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What's in, and what's out? A study of student choice of learning activities in a flipped EFL classroom

Abstract: Flipping pedagogy has gained popularity in higher education. Learning activities are decisive to the effectiveness of a flipped classroom. However, research dedicated to learning activities in flipped classrooms is limited in quantity and even scarcer from learners' perspectives. This paper explores students' choice of learning activities in and out of a flipped EFL classroom to find more targeted measures to enhance teaching and learning practices in flipped classrooms. Student proposals ($n = 30$) for learning activities from 30 sophomores in an integrated English course (IEC) were used as media for data collection. The technology acceptance model (TAM) was used as the analytical framework. The findings showed that the participants proposed a conventional learning method emphasising lectures and revisions, which can result from students' understanding of effective learning and their perceived usefulness of technology. This study concluded that successful flipped teaching entails considering student needs in the e-learning environment, quality learning activities and sufficient support for students to develop their autonomy.

1 Introduction

The flipping pedagogy features direct computer-based individual instruction before class and interactive classroom learning activities (Bishop & Verleger, 2013) that contribute to active and deep learning. The flipping approach is receiving broader support from language educators (Chen Hsieh, Wu et al., 2017; Låg & Sæle, 2019; Turan & Akdag-Cimen, 2020). Researchers have elucidated the applicability of

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flipping pedagogy in the English-as-a-foreign-language (EFL) context through the theoretical lens of second language acquisition (SLA) (Hung, 2017). A myriad of studies shows that the flipping pedagogy is conducive to lowering the affective filters of EFL learners (Chang & Lin, 2019; Chen Hsieh, Wu et al., 2017; Lee & Wallace, 2018), maximising their interactive opportunities in the target language (Kim et al., 2017; Turan & Akdag-Cimen, 2020), and developing learners' EFL skills through communicative practices (Hung, 2017; Lin & Hwang, 2018; Lin & Mubarok, 2021) from careful instructional design. Recent meta-analysis studies have conclusively shown positive learning outcomes in flipped EFL classrooms (Turan & Akdag-Cimen, 2020), confirming the effectiveness of the flipping approach in EFL classrooms in practice.

The literature on the flipping approach has acknowledged the critical role of learning activities in the success of flipped learning (Stöhr et al., 2020). Researchers contend that multiple learning activities in flipped classrooms serve as the vehicle for learner-centric interactive learning (Bishop & Verleger, 2013; Chang & Lin, 2019; Elmaadaway, 2018). However, as most extant studies focus on examining the pedagogical effectiveness of the flipping approach, little is known about how students go about learning activities in flipped classrooms. Research dedicated to learning activities in flipped classrooms has been limited and even scarcer from learners' perspectives, using their voices, resulting in limited pedagogical insights into improving the design and implementation of flipped classrooms.

Flipped classrooms have always been an exemplar of integrating innovative technology with the fabric of teaching and learning (Cheng et al., 2022; Lai et al., 2021; O'Flaherty & Phillips, 2015). Technology is an essential component of flipped classrooms (Betihavas et al., 2016) and an important moderator of student engagement in flipped learning (Lai et al., 2021). Technology use in flipped learning creates a convenient and flexible learning environment in which students can easily access learning materials and activities. More importantly, it breaks up the boundary of time and space (Bishop & Verleger, 2013), thus enhancing interaction and collaboration in and out of class. Despite all the benefits, the consensus among researchers and educators is that it is not technology per se, but conditions and ways of implementing technology that impact learning outcomes (Stöhr et al., 2020). Both require in-depth investigation in context. However, most studies on technology-enhanced language learning (TELL) have so far focused on examining the effects of technology adoption on improving specific language skills, such as vocabulary learning, writing or speaking skills (Chang & Hung, 2019; Chen et al., 2021; Lin & Hwang, 2018). How students mobilise technology resources in EFL learning has seldom been studied.

Meanwhile, there exist appeals from researchers to more in-depth investigations into the extent to which technology enhances learning in students' lived reality (Selwyn, 2016), which can be fulfilled only from students' perspectives rather than

researchers' preconceived concepts. In addition, studies on TELL or computer-assisted language learning (CALL) predominantly employ a quantitative positivist approach. However, teaching and learning practices are highly context-specific, making it difficult to understand the inconsistencies between research findings (Granić & Marangunić, 2019). Rich and in-depth qualitative data may add to our understanding by bringing in the participants' situated practices (Yilmaz, 2013).

The inclusion of technology in flipped EFL classrooms opens an opportunity to explore EFL learners' perceptions of educational technology and their intention to use it in language learning. This qualitative case study explored students' choice of learning activities in and out of a flipped EFL classroom. By doing so, it aimed to translate student voices to inform the design and implementation of learning activities in flipped classrooms and maximise the potential of technology in enhancing teaching and learning practices in EFL classrooms. Students' voices of learning activities in the flipped EFL classroom were of particular interest to this qualitative case study. By expressing their perceptions, beliefs or preferences, learners provide meaning regarding their engagement in learning practices. The enhancement of learner voices, with its theoretical underpinning of social constructivism, psychological foundation in cognitive styles and learner beliefs, and pedagogical support of learner autonomy, has become an essential parameter in the learner-centred approach (Trinder, 2015).

