad" (OE8). Pre-service teachers have experienced "poor Internet service that makes the teachers' voice not clear" (OE33). OE29 related her experience that "I can't afford high-speed Internet so it takes too long for them to respond" (OE29) and therefore many felt that "we need good internet speed" (OE29, OE27) to study. Further frustration was highlighted by OE38 "when someone lost connection nothing can be done."

Reflection

The following section illustrates the pre-service teachers' reflections based on the Kirkpatrick model.

1. **What are your feelings about the online flipped classroom for Language Description?**

   The participants were asked to reflect on their feelings after experiencing online learning for 14 weeks. The majority of the students expressed their positive feelings while they were engaged on the OL to learn English language grammar. One of the participants reflected that "I feel very comfortable studying using the Google Classroom as an alternative of physical class. I feel very flexible with the class schedules and my lecturers teaching." (IR2) which was also agreed by IR1 and IR5. IR1 elaborated that "at first I was very nervous and thought I can't study using this online platform. But I was wrong. This online learning is very effective." (IR1). The positive feeling could be attributed to the "learning journey that was enjoyable since the activities were interesting and easy to understand." (IR4) Furthermore, "the classes were not boring because instead of using Powerpoints, we were using songs and cool applications" (IR7).

2. **Did your grammar knowledge improve?**

Almost all participants found that they have improved their knowledge of English language grammar. IR5 described that "the positive impact of the class as my English grammar improved than before." This was because the lessons "involved games and quizzes that improved grammar knowledge" (IR1). These features enabled the pre-service teachers to "learn grammar in different ways and concentrate better" (IR6) and "various techniques like videos and infographic helps to understand grammar much better." (IR8)

3. **Is there a change of attitude towards the learning of grammar as a result of the online flipped Google Classroom?**

Apart from improving their grammar knowledge, pre-service teachers realised that there was a change of attitude when *"the learning becomes more interesting"* (IR4). One participant explained that she realised the importance of technology tools and how she worked independently after experiencing the online flipped classroom. She also opined that students can work independently. IR12 detailed that:

> I should learn more about technology. Honestly, making my notes based on the lecture notes is quite good. Students should be given a task where they should teach about a particular lesson. For example, a group of students should teach about tenses to the class before the day's lecture starts. It will help both the lecturer and students understand the lessons.

IR6 admitted that she "was quite shy and afraid to ask questions during face-to-face classes thus I did not improve much on my grammar." "However, I am bolder to pose my questions in Google Classroom and that helped a lot in mending my grammatical errors" (IR6). Such a positive attitude had a lot to do with how the OL was planned effectively.

IR7 explains:

> The OL provides many types of lessons. For example, my lecturer uses videos and presentations for our lecture. Sometimes, there will be a quiz for us to answer. I felt very excited whenever there's a quiz for our lecture session.

4. **Is there a change of behaviour in English language grammar learning as a result of your experience with the online flipped Google Classroom?**

For IR8, IR9 and IR17, the online flipped classroom has provided a comfortable platform for their English language learning. IR8 emphasised that:

> I feel comfortable learning grammar through this OL where I can ask questions without feeling shy rather than in a face-to-face physical class. Other than that, I can say that I am more confident learning grammar through this OFCA because I am able to identify my grammatical mistakes better than during the class.

The confidence level of introvert students increased. They felt less threatened by others who disagree with them. Besides that, they felt an increase in their self-esteem as well because they were able to play a part by guiding their friends on technical problems. Such positive attribute is considered a byproduct of online learning environments where shy and introverted learners are able to show interest in language learning. The following excerpts encapsulated the pre-service teacher's comments:

IR12 states that her "confidence level drastically changed and I can voice my opinion without any worries and I don't fear my friends' opinion about my answer? I was also helping other students with their Internet problems."

IR11 detailed that the experience made her feel more positive about language learning as she "was helping with other students with their internet problems. We know how to make friends with people from online platforms. We sang and danced when we learned sentence patterns. It made us forget all the bad things that we're going through."

As a result, IR16 has "become increasingly diligent to seek knowledge through this platform." IR4 gave a similar account of the online flipped classroom and opined that "it will be a good platform for introvert students to develop themselves".

5. **What is the effect as a whole? (For example, as future teachers, what do you plan to do with the experience gained?)**

A number of the participants conversed and related ideas of how the online flipped classroom has significantly influenced them in planning their future professional development. Their experiences resulted in students considering "online classes for students in the future" (IR5). IR5 further accentuated her opinion on how these lessons and activities will be considered in her teaching in the future. In her words "I will make sure that I will be using this kind of learning method as it can help my students to have fun and get good results as to how I am experiencing." A similar idea was also expressed by IR20. The activities suggested in this study were found to shape their preferences and understanding of the various asynchronous and synchronous tools as a teaching resource in the future. IR20 concluded that:

> As future teacher, I would apply all the new ways of learning that I have experienced to students to make online learning easier and more convenient. I'm sure I'm going to make studying fun by leveraging all the experience I've acquired from the OFCA."

