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Lessons learned from implementing a virtual flipped classroom during COVID-19: An autoethnography

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Autoethnography;
COVID-19;
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emergency remote teaching;
thematic analysis;
virtual flipped classroom.

Abstract

The virtual flipped classroom has become a common practice in higher education during the COVID-19 pandemic. I used autoethnographic research to explore my personal teaching strategies and the challenges encountered while implementing a virtual flipped classroom during remote teaching in a higher education institution in Oman. A thematic analysis of the autoethnography account and interviews with two university teachers identified three themes: benefits of the virtual flipped classroom, challenges of the virtual flipped classroom and strategies for implementing the virtual flipped classroom. A framework for implementing this classroom style is proposed to guide higher education instructors when employing a virtual flipped classroom.

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1. Introduction

I have implemented various teaching methods throughout my journey in teaching English as a Foreign Language (EFL), including the flipped classroom. Adopting a flipped classroom requires a redesign of the classroom paradigm; teachers share instructional content with students before the class, and students are interactively engaged in different practice tasks during the class (Tang et al., 2020). In class, students have teacher guidance while working collaboratively on activities that support the development of higher thinking skills. After the class, students complete follow-up activities to consolidate learning (Andujar et al., 2020; Marshall & Kostka, 2020; Turan & Akdag-Cimen, 2020). A flipped learning methodology involves home video lectures, followed by meaningful classroom activities and formative and summative assessments to monitor students' learning (Milman, 2020). This instructional approach differs from traditional and linear approaches that were unable to meet the individual needs of students and support active, deep learning (O'Flaherty & Phillips, 2015). Bishop and Verleger (2013) described flipped learning as a methodology that strives to meet these characteristics: individual accessibility of content, adjustment of study time and pace, and teacher facilitation of students' active learning. The synchronous and asynchronous communication and collaboration possibilities in virtual environments enable teachers to implement a virtual flipped classroom (Ismail & Abdulla, 2019). Before attending the virtual class, students receive digital pre-class resources and activities. During the virtual class, they are involved in group-based and collaborative activities (Ismail & Abdulla, 2019). In ESL/EFL settings, previous research identified the effectiveness of this methodology in developing students' active learning, collaboration and teamwork (Ansori & Nafi, 2018), time management skills (Gough et al., 2017), grammar skills (Al-Naabi, 2020; Fauzan & Ngabut, 2018) and writing skills (Alghasab, 2020). Ngo and Yunus' (2021) conducted a systematic review of literature on flipped learning and ESL between 2016 and 2020. They reported positive perceptions from both teachers and students towards using flipped learning in ESL/EFL settings.

Implementing the virtual flipped classroom was challenging for me during emergency remote teaching (ERT). Students' participation in virtual pre-class and in-class activities was minimal. Additionally, adapting the curriculum for flipped learning was intimidating because of the other administrative tasks and responsibilities caused by the shift to online instruction.

Although ERT assisted higher education institutions in the continuation of education during the pandemic (Abou Youssef & Richter, 2022; Hodges et al., 2020), this instructional style has been associated with various challenges, such as teachers' readiness to shift to online teaching and their inability to create and deliver online instruction (Alterri et al., 2020; Crawford et al., 2020; Hodges et al., 2020; Sam, 2020). Although remote teaching during COVID-19 enabled teachers to try virtual flipped learning (Al-Nabbi et al., 2022; Andujar et al., 2020; Jia et al., 2020; Marshall & Kostka, 2020; Mursyidah et al., 2021; Singh & Arya, 2020; Tang et al., 2020; Veldhuis et al., 2020; Yen, 2020; Zawilinski et al., 2020), it was challenging to engage students in flipped learning activities

(Turan & Akdag-Cimen, 2020; Umar & Ko, 2022). Hence, Mursyidah et al. (2021) called for scholarly endeavours to investigate challenges and issues faced by institutions, faculty and students in implementing virtual flipped learning classrooms during the pandemic.

This paper aimed to investigate strategies and challenges I encountered when implementing virtual flipped learning in ERT during COVID-19. The paper compares my experiences with those of other teachers to inform the design of pedagogical approaches suitable for implementing the virtual flipped classroom in higher education. The following research question guided the study:

RQ: What were my experiences preparing and implementing a virtual flipped classroom during COVID-19?

The research question was branched into four sub-questions:

RQ1: How did I create a flexible learning environment, and what were the associated challenges?

