

Action research as a tool of teaching ESP in a flipped learning environment

Ogün İlter^{a*}, Savaş Yeşilyurt^b

^a Erzincan Binali Yıldırım University, School of Foreign Languages, Erzincan, Turkey

^b Atatürk University, Faculty of Education, Department of Foreign Languages Teaching, Division of English Language Teaching, Erzurum, Turkey

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Abstract

This study aims to contextualize a flipped learning environment for ESP learners at a faculty of pharmacy, considering learners' suggestions and the teacher-researcher's field notes and benefitting from the collaboratively problem-solving processes of action research. Thus, the study was designed as first-person action research, where the teacher-researcher collaborated with the 38 pharmacy students taking an EOP course in their third year of study at a university in Turkey. The flipped learning instruction was evaluated, firstly, during implementation via video-recording 12 weekly three-class-hour courses, collecting learners' reflective journals and keeping field notes; and secondly, after finishing the implementation by holding focus group interviews with the students. The data were analyzed by inductive content analysis. The findings of the study indicate that the flipped learning strategy ensured many advantages, including the efficient use of class time, differentiation and peer interaction as well as bringing adoption problems derived from teacher dependence and established learning habits. Conducting action research not only improved the teacher-researcher's relationships with the students but also contributed to her professional identity as an ESP practitioner. Considering the findings of the study, practical implications for professional practice as well as suggestions for further research were presented.

1. Introduction

In English-speaking countries, where individuals learn English as a second language (henceforth, ESL), the English for specific purposes (henceforth, ESP) courses are either designed as English for occupational purposes (henceforth, EOP) courses for immigrants, refugees, business people and students; or as English for academic purposes (henceforth, EAP) courses for non-native speakers in the academic sector. On the other hand, in non-English speaking countries, where the target group learn English as a foreign language (henceforth, EFL), ESP courses are designed for self-motivated learners who aim at learning English for academic or occupational purposes to follow their studies or careers in English in international scope (García Laborda & Litzler, 2015; Johns and Price, 2014). Due to the context-driven differences, the delivery of ESP courses in EFL settings features certain characteristics, such as learners' low proficiency level of English, which necessitates supplementary language support; limited chances to practice English learnt in ESP classes; and the lack of authentic ESP materials in EFL settings, which accordingly influence the ESP

* Corresponding author: Department of English Translation & Interpreting, School of Foreign Languages, Erzincan Binali Yıldırım University, Erzincan, Turkey.

e-mail address: ogunilter@gmail.com

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course design and related activities that are often limited to time constraints. Therefore, ESP courses in EFL settings are generated to compensate for learners' limited access to use English out of class unlike the ESP courses in ESL contexts, where the tasks can be done in their natural contexts (García Laborda & Litzler, 2015). Besides, there are further obstacles in ESP classes in EFL environments as in the following: the first is the variety of language backgrounds of learners, which requires individualized learning support for each learner to reach common ground before ESP instruction; the second is the overcrowded student population at one setting in a limited time frame, which hinders delivering counselling to learners with different attention span, learning speed and needs; and the third is the learner profile of *Generation Z* (Twenge, 2017) students who communicate knowledge and learn via the medium of technology, which challenges the conventional ESP instruction as well. To appeal to ESP learners' interests, attention span, language learning needs as well as deliver individualized counselling compatible with their mindset and the way they learn in the 21st century, ESP practitioners are in search of best practices to meet the expectations of the emerging profile of today's ESP learners.

2. Literature

The conventional lecture-based instruction in class time is seemingly no more effective to teach any content to today's YouTube generation, who reaches information easily online without a teacher dictation, and accordingly, requests more from educational institutions in valuable face-to-face class time. Within the ESP context at tertiary level education, ESP practitioners are responsible for catching up with the mindset of this generation via recent blended learning models, where knowledge is reached through technological tools outside the class and acquired by active participation in class time, as is the case with the flipped learning. As Jon Bergmann, one of the pioneers of flipped learning, highlights, 'flipped learning' focuses on one basic question, "What is the best use of face-to-face class time?" (Şahin & Fell Kurban, 2016) that puts the stages of Bloom's taxonomy of the cognitive domain in the centre of course design, through which in- and out-of-class work are organized, as seen in Figure 1 below.

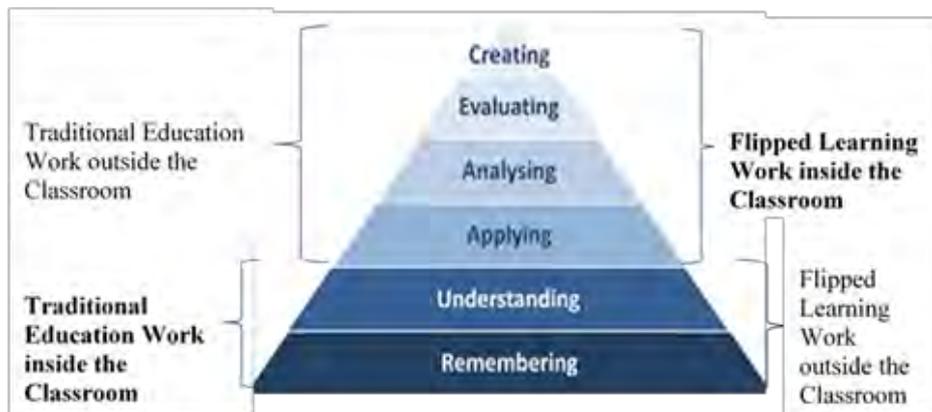


Fig. 1. Aspects of traditional and flipped learning mapped against Bloom's Taxonomy (Şahin & Fell Kurban, 2016, p. 16)

Basically, in flipped learning terms, the tasks at the lower stages of Bloom's taxonomy are attained before class time, which is called 'individual space' while those at the higher stages of Bloom's taxonomy are achieved in in-class time, which is called 'group space'. To be more precise, in flipped learning model, the course content is delivered via short videos and/or supplementary materials on a learning management system (henceforth, LMS), which enables the application of the lower stages of 'remembering' and 'understanding' in individual space. As learners interact with learning material and are tested on content knowledge via short online quizzes, they make sure of their comprehension of the new learning content before class time. Individual space learning enables individualization and flexibility in learning as learners can access course content using any media devices they have whenever, wherever, and as many times as

they want. Since in-class time is freed from the conventional way of content delivery, it becomes possible for learners to engage in tasks in the higher stages of Bloom's taxonomy, which are 'applying', 'analyzing', 'evaluating', and 'creating', and by doing so, to achieve deeper learning. Since learners come to class having prepared for course content, they take ownership of their learning, and as flipped learning provides instructors with more time to deal with the individual learning needs of each student in mini-talks during class time, the instruction becomes more personalized for each learner (e.g. Öznacar, Köprülü & Çağlar, 2019; Şahin & Fell Kurban, 2016).

In the literature on implementing flipped learning in language learning, it is observed that flipped learning takes language learning further by engaging students in learning materials before class, where learners are exposed to authentic use of language more through varied media sources, and by enabling ESP teachers to mentor through higher cognitive level tasks in class, where learners can put what they learn into practice (Cunningham, 2016; Mehring, 2016). As well as using authentic language in class, holding content-based activities, as is the case with ESP teaching, facilitates learners to expand their real-world knowledge and specific uses of language with the integration of technology and task-based activities in class as well as making it possible to practice English via several active learning tasks, such as role-plays, simulations, games, discussion, and presentation in ESP classes (Sakulprasertsri, 2017). As for teaching language skills, flipped learning is considered to provide EFL teachers with many advantages, including carrying out communicative activities more in class through teaching grammar via online tools outside the classroom (e.g. Correa, 2015; Nguyen, 2018; Webb & Doman, 2016); improving learners' collocation skills (e.g. Alnuhayt, 2018; Suranakkharin, 2017); enhancing learners' willingness to communicate and improving learners' speaking skill (e.g. Hung, 2015, 2017a; Lee & Wallace, 2018; Lin & Hwang, 2018); increasing learners' listening skill proficiency due to the high number of chances to listen to English in individual space (e.g. Ahmad, 2016; Leis, 2016); enhancing learners' reading comprehension (e.g. Chavangklang & Suppasetsee, 2018; Karimi & Hamzavi, 2017); facilitating learners' composition skills due to receiving constructive feedback from their teacher in class sessions (e.g. Engin & Donanci, 2014; Pavanelli, 2018); boosting EFL learners' proficiency and academic achievement in English (e.g. Başal, 2015; Engin, 2014; Hung, 2015; Hung, 2017b; Lee & Wallace, 2018); supplying learners with more time to internalize knowledge before applying it, and thus, encouraging deeper thinking (e.g. Boyraz & Ocak, 2017; Choe & Seong, 2016; McKeown, 2016; Sun, 2017; Zainuddin, 2017).