To capture the learners' voices, student proposals (n = 30) for learning activities in a flipped EFL classroom were used for data collection, which was then analysed via qualitative content analysis. The technology acceptance model (TAM) was employed as the analytical framework to interpret students' choices of learning activities in and out of the flipped EFL classroom and to provide pedagogical insights into designing and implementing learning activities for future classrooms.

Section 2 reviews the literature on flipping pedagogy and TAM in the educational context to lay the groundwork for the research focus and the analytical framework for this study. Section 3 – Methods demonstrates how student proposals were used for data collection and how data were coded and analysed via content analysis. The study findings are presented and discussed in Section 4, using TAM as an interpretive framework and in order of the research questions. Section 5 presents the study's conclusions and implications for future research.

2 Literature review

In this section, the literature on flipping pedagogy is first reviewed. It identifies a knowledge gap in the design and implementation of learning activities in flipped classrooms in the extant flipped literature and lays the groundwork for the research

focus of this study. Studies on TAM in the educational context are then reviewed to demonstrate its interpretive power in this qualitative study.

2.1 Flipping pedagogy and its learning activities

Numerous studies have confirmed that by flipping the traditional lecturing out of the classroom and exposing students to course content and key concepts before class, teachers can utilise student-centred teaching more fully in class (Akçayıra & Akçayır, 2018; Betihavas et al., 2016; Chuang et al., 2018; Elmaadaway, 2018; Hung, 2017; Munir et al., 2018). A student-centred approach values and supports diverse learning styles in which students are active, responsible learners (Betihavas et al., 2016), and teachers facilitate deep learning (Hung, 2017). In their review of flipping classroom approaches, Bishop and Verleger (2013) put forward that the flipping pedagogy is based on the theoretical framework of student-centred learning theory, which embodies learning theories of active learning, peer-assisted learning and collaborative learning. Active learning is at the heart of student-centred learning theory. Abundant research has supported that flipping pedagogy involves students in active learning (Hew et al., 2021; Låg & Sæle, 2019). This contributes to students' increased emotional, cognitive and behavioural engagement (Elmaadaway, 2018; Lai et al., 2021), higher-order thinking capacity (Chuang et al., 2018) and positive learning outcomes. Akçayıra and Akçayır (2018), in their large-scale systematic review of the advantages and challenges of flipped classrooms, concluded that flipped classrooms bring opportunities for peer-assisted learning and collaborative learning, leading to improved teamwork abilities, better social and communicative skills, and shared understanding, in addition to better classroom engagement and deeper learning. Munir et al. (2018) add that students take more initiative, put in more effort, and handle more complicated learning tasks when working with their peers.

Researchers contend that learning activities in flipped classrooms serve as an essential vehicle for student-centred active learning (Al-Zahrani, 2015; Bishop & Verleger, 2013; Chang & Lin, 2019). It is commonly held that flexible pre-class learning activities prepare students for better classroom learning (Elmaadaway, 2018) by boosting their active participation in classroom activities and enhancing their interactions with peers and teachers (Hung, 2017). Chuang et al. (2018) suggest that pre-class exposure to lecture content is crucial in guaranteeing students' success in classroom participation. In class, multiple learning activities like discussion, feedback, problem-solving, and group work involve students in active learning (Elmaadaway, 2018). While many studies acknowledge that learning activities in flipped classrooms are essential to enhancing student engagement,

they are far less researched than other components in the flipping pedagogy (Stöhr et al., 2020). Therefore, this qualitative study attempted to fill the knowledge gap by exploring students' choice of learning activities in a flipped EFL classroom.

Despite their critical role in flipped classrooms, learning activities are the most controversial factor contributing to student satisfaction (Akçayıra & Akçayır, 2018; Chuang et al., 2018). The students surveyed were the most unsatisfied with the class structure that orients them to their learning tasks (Al-Zahrani, 2015; Elmaadaway, 2018). Studies have found that increased workload, self-regulation, and demanding activity tasks can reduce student satisfaction (McNally et al., 2017). Nevertheless, some research has noted changes in student attitudes, from apparent resistance at the beginning of the pedagogical change to acceptance in the final stage of the semester (Betihavas et al., 2016; Munir et al., 2018), suggesting that students' initial dissatisfaction may result from changes in learning habits. Hence, scholars urge that learning activities, especially collaborative ones involving various factors, such as task complexity, personal expertise, individual contribution, and personality, should be carefully designed and managed in flipped classrooms (Betihavas et al., 2016; Chuang et al., 2018). However, the extant studies on flipped learning focus more on the effects of the pedagogy on student learning outcomes or satisfaction than on the processes that lead up to these effects (Akçayıra & Akçayır, 2018; Cheng et al., 2019; Kim et al., 2017; Låg & Sæle, 2019). Consequently, empirical evidence for insights into instructional design and implementation of learning activities has been lacking (Hew et al., 2021; O'Flaherty & Phillips, 2015; van Alten et al., 2019). More research dedicated to learning activities in flipped classrooms is needed to shed light on how to improve the design and implementation of the flipping approach.

2.2 TAM applied in the educational context

The issue of technology acceptance or rejection can be crucial in the educational system, where a wide range of potential users utilise technology in the process of knowledge acquisition and transfer. To probe and explain learners' acceptance of or resistance to digital devices, a plethora of theoretical models have been proposed, such as the TAM (Davis et al., 1989), TAM2 (Venkatesh & Davis, 2000), or the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). Among the diverse models, TAM has been proven to be a robust model of high reliability and validity (King & He, 2006) and has dominated the research landscape in educational contexts to explain factors and mechanisms of technology acceptance and use (Chen Hsieh, Huang et al., 2017; Granić & Marangunić, 2019; Scherer et al., 2019).