RQ2: How did I establish the learning culture, and what were the associated challenges?

RQ3: How did I develop intentional content, and what were the associated challenges?

RQ4: How did I become a professional educator, and what were the associated challenges?

The study was conducted in a three-credit hour undergraduate EFL course (Technical Writing 2) in a higher education institution in Oman. Students take the course after completing a one-year foundation programme that aims to develop their language proficiency, study skills, mathematics and IT skills. Students must complete the foundation programme to progress to their degree courses. In addition to developing linguistic competence, the course teaches students how to write technical reports and describe multiple graphs. The course was face-to-face, but it was shifted online during the COVID-19 pandemic by digitalising content (videos, presentations) and assessments (online formative and summative assessments). Students were provided with presentations, handouts and activities in Moodle, and they attended two two-hour virtual sessions weekly on Microsoft Teams for twelve weeks. In addition, students interacted with their peers and teacher after class through Moodle discussion forums and e-mail. Students' learning was assessed through continuous assessment (online writing tasks, short online quizzes and virtual class participation) and summative assessment (centralised online mid-semester and final exams).

In addition to contributing to literature, the study will have significant importance for guiding EFL/ESL teachers in implementing virtual flipped learning. The study will help teachers overcome difficulties encountered in implementing a flipped learning methodology. Additionally, the study will guide teachers in creating content and flexible environments for flipped learning. Finally, the study will provide implications for higher education institutions to adopt a virtual flipped learning and teaching methodology.

2. Literature review

This section reviews previous research on strategies and issues when implementing flipped classrooms. This literature review sheds light on implementing the virtual flipped classroom during the pandemic, aiming to highlight the gaps in the literature and situate research within a larger body of knowledge.

2.1 Implementing flipped learning methodology

Previous research has identified a set of strategies and guidelines for the successful implementation of flipped learning. The Flipped Learning Network suggested the Four Pillars of F-L-I-P: flexible environment, learning culture, intentional content, and professional educator. Creating a flexible environment can assist teachers in implementing flipped learning (Flipped Learning Network, 2014). This pillar entails providing a non-restrictive and safe environment for students to foster independent learning skills and group work dynamics (Flipped Learning Network, 2014). A safe and relaxed environment eventually encourages learners' active engagement in the class (Faja, 2013; Umar & Ko, 2022). Therefore, a motivational and supportive environment can develop agentic engagement in the course and the class. This type of environment provides students with opportunities to constructively contribute to the flow of instruction through various strategies, such as providing content based on their background knowledge, asking questions, offering suggestions, recommending a goal to pursue, communicating their level of interest, soliciting learning resources, adding personal relevance to learning experiences, and generating options for further learning (Reeve, 2013). To create a flexible environment, the Flipped Learning Network suggested establishing spaces and time frames for interaction, observing and monitoring students to make teaching adjustments, and providing students with different ways to learn and master content (Flipped Learning Network, 2014).

Establishing spaces and time frames can be achieved through a well-planned and developed course syllabus, as supported by Hutchinson's (2007) argument that a clear course outline is essential to ensure collaboration in virtual environments. MacDonald (2003) categorised collaborative learning in online courses into process-oriented collaboration and product-oriented collaboration. Process-oriented collaboration includes structured discussion on a topic that may not necessarily lead to a product. In contrast, product-oriented collaboration leads to a product, such as a project, essay, or presentation (MacDonald, 2003). A product-oriented collaboration can be assessed using a common grade for the group product and an individual grade for each student's contribution (Wang, 2007).

In addition to identifying learners' strengths and weaknesses to guide their learning, monitoring students' learning helps teachers adjust their instruction (van Gog et al., 2010). Compared to face-to-face environments, virtual environments provide different methods of formative assessment and immediate and ongoing feedback, such as quizzes with immediate feedback, weekly assignments, and

collaborative wikis (Gikandi et al., 2011). Gaytan and McEwen (2007) reported that an effective online assessment should include "a wide variety of clearly explained assignments on a regular basis," very supportive feedback, and must be meaningful and timely (p. 129).

One way to ensure a flexible learning environment is to provide students with different learning strategies to master the pre-class and in-class content. In addition to videos, teachers can assign readings, audio files, infographics and URLs for various resources (Kvashnina & Martynko, 2016; Mehring, 2017; Ozdamli & Asiksoy, 2016). For in-class activities, teachers can use a variety of strategies that foster collaborative and constructive learning, such as discussions, debates, problem-based learning and project-based learning (O'Flaherty & Phillips, 2015).