As seen in the related literature, teaching ESP in a flipped learning environment seems to pave the way for learners to acquire content knowledge in individual space and master that knowledge and improve skills via active learning in group space. It is because flipped learning provides individualized instruction that is compatible with the emerging learning culture and renewed needs of the 21st century's ESP learners, appealing to the expectations of learners from the varied language learning backgrounds, attention span and learning speed. However, to the knowledge of the researchers, analyzing the existing literature on empirical ESP research conducted in flipped learning approach, it seems that related research is scarce when compared to the studies conducted in English for General Purposes (henceforth, EGP) courses. Additionally, in the narrow literature on ESP teaching in EFL flipped learning settings, it is observed that no studies are found in Turkey's EFL context. Therefore, to comprehensively evaluate the dynamics of the flipped learning environment in ESP teaching practice in EFL settings, further empirical data is needed so that ESP practitioners can upgrade their teaching practice while adopting the flipped learning approach in their EFL contexts. The knowledge drawn from such experience seems to contribute to ESP practice in EFL environments on the development of technologically integrated innovative approaches that are appealing to today's ESP learner profile.

As for the current study, one of the researchers, who will be mentioned as 'the teacher-researcher' throughout the article, had several challenges in her EOP course at a pharmacy faculty in an EFL setting, including limited chances to practice pharmaceutical communication skills outside the class; the lack of

authentic ESP materials for pharmaceutical purposes suitable for her students' language level and contextual needs; and finally, various English proficiency levels of learners who needed a great deal of language support to handle pharmaceutical tasks in English. To deal with these contextual challenges, the teacher-researcher decided to design an ESP course that is the combination of an EOP course and an EAP course due to the amount of language support learners needed as well as transforming instruction for individualized language learning in overcrowded EFL classrooms. As a result, the teacher-researcher aimed at implementing an English for academic pharmaceutical purposes (henceforth, EAPP) course in a flipped learning environment to achieve differentiation in the learning environment for pharmaceutical English learning purposes.

With the abovementioned purpose in mind, this study was based on a part of the doctoral dissertation (İlter, 2020), the purpose of which was to conduct an action research study in collaboration with learners, faculty members and instructors of English at a faculty of pharmacy to design a syllabus for teaching EAPP in a flipped learning environment. Within the narrow scope of this article, however, to point out that flipped learning strategy may be a spot-on solution in ESP teaching, especially in EFL environments with contextual disadvantages mentioned above, and thus, to highlight the flipped learning dimension of the proposed EAPP syllabus, the implication of flipped learning strategy is given priority in this paper.

Since the evaluation of the flipped learning practice was realized in collaboration with learners during and after the implementation process, the purpose of this article is to contextualize a flipped learning environment for ESP learners at the faculty of pharmacy, considering learners' suggestions and the teacher-researcher's field notes and benefitting from the collaboratively problem-solving processes of action research. To achieve the purpose of the study, the following research questions are sought to be answered in the analysis of the data gathered during an action research process:

1. What are the pedagogical dimensions of the flipped learning environment in terms of teaching EAPP?
 - 1.1. What are the strengths of the flipped learning environment in terms of teaching EAPP?
 - 1.2. What are the weaknesses of the flipped learning environment in terms of teaching EAPP? How can these weaknesses be overcome?
2. What are the views of the learners towards learning EAPP in a flipped learning environment?
 - 2.1. What are the strengths of the flipped learning environment in learning EAPP?
 - 2.2. What are the weaknesses of the flipped learning environment in learning EAPP? How can these weaknesses be overcome?

3. Methodology

3.1. Research Design

To serve the research purpose of designing a flipped learning environment at the faculty of pharmacy, where the teacher-researcher challenged her practices as a teacher and made a difference in her teaching environment via reflective thinking, the current study was designed as first-person (Reason & Bradbury, 2008, cited in Güler, Halıcıoğlu & Taşgın, 2013) / practical (Creswell, 2005) action research. McNiff, Lomax and Whitehead (1996) emphasize that the purpose of a first-person/practical action research is to change one's thinking, behaviours, and feelings toward a particular issue raised; and to improve their professional approach in this influence area. To do this, action researchers keep records of their practices with the help of reflective thinking. As they emphasize the practice rather than a clear and successful outcome, the action research is set as an example for other practitioners as well to learn from the challenges and good practices and apply them to their settings by putting reflective thinking into it. Accordingly, in

this study, the spiral of the action research cycles offered by Yıldırım and Şimşek (2013, p. 336) was followed as the methodological framework of the study, as Figure 2 illustrates below:



Fig. 2. The process of action research (Yıldırım & Şimşek (2013, p. 336)

3.2. Setting

This study was conducted in the teacher-researcher’s ESP teaching context of an EOP course in the third year of study at the faculty of pharmacy of a medium-sized university in the eastern part of Turkey. The study was implemented in the 2017-2018 academic year; more precisely, the implementation and evaluation of the action plan were realized in the spring semester. The implementation lasted for 12 weeks and was realized in two certain platforms for learning: individual and group space. Group space activities were handled either in a classroom; or in a computer lab, depending on the course content, large enough for 38 learners to have a seat. As for the individual space learning of the flipped class, the teacher-researcher used Edmodo as the LMS of the course. Besides, the lecture videos were prepared via the Edpuzzle platform. In the current study, students could have access to course videos on Edmodo with an Edpuzzle link shared on the course page on Edmodo. Additionally, Kahoot was used in group space learning either for presenting new content, practising them or for assessing newly learned items of content or language.

3.3. Data Collecting Tools

In the current study, different types of data collection tools served as parts of a jigsaw puzzle, dimensions of which added to the understanding of the phenomenon in question, and what could be done best to find remedies for problematic situations. In this study, data triangulation is adapted to the research design. That is, multiple sources of data were used to achieve a deeper insight into the phenomenon as seen in Figure 3 below:

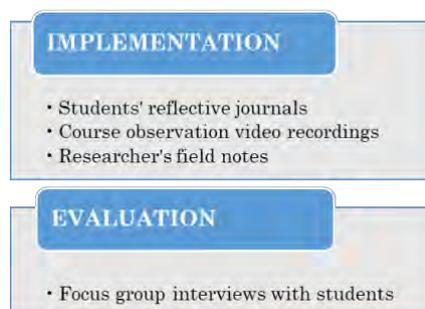


Fig. 3. Data collection tools of the current study

As seen above, the data collection of the present study was realized at two phases; that is, the first phase was realized as the formative assessment of the flipped learning implementation; and the second phase was done at the end of the implementation to decide on the revised version of the first implementation. A detailed explanation of the design and application of each data collection tool used at these two phases are explained below.

3.3.1. Students' reflective journals

In the current study, the learners were asked to keep reflective journals at the end of units during the term, which helped the teacher-researcher to keep track of the outcomes of her actions both in individual and group space in the eyes of the students. The students were asked to note down their likes, dislikes and suggestions for the content, lecture videos and group space activities of each week. Analyzing these reports, the teacher-researcher led mini action plans to improve the flipped instruction formatively throughout the implementation. This methodology also supported the professional development of the teacher-researcher in finding immediate solutions to the problems that appeared during the term, or in improving the activities and lecture videos for the better, taking into consideration the demands and needs of the students.

3.3.2. Course Observation Video Recordings

The rationale behind the video recording of the implementation of the flipped class was that this could help the teacher-researcher realize whether or not she behaved in contradiction with her values and beliefs about teaching (McNiff et al., 1996). This enabled reflective practice during and at the end of the implementation, which led to a constant improvement of weekly instruction. During the 12-week flipped learning implementation, every three class hours (50 minutes per session) were video-recorded weekly, which created twelve 150 minute-class sessions, that made 1800 minute-video-record at the end of the term. The teacher-researcher did not only watch these videos during the term but also at the end of the term to decide on which tasks were useful in teaching EAPP as well as how flipped learning instruction could be integrated with the designed EAPP syllabus. During the analysis of the observations, the teacher-researcher used NVivo 11 Pro, by this means, the teacher-researcher could integrate her observation notes nearby with the related video segments, and thus, she could capture the moments that provide meaningful data to evaluate the syllabus in action, through which an outsider look was attained by an insider.

3.3.3. Researcher's Field Notes

As suggested by McNiff et al. (1996), researchers' intentional diary keeping for the reflective practice of their action research helps them to create a time-line for events with their context; to make thick descriptions of the actions taken in the process; to serve as raw data to be analyzed in making sense of the decisions made during the implementation; and to show the development of the action research, including personal reflection of successful and failed actions realized with some personal and professional learning emerged during the process. Accordingly, the teacher-researcher kept a journal during the term to write down the field notes to be used whenever an action needed to be taken. Similarly, she made use of these personal notes during the data analysis process to generate meanings from the events as a reflective practice.

3.3.4. Focus Group Interview with Students

Bogdan and Biklen (2007) recommend preferring focus group interviews to individual interviews when the researcher thinks that informants may not talk so attentively about an issue in individual interviews; in such cases, in focus group interviews, participants feel more relaxed to express their opinions as talking in a group may stimulate talk for oneself. Accordingly, the teacher-researcher held 4 focus group interviews with 9 to 10 students per group (n= 38) at the end of the term. These interviews included 4 questions to find out students' likes, dislikes and suggestions on the pharmaceutical content and the flipped learning instruction; the focus group interviews took 1 or almost 2 hours, and they were recorded via a video camera after taking permission from the participants. In the focus group interviews, each student was given a right

to comment on the syllabus and flipped instruction managed during the term as well as on their classmates' speeches, which enriched the data gathered during the interviews. The data obtained from the focus group interviews helped the teacher-researcher adapt the pharmaceutical content, related activities and linguistic elements of the designed syllabus to learners' demands and needs.