Based on the theory of reasoned action (TRA) as a theoretical model, TAM predicts and explains individual users' behavioural intentions and actual use of

technology (Marangunić & Granić, 2015; Persico et al., 2014) as a result of cognitive processes (Venkatesh et al., 2003). The core TAM specifies the causation between its motivational constructs – perceived ease of use (PEU), perceived usefulness (PU), and users' attitude towards technology (ATT) – and its outcome constructs – behavioural intention (BI) and actual use of technology (USE) (Chen Hsieh, Huang et al., 2017; Davis et al., 1989; Marangunić & Granić, 2015; Scherer et al., 2019). Davis (1989) defines PEU as "the degree to which a person believes that using a particular system would be free of effort" (p. 320) and PU as "the degree to which a person believes that using a particular system would enhance his or her job performance" (p. 320).

Though existing empirical studies have produced substantial variations in specific paths in TAM, numerous primary studies have supported that, through the mediation of their attitude towards the system, the two core variables, PEU and PU, significantly predict user's BI to accept or reject a system (Chen Hsieh, Huang et al., 2017; Marangunić & Granić, 2015). Furthermore, recent studies have consistently confirmed that PEU directly affects PU and USE, while PU is a more substantial determinant of BI (Davis et al., 1989; Scherer et al., 2019; Venkatesh & Davis, 2000). In the TAM framework, users' BI predicts their UES. However, researchers argue that this link direction is not deterministic because studies suggest that a positive user experience may also determine future BIs (Scherer et al., 2019). TAM was used in this qualitative case study to help interpret students' choice of learning activities in the flipped EFL classroom.

Various external variables were brought in to understand and explain the predictors of TAM's two core variables: PEU and PU. Marangunić and Granić (2015) conclude in their review of TAM literature from 1986 to 2013 that these external variables typically involve system characteristics, user types, user training, participation design or implementation process. More recent meta-analysis studies suggest that subjective norms, computer self-efficacy and facilitating conditions are significant predictors of the two core variables (Abdullah & Ward, 2016; Scherer et al., 2019). However, the effects of these external variables vary across studies, indicating that their effects may be context-specific, which again suggests a need for more empirical studies in different contexts with different user types. These external variables may shed light on the contributing factors underlying students' perceptions of technology use and bring insight into what it means to integrate technology into teaching and learning in flipped EFL classrooms. Nevertheless, these implications are not the focus of this study, so instead of the extended versions, the core TAM is used.

In their recent systematic literature review of TAM in the educational context, Granić and Marangunić (2019) conclude that research on technology adoption via TAM in education has already outgrown its infancy. In the educational domain, TAM has been widely used in studies examining the effects of a particular technology in teaching and learning, such as mobile learning (Al-Emran et al., 2018), learning

management systems (LMSs) (Granić & Marangunić, 2019) or Zoom (Alfadda & Mahdi, 2021). TAM has also been applied in studies on specific topics. For example, Scherer et al. (2019) studied teachers' adoption of technology via TAM; Abdullah and Ward (2016) used TAM to examine the external factors of e-learning adoption. A common objective of TAM studies in the educational context is to incorporate new variables or factors into the model to increase its predictive validity (Granić & Marangunić, 2019). These TAM applications in various educational studies affirm the model's credibility in assessing diverse technological deployments.

Among a sea of TAM studies in the educational context, studies on technology adoption in language learning are rare and even scarcer in flipped language classrooms. Most studies using TAM to assess technology use in language learning in flipped classrooms have examined the use of mobile devices. Chen Hsieh, Wu et al. (2017) used TAM to evaluate students' overall perception of using the LINE mobile application in a flipped EFL oral course. The results showed that students had an upper-intermediate level of satisfaction with using LINE in learning English idioms. They were most satisfied with the video/audio materials in LINE provided by the instructors, indicating participants' recognition of the usefulness of mobile learning. In a separate study of the flipped EFL oral training course using LINE, Chen Hsieh et al. (2017) made a detailed probe into the five constructs of TAM, namely, system characteristics, PEU, PU, ATT, and BI. They found a positive and robust relationship between attitude and behavioural intention, albeit for learner differences in language proficiency. While the above studies focus on technology adoption to develop specific language skills in flipped classrooms, a recent study by Andujar et al. (2020) explored students' perceptions and technological acceptance of social media You-Tube in flipped EFL learning. They found similar positive perceptions from the participants but highlighted the importance of the appropriate video content design for a successful flipped learning experience through mobile devices.

Existing studies, though limited in number, confirm the applicability of TAM in flipped EFL classrooms. However, as technology use and teaching and learning practices are both highly context-specific, studies on different learning technologies, with a broader sample of participants and in different cultural contexts, are needed to better understand technology impact via TAM in the teaching and learning domain (Granić & Marangunić, 2019). By exploring students' use intention of LMS to mobilise learning activities and resources in a flipped EFL classroom, this qualitative case study adds to the current literature on TAM in the educational context from a different research perspective.