The Flipped Learning Network essentialised the creation of a learning culture. The instructional shift to student-centred teaching shapes a learning culture centred around students' development and in-depth exploration of concepts (Flipped Learning Network, 2014; Umar & Ko, 2022). The teacher provides students with learning opportunities and scaffolds instruction by facilitating learning and providing feedback (Flipped Learning Network, 2014).

To implement flipped learning, teachers develop intentional content that helps students develop conceptual understanding and procedural knowledge (Flipped Learning Network, 2014). This process involves highlighting the concepts required for self-access before class and searching for or creating relevant content based on students' needs (Ozdamli & Asiksoy, 2016). Creating intentional content helps teachers create a flexible environment and establish a positive learning culture.

Finally, this methodology requires professional educators who can handle diverse teaching strategies, content selection and creation, student assessments, and student issues (Umar & Ko, 2022). Hence, teachers adopting flipped learning should actively engage with other teachers through collaboration, reflection, and communities of practice (Flipped Learning Network, 2014; Hilliard, 2012).

2.2 The virtual flipped classroom in Emergency Remote Teaching

The abrupt and unplanned shift to ERT caused overwhelming consequences for faculty, students and IT departments in higher education (Hodges et al., 2020; van Veldhuizen et al., 2020). Nevertheless, a plethora of research on virtual flipped classrooms during COVID-19 indicated the importance of this method in ERT (Andujar et al., 2020; Jia et al., 2020; Marshall & Kostka, 2020; Mursyidah et al., 2021; Singh & Arya, 2020; Tang et al., 2020; Veldhuis et al., 2020; Yen, 2020; Zawilinski et al., 2020). Veldhuis et al. (2020) regarded the virtual flipped classroom methodology as a potential option for meeting the demands of ERT. Although these studies outlined that virtual flipped classrooms promoted active learning, self-efficacy, independent learning and motivation, their implementation was a challenging task. Turan and Akdag-Cimen's (2020) systematic literature review

summarised the barriers of flipped classrooms, including the workload for students, technology or internet-related problems, and the extra workload for teachers in creating instructional content.

When implementing a virtual flipped classroom during COVID-19, Singh and Arya (2020) provided students with slides, questionnaires, and links to web resources 24 hours before the virtual class. In the virtual class, they tried out four modes: mode 1 involved a conventional audio-delivery with PowerPoint slides on live sessions; mode 2 used video and audio with animated graphics in live sessions; mode 3 involved recorded videos with audio and video support; and mode 4 used an audio-visual one-to-one discussion and problem solving with conceptual understating during live sessions. Based on students' feedback, Singh and Arya (2020) suggested using a mixture of the four modes to meet students' needs and solve poor internet connectivity and accessibility. Likewise, Fogg and Maki (2021) considered major changes when redesigning their course to suit the virtual flipped classroom. Instead of traditional lecturers, they provided 10-minute pre-recorded lectures with handouts and questions prior to the virtual class. Students' participation was not evaluated based on attendance but on the completion of group-based activities conducted in breakout rooms during live sessions (Fogg & Maki, 2021). Although Alghasab (2020) reported sociocultural and contextual factors influencing students' interaction, she found that virtual flipped learning improved students' writing skills, especially planning and writing thesis statements. These studies highlighted the usefulness, strategies and issues involved in implementing a virtual flipped classroom. Previous research used an outsider lens when examining this phenomenon, so a study taking an insider approach – such as this endeavour – could add valuable information to the existing body of knowledge.

2.3 Theoretical framework

The Pillars of F-L-I-P suggested by the Flipped Learning Network include the four pillars – *flexible environment*, *learning culture*, *intentional content*, and *professional educator* – and a set of indicators (Flipped Learning Network, 2014). *Flexible environment* indicates a change in teaching mode to allow independent learning and group work (Flipped Learning Network, 2014). This pillar encompasses flexibility in time and place (Flipped Learning Network, 2014; Ozdamli & Asiksoy, 2016). Creating a *learning culture* requires a shift of instruction to a student-centred approach, where students explore new ideas and practice different skills with the teacher facilitating learning and providing feedback (Al-Naabli, 2020; Flipped Learning Network, 2014). Teachers use *intentional* content to develop students' understanding and procedural fluency (Flipped Learning Network, 2014; Ozdamli & Asiksoy, 2016). Finally, teachers – as key players in implementing flipped learning – must be *professional educators* who can reflect on their practices, connect with other educators, accept criticism and tolerate differences in class by being the main player in implementing flipped learning (Flipped Learning Network, 2014; Fryling, 2020; Mursyidah et al., 2021; Ozdamli & Asiksoy, 2016).