3.4. Participants

The participants of the study were composed of 38 students at the faculty of pharmacy and the teacher-researcher who conducted the action study in her institution. The rationale behind choosing the participants is the criterion sampling that falls under the purposeful sampling strategies (Patton, 2002). Since this action research aims to create a flipped EAPP syllabus for pharmacy students, the student participants were intentionally chosen to meet the criteria of learning English for pharmaceutical purposes. The 38 student participants were in their third year of study at the faculty of pharmacy, which was the first year for them to take EOP courses. The EAPP course designed in the current study was aimed at the pre-intermediate level of English proficiency to find a balance between struggling and high achieving students. Besides, the teacher-researcher involved in the study as the action research practitioner since she was the teacher who handled the research in her institution to improve her teaching practice and bring a change to the existing syllabus of the EOP course.

3.5. Data Analysis

The teacher-researcher followed Creswell's (2005) model on the inductive process of data analysis via NVivo 11 Pro qualitative data analysis software program. Accordingly, the teacher-researcher conducted the data analysis as in the following steps suggested by Creswell (2005): 1) Preparing data for analysis in folders in NVivo; 2) Examining the data thoroughly to determine meaningful units, relying on what participants suggested to find answers to the research questions; 3) Coding the data by providing a code label for selected parts of the files; 4) Searching for similarities and differences among coded texts and reorganizing the overlapping codes when necessary; 5) Depending on the codes, generating categories and related themes while disregarding the irrelevant data from the scope of findings; 6) Drawing conclusions with verification of data by looking for patterns within the findings since the beginning of data collection, and inductively generating conclusions as analysis proceeds.

3.6. Trustworthiness of the Study

In qualitative research, the term 'trustworthiness' is achieved through a series of treatments, which are termed as 'credibility', 'transferability', 'dependability' and 'confirmability' that are respectively corresponding to the terms 'internal validity', 'external validity', 'reliability', and 'objectivity' in quantitative research methodology (Yıldırım, 2010). Accordingly, to achieve 'trustworthiness' in this study, as seen in Table 1 below, the following methods are used.

Table 1.

Trustworthiness Measures of the Study

CRITERIA	QUALITATIVE RESEARCH	METHODS USED IN THE STUDY
The exact representation of reality with research results	Credibility	<ul style="list-style-type: none"> • Data triangulation • Longitudinal participation • Constant observation • Peer/ expert review • Researcher's self-reflection • Deviant case analysis
Application of research results to other settings	Transferability	<ul style="list-style-type: none"> • Thick description
Achieving consistency within the study	Dependability	<ul style="list-style-type: none"> • Data triangulation • Peer/ expert review • Researcher's self-reflection

		<ul style="list-style-type: none"> • Research journal • Reaching the saturation point • Using NVivo 11 Pro for data analysis
Being unbiased in research reports	Confirmability	<ul style="list-style-type: none"> • Researcher's self-reflection • Recording data via electronic devices • Using low-inference descriptors in the findings section

3.7. Research Procedures

As McNiff et al. (1996) suggest, in the centre of action research lies the action committed by the researchers' professional values; one that is informed by their considerations, and one that is intended to achieve the researcher's aims. Data gathered in parallel with the implementation of the action are meaningful only when the researchers themselves can make sense of them, taking into consideration the research aims, reflecting on their practices and evaluating the overall process to generate a further action plan for the ideal answer to the need aroused. Therefore, the teacher-researcher conducted a monitoring process in parallel with the action being implemented. By doing so, it became possible for the teacher-researcher to take a formative assessment of her practice so that she could make necessary adjustments accordingly (see Table 2 below).

Table 2.

Data Collection Procedure

Research Questions	Related Tool	Data Collection Period	Phase
RQ1. What are the pedagogical dimensions of the flipped learning environment in terms of teaching EAPP?	Students' reflective journals Researcher's field notes Course observation video recordings	The weeks between the 2 nd -15 th weeks of the spring term	Implementation
RQ2. What are the views of the learners towards learning EAPP in a flipped learning environment?	Focus group interviews	The two weeks just after the end of the spring term (16 th & 17 th weeks)	Evaluation

In the very first week of the beginning of the term, the teacher-researcher explained to the students that she aimed at teaching the EOP course as the implementation of her study and that their roles as participants would determine the outcome of the study via supplying their feedback throughout and at the end of the term. The students were asked for their consent to take part in the process as the participation was on a volunteer basis. The teacher-researcher always highlighted the importance of the students' role as participants not only during the term when they were asked to keep reflective journals to express their opinions freely without writing their names on the papers but also during the focus group interviews handled at the end of term when they were asked to criticize the implementation.

In the implementation phase, the teacher-researcher recorded the 12 weekly three-class-hour courses via a video camera; kept field notes and asked the participants to keep reflective journals on their experiences of flipped learning during the term. To support the data gathered from the video recordings of the class sessions, the teacher-researcher kept field notes as well whenever a need, a problematic issue or any new idea arose throughout the term to use for the evaluation of the syllabus formatively. Depending on the diversity of the unit content, almost every Saturday or every second Saturday during the term, the teacher-

researcher uploaded the lecture video(s) to the Edpuzzle and shared the link to the video(s) on the Edmodo platform. The students were asked to interact with the lecture videos before the class. When they came to class, related activities of that unit’s task were done; actually, most of the in-class time was spent on realizing the task of that specific unit. Some pre-supposed timing of the syllabus schedule changed as the term went on partly because the students needed some language support more than expected and partly because the content and/or the task required more or less time than planned. At this phase, the cyclical actions took place; that is, planning, acting, observing and reflecting stages were followed in designing lecture videos, tasks and related activities in and out of the class. That is, the teacher-researcher made necessary modifications to the implementation when needed, relying on students’ feedback and the field notes she took during the term.

When the implementation finished, the teacher-researcher held 4 focus group interviews with 38 students in 4 different groups of 9 to 10 students per each group to understand their experience in flipped EAPP course which helped the teacher-researcher have multiple perspectives to revise and improve the elements of flipped instruction. Additionally, she watched the 12-week video recordings of the implementation supported by her field notes and students’ reflective journals with the data gathered from the evaluations made by the students at the end of the term. This triangulation of data enabled the teacher-researcher to see the multifaceted reality of her implementation of the flipped class during the term and to suggest a better version of a flipped English class for students of pharmacy.

4. Findings and Discussions

The findings on the implementation of flipped learning strategy were examined with references to the participants’ responses to the research questions mentioned above, answering the main question “What are the strengths, weaknesses and suggestions to overcome the weaknesses of the flipped learning implementation?” under the two themes, ‘individual space learning’ and ‘group space learning’. The main categories are shown under these themes in Figure 4 below. In the following paragraphs, the implementation process of the flipped learning strategy is evaluated from the learners’ points of view and the teacher-researcher’s field notes and discussed with references to the related literature.

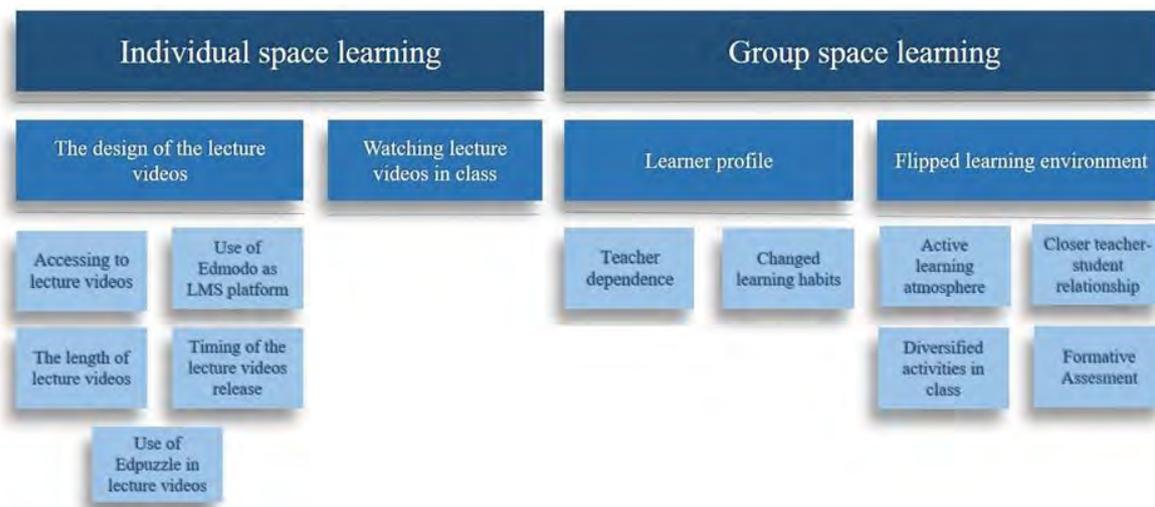


Fig. 4. The themes and categories emerged from the evaluation of the flipped learning implementation

To make the findings reader-friendly and to ensure the confidentiality of the participants’ identities throughout this paper, a specific reference scheme was used to address to learners, who were interviewed in groups of ten in separate four focus group interviews, e.g. Learner X1, Learner E2, etc., as well as pseudonyms, e.g. Kerem, etc. In Table 3 below is found the specific reference scheme used to refer to

learners while excerpting their comments in the findings. To illustrate, if a learner was involved in the first focus group interview, they were referred to as in the following possibilities, Learner E1, Learner M1, Learner X1, etc. while if they were involved in the third focus group interview, they were referred to as Learner E3, Learner M3, Learner X3, etc.