Over the years, TAM has undergone various extensions and modifications to enhance its applicability, predictive validity and explanatory power. TAM2 and UTAUT are cases in point (Taherdoost, 2018). Very often, clear correspondences can be found between these extended or modified versions and the core TAM (Scherer

et al., 2019). Alternatively, the extended versions can be difficult to test due to the complicated hypothesised moderation effects. Previous studies have reported inconsistencies in the explanatory powers and the effects of the variables in extended models (Chen Hsieh, Huang et al., 2017; Scherer & Teo, 2019). As a result, the core TAM has remained widely employed by researchers for its straightforwardness in the specification, its potential to explain variances in use intention and actual use of technology, and its transferability to various contexts and users. This qualitative study used the core TAM as the analytic framework to interpret students' choice of learning activities and to inform the design and implementation of learning activities in future classrooms. Given qualitative studies' strengths in producing rich data and in-depth understanding, the core TAM, though parsimonious, suffices to answer the following research questions:

RQ1: How do students allocate learning activities in and out of the flipped class?
RQ2: What are the underlying causes of their choices regarding the TAM?

3 Methods

To enhance teaching and learning practices in the flipped EFL classroom, a qualitative approach was used, given the small number of student participants in a context-specific classroom. In-depth qualitative studies from learners' perspectives can add to the existing literature on flipped learning (McNally et al., 2017) and generate findings that can be directly applied to a specific educational context (Johnson & Onwuegbuzie, 2004).

3.1 Academic context

This study was carried out in an integrated English course (IEC). The IEC is a core-curriculum course for first- and second-year English majors at the university where the author is based. It aims to enhance students' essential English language skills and prepare them for advanced study levels. The IEC has two 90-minute periods per week for a 15-week semester, covering all four semesters of the first 2 years. Close to the end of the second year, all English majors in higher education institutions (HEIs) across China are to take a nationwide high-stakes test on their English proficiency, the Test for English Majors (band 4) (TEM4), the result of which directly decides students' qualifications for their baccalaureate degree in English. As such, the

importance of the IEC and the TEM4 may affect students' preferences for teaching methods and the organisation of learning activities in the IEC.

Before the spring semester of 2020, when this qualitative study was conducted, the IEC was delivered primarily in a loosely flipped mode. Traditional classroom teaching, partial or full flipping approach was employed in different periods based on the teaching content. Most classes were delivered using a traditional teaching approach at the beginning of the first year, before students were familiar with the course. Teaching and learning primarily involved lecturing on subject content and assignments after class. In each class, dialogical lecturing consumed most of the time. When time allowed, there were interactive activities, such as group discussions, but only occasionally. Students also made text-related presentations in each class, which they prepared in a group before class. However, performance varied greatly from group to group, with some groups finishing the task for assessment purposes. Discussion groups in WeChat, a social media application with which most students were familiar, were established for interactions outside of class. However, student–teacher interactions were limited, primarily for course management, such as sending notifications or requesting leave. Seldom did students ask learning-related questions in discussion groups.

Around the fifth week of the first semester when students began to become familiar with the teaching and learning arrangement of the IEC, recorded instructional videos on grammar and writing techniques were gradually added to the WeChat discussion groups before class. As this was done, a Q&A session initiated by students emerged in the WeChat discussion groups before class. Some of them would ask questions about the videos they watched. However, since there were no incentives or monitoring mechanisms for video watching, not all students would watch the videos, as suggested. Lectures were often needed in class because classroom activities indicated that students did not learn from the videos. In short, this loose-flipping approach was used as a buffer to prepare students for typical flipped learning, where more classroom time could be devoted to interactive or collaborative activities to realise active and deep learning.

During the remote emergency teaching in the spring of 2020, the university provided an LMS, Chaoxing Xuexitong, for online teaching. In addition to writing and grammar videos, recorded instructional videos on text content were made available to students in the LMS before class to prepare students for class and, more importantly, to allow students free access to learning resources when they were cut off from brick-and-mortar classrooms. Classroom time consisted of live mini-lectures based on questions students came up with and hands-on practices and interactive activities to enhance learning. To assist online learning, additional learning materials, such as key vocabulary lists incorporating definitions and examples, student exemplar work, text-related background information, and assignment feedback,

were provided to students online via LMS. Discussion forums in LMS were made use of for problem-shooting or interactive activities. For retrieval convenience, discussions were organised by topics in different threads, such as *exercise discussion*, *TEM Q&A* and t*ext-related topic discussion*.

3.2 Participants

The study participants were English-major sophomores (*n* = 30) from two IEC classes in which the author was lecturing. Convenience sampling was used partly because of accessibility to participants and partly because of the research purpose of enhancing teaching and learning practices in the flipped IEC classroom. There were 40 students in the two IEC classes, 30 of whom volunteered to participate in the study. The participants were of an intermediate level in terms of their English proficiency. All would have taken TEM-4 in the spring semester of 2020 if it had not been for the COVID lockdown. All participants had English learning experience in traditional classrooms and loosely flipped learning experiences in the IEC via WeChat for more than 1 year. Due to COVID-19, the consequent school shutdown, and the provision of nationwide online education, by the time the data collection had started, all the participants had had learning experiences in 100% online classes via LMS for about 2 months. Therefore, it was assumed that the participants might have a better chance of understanding the strengths and weaknesses of the three different teaching provisions. The provision of online education allowed them to compare the pros and cons of online learning to those of face-to-face learning in traditional classrooms.