The Flipped Learning Network identified a set of criteria for each pillar (see Figure 1). The indicators associated with 'flexible environment' centre around setting time/space for learning, class observation to inform teaching adjustments, and ways of teaching. 'Learning culture' indicators focus on providing and scaffolding engaging activities. Indicators regarding 'intentional content' guide teachers to prioritise ideas for students, create relevant materials and utilise different methods for accessibility and relevance of content. Regarding the 'professional educator', the indicators indicate teachers' availability to provide timely feedback, ability to design formative assessments to inform future instruction, and collaboration with other educators for practice transformation (Flipped Learning Network, 2014).

Flexible Environment	F. 1	☐ I establish spaces and time frames that permit students to interact and reflect on their learning as needed.
	F. 2	☐ I continually observe and monitor students to make adjustments as appropriate.
	F. 3	☐ I provide students with different ways to learn content and demonstrate mastery.
Learning Culture	L. 1	☐ I give students opportunities to engage in meaningful activities without the teacher being central.
	L. 2	☐ I scaffold these activities and make them accessible to all students through differentiation and feedback.
Intentional Content	I. 1	☐ I prioritise concepts used in direct instruction for learners to access on their own.
	I. 2	☐ I create and/or curate relevant content (typically videos) for my students.
	I. 3	☐ I differentiate to make content accessible and relevant to all students.
Professional Educator	P. 1	☐ I make myself available to all students for individual, small group, and class feedback in real time as needed.
	P. 2	☐ I conduct ongoing formative assessments during class time through observation and by recording data to inform future instruction.
	P. 3	☐ I collaborate and reflect with other educators and take responsibility for transforming their practice.

Figure 1: The Flipped Learning Pillars and indicators.

3. Methods

3.1 Research methodology

This investigation was conducted based on a relativist ontological basis holding that people interpret the world differently based on their social beliefs, assumptions and everyday experiences. Therefore, autoethnography was deemed a suitable research methodology because it uses personal experiences to critically narrate and critique practices (Adams et al., 2014; Ellis & Bochner, 2006). Autoethnography is situated in an interpretive paradigm, helping reach interpretations that came from the inside, as a researcher, in a specific context and experience, employing reflexivity to reflect on one's own and others' experiences (Adams et al., 2014). This research methodology helped connect my own experiences and understandings to a wider discussion (Chang, 2008). The paper was structured to describe the educational phenomenon and, through interviews, explore its meaning in the educational context and everyday practices. Interviews, when applied to autoethnography, help contextualise, confirm and complement the generated self-data (Chang, 2008). The use of the researcher's experiences of the topic in the data collection and analysis allowed for thoughtful and iterative

reflections.

3.2 Data collection

I depended on my recollections and memories of incidents and events, "personal memory data," (Chang, 2008) as a data source. Using the autoethnographic timeline technique helped me gather data at different milestones in my experience (Chang, 2008).

Another dataset was produced by interviewing two teachers from similar cultural backgrounds and settings who implemented the virtual flipped classroom during the pandemic. The similarity in backgrounds and situations allowed possible comparisons between the experiences to facilitate a wider discussion. Both teachers have master's degrees in language education. Teacher A has 16 years of teaching experience, while Teacher B has 11 years of experience. Both teachers taught the course online during the pandemic.

An interview protocol was developed and validated for content validity by the module convenor and two teachers. This process has ensured the collection of relevant data required to answer the research questions and follow the chosen theoretical framework. The interviewees signed a formal consent form for participation in the study. The interviews were conducted virtually on Microsoft Teams for ease of archiving and transcribing. The data was stored in the researcher's virtual drive provided by the institution, and the data was discarded upon the completion of writing the report.

3.3 Data analysis

The study followed a deductive thematic analysis approach grounded in the chosen theoretical framework, the Four Pillars of F-L-I-P (see Figure 1). The thematic analysis followed Braun and Clarke's (2006) six steps: data familiarisation, coding data, searching for themes, reviewing themes, defining and naming themes and writing up. Data familiarisation was achieved through successive readings of the data. Subsequently, the data were coded based on the theoretical framework. It guided the iterative readings and coding of the data. Next, a potential set of themes were drawn from the coding outcomes. The identified themes were reviewed and named. ATLAS.ti was used to facilitate the analysis process.