Table 3.

The Reference Scheme of Learners in the Findings

Learners	E	S	P	H	A	R	M	Y	C	X
Focus group interview	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4	4	4

4.1. The Individual Space Learning of the Flipped EAPP Course

As mentioned above, the findings on the individual space learning appeared in two main categories: the design of the lecture videos and watching lecture videos in class, as seen in Figure 5 below, each of which will be dealt with and discussed respectively with references to the teacher-researcher’s field notes and the learners’ responses as well as the references to the related literature.

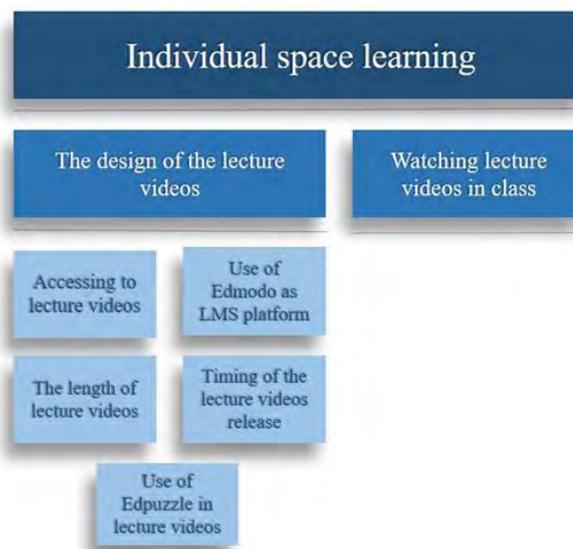


Fig. 5. The categories and subcategories emerged from the theme ‘individual space learning’

4.1.1. The Design of Lecture Videos

4.1.1.1. Accessing to lecture videos

Accessing lecture videos was a problematic issue for some learners in the study, which required a change in the implementation over time. At the beginning of the term, the teacher-researcher recorded and released lecture videos on the LMS platform supplied by the distance education centre of her institution. The LMS platform could enable lecturers to create synchronous or asynchronous online courses where they could share documents and lecture videos, which were also recorded and released on the LMS, with learners. In the present study, some of the learners could watch the asynchronous online courses with no difficulty; however, there was a group of learners who either had problems with system incompatibility between their smartphones and the LMS or did not have a personal internet connection on their smartphones or Wi-Fi connection in the places where they lived; therefore, it was difficult for them to watch videos before coming to class. In the anonymous learner journals gathered during the first few weeks, some learners mentioned

that it was not practical for them to watch videos on the LMS as it was mostly impossible to use that platform via their smartphones at that time:

“It is difficult for me to reach the lecture videos as I do not have a personal internet connection nor do I have a PC.” [Anonymous learner journal]

“I had difficulty in watching the videos because of internet connection problems where I stay.” [Learner P1]

One of the learners also suggested receiving all the lecture videos and related printed documents at the beginning of the term so that there will not be such accessing problems:

“The course content may be given to us as a package; similarly, the videos may be delivered to learners at first via a flash drive because the internet connection is a huge problem. The internet connection problem will be overcome this way. If the printed documents and the videos should have been given to us at the beginning it would be more efficient.” [Learner A3]

This suggestion may be realized by uploading all the lecture videos beforehand to the online class rather than releasing them week by week as was the case with the present study. Similarly, the problem of learners' adaptation to flipped content delivery has been seen in the findings of the previous literature (e.g. Ahmed & Asiksoy, 2018; Akçayır & Akçayır, 2018; Çevikbaş & Argün, 2017; Ekmekçi, 2017; Roehl, Reddy & Shannon, 2013). The struggle with the use of new technologies especially at the very beginning of the transition to flipped learning has been experienced by various researchers as well (e.g. Boyraz & Ocak, 2017; İlic, 2021; Turan & Akdag-Cimen, 2019; Webb, Doman & Pusey, 2014). In such cases, the related literature proposes choosing user-friendly technologies if possible and/or sharing lecture videos through flash drives at the campus (e.g. Bergman & Sams, 2012; Chen, Wang, Kinshuk & Chen, 2014; Long, Cummins & Waugh, 2019; Mehring, 2018). As for the present study, after seeing that sharing videos through the LMS supplied by the university became problematic, the teacher-researcher searched for alternatives, and finally, discovered that Edmodo was more practical as an LMS platform and switched to it immediately rather than using the LMS platform supplied by her institution and delivered lecture videos, which she created using a screencastifying program, on Edmodo.

4.1.1.2. Use of Edmodo as the LMS platform

As the LMS platform supplied by the teacher-researcher's institution was not user-friendly for some learners due to some system incompatibilities with their android devices, etc. as mentioned above, the Edmodo platform was preferred to communicate with learners and share course content documents as well as allowing learners to send their assignments through it. Similarly, the teacher-researcher sent the lecture videos she created to the Edmodo page of the class so that learners had immediate access to the lecture videos. Learners also stated that they benefitted from the Edmodo platform to have access to course documents and lecture videos and to communicate with their teacher and classmates more easily:

“Rather than teachers instructing the course content on the board, these lecture videos were more beneficial. Meeting online and in the class were better and this reinforced learning. For those who love spending time online-me for example- this strategy was better. I wondered what your videos included, or what you put on Edmodo, like using social media.” [Learner E3]

“In exam weeks, I almost always lose my course notes. I didn't feel such anxiety to lose my notes as I could reach them on Edmodo. It was very good for me to be organized.” [Learner P4]

Highlighting the efficiency of using Edmodo in a flipped learning environment to interact with students outside the class, to share documents, to engage in course content before coming to group space and to increase learner autonomy, similar results were reported in the related literature (e.g. Erdemir & Yangin-Ekşi, 2019; İnsani, Suherdi & Gustine, 2018; Öznacar, Köprülü & Çağlar, 2019; Purnawarman, Susilawati & Sundayana, 2016; Rochmahwati, 2014; Serafim & Meireles, 2019). After all, Edmodo in a flipped

classroom may be considered useful and effective to a large extent as it creates an interactive and collaborative digital learning environment.

4.1.1.3. *The Length of Lecture Videos*

At the very beginning of the term, the teacher used to record relatively long videos for learners. However, learners asked for shorter videos that contain the core of course ideas instead of unnecessarily long videos. At first, the lecture videos were longer than 15 minutes, which is reported to be the case for many teachers who tried flipped learning for the first time (Akçayır & Akçayır, 2018, 340). As emphasized in the related literature, students found the long lecture videos boring and they lost their attention in the related topic (e.g. Başal, 2015; Campbell, Planinz, Morris, & Truitt, 2019; Ekmekçi, 2017; Gilboy, Heinerichs & Pazzaglia, 2015; Turan & Göktaş, 2015), which was also expressed in the present study by the learners themselves in their journals and focus group interviews as in the following:

“When the videos are long, I have difficulty watching them because of the low internet connection.” [Anonymous learner journal]

“When I had a look at your first videos on the LMS system, as they took time, I got bored, and I decided not to watch the videos in the very beginning. It was good that you shortened the videos. Now the lecture videos are clear and short, so I do not face any difficulty in watching them.” [Learner C1]

On the issue of shortening the length of lecture videos, Correa (2015) suggests keeping the duration of video lessons less than 15 minutes and avoiding monotony by using multimedia as well as asking students to take notes or answer short questions in a short online quiz, for instance, to keep learners active and engaged in lecture content. In addition, Campbell et al. (2019) suggest optimizing video length by adding instructor notes in the forms of preview and/or highlights; breaking down the video into shorter parts to deliver key points piece by piece, and embedding meaningful questions to increase student engagement while watching lecture videos. Having collected learner journals at the end of units on learners' own experiences of the flipped class during the implementation, the teacher-researcher took into consideration the suggestions made by the learners who demanded shorter lecture videos that contain the core of the course content. Therefore, after conducting a meticulous search for interactive video sharing platforms, she switched to the Edpuzzle platform to design more engaging and interactive lecture videos in shorter lengths.

4.1.1.4. *Use of Edpuzzle in Lecture Videos*

Concerning the issue of the length of lecture videos, the teacher-researcher contemplated on creating interactive lecture videos, and she discovered Edpuzzle, where videos either curated from the video-sharing platforms, such as YouTube or Khan Academy or created by the teacher, can be tailored by teachers via embedding multiple-choice and open-ended questions, trimming and voicing over lecture videos. While watching the lecture videos, learners answer the suddenly-appearing questions on Edpuzzle in the course of a video stream, and by this means, they interact with the content rather than passively watching the videos. Here the teacher-researcher observed that the learners found Edpuzzle more interesting and informative for interacting with the content of the lecture videos:

“When the learners are asked questions on video content, they want to learn more. The question-and-answer method is more informative. Even if a student does not know the answer, when they see the answer, they will remember it more.” [Learner C3]

“Edpuzzle videos are better because you give your attention as questions will suddenly appear, and you want to answer them correctly. That will be in your mind.” [Anonymous learner journal]

Similarly, in the related literature, Edpuzzle was found to be effective (e.g. Bakla, 2017; Campbell et al., 2019; Zou & Xie, 2019), in that it makes it possible for learners to understand the key information of the

videos whenever a question arises as a sign of an important point in the content, and thus, they get more motivated to learn, which leads to better learner autonomy while engaging in individual space activities.