3.3 Data collection

As Shah et al. (2016) highlight, student experiences must be based on their voices rather than defined by other stakeholders. This qualitative case study used students' written proposals to collect data. The participants were invited to propose learning activities in and out of the flipped IEC and briefly explain their reasons for choosing them. These proposals aimed to have students voice their preferences for learning activities and then inform the redesign of the flipped IEC for improvement purposes. The primary purpose for using written student proposals was to mitigate the negative impact on data integrity that might arise from interviewing students a teacher researcher was teaching. The next but equally important reason was to obtain quality student voices. The author expected that a written proposal would allow time for deliberation; hence, the ideas expressed in it could be more valid and

sensible than impromptu oral responses in an interview. Lastly, the author hoped that by inviting them to propose learning activities for a core curriculum course, student ownership of the course could be enhanced.

The student proposals were collected via a closed online discussion group where all the participants could join voluntarily and anonymously by scanning a WeChat quick response (QR) code shared by the author. Before that, the purpose of the proposal was elaborated on to all students in the LMS to encourage their participation. It was stressed to all the students that participation in the research was voluntary and would not involve any assessment in the course; non-participation or withdrawal from the research would not result in adverse consequences. Next, an electronic proposal form was posted in LMS, along with a participant information sheet and a consent form, so that all the students taking the IEC could have free access to it. The proposal form (Appendix) included a brief introduction to the study purpose, instructions on making proposals, and a list of learning activities available in the IEC for the students' reference.

Participants were also encouraged to propose activities not listed but considered helpful to learning. It was expected that by using a proposal form with instructions and references, the students would feel the task was less challenging so that more of them would be willing to participate, and the quality of proposals could be more reliable. A QR code was sent to those who consented to participate so that they could join the closed online discussion group and submit their proposals anonymously. The participants were asked to stay in the discussion group until debriefing, but they could choose to withdraw at their will. The data collection lasted 2 weeks in the middle of the spring semester, from April 15th to May 1st, 2020, and ended when no more proposals were submitted to the discussion group. Altogether, 30 proposals were collected, with a response rate of 75%. All the proposals were labelled in order of submission. For example, the first proposal received in the WeChat discussion group was labelled *P 01*.

3.4 Data analysis

Qualitative content analysis was employed to find students' shared priorities and, hence, the relative importance (Cohen et al., 2011) of particular learning resources and activities in the flipped EFL classroom by coding, categorising, comparing and concluding the data. As the purpose of this study is to determine converged student preference for learning resources and activities to inform the redesign and implementation of the flipped classroom, content analysis should be appropriate as an analytical tool to understand the patterns of students' perceived importance of the learning resources and activities by describing and comparing frequencies of

concepts and occurrences. Four main categories were predefined: (1) *online (out-of-class) learning resources and activities,* (2) *online reasons,* (3) *face-to-face (in-class) learning resources and activities* and (4) *in-class reasons.* They were established in accordance with the research questions and the proposal form, where the participants were encouraged to propose learning resources and activities in and out of class and to explain their reasons briefly. These four predefined main categories were also used as upper-order codes to organise lower-level codes.

All lower-level codes were data-driven and openly coded from the participants' written proposals based on both actual occurrence and inference of the concept. Learning resources and activities in the proposals were actual and manifest and were thus coded *in vivo* and once per participant. For example, *grammar lecturing* was coded once when a participant proposed and explained his/her intention to have it in class. The students' reasons for their choices were sometimes inferred. For instance, the statement, "I need the online recorded grammar lectures because my grammar is so poor that I always fail to produce correct answers in exams." was coded as *enable autonomous learning* under the subcategory of *enhancing learning,* considering that the participants may need to work more on grammar themselves. Codes conveying the same meaning were grouped into the same subcategory, which was then fed into the four predefined main categories accordingly. A coding scheme was thus developed with the early submitted proposals, focusing on the students' choice of learning resources and activities and their reasons. The coding scheme was further adjusted when new codes and subcategories emerged, with later proposals mapped onto it.

The four main categories and their subcategories, presented in Table 1, are the finalised basic coding scheme used in this study. Finally, the frequencies of codes under each subcategory and category were counted and compared to uncover the pattern and trend of students' preferences for learning resources and activities in and out of the flipped IEC. To ensure validity, the author read each proposal immediately after it was submitted to the discussion group, and doubts were addressed through further enquiry and confirmation with the proposer. An expert review was used to ensure coding reliability. Another two experts in higher education research checked the coding scheme, the categorisation of codes and the frequencies of codes in each category and subcategory. The collected student proposals were coded using Atlas.ti 8.4.20.0.

4 Results

This section presents the coding results and discusses the four predefined main categories to answer the research questions. A total of 68 codes were generated from

Table 1: Categories and subcategories.