I employed the "critical friend" method to ensure credibility and trustworthiness. A critical friend is a trusted friend who critiques someone's work as a friend by providing reflection and analysis from different perspectives (Kember et al., 1997; Swaffield, 2004). The critical friend helped reflect and improve the quality of the study through "listening, prompting, and recording our insights throughout the process" (Milles & Gay, 2016, p. 575). Since the autoethnography method is subjective in nature, employing the critical friend method ensured less subjectivity in data analysis, data interpretation and report writing. A Ph.D. academic and researcher in education served as a critical friend, providing comments on data analysis and interpretation. A meeting with the critical

friend was held to review the data analysis.

4. Findings

The thematic analysis identified three main themes: *challenges of implementing the virtual flipped classroom*, *benefits of implementing the virtual flipped classroom* and *strategies for implementing the virtual flipped classroom*. This section presents the results of the autoethnographic data and compares it with the interview data, noting differences. The results are presented based on the themes. Participants are identified as Teacher A and Teacher B.

4.1 Challenges of implementing the virtual classroom

The results indicated some challenges associated with implementing the virtual flipped classroom. It was time-consuming to prepare the activities, as the course materials were designed for offline delivery. Additionally, I spent time searching for and preparing the materials because I had to adapt the course materials, design some pre-class activities in Moodle, or edit some videos from YouTube. In addition to the administrative duties, this increased my workload.

Learning new video editing and production skills challenged our content-creating abilities, but we overcame it by forming a gradual self-experience. Teacher A watched YouTube videos on converting PowerPoint slides into videos and editing YouTube videos. Teacher B invited a video designer from the IT department to help produce course videos.

The large class size (35 students) posed another challenge for me, negatively impacting students' participation in virtual flipped classroom activities. Students did not complete all the assigned tasks at home and in class, and they did not participate in whole-class discussions. Their participation in whole-class activities was minimal compared to individual virtual activities. Additionally, the short time assigned for the pre-class activities, less than a day before the virtual class, meant I was unable to comment on students' written work before the class and could not provide sufficient feedback for pre-class and post-class activities.

Our colleagues' time constraints, busy schedules, and insufficient knowledge of and skills in the virtual flipped classroom were challenges for us in becoming professional educators. However, their informal help and guidance were beneficial.

We all experienced lack of institutional support and poor training opportunities in implementing the virtual flipped classroom. Although my institution provided some training sessions, most were theoretical or about using different platforms my institution did not have access to. Teacher A reported that the course leader encouraged her to implement virtual flipped learning, but he did not provide any guidelines or materials. Teacher B found some sessions useful because they guided him on video design for the class, but there were no follow-up sessions to clarify his doubts.

4.2 Benefits of the virtual classroom

Despite the challenges, the analysis revealed various benefits of adopting the virtual flipped classroom in ERT during COVID-19. The virtual flipped classroom saved class time because students had studied and explored the content before the class, allowing me to focus on developing students' language skills. Despite the difficulty in providing feedback on pre-class activities, involving students in various skills-oriented activities helped to provide constructive feedback in the class on language use. For example, I identified and explained students' issues in writing through Microsoft Teams Whiteboard or by annotating their work in Microsoft Word. Due to sufficient time for language practice in the class, I could better identify students' strengths and weaknesses and eventually focused more on weak students. Furthermore, the materials provided to students served as a rich "resource bank" that they referred to frequently throughout the semester.

Additionally, the participants expressed two further benefits. Teacher A stated that the virtual classroom helped continue students' education during COVID-19, saying, "without flipped learning, it would have been a challenge to keep on teaching students during the lockdown period." Teacher B added that following the flipped approach allowed him to "be exposed to more free online resources that can supplement the existing teaching materials".

4.3 Strategies for implementing the virtual flipped classroom

The dataset revealed different strategies for implementing the virtual flipped classroom. This theme has been divided into four subthemes based on the theoretical framework.

4.3.1 Strategies for creating a flexible environment in the virtual classroom

A flexible environment was created by allowing students time to view the pre-class content and providing various resources for the same content, such as pre-recorded videos, reading passages, and grammar infographics. Moodle enabled the creation of different virtual synchronous and asynchronous activities for students, such as wikis and discussion forums, in which they could reflect on their learning and interact with peers. Additionally, I used observation checklists and notes to record students' performances in class in terms of frequency, the number of times they participated, accuracy, and the correctness of their answers. This technique helped ensure a flexible environment, allowing adjustments to instruction and planning for forthcoming activities and lessons. Finally, I used breakout rooms in the virtual class to allow students to interact with their peers and work collaboratively.