4.1.1.5. *The Timing of Lecture Videos Release*

As is the case with the first attempts to transition to flipped learning, the timing of the video release has also been an issue for practitioners (e.g. Turan, 2015; Schwartz, Andridge, Sainani, Stangle & Neely, 2016). Therefore, the teacher-researcher searched for alternatives to help the learners who had difficulty watching lecture videos before the class, which also affected the flow of the course. Then the timing of the release of the lecture videos appeared to be very crucial in this process, which was reflected in the teacher-researcher's field notes below:

“I now see that releasing lecture videos in time means a lot in this strategy. It is because each student has different time schedules, and they need time to watch the videos and get prepared beforehand. As a teacher, I may also have shared all the lecture videos at the beginning of the term so that some fast-paced learners would not get bored, and they could have access to the lecture videos long before the schedule reached that content. It would also be useful to enable the learners to have a general view of the course syllabus.” [The researcher's field notes, February 21st, 2018]

Some learners also expressed that the timing of video release was crucial in their watching videos beforehand as seen in the following:

“If you could prepare the content at the beginning of the term after the courses finished every week you could release the videos, maybe we could watch the videos during the week.” [Learner X4]

“When you upload the lecture videos, we had better receive notifications, and the timing of the video release should be at a specific time on a specific day of the week.” [Learner S3]

Turan (2015) suggests releasing lecture videos at least one week before group space activities to enable them to schedule their time to engage in group space activities as much as possible. In that sense, it can be claimed that the earlier the better principle is at work when it comes to video release. Moreover, Schwartz et al. (2016) argue that although both approaches have merits to advocate (i.e., “releasing the entire content at once versus releasing it module by module”), it is found out in their study that the gradual release of materials enables instructors to be more flexible to adapt their course content to the current class. Similar to Turan (2015), Schwartz et al. (2016) recommend releasing current course materials before the face-to-face sessions of the following week course content so that with the flexibility they have, learners will be able to arrange their busy weekly schedule across other courses and responsibilities to engage in individual space activities before attending group space sessions.

In sum, it is concluded that at the tertiary level, when the lecture videos are kept shorter than 15 minutes; released almost a week before face-to-face sessions; delivered through customized video sharing platforms, such as Edpuzzle, where learners are engaged in lecture videos rather than passively watching them; and shared on a user-friendly LMS platform like Edmodo, learners are more likely to participate in individual space learning activities.

4.1.2. *Watching Lecture Videos in Group Space*

Emerged from the category, ‘individual space learning’, the findings under the subcategory, ‘watching the lecture videos in group space’ will be presented and discussed with the related literature below. In the course of time, the teacher-researcher observed that learners at the faculty of pharmacy needed their teacher's support more than expected to help them understand the lecture videos; and that relatively a small majority of the class frequently kept watching the lecture videos while for others this was not the case due to time constraint for their intensive course schedule changing biweekly at the faculty at that time.

Therefore, the teacher-researcher spared some class time for such learners to watch the videos in class before doing related exercises. Below are her observations on the issue:

“As some learners do not watch lecture videos before the class, I have to let them watch the videos in class time, which interferes with the idea of delivering the content to the learners for the first time in individual space. On the other hand, for learners who did not come to class for a certain week, lecture videos have been beneficial to keep them connected to the flow of the course.” [The researcher’s field notes, February 28th, 2018]

Similarly, the learners stated that watching lecture videos was more difficult and took more time for them to understand when compared to watching them in assistance with their teacher in class. They liked to take notes and study for them with their peers:

“When we watched the video with you again in class today, we remembered the new words more easily then. When we watch it alone at home, it takes more time, we cannot go deeper. Besides, even if the words belong to our area of study, we don't understand them in English. But with you helping us to understand the video, that course was very efficient for me.” [Learner H3]

Even if there was a group of learners who kept watching lecture videos from the very beginning, over time, partly because of some learners’ low proficiency in English to understand lecture videos, and partly because of the limited time due to their biweekly changing schedule, some learners made the habit of coming to class unprepared, which resulted in their watching lecture videos in class, and this transformed the traditional flipped class into a partly in-class flip by itself. In the beginning, the teacher-researcher thought this process was an unsuccessful attempt of a flipped class; however, as a part of the action research, she searched for the alternatives of flipped class implementations. At the end of the term, she had a clear idea in her mind that an alternative for such a student profile would be an “in-class flip” as a response to the unique needs of the learning culture. In-class flip- a term coined by Jennifer González (2014)- is an alternative for teachers who have tried flipped learning but ended up with having their learners coming to class unprepared as well as for those whose school regulations require a no-homework policy. As clarified by Ramirez (2018) in-class flip refers to learners having access to content delivery through one of the stations in class and applying what they have learnt within other application stations in class; that is to say, teachers bring individual space activities into the class by making use of a stations-set up. This station configuration is seen as a combination of flipped learning, as the content is delivered through lecture videos or other kinds of media, and station-rotation model, as learners rotate the stations where various kinds of activities are handled to complement content learning and/or skill mastering (Tucker, 2016). While the students who have engaged in individual space learning before coming to class may skip the flip station(s) and continue with the practice stations in group space, those who need to cover content may again visit flip stations in the classroom. Depending on the course content, learning outcomes, or class size, the configuration may vary. As González (2014) points out, through in-class flipping, teachers are able to make sure whether the learners are exposed to initial lecture content as they watch the lecture videos in class settings. Likewise, teachers can respond to their students’ immediate questions while learning lecture content for the first time. All in all, through in-class flipping, flexibility can be gained to address differentiation among students in terms of not only learner characteristics, such as language background or attention span, but learning culture as well, such as needing a knowledgeable person to support their learning, or resisting pre-class work, while implementing the flipped learning strategy.

4.2. The Group Space Learning of the flipped EAPP Course

As mentioned earlier, the findings on the group space learning appeared in two main categories: ‘Learner profile’ and ‘flipped learning environment’, subcategories of which are shown in Figure 6 below, each of which will be discussed below respectively with references to the teacher-researcher’s field notes, the participants’ comments and the previous research in the related literature.

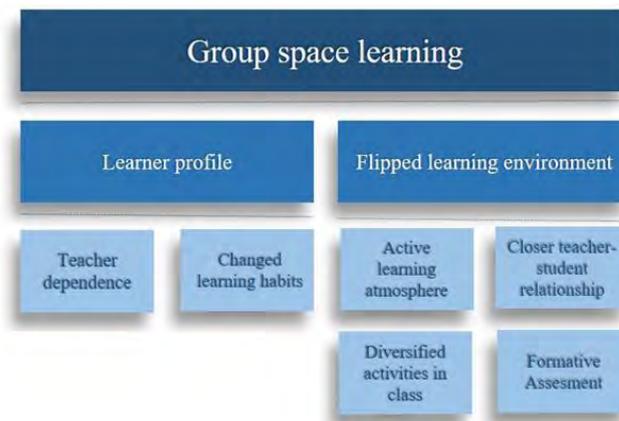


Fig. 6. The categories and subcategories emerged from the theme ‘group space learning’

4.2.1. Issues Related to Learner Profile

Having analyzed the participants’ responses and the teacher-researcher’s field notes, the findings that emerged from the subcategory, ‘learner profile’ will be presented and discussed with the related literature in the following paragraphs.

4.2.1.1. Teacher Dependence

Learners showed a tendency towards being delivered the course content in class via teacher leading. Even if they loved the idea of lecture videos, it took time for them to get used to watching the lecture videos without teacher counselling before coming to class. It is observed that learners held a strong dependence on their teacher while learning new content for the first time; in other words, they were used to traditional content delivery:

“I don't like watching videos, I like the teacher telling me the content, and I like taking notes while listening to the teacher, and I study for my notes later. When a PC or smartphone is used in content delivery, I cannot concentrate. I should have the document of the lesson with me and the teacher in front of me teaching me to learn the content.” [Learner X2]

The teacher-researcher also challenged herself on continuing to be the guide on the side in her new flipped teaching environment rather than having the central role in content delivery as in the past:

“Even if all the learners complained about the traditional system of instruction, they got used to that system so much that they went on their old learning habit; expecting whole class instruction and being led by the teacher. [...] I now think that as we challenge ourselves to become a flipped teacher, we had better always remind ourselves that we are about to change our old habits as a teacher in traditional class as well [...] by letting learners lead their learning.” [Researcher field notes, April 25th, 2018]