Categories and subcategories	Frequency	% of the category	% of the total
1. Proposed online out-of-class resources and activities	171	100	45.48
Learning activities	78	45.61	
Learning resources	76	44.44	
TEM 4	17	9.94	
2. Online reasons	77	100	20.48
Convenience	41	53.25	
Enhance learning	29	37.66	
Facilitate learning	7	9.09	
3. Proposed face-to-face in-class resources and activities	91	100	24.20
Teaching activities and resources	20	21.98	
Learning activities and resources	66	72.53	
TEM 4	5	5.49	
4. In-class reasons	37	100	9.84
Face-to-face advantages	24	64.86	
Monitoring strengths	8	21.62	
Learning needs	5	13.51	
Total	376		100

30 student proposals in the four main categories. Table 1 summarises the categories and subcategories from the coding and offers a holistic view of how the learning activities are distributed in and out of class, with a summary of the primary reasons. The learning activities and resources under categories 1 and 3 are displayed in Table 2. A detailed display of the three code levels is presented in the Supplementary Material.

4.1 Student choice of learning activities in and out of class

As shown in Table 2, the participants proposed 19 learning activities and resources. All were proposed as in-class activities, 15 of which were online out-of-class activities. However, as shown in Table 1, the frequency of those 15 online out-of-class activities and resources (f = 171, 45.48%) was almost twice that of the in-class activities (f = 91, 24.20%). As a result, most of the recommended online activities and resources had much higher frequencies than the in-class ones. The data show that the participants had distinct preferences for certain activities to be allocated online outside class.

Table 2: Proposed learning resources and activities and their allocation.

Proposed Learning activities and resources (*n*)	Face-to-face in-class (*f*)	Out-of-class online (*f*)	Total (*f*)
Grammar lecturing	4	26	30
Text lecturing	13	15	28
Key vocabulary lists	3	20	23
Exercise feedback	3	19	21
TEM4 Q&A	4	17	21
Text discussions	12	8	20
Q&A	6	13	19
Exercise discussions	2	14	16
Quizzes	10	6	16
Model work	4	9	13
Text extension	6	7	13
Text background	3	8	11
topic discussions	10	1	11
Exercises	2	7	9
Group/pair work	5	1	6
Presentation	1	/	1
Dictation	1	/	1
Reading training	1	/	1
TEM4 tutoring	1	/	1
Total (*n* = 19)	91	171	262

As Table 2 shows, student choice of out-of-class online agreed significantly on grammar lecturing (*f* = 26), key vocabulary lists (*f* = 20), exercise feedback (*f* = 19), and TEM 4 Q&A (*f* = 17). About half of the participants proposed text lecturing (*f* = 15), exercise discussions (*f* = 14), and Q&A (*f* = 13) to be allocated online out of class. The participants were least interested in engaging in topic discussion and group work online out of class, with each proposed by only one participant. Apparently, as for online activities and resources, the participants tended to have activities and resources to transmit knowledge of the subject content or directly related to their academic achievement; they showed much less interest in interactive activities beyond knowledge learning.

In contrast, the participants' choice of what to do in class was dispersive. No more than half of the participants supported each of the 19 proposed in-class activities and resources. *Text lecturing* (*f* = 15) ranked top and had almost equal recommendations in and out of class, which is consistent with the findings of the existing flip studies that there is a request for in-class lecturing from students, even though the recorded videos are available online around the clock (Chuang et al.,

2018; Lombardini et al., 2018). Nonetheless, four activities had higher frequencies as classroom activities than online ones. They were *text discussions* (f = 12), *quizzes* (f = 10), *topic discussions* (f = 10), and *group/pair work* (f = 5). Three were interactive activities, but all had much lower frequencies than online resources to transmit knowledge.

The participants proposed a class similar to a partial flipping design, with lectures both in and out of class, knowledge transmission online out of class but not necessarily before class, and interactive activities on extended topics in class. However, a close look at the total frequencies of the proposed learning activities and resources in Table 2 shows that the participants' understanding of foreign language learning was very conventional, even though they had flipped learning experiences. To most of them, learning a foreign language involves learning grammatical rules (f = 30) and vocabulary (f = 23), learning the texts in books via lecturing (f = 28) and discussion (f = 20), doing quizzes on what they had learned (f = 16), and straightening out problems in exercises via teacher feedback (f = 21) and discussions (f = 16). In addition, preparing for tests (f = 21) is a priority. For these sophomore English majors, language learning was much less about going beyond textbooks (*text extension*, f = 13; *text background*, f = 11; *topic discussions*, f = 11; *group/pair work*, f = 6).

The results indicate a gap between students' preferred language learning and ideal effective language learning featuring sufficient exposure to quality language input and active interaction and collaboration with others. The existing literature on flipping pedagogy has reported that students do not often perceive the value of interactive learning and may feel dissatisfied with group work in flipped classrooms (Betihavas et al., 2016) and even develop resistance to cooperation (Munir et al., 2018). Therefore, it has always been a challenge to ensure that students interact effectively with peers and teachers in flipped learning (Elmaadaway, 2018). The results also comply with the literature on CALL that, in terms of verbal communication, students prefer to interact face-to-face rather than online (Trinder, 2015). Admittedly, face-to-face interaction has advantages that online communication cannot offer. However, considering the limited class time, face-to-face interaction in class may not provide students with adequate learning opportunities.

4.2 Primary reasons and underlying causes of student choices in terms of TAM

Table 1 shows that the primary reason for students' choice of out-of-class online learning activities and resources was the affordance of *convenience* (f = 41). Most participants explained, as shown below in the italicised quotes from the student

participants, that they allocated these activities and resources online for convenient multiple access to them. They did that primarily for revision purposes.