Teacher A's strategies included sharing pre-class teaching materials on WhatsApp because it was "common and accessible to students on their smartphone". She shared links to pre-class Moodle activities on WhatsApp. Teacher B shared pre-class materials through Moodle and e-mail

to ensure flexible access to the materials before the virtual class. The two teachers gave some time for students to do the activities, but both reported that the time was insufficient for some classes.

4.3.2 Strategies for establishing a learning culture in the virtual flipped classroom

I created a collaborative learning culture by allowing students to participate in class and collaborate to enhance their learning. I gave a chance for all students to participate and unmute their microphones whenever they wanted. I monitored their participation through observation notes, noting how many times each student participated. During class activities, I grouped students using breakout rooms and monitored their participation by joining each group to guide and facilitate learning. To encourage and reward their participation, I assigned participation marks as part of the course's continuous assessment marks. Moreover, I used a peer-correction strategy by asking students to do peer correction virtually. For virtual peer correction, students shared their screens and used annotations in Microsoft Word. Additionally, I made activities accessible to all students by providing constructive feedback. The dataset identified four types of feedback: instant, delayed, individual and group feedback. I gave students instant feedback during their performance to maintain the flow of the task being administered. Conversely, I provided delayed feedback when the error did not impede the completion of the task. Individual feedback was given to students on specific errors, and group feedback was given to the whole class on common issues. I gave feedback during the virtual class or through e-mail and responses to students' discussions. I scheduled individual virtual meetings with some students to provide in-depth feedback on their work, and some of these individual meetings were requested by students. Individual feedback was more convenient, as poor internet connectivity hindered some students from attempting pre-class activities or attending the sessions.

The other teachers created a similar learning culture following related strategies. However, Teacher A used voice notes and Padlet – a digital web-based platform for sharing materials and collaboration – to provide students with individual feedback. Teacher B shared his screen during the class to provide feedback on students' writing in Microsoft Word.

4.3.3 Strategies for providing intentional content in the virtual flipped classroom

The analysis revealed that we either searched for online content or prepared content for the virtual class. I used YouTube videos for some lessons, but it was often challenging to find suitable videos. Consequently, I adapted some videos to suit my students' level and meet the lessons' objectives. To check the difficulty level of a video, Teacher A selected a student and asked him/her to view and comment on the materials. Alternatively, Teacher B consulted the course leader about the difficulty level and content suitability.

I created my own videos for unavailable content. My colleagues and I used PowerPoint narrations to create educational videos. I also used H5P – a Moodle plugin for creating interactive content – to produce interactive videos in which students were asked comprehension questions and provided instant feedback. I did not rely on videos for pre-class resources. Instead, I sometimes provided students with readings (sample essays for writing analysis) and infographics (grammar explanations). I also supplied students with additional resources through links to websites.

4.3.4 Strategies for becoming a professional educator in the virtual flipped classroom

The participants and I were available for students during virtual meetings, through e-mail exchanges, and by individual meetings in the office. I joined the virtual meeting five to ten minutes prior to the class start time, and I left five minutes after the end of the session to allow students a chance to voice their concerns. We provided students constructive individual and group feedback before, during, and after the class.

My ongoing monitoring and assessment of students' learning through observation checklists and notes aided me in continuously adapting my instruction. Similarly, Teacher A noted her students' participation in the pre-class, in-class, and post-class activities to help her identify students' strengths and weaknesses. Teacher B issued weekly quizzes to monitor students' progression. Based on students' performance on these quizzes, he adapted the course materials and provided extra support to weak students.

Our peer collaboration was minimal due to our colleagues' insufficient knowledge and skills regarding virtual flipped classrooms, time constraints, and busy schedules. Teacher B and I only asked a few colleagues to review some of the videos. Teacher A had several informal conversations with colleagues about teaching approaches.