Similarly, in the related literature, learners initially showed resistance to flipped learning model as they were not receptive to new ways of teaching, and thus, they viewed teacher-led instruction as superior to lecture videos due to their past rigid learning habits, which is depending on their teacher in content delivery (e.g. Ahmed & Asiksoy, 2018; Chen, et al., 2014; Doman & Webb, 2016; Elmaadaway, 2017; Long, Cummins & Waugh, 2017; Roehl, et al., 2013; Sams & Bergmann, 2013; Webb, Doman & Pusey, 2014). Therefore, learners can show some resistance to change due to established passive learning habits, and they may have some adoption problems (e.g. Ahmed & Asiksoy, 2018; Gasmi, 2016; Long, Logan & Waugh, 2016; Long, et al., 2017; Mehring, 2015; McNally et al., 2017; Nguyen, 2018; Sun, 2017; Zainuddin, Haruna, Li, Zhang & Chu, 2019). In such cases, Long, et al. (2019) suggest helping learners to form flipped

learning habits by teaching them some self-directed learning strategies. In such situations, it is suggested to help learners adopt active learner habits through self-directed learning strategies, such as giving immediate feedback on their submissions, and compliments upon their accomplishment, etc.; encouraging learners to make decisions on their learning by asking them to write what difficulties they faced during learning and what they suggest to overcome these via brainstorming; and gradually switching to flipped learning model with less amount of pre-class work and less challenging in-class work (Bergmann and Sams, 2012; Chen et al., 2014; Elmaadaway, 2017; Long, et al., 2019; Mehring, 2018). It can be concluded that having gradually gained such active learner habits, basically having self-regulation in their learning, and slowly taking control of learning itself with gradually increasing workload, learners may acquire the necessary active learner skills more easily as they engage in the flipped learning environment in each intervention group.

4.2.1.2. *Changed Learning Habits*

Even though the learners in the study were reluctant to engage in either individual space activities, or in group space activities that require more workload on behalf of the student, and thus, caused resistance to change their old learning habits, there was an increasing number of learners who mentioned a change in their learning habits in the flipped learning environment with time:

“As the flipped method is based on individual learning, I can say I started to learn in class this time. I am glad that as learners we are active in class.” [Anonymous learner journal]

Learners also expressed that coming to class getting prepared beforehand helped them learn the content better:

“Rather than just listening to someone telling me the course content in class, I put effort to learn something about a topic, which was very efficient to learn something.” [Learner S4]

Learners also stated that the chance of listening to the course content whenever suitable for them was also an advantage during the term:

“When I do not understand a part of the lecture video, I rewind the video stream, or when I get bored, I stop the stream and watch it later, so the content delivery becomes more efficient for me.” [Anonymous learner journal]

Learners also remarked that the content delivery outside the class saved in-class time for doing tasks:

“We save time for making a lot of exercises in class via listening to content delivery outside the class.” [Anonymous learner journal]

The study results on learners' satisfaction with the flipped learning environment are in line with those in the related literature as well. As is the case with the students in the present study, learners were pleased with the outcomes of this new learning strategy, which are better preparation for the course (e.g. Başal, 2015; Boyraz & Ocak, 2017; Kocabatmaz, 2016; Turan, 2015); more time for practising contextual skills and content knowledge in group space (e.g. Adnan, 2017; Çalışkan, 2016; Çevikbaş & Argün, 2017; Filiz & Benzet, 2018; Gilboy, et al., 2015; Kocabatmaz, 2016; Nguyen, 2018; Turan, 2015; Webb & Doman, 2016); self-paced learning (e.g. Başal, 2015; Chen Hsieh, Wu & Marek, 2017; Çetin- Köroğlu & Çakır, 2017; Hung, 2015); and easier comprehension of the content (e.g. Choe & Seong, 2016; McKeown, 2016; Sun, 2017; Zainuddin, 2017; Boyraz & Ocak, 2017; Kocabatmaz, 2016). Even though it took time to develop active learner habits in the flipped learning environment, the learners in the current study emphasized a change in their learning culture as the time they spent in the flipped class increases.

4.2.2. *Issues Related to the Flipped Learning Environment*

Having analyzed the participants' responses and the teacher-researcher's field notes, the findings under the subcategory, 'flipped learning environment' will be presented and discussed with the related literature below.

4.2.2.1. *Active Learning Atmosphere*

Learners engaged in practising the flipped content and strove to master the occupational tasks in the group space. They were pleased with the active learning environment of the flipped class:

“In a traditional class, we feel that the proficient students keep the course busy and let it go, we do not feel obliged to participate in class activities. But now, as we study individually, we feel the need to do it as our work in class will help us learn.” [Learner Y4]

Learners stated that by dealing with the pharmaceutical tasks actively in class time, they acquired the necessary knowledge and ability to perform certain tasks in their field:

“We spent hours to finish the tasks in class. I think we remember some words from these tasks now. Dealing with the tasks in the class led us to attend courses more.” [Learner C4]

“I think this flipped method that is based on practising language skills in pharmaceutical content helps us remember what we learn more easily, which also makes it more enjoyable and catchier”. [Learner M2]

Additionally, the majority of the learners stated that they enjoyed and benefitted from the flexible environment of the class:

“The class atmosphere was not tiring, that was good for us. The format was enjoyable and different from the traditional style.” [Learner Y2]

“The flexible class environment, in which learners work in groups and are free to ask questions one another when they have questions, makes them relax and feel free from stress. That atmosphere is good to stimulate their learning.” [Researcher field notes, April 25th, 2018]

The results on the active learning environment of flipped learning strategy are in line with those in the related literature as well. To begin with, flipped learning has been found to allow efficient use of class time, which leads to active learning (e.g. Bishop & Verleger, 2013; Chen, et al., 2017; Correa, 2015; Çevikbaş & Argün, 2017; Elmaadaway, 2017; Fulton, 2012; Karagöl & Esen, 2019; Lo & Hwang, 2018; McNally et al., 2017). Second, since flipped content is delivered outside the class, more time is dedicated to active learning tasks; and thus, the active learners in a flipped class get engaged in deep learning of the subject matter, as is the case with the current study (e.g. Ahmad, 2016; Gasmı, 2016; Karagöl & Esen, 2019; Roehl, et al., 2013; Wagner-Loera, 2018; Wang, 2017). This promotes learners' academic achievement and skill development as well (e.g. Abaeian & Samadi, 2016; Zainuddin, et al., 2019). Finally, the advantages of the flexible learning environment of a flipped class have also been mentioned in the previous studies. The flexible atmosphere in the flipped learning environment, as defined by Flipped Learning Network (2014), creates learning spaces where learners are free to choose whenever and wherever they prefer to learn, and where instructors switch physical arrangement to adapt to tasks handled as either individual or group work in class sessions, thus, making a variety of learning modes possible in class sessions. This flexibility facilitates learning because learners use the opportunity to rewatch lecture videos and review activities in class as many times as they need to fully understand the content (e.g. Çalışkan, 2016; Ekmekçi, 2017; Doman & Webb, 2016; Hung, 2017b; Kang, 2015; Wagner-Loera, 2018).

4.2.2.2. *Diversified Activities in Class*

In the flipped learning environment, the key point in designing learning spaces is to bind flipped content to the group space activities in a way that enables learners to practice what they have learned in lecture videos

in face-to-face sessions. Therefore, the practitioners of flipped learning should bear this in mind while designing their group space activities. The teacher-researcher also observed this in her courses:

“The group space activities are very effective to understand the course content. No matter how effectively a teacher may prepare a lecture video, when the group space activities are not reinforcing and efficient for practising the content, learning will not occur as desired. [...] the group space activities should be designed accordingly so that the students could practice what they have learned by using their content knowledge in English.” [The researcher’s field notes, March 7th, 2018]

At the beginning of the term, for the first unit, the major focus was on generating a pamphlet for common diseases by firstly reading a sample pamphlet, and then, searching for common diseases, etc. The learners were engaged in writing a pamphlet in class time while receiving feedback and support from their teacher. As the task of writing a pamphlet itself took up time, learners expressed that group space activities had better be diversified rather than studying the specific task of that unit. Having considered the learners’ feedback, the teacher modified her activities to be as varied as possible for the following units, including online quiz games and more group works in class, for instance:

“I loved it when we have online quiz games on content and/or target vocabulary in addition to some translation works and in-class practices of some pharmacy-related dialogues.” [Anonymous learner journal]

“It is great and makes it easy for us to do tasks that we have moved to the computer lab for about two weeks now for the occupational English course so that we can prepare our pamphlets there on computers and finish the tasks in class settings.” [Anonymous learner journal]

The group space activities in flipped learning are aimed at learners’ using higher-order cognitive skills, which are application, analysis, synthesis and evaluation in class sessions, either at the individual level or in collaborative works at the group level. The teacher-researcher observed that collaborative works in class serve for these purposes in the flipped class:

“Learners help each other do the tasks in class, using the content and the related language points and consult teacher when necessary. The teacher's role in the class should be guiding not interrupting or taking all the responsibility of content delivery. Learners study together to figure out the content. I see that before they ask me a question, other students in the group try to answer that question. When they could not give the right answer I may interrupt, guide and answer.” [The researcher’s field notes, March 21st, 2018]

Learners also stated that they enjoyed engaging in group works in class, which in turn contributed to their learning through peer learning:

“Group work was good. My friend may teach me something I do not know when we study together.” [Learner X1]

“Kerem and his friends were asking questions to one another while practising the passive form on the exercise sheet. That helped them learn from each other in groups. The learners may give feedback to one another, give interesting ideas, discuss something, and evaluate others' work, etc. while studying in groups. When designing the activities, the teacher should take those possibilities of peer learning into account and design in-class activities accordingly.” [The researcher’s field notes, February 21st, 2018]

Peer interaction has also been found to reinforce learning in a flipped learning environment in the related literature (e.g. Bergmann & Sams, 2012; Filiz& Benzet, 2018; Fulton, 2012; Lo & Hwang, 2018; Wang, 2017). As well as in collaborative activities in group space, such as group discussion, collaborative reading and/or writing tasks, etc., Wang (2017) suggests peer interaction can also be achieved via technology-supported collaborative activities, such as online discussions through forum or chat, and asynchronously

handled collaborative writing tasks through LMS systems. In addition to facilitating content mastery, learners improve teamwork and leadership skills, and they receive social support from their peers as well, all of which provide benefit among peers in the learning process in group work (DeLozier & Rhodes, 2016).