The OL experience has added dimension to their ideas and knowledge and contributed to the profundity of pre-service teachers' digital pedagogies and their way of thinking.

DISCUSSION

The quantitative and qualitative data confirmed that the online learning (OL) based on the Discover, Learn, Practice, Collaborate and Access (DLPCA) strategy appeared to be motivating, engaging and cascading meaningful learning. As tools are a mediator to human activity (Vygotsky, 1978), the wisely selected technology tools and the balanced combination of synchronous and asynchronous discussions discerned the benefits and overall value of OL. This was possible because the tools used in the OFCA were easy and convenient to access, and the pre-service teachers were able to control their pace of learning. Giving students more time to think, reflect and act has been identified to boost engagement (Faulkner & Green, 2015). Also, the ubiquitous features of the technology tools facilitated interaction, collaboration, feedback and revision to deepen and enrich their learning. The participants seemed to be more responsive and were able to identify opportunities to learn. For these reasons, they were optimistic and enjoyed their learning at their own pace. The activities seemed to maximise the students' rich sensory that motivates them to do rather than having the instructor telling or reading to the students.

Such experience is a conscious process to open teachers' thinking to "all possibilities and to move teachers so that they 'step outside of their own definitions of the world and see new perspectives" (Davis, 2005, p. 18). The activities designed in the OFCA guided students to process information that they received and further provided them with the opportunity to evaluate, analyze and apply the knowledge that was associated with higher-order thinking as suggested by Blooms' Taxonomy (Krathwohl, 2002). By experiencing such benefits, pre-service teachers are engaging themselves in active learning habits. It may support Olszewski and Crompton's (2020, p. 6) idea that the critical feature of educational technology effectiveness is not in having access to technology, but rather, how one uses technology matters most for providing an innovative educational experience for students."

Besides pragmatic knowledge, the platform empowered the pre-service teachers to be confident, self-regulated and to embrace personalised learning because they were aware that they fully take charge of their learning in the online environment. The findings are aligned with the studies by Adnan (2017) and Amiryousefi (2019) that students take responsibility for their learning when they are learning outside the classroom.

These practices further enhanced their knowledge of teaching repertoire and they were beginning to realise the potential of virtual learning. The participants in this study have been convinced that "technology can enhance learning rather than add to their bulging workloads" (Taylor & Stuhlmann, 1998, p. 360). As a result, OL has transformed the learners from being passive to active learners, appearing more confident and energetic. This in turn enabled the pre-service teachers to quest for information and take pride in their learning and responsibilities. With the OFC, educators are freed from the "traditional stand and deliver instructional model" (McKnight et al., 2016 p. 206) to a more constructive learning environment.

IMPLICATION AND CONCLUSION

The positive findings suggest that OL based on DLPCA can be as effective as the conventional classroom by carefully mixing the synchronous and asynchronous discussions. Such carefully designed digital pedagogies will help learners to reduce anxiety during challenging times. In a pandemic situation, most of the students are limited in what they can do in a group or as a team. Therefore, it is pertinent for educators to set up interesting online learning environments so that students are not pressured, frustrated and able to combat their feeling of frustration and loneliness during such tragic situations. In a fun learning environment (evident in this study) learners will be able to be more responsible and identify opportunities to improve their learning.

Students tend to moan about health issues, time, Internet connection and stability. These are some of the flaws that can be fixed with proper planning. In addition, the human factor cannot be neglected in the teaching and learning practices. Some of these dissatisfactions can be addressed by considering students' cognitive load before planning the tasks. Therefore, negotiation between the instructor and learners is pertinent to keep the students focused on their learning outcomes.

The third surge of COVID-19 worldwide means that online learning is to last longer and will have a significant impact on innovation and digital pedagogies. The pandemic has been an eye-opener for educators to enhance the quality of online learning when disasters, pandemics and tragic situations hit. According to Dhawan (2020), educators have always been complacent and never tried a new model of teaching and this is the time where educators should look at the fruitful side of online learning and plan for innovations and active learning approaches. In addition, Bozkurt et al. (2020) strongly suggests that educators should not be wondering what their actions were during the COVID-19 pandemic; instead, lessons learnt during the pandemic should be a guide for the 'future normal.' By identifying the strengths, weaknesses and barriers during a tragic or pandemic situation, from students' experiences, the present study hopes to significantly contribute to such preparation.

The present study has a small number of participants and therefore the findings should be interpreted with caution. There is potential for future studies to consider a broader range of Institutes of Teacher Education in Malaysia. Future studies should explore the differences of the pre-service teachers based on gender, age, ethnicity and specialisation. Cross-cultural studies can also be considered to understand the differences towards affective deployment of OFCA in higher education.

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