5. Discussion

5.1 Virtual flipped classroom: benefits and challenges

The study demonstrated that using flipped learning during COVID-19 helped me provide greater attention to students and use class time for language practice and providing feedback. This finding agrees with previous research, which stated that virtual flipped learning supported skills enhancement and engagement (Alghasab, 2020; Al-Naabi, 2020; Marshall & Kostka, 2020; Murillo-Zamorano et al., 2019; Yen, 2020). This additional support was achieved because the pre-class activities prepared students for the class. This finding can also be attributed to social learning principles that occurred in the virtual class. Reed et al. (2010) argued that social interaction in class leads to changes in students' behaviours and practices. The virtual flipped classroom offered students flexible accessibility to various resources.

The study confirmed the challenges faced, including workload, lack of time to create content, difficulty in motivating students throughout the semester, and students' poor internet connectivity. Similar issues were addressed in the reviewed literature (Turan & Akdag-Cimen, 2020). However, the dataset highlighted some initiatives for addressing these challenges, such as searching online for resources, redesigning and adapting existing materials, rewarding students' performance, and following a student-centred instructional approach.

5.2 Guidelines for implementing the virtual classroom

Based on the results, this study proposes a framework to guide the effective implementation of the virtual classroom (see Figure 2). The framework includes two main phases: teacher strategies and institutional support. Teacher strategies include four categories based on the Four Pillars of F-L-I-P: creating a flexible learning environment, establishing a collaborative learning culture, providing intentional content, and becoming a professional educator. In addition to teaching strategies, four institutional support considerations should be addressed simultaneously to ensure a successful and effective implementation of the virtual flipped classroom. These considerations include enhancing and establishing institutional policies and guidelines, providing professional development, reforming curriculum for online delivery, and providing technical support.

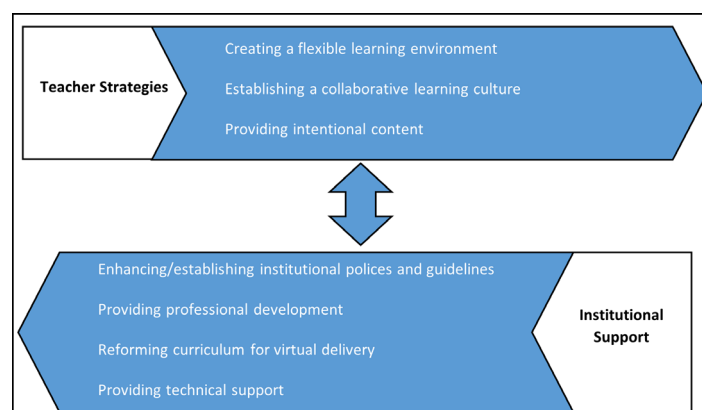


Figure 2: Framework for implementing the virtual flipped classroom.

Teachers should create a flexible environment to engage students in the virtual flipped classroom (Umar & Ko, 2022). Teachers can provide opportunities for students to interact in class using breakout rooms, enhancing their agentic engagement (Reeve, 2013). Moreover, teachers should involve both process-oriented and product-oriented discussions in class (MacDonald, 2003). Teachers should also observe students' learning to inform future instruction and create a collaborative learning culture (Flipped Learning Network, 2014). A collaborative learning culture can be fostered by a student-centred approach, in which students are the centre of the learning process and the teacher is a facilitator, and by providing learning opportunities to scaffold learning (Flipped Learning Network, 2014; Phillips,

2017; Umar & Ko, 2022; Yen, 2020). Additionally, Faja (2013) claimed that collaborative learning is enhanced in virtual settings when students are provided with a safe environment for collaboration. Therefore, using breakout rooms for group work is essential in the virtual classroom. Furthermore, teachers' presence is crucial in virtual environments, helping to create a suitable learning environment and establish a collaborative learning culture. According to Pelz (2010), this teaching presence can be achieved through two methods: facilitating the discussion and providing direct instruction. To facilitate the discussion, the teacher should identify areas of agreement and disagreement, seek to reach an understanding, encourage, acknowledge and reinforce students' participation, set the learning environment, and assess and evaluate the learning process (Pelz, 2010). Regarding direct instruction, Pelz (2010) proposed different strategies, including delivering content and questions, facilitating the discussion, summarizing the discussion, diagnosing misperceptions, providing knowledge from different sources, and responding to technical issues.

It is essential for educators to prepare intentional content, prioritise main concepts in pre-class resources and adapt the activities, linking them to the three stages of the virtual flipped classroom. Without developing intentional content, teachers may face difficulties creating a flexible environment and a collaborative learning culture (Ozdamli & Asiksoy, 2016). Finally, teachers should become professional educators who can reflect on their instruction to enhance their teaching skills. Being professional educators assists teachers in providing constructive feedback to students (Gaytan & McEwen, 2007), and is available to address their concerns (Umar & Ko, 2022).