At the end of in-class sessions, as the pharmaceutical content was delivered in English, learners in the study expressed a need for feedback for their understanding of the content. Additionally, in the introductory course of a new topic, the teacher-researcher also felt the need to check learners' comprehension of this new content. In the search for alternatives to confirm learners' grasping the new content in English, she found "Kahoot!" as a valuable tool to assess learners' comprehension and application of the concepts they learned in the flipped class. Learners enjoyed Kahoot! exercises in class so much that they asked for a Kahoot! quiz at the beginning and end of almost every class session.

"Kahoot! was wonderful. I watched the lab equipment on a lecture video, but I didn't remember them much later when we tried to answer questions on Kahoot! quiz, we saw the incorrect answers and the correct ones, which was very beneficial for me. I remembered them more easily later on." [Learner E4]

"Having a Kahoot! quiz after videos stimulated our interest in lecture videos more. I learned the terminological words we frequently use in our profession." [Learner S2]

Learners stated that Kahoot! converted classroom atmosphere into a livelier one by inviting everyone to join in the activity in the class, which indirectly led to the active participation of the learners:

"Kahoot! was good. Everyone gets involved in the class activity. [...] We pay more attention and we learn. It is enjoyable and we feel the need to do the quiz because of the rivalry among us to score best on the quiz." [Learner S4]

"I think when the learning material is enjoyable, we learn it easily and as we feel comfortable while enjoying ourselves, the things stay in our minds longer. Kahoot! was good in that sense." [Learner H2]

The student response systems (SRS), in other words, clickers, have been found efficient to activate class atmosphere in the literature, noting its benefits on learning, such as providing instant feedback, increasing learners' engagement in class, and promoting retention (e.g. Chien, Chang, & Chang, 2016; Hunsu, Adesope, & Bayly, 2016). As for Kahoot!, a cloud-based SRS application that can be freely accessed by any device with a web browser, it has been widely preferred in flipped classrooms to date due to its reported positive aspects to the learning environment, namely, stimulating learning, promoting participation, motivation and enthusiasm, creating a rivalry environment in class due to its game-like features, and supporting retention (e.g. Douligieris, Seralidou & Gkotsiopoulos, 2018; Hung, 2017c; Pinna, Mena & Funes, 2017; Wang & Qi, 2018). Such elements contribute to in-class dynamics of a flipped class, and Kahoot! may be used in many alternative ways in flipped language courses, such as checking for any misunderstandings and mislearning of the content in individual space; assessing learners' content knowledge in ESP dimension; vocabulary and grammar knowledge in EGP dimension at the end of the class; and checking learners' listening comprehension by exposing them to authentic listening texts in language courses. All in all, Kahoot! may be very useful to check, practice, and even expose new content and language input in flipped language classrooms.

4.2.2.3. Closer teacher-student relationship

Learners stated that they were pleased with their teacher's utilizing class time to help them individually while they were doing the tasks. Especially, when there is a huge gap between high and low achiever students in the class, this differentiated learning made it possible to meet the needs of different learner profiles:

“I could remember when you told me where to use a specific word in a sentence. In a traditional class, we don't have such a chance to ask you that many questions. For me, the advantageous part of the flipped class was translating and having close interaction with the teacher.” [Learner Y1]

“In a traditional class, teachers instruct and then go away without checking students' learning. While doing these tasks in class, you can have a closer relationship with us, when I have a very complicated sentence to form in English, you can help me simplify it. That motivated me that I could translate texts in English.” [Learner C1]

The teacher-researcher also felt satisfied with helping her learners on an individual basis in the flipped class:

“When students have questions to ask me, they can immediately take my support. As they see I help them on an individual basis, they become more willing to attend the class activities. The teacher is there when needed for practising the content and crosschecking understandings, etc. Learning is facilitated in this way.” [The researcher's field notes, March 21st, 2018]

The issue of differentiation in the flipped learning environment has been mentioned in the previous studies as well (e.g. Correa, 2015; Cunningham, 2016; Filiz & Benzet, 2018; Gilboy et al., 2015; Mehring, 2018). Bergmann and Sams (2012) emphasize reaching out especially the struggling students to assess their learning of the key concepts of course content. On the other hand, for students who grasp the content quickly, Bergmann and Sams (2012) suggest engaging such students in more advanced topics in fewer activities. All in all, using the face-to-face time to walk around the room to support students along a wide range of abilities help teachers personalize the learning for all, which enables learners to receive immediate feedback that reinforces their learning (e.g. Amiryousefi, 2017; Choe & Seong, 2016; Lee & Wallace, 2018, Zainuddin, 2017). Additionally, due to the extra time obtained by removing content delivery from in class sessions, instructors connect personally with their students; and thus, they gain insight into their students' learning (e.g. Correa, 2015; Filiz & Benzet, 2018; Lo & Hwang, 2018; Marks, 2015). As Bergmann and Sams (2012) emphasize, those mini conversations held with individuals or particular groups, who have difficulty in the same content, result in just-in-time instruction when learners feel exactly ready to learn. As a result, students learn better because teachers know their students better and build better relationships with them, as expressed in one of the journal entries of the teacher-researcher:

“Flipped learning makes learning personalized; that is, the teacher can direct each group of learners to answer to their needs, as some are faster while some are slower to do a task, and the support they may ask for may be either on sentence building or on vocabulary. As a teacher, I feel pleased to be able to help and support different types of learners who need different kinds of support.” [The researcher's field notes, May 2nd, 2018]

4.2.2.4. *Formative Assessment*

As the syllabus under study was based on handling occupational tasks on particular pharmaceutical topics, the assessment was handled accordingly; that is, the task performances were taken into consideration in the passing grade. The main idea behind this decision was to focus on students' learning of the pharmaceutical content and occupational skills in English while they were engaged in specific tasks in class. In addition, the teacher-researcher could give individual or group feedback and assistance to her students in mini-talks she had with them while they were engaged in these occupational tasks; when she had Kahoot! quizzes in group space; and when the students submitted their works to her.

As the assessment of learner performances relied on the tasks they completed in class, the feedback on their assignments was as important as the task itself. The stronger side of the flipped method is that it enables the teacher to give immediate feedback to each individual formatively during the term, which may not be that efficient and possible in the summative form of assessment when learners' performances and/or

homework are assessed at the end of the term. When learners receive immediate feedback on their performances, they learn while doing the tasks. By this means, the assessment becomes a part of the learning process:

“The teacher helps motivated but underachieving learners a lot in this method. When I contact them and give individual answers to their questions while doing something in English and when I give immediate feedback to their work on-site, this stimulates their willingness to participate in tasks in English. In flipped instruction, the in-class time is managed to a great extent to meet learners’ situational and personal needs.” [Researcher field notes, April 18th, 2018]

As Graney (2018) states, the formative assessment in flipped classrooms also differs since more in-class time is available for active learning activities and giving feedback to students. In a flipped classroom, student progress is evaluated constantly in the group learning space, which is the reverse in a traditional class where the teacher makes use of tests to determine where learners are at the time of assessment. In a flipped class, however, the formative assessment shows the teacher how well learners are doing on their way to learn as the assessment is ongoing; that is, the evaluation does not focus on a result, but on the process itself. As is the case with the findings of the present study, formative assessment in the flipped learning environment has been found to enable teachers to perform scaffolding, individualization, and differentiation in various ways, including mini-talks between students and teachers, pop quizzes held during the term, and using online tools or applications on smartphones. In these assessments, teachers adjust their teaching and learning material to help the unique needs of their students as well as giving them individual feedback and assistance, which makes it characteristic in flipped learning environments to hold assessment “for learning”, rather than for evaluating achievement (e.g. Graney, 2018; Khalil & Fahim, 2016; Onodipe & Ayadi, 2020; Zhang, Chen, Ge, Hung & Mei, 2019). In sum, it is observed in the present action research that not only the dimensions of flipped learning strategy played role in the dynamics of the learning environment under study but the learner profile also affected the implementation process. Therefore, it can be concluded that present results related to the individual and group space activities may have occurred due to the characteristics of the particular group of learners as well.