> I propose that grammar lectures be allocated online. Grammar is all-purpose, but some grammatical rules are complex and easy to forget. With grammar lectures online, I can review the rules whenever I need. (P 03)

The participants explained that storing and retrieving learning materials and resources online was more time-efficient, which saved them much effort when taking notes and querying their puzzles. In addition, some participants expressed their appreciation of the immediacy in feedback realised by the automatic rating function in the LMS, claiming that such immediacy improves learning efficiency.

One of the direct benefits the participants indicated from multiple accesses to the online learning activities and resources was that they could use the listed activities and resources to *enhance learning* (f = 29). They explained that the possibility of multiple visits granted them enough chances to learn so that they could make up for what they had missed or failed to understand, which, in turn, strengthened their memory and enhanced their comprehension of what had been learned. In addition, these online materials allowed them more freedom to learn at their own pace, thus conducive to their autonomy in learning.

> The TEM 4 Q&A allows me to learn at my own pace. The posts my classmates have placed in it help me realise what I have failed to learn, so I will visit it whenever I have time and go through the posts in it. (P 01)

The third benefit, which is far less mentioned, is that they can use these online activities and resources to *facilitate learning* (f = 7). That is mainly about the online *model work demo* and *key vocabulary lists*. The participants expounded that the model work presented concrete examples of good work, setting a clear and specific goal on which to work. In addition, their way of thinking could be expanded by referring to work from peers. Regarding the *key vocabulary lists*, the participants acknowledged that the lists saved them ample time and labour from looking up new words and taking notes. Only one participant said that she enjoyed the text-related learning resources but did not indicate the effects of doing so.

Three main reasons for participants' choice of in-class activities and resources were the (1) *advantages of face-to-face interaction* (f = 24), (2) *monitoring strengths of in-class learning* (f = 8), and (3) *satisfaction of learning needs* (f = 5). First, the participants in the study showed a clear awareness of the advantages of face-to-face interactions, which was the primary reason for them to allocate learning activities in class. They indicated that the effects of the learning activities could be maximised

because face-to-face interactions were more experiential and interactive. They received real-time responses from the teacher or their peers so that they understood better and were more likely to stay focused; hence, they were more engaged in face-to-face activities. In addition, free from technological mediation, it was easier and more natural to interact face-to-face than online.

Second, some participants claimed they learned more efficiently and effectively in class because they needed monitoring.

> I propose text-related learning activities in class because I learn better and stay focused when there is a teacher. (P 06)

> I feel like I read more efficiently in class with a tight timeline. (P 11)

Third, the participants also allocated classroom learning activities out of their different learning needs. Some suggested learning vocabulary in class because vocabulary appeared difficult for them to learn. Some chose text lecturing in class because they thought texts were important course content. Interestingly, one participant explained that text-related learning activities should be performed in class because they were a convention.

The reasons the participants provided confirm the existing TAM empirical findings that the PEU and PU of the technology affect an individual's BI or willingness to adopt, accept, or use technology (Chen Hsieh, Huang et al., 2017; Davis, 1989; Scherer et al., 2019). In this study, the participants' top priority in allocating learning activities and resources online was convenience, which, in turn, enhanced their PU of those learning resources and activities—that is, to enhance and facilitate language knowledge learning. The participants allocated learning activities and resources in class because they could be more effective via face-to-face interactions or proper monitoring. It appears that the participants were quite aware of the strengths and weaknesses of the technology affordance in learning.

However, it should be noted that while learning technology provides users with functionality and anytime/anywhere access to course content and learning activities, what is equally important or even more important is its provision for interactivity, not only with course materials but with peers and teachers. Such interaction aligns with the key to higher forms of learning from the sociocultural perspective (Lantolf, 2009) and principles of good practice in undergraduate education (Kuh et al., 1997) and, most importantly, is essential to effective foreign language learning (Ellis, 2005). This study indicates that this critical technology function has not been fully exploited and realised in the flipped EFL classroom under investigation. It is widely believed

that technology improves learning efficiency and has appeared central to student learning. However, the findings of this study comply with what Henderson et al. (2017) argue that there are apparent gaps between students' actual use of technology and the rhetoric of "technology-enhanced learning", as students' learning-related digital practices often tend not to be creative, collaborative, participatory, but primarily surface and strategic.

Recent TAM studies have consistently confirmed that external factors significantly predict users' PEU and PU of the technology in use (Abdullah & Ward, 2016; Marangunić & Granić, 2015). Individual factors, such as students' previous educational experiences, skills, or agency, and teaching practices, such as how a course is structured, its content is created and delivered, and how assessments are designed, all frame students' use and perception of digital technologies (Henderson et al., 2017). Therefore, they may encourage or discourage students' technology use or use intention (Scherer et al., 2019).

This study indicates that students' understanding of how foreign language learning goes shapes, to a great extent, their BI to use technology. The participants in this study intended to learn English in a relatively conventional way, which hindered them from fully exploiting the available technological resources. In addition, this study supports previous findings in flipped learning that students are inadequately capable of self-regulation (Akçayıra & Akçayır, 2018; Betihavas et al., 2016). Some sophomore students in this study reported needing monitoring to learn efficiently. These findings are consistent with the TELL research assumption that college-level students may be unable to determine what they need in learning, especially in computer-based learning environments (Kirschner & van Merriënboer, 2013). One of the challenges of flipping pedagogy to students is that, when allowed more flexibility and autonomy for learning, they are left with more responsibilities for their learning. Kirschner and van Merriënboer (2013, p. 178) argue that for students to develop self-directed learning skills, they need to learn to "select learning tasks, find relevant supportive information, consult necessary procedural information, and identify useful part-task practice." It would be impossible for students to develop and acquire these complicated skills without appropriate support, especially when they do not possess adequate autonomy in previous learning experiences.