Higher education institutions should enhance or establish policies and guidelines for implementing the virtual flipped classroom. These policies and guidelines could include criteria for selecting appropriate courses for virtual flipped learning. They could also contain standards for assessing students in virtual classrooms. Moreover, policies could provide guidelines on timetabling courses to suit virtual flipped classrooms, providing sufficient time for teachers to prepare activities and guide and provide feedback on pre-class activities, and for students to view and complete the pre-class activities.

Providing teachers with professional development will guide them in implementing the virtual flipped classroom. In addition to delivering theoretical knowledge, these programmes should provide applied and institutional knowledge (Elliott, 2017). Also, they should be based on social learning that occurs in social interactions (Reed et al., 2010), lead to changes in behaviours and practices and foster mutual relationships among the teachers (Dysart & Weckerle, 2015). Furthermore, professional development should be designed according to practice-based approaches, ensuring practical and contextualised context (Holland et al., 2018) and providing a safe environment for critiquing and endorsing practice (Fanghanel, 2013). Sam (2020) suggested training teachers on modifying readings and assignments and the teaching style for online instruction. Following the same line of thought, Abou Youssef and Richter (2022) raised a serious call for higher education to push older

generations of teachers to accept and adopt online teaching methodologies.

Higher education institutions should adopt or adapt the curriculum to suit online delivery and the virtual flipped classroom. The curriculum must include group-based activities and be underpinned by student-centred approaches (Porcaro et al., 2016). Additionally, instructional materials should be interactive and suitable for pre-class activities. Adapting the curriculum might also involve making necessary changes to assessments. Projects, portfolios, self-assessments, peer evaluations, presentations, weekly quizzes, and assignments with clear guidelines and supportive, immediate feedback are suitable for virtual learning environments (Gaytan & McEwen, 2007; Gikandi et al., 2011).

Higher education institutions should provide technical support to help teachers design activities for the virtual flipped classroom. Technical support is essential, helping teachers use learning platforms, video conferencing platforms, and software. In addition, institutions could provide teachers with funds for subscriptions to various learning platforms that could assist in designing and delivering content for virtual flipped classrooms (Eliason & Holmes, 2010).

Teacher strategies and institutional support are connected and should be addressed simultaneously. Failing to focus on these areas or compromising one over another could hinder the effective and successful implementation of a virtual flipped classroom.

6. Conclusion

The evidence from this study confirms that virtual flipped classrooms can enhance students' learning in higher education during ERT when teachers follow various strategies. The study proposes a framework for implementing the virtual flipped classroom. Teachers might be unable to successfully implement the virtual flipped classroom if they do not employ certain strategies. These strategies include teachers' abilities to create suitable content for the flipped classroom and establish a flexible learning environment in the three stages of the flipped classroom (pre-class, in-class, and post-class activities). Teachers should follow different methodologies to engage their students throughout the process. Another essential requirement for implementing flipped learning methodology is being a professional educator who can reflect on and improve his/her practices based on collaboration with other teachers. Additionally, the benefits of flipped learning will be realised more effectively with institutional support. This support can be achieved through establishing policies for online learning and teaching that encompass methods and regulations for implementing virtual flipped classrooms. Further, there might be a need to redesign or adapt the curriculum to suit this teaching methodology, and eventually, this might also require a restructuring of course assessments. Additionally, administrators must provide practical and contextualised professional development for teachers with hands-on practice sessions. Finally, technical support can enhance the implementation of this strategy by providing teachers with tools and equipment for creating content and administering

activities in the virtual flipped classroom.

Although this study has focused on one specialisation (ESL context), the findings and proposed framework are not subject-specific. Teachers in an ESL context and other situations should follow the suggested framework when implementing the virtual flipped classroom.

The current study only examined my teaching experience through an autoethnographic research design that included two interviews for data triangulation. Therefore, the subjectivity of this method should be acknowledged. This method was not specifically designed to evaluate the success factors of implementing virtual flipped learning. Rather, it demonstrates how the teaching approach was implemented during COVID-19.

Future work might consider a collective autoethnography research design to provide an in-depth understanding of the phenomenon. There is a scholarly need for case study research that investigates the design and development of virtual flipped learning content and considers factors attributed to the design and implementation of virtual flipped learning. The framework provided in this study is subject to further validation research.

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