5. Conclusion and Suggestions

Based upon the first flipped learning practice, the teacher-researcher derived lessons from the experiences in a flipped ESP class. These lessons are presented in the order of individual space and group space learning settings. Accordingly, it is concluded from the individual space learning experience that at the tertiary level, when the lecture videos are kept shorter than 15 minutes; released almost a week before face-to-face sessions; delivered through customized video sharing platforms, such as Edpuzzle, where learners are engaged in lecture videos rather than passively watching them; and shared on a user-friendly LMS platform like Edmodo, learners are more likely to participate in individual space learning activities. On the other hand, in-class flipping may be an alternative for teachers who have tried flipped learning but ended up with having their learners coming to class unprepared as well as for those whose school regulations require a no-homework policy. Therefore, flexibility can be gained to address differentiation among students in terms of not only learner characteristics, such as language background or attention span, but learning culture as well, such as needing a knowledgeable person to support their learning, or resisting pre-class work, while implementing the flipped learning strategy.

As for group space learning experience, first of all, teacher dependence may be a challenging issue in flipped learning for the first time. In other words, learners may initially show resistance towards learning new content by watching lecture videos before coming to class due to their passive learning habits, and they may have some adoption problems as a result of increased pre-class workload for the first flipped learning experience. The researchers suggest for the first-time practitioners of flipped learning to gradually transform their traditional classes into flipped classes by teaching their students to adopt flipped learning habits via a series of hands-on self-directed learning strategies such as rehearsing notetaking while watching

lecture videos in face-to-face sessions, sending online questions to their teacher, etc. with their teacher demonstrating them in the introductory week, then it will probably help them acquire the new learning habits more easily.

Secondly, the active learning atmosphere of the flipped learning strategy allows efficient use of class time, which promotes learners' academic achievement and skill development as well. It is because learners can find chances to better prepare for courses owing to lecture videos they got engaged in before face-to-face sessions; to improve self-paced learning because of the flexible learning environment. Because more time is dedicated to active learning tasks by practising contextual skills and content knowledge in group space, the active learners in a flipped class get engaged in deep learning of the subject matter. Thirdly, peer interaction has been found to reinforce learning in a flipped learning environment. It is because in addition to facilitating content mastery, learners improve teamwork and leadership skills, and they receive social support from their peers in collaborative activities in the learning processes of the group space.

Finally, the issue of differentiation is one of the strongest dimensions of the flipped learning strategy. Using face-to-face time to walk around the room to support students along a wide range of abilities help teachers personalize the learning for all. Due to the extra time obtained by removing content delivery from face-to-face sessions, instructors connect personally with their students; and thus, they gain insight into their students' learning. Accordingly, when learners receive immediate feedback on their performances, they learn while doing the tasks. By this means, the formative assessment becomes a part of the learning process. Therefore, in a flipped class, the assessment shows the teacher how well learners are doing on their way to learning as the assessment is ongoing. As is the case with the findings of the present study, formative assessment in the flipped learning environment has been found to enable teachers to perform scaffolding, individualization, and differentiation in various ways. In these assessments, teachers adjust their teaching and learning material to help the unique needs of their students as well as give them individual feedback and assistance, which makes it possible in flipped learning environments to hold assessment "for learning", rather than for evaluating achievement. Considering the findings of the present research, the practical implications for practice are presented below, in the hope of the study providing beneficial suggestions for practice in the field.

5.1. Implications for Teachers who are interested in Flipped Learning

First of all, in the flipped learning environment, the key point in designing learning spaces is to bound flipped content to the group space activities in a way that enables learners to practice what they have learned in lecture videos in group space learning, then learning is reinforced by this way. Therefore, the practitioners of flipped learning should ask themselves the question, "What is the best use of my face-to-face class time with students?", and they should bear this in mind while designing their group space activities. Accordingly, taking the flipped learning version of the Bloom's Taxonomy into consideration (Şahin & Fell Kurban, 2016) while the individual space activities are supposed to be aimed at achieving the tasks of 'remembering' and 'understanding', the group space activities in the flipped learning environment should be aimed at learners' using higher-order cognitive skills, such as 'applying', 'analyzing', 'evaluating' and 'creating'. This simple rule of thumb will pave the way for designing diversified activities that promote active learning in a flipped class.

Secondly, before starting to teach a flipped class, an introductory week to engage learners in a flipped environment should be considered. As mentioned earlier, the self-directed learning strategies may be introduced to the learners at the very first weeks of the semester. The activities should demonstrate learners' responsibilities in a flipped learning environment, such as engaging in lecture videos/texts in class and taking notes on what they watch/read. This rehearse will most likely promote their forming flipped learning habits in their first experience. All in all, teachers are responsible for fostering learners' attendance in individual and group space learning. By following a slow progression in the level of difficulty or terms of quantity in the design of the assignments, teachers may increase the participation of students in the flipped

learning atmosphere. Thirdly, the practitioners who would like to try in-class flipping can transform group space activities into stations in class and learners rotate the stations where various kinds of activities are handled to complement content learning and/or skill mastering in addition to the flip station where content is delivered through lecture videos or other kinds of media in class.

Finally, regarding the unexpected scenarios that may result in having less face-to-face time with students in the teaching environment, as is the case with the COVID-19 pandemic, the flipped learning practitioner should keep asking themselves the question, ‘What is the best use of my face-to-face class time with students in these unexpected situations?’, such as teaching all remote, in some form of hybrid or face-to-face. As mentioned above, at this point, the levels of Bloom’s taxonomy should be set as a rubric to design learning spaces. That is to say, lower levels of Bloom’s can be done when students study the easier stuff independently in the individual space, and higher levels of Bloom’s taxonomy can be done when students are in a synchronous class studying hard stuff in the group space. In either case, as there will most likely be less face-to-face class time with students, due to sanitary measures, it is the teacher’s responsibility to provide support for students in the individual space that will probably increase in time. In either case, flipped learning strategy enables teachers the flexibility to adapt to such unexpected scenarios, with its key principle to consider the best use of face-to-face time with students, keeping in mind the use of Bloom’s taxonomy while designing the learning spaces.

5.2. Implications for Language Teachers who are interested in Flipped Learning

What the flipped learning strategy supplies teachers with is to enable differentiation in the design of learning materials and tasks in teaching practice. Accordingly, teachers having learners of varied language backgrounds may create a supplementary archive of lecture videos on basic grammar rules, pronunciation tips, or instructions on sentence making, depending on the learners’ needs and demands in addition to the lecture videos related to the specific content.

As the authentic listening experience plays a huge role in improving EFL learners’ listening comprehension, in a flipped language class, teachers may expose learners to listening audio or video clips in the individual space. Similarly, online platforms can be more socialized through forums for extra listening, speaking and writing practice for learners; for instance, learners may be asked to send audio files to rehearse occupational skills in an ESP course. To handle such interactive exercises, online tools can be utilized, especially for speaking and listening practice.

As the formative assessment is ongoing in the flipped learning environment, to serve for the ‘assessment for learning’ principle, flipped language teachers may ask learners to keep a portfolio or webfolio to evaluate their performances by supplying individualized feedback to reinforce their learning. By performing scaffolding, individualization, and differentiation through making use of a portfolio or webfolio in a flipped class, teachers adjust their teaching and learning material to help the unique needs of their students as well as give them individualized feedback and assistance.

Researchers may benefit from action research design as a powerful tool of professional development for in-service teachers who are interested in flipped learning strategy as well as in any other aspects that are aimed to be developed in their professional identity. To realize action research on developing a flipped learning environment, teachers may collaborate on syllabus design, implementation and evaluation phases of course development. Within the ESP domain, action research on needs analysis, program evaluation, or developing innovative teaching methods in classes can be conducted as well as digitalizing their learning environment to create flipped learning experience better, especially, regarding the unexpected scenarios that may result in differences in teaching practice, as is the case with the COVID-19 pandemic.

Finally, researchers who would like to conduct action research in a similar context may benefit from the limitations of the current action research, which needs to be considered in future research. Mainly, the present action research depends solely on qualitative data sources, depending on participants’ meaning-

making of their experiences to have multiple perspectives to suggest a practical solution that may satisfy the expectations of all. However, in case researchers wish to concentrate on the efficiency of the learning outcomes of the syllabus, the present study may need supporting quantitative data as well. Researchers may conduct studies in mixed-methods design to determine the efficiency of learning outcomes on specific learner characteristics via attitude scales, achievement tests or portfolio assessment so that the practitioners can contribute to the variety of activities in the syllabus according to the evaluation of learner characteristics of the particular group of learners.

To conclude, the teacher-researcher mainly benefitted from the ongoing evaluation phases of the action research which also coincided with the steps in designing and implementing a flipped learning environment. As the teacher-researcher faced her weaknesses in her teaching practice and focused on remedies to mend and reform the problematic situations in practice, she gained an understanding of her previous practices. To do so, she followed the basic four-step cyclical process in action research, which are planning, taking action, evaluating the action, and leading to further planning. Through this dynamic process, she handled the cycles concurrently, which means gathering scientific knowledge while simultaneously involving in action. Therefore, the teacher-researcher acknowledges the contributions of the reflection cycles in action research design to her professional development. It is hoped that the study will be set as an example of an action research process as a model of professional development practice on the design, implementation and evaluation processes of teaching an ESP course in a flipped learning environment at a tertiary level EFL setting.

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