While what the participants proposed may give us a glimpse at how they intended to learn and what they needed to learn, what was absent is worth noting. No participant explicitly expressed in their proposals that they would use the activities and resources to prepare for classroom participation. This limited

participants' need for preparation for classroom activities explains, to some extent, the extant findings of the flip literature that students are often inadequately prepared for class (Al-Zahrani, 2015; Munir et al., 2018), which has posed to be one of the most commonly reported challenges of the flipping pedagogy (Akçayıra & Akçayır, 2018). It brings us second thoughts as to what to offer online and what to do in class in flipped EFL classrooms to maximise the strengths of the flipping design and how to guarantee pre-class preparation to enhance classroom efficiency.

5 Implications and conclusion

This qualitative case study explored students' choice of learning activities in a flipped EFL classroom and captured a somewhat different picture in CALL. This study confirms, with lived student experiences, the previous research findings in TAM that PEU and PU are two primary contributors to BI. However, the results of this study show that the sophomore English majors proposed a relatively conventional approach to English learning, even for a flipped classroom. They tended to learn via knowledge transmission and enhance learning via exercises and revision, showing minimal intention to pre-class preparations that enhance their classroom engagement and having a limited inclination to cooperate or collaborate with peers, which intended to promote their higher-order cognitive skills. Instead of demonstrating how technology use enhances foreign language learning, this study indicates that students' intended or actual use of technology in learning is limited and superficial, so the strengths of technology have not been fully exploited in the flipped EFL class.

The critical implication of this study is that in the educational context, technology use should be integrated with pedagogical visions to catalyse change in student experiences. Simply making technology available or requiring students to use it does not necessarily guarantee successful use. Here are some pedagogical considerations for improving the design and implementation of flipped EFL flipped classrooms based on the findings of this study:

Learning activities should be carefully designed and implemented. The quality of learning activities comes into play when students learn with technology. Technology proper is not a method but a tool; the extent to which technology assists or enhances learning depends on how it is embedded in teaching and learning practices. In designing and implementing learning activities, consideration should be given to essential factors like student needs, learner skills, task complexity and

workload. One specific implication of this study is that the pre-class instructional videos should cater to students' need to prepare for classroom activities for them to see the relevance of engaging with the videos.

Teacher support is essential in effective flipped learning. The results of this study imply that teacher support may involve directing students to use more effective ways to learn English, that is, to engage students in more interactive activities, provide them with sufficient scaffolding in cooperative/collaborative tasks, and coach students to make better use of technological resources. Positive experiences in interactive learning activities will raise students' awareness of why to interact and improve their interactive skills, turning them into skilled, active learners. The literature on flipping pedagogy supports the idea that students develop preferences for interaction when they see the benefits of it (Betihavas et al., 2016). The ultimate goal of teacher support is to develop students into self-directed learners.

The participants in this study experienced three different teaching provisions in English classrooms and proposed a conventional way to learn English. Nevertheless, it would be too hasty to conclude that the students did not know the effective approach to English learning. Empirical evidence shows that what students know about ideal learning and what they do to learn can be very different (Saban et al., 2014). The underlying reasons for the participants' choices of how to learn can be many and varied. However, as the written suggestions and reasons the student participants provided in their proposals in this study were straightforward, it is beyond this study to answer this question. More flexible and in-depth research methods, such as semi-structured interviews or focus group discussions, can be used in future studies to further our understanding. The generalizability of this study might be limited due to its qualitative nature and small sample size. However, because flipping pedagogy and technology use are a global ensemble in HEIs, the findings of this study may still be transferrable to the broader community of practitioners in flipped EFL classrooms.

Appendix: Learning Activities Proposal

Dear students,

This proposal form is designed to seek your voice in the arrangement of learning resources and activities in the IEC, hoping that together we can make teaching and learning more effective and efficient.

Listed below are the activities and resources we currently use for the IEC. We would like to know which activities you think are helpful to you so that they should be included in the IEC and where they should be allocated, online or in class. You may find the following instructions helpful when filling out the proposal form:

1. By allocating the resources and activities online, you will make use of these resources and take part in the activities outside of class.
2. By allocating the resources and activities in class, the activities and resources will be used in a face-to-face format.
3. You may put one activity in both boxes, which means that you believe it is needed both online out of class and face-to-face in class.
4. You are also welcome to propose any activities besides those listed below.
5. Please briefly explain your decisions to help us better understand your intentions and exploit the resources and activities to a full extent.

Learning resources and activities :

Recorded text video, text background, text lecturing, text discussion, text extension, text Q&A, assignment, assignment discussion, assignment feedback, recorded grammar video, grammar lecturing, topic discussion, quiz, group work, key vocabulary list for each unit, TEM4 Q&A, presentation, model work demo…

Online resources and activities that I propose:

My reasons:

In-class resources and activities that I propose:

My reasons:

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