



## Flipped Classroom Approach in ESP Courses: Focus on ESP Students' Critical Thinking and Engagement



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### ABSTRACT

The present study investigated the effects of using flipped classroom techniques on Iranian ESP students' critical thinking and engagement. The flipped classroom model flips the traditional relationship between class time and homework. Students learn at home via online coursework and lectures, and teachers use class time for teacher-guided practice or projects. Participants were 60 ESP students studying in Payam-e Noor University, who were divided into 2 equal groups with 30 students each. Participants' language proficiency was checked through a language proficiency test. The participants of experimental group received vocabulary instruction through flipped classroom techniques. A specialist group of EFL/ESP professors who were the researcher's colleagues produced 10 videos, and each video lecture was accompanied by a lecturer's avatar, which used his or her true voice and audiovisual materials representations. The control group received conventional vocabulary instruction. Results of the statistical analyses showed that there was a positive influence of flipped classroom over the participants' task engagement. Also, it was found that the flipped classroom had a significant effect on the Iranian students' critical thinking in ESP courses. Flipped classrooms enable ESP students to become more independent, which necessitates more critical thinkers. As a result, flipped classrooms can provide a platform for L2 students' potential critical thinking abilities to blossom and develop.

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## 1. Introduction

*Flipped learning* is the term defined as a pedagogical model in which traditional lecture and homework elements are reversed (Hamdan, McKnight, McKnight, & Arfstrom, 2013; Lage & Platt, 2000). Flipped learning is a relatively new approach to teaching. In this approach, to promote active learning and increase engagement, the teacher's lecture position in the classroom and homework are shifted; In other words, the teacher's lectures and teaching are transferred to the home and homework and activities are transferred to the class" (Alavi, Keyvanpanah & Fazl Ali, 2016, p. 1). Studying course content before a lesson in class is not a novel idea in education. According to the traditional teaching model, students were and are still required to read materials in preparation for class meetings. However, now that the online infrastructure and advanced technological applications have been maturing, the dissemination of the flipped-idea, based on videos as learning media, has been advancing with greater celerity (Karanicolas & Snelling, 2010).

Hamdan et al., (2013) attempted to explain the underlying meaning of the word *flipped*. They point out that the first letter *F* means flexible environment, the second letter *L* stands for learning culture, the third letter *I* for intentional content, the fourth letter *P* for professional educators, the fifth letter *P* for progressive networking activities, the sixth letter *E* for engaging and effective learning experience, and the last letter *D* for diversified and seamless learning platform.

According to Bergmann and Sams (2012), flipped learning is a learning approach that moves traditional lectures outside of the classroom setting and brings take-home activities such as discussions, case studies, and simulation experiences into the classroom. Gerstein (2012) report that flipped approach has some benefits that make it a powerful approach to teaching that helps "students to become learners who can learn for themselves and by themselves" (p. 35). Students have the flexibility to move at their own speed as they work through out-of-class elements, perhaps focusing on different videos or materials as appropriate to their levels and interests (Davies, Dean, & Ball, 2013). Flipped learning may be of particular benefit to students with special needs or other disadvantages (Bergmann & Sams, 2012; Thompson, 2011). Moreover, in-class time is freed up for discussion, interaction, collaborative inquiry, and hands-on activities based on a flipped approach (Gerstein, 2012; Milman, 2012).

Kim, Kim, Khera, and Getman (2014, p. 67) recommends the principles for flipped learning as follows:

- Providing the opportunity for students to gain preliminary information before the class activity;
- Encouraging students to watch online lectures and to be prepared before the class activity;
- Organizing methods of assessment;
- Linking in-class activities with out-of-class activities;
- Supplying clearly stated and well-organized guidance;
- Providing sufficient time for the completion of assignments;
- Promoting students to build a learning community;
- Providing immediate feedback on individual or group work; and
- Providing the use of familiar technologies that can be easily accessed by students.

## 2. Review of the Literature

The past literature lists a number of advantages for the use of the flipped approach in education. Several studies (Anderson et al., 2001; Karanicolas & Snelling, 2010) stress that students who are engaged with interactive content prior to class and face-to-face time for collaborative activities can clarify concepts and contextualize knowledge through application, analysis, and planning, and problem solving. Moreover, the teacher can pay much more individualized attention to student's needs, especially those who are struggling and need extra help (Rosenberg, 2013; Tucker, 2012).

As Bergmann and Sams (2012) state that a flipped classroom instruction is a student-centered instructional technique and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. Accordingly, a number of facilitative opportunities could be assumed when the approach is applied. When adopting this pedagogical approach, L2 teachers will be enabled to rearrange class time and time for homework. Also, it is implied that they need to prepare the teaching materials like instructional videos in advance. In addition, their students will be asked to study these instructional materials at home prior to their classes. Furthermore, L2 students are not limited to just the current materials that are being used; they also have access to older materials that the teacher has presented in the last sessions, as well. Therefore, the availability of a variety of materials assists both teaching and learning

whenever a student or a teacher is absent from school (Kim & Park, 2017). Among the varieties of materials that are required in ELT contexts, vocabulary plays a key role.

As Namaziandost, Hosseini, and Utomo (2020) state, “in a second-language learning, the value of vocabulary is so paramount that it makes it a must to learn and teach” (p. 2). To show the importance, Wilkins (1972, as cited in Thorburry, 2002, p. 13) cites from the linguist “without grammar very little can be communicated, nothing can be transmitted without vocabulary”. All languages are made up of words and are, first, born as words. Vocabularies rarely avoid being invented in languages, and the process of learning current and other yet-to-be-born vocabulary is, therefore, a nonstop process. “Moreover, teachers have accepted the importance of vocabulary because it is clear that vocabulary leads to effective communication” (Namaziandost et al., 2020, p. 2).

According to Albashtawi, Jaganathan, and Singh (2020) “learning new words in a second language or a foreign language is a challenging task” (pp. 269-270). New settings propose new demands that necessitate acquiring efficiently specialized words (Lesaux, Kieffer, Faller, & Kelley, 2010). For example, vocabulary learning challenge becomes so great when bringing the issue of technical terminology that forms the core of different contents in several subject areas in ESP classrooms. Vocabulary absorption during the process of learning all the other skills like reading is not an easy task, as believed by many (Coady & Huckin, 1997). Accordingly, studies on finding innovative teaching methods and instruction approaches that may facilitate the teaching and learning vocabulary processes is an ongoing research line. In this regard, the possible impact of flipped classrooms calls for further attention.

Flipped learning has become a buzzword in educational circles in the 21<sup>st</sup> century. As an inverse way of teaching and learning, flipped learning addresses the four subskills of learning, namely, critical thinking, communication, cooperation, and creativity, as students work with technology to preview materials at home prior to coming to the L2 class (Doman & Webb, 2017; Kostka & Brinks Lockwood, 2014). This approach encourages collaboration and communication, keeping an eye on students’ critical thinking improvement.

Parvaneh, Zoghi and Asadi (2020) in a study, the effect of Flipped classroom method on autonomy and anxiety of Iranian language learners. The results of the study showed that the reverse education method has a significant effect on improving students’ autonomy and reducing their anxiety. Fazal Ali (2020) examined flipped professional development on the development of English language new teachers. The results of this study showed that new teachers in reverse professional development class had better progress compared to traditional class teachers.

Enciso, Enciso, and Daza (2017) believe that there is a consensus that critical thinking is the main goal of education. It seems that critical thinking can affect and be affected by other factors involved in the process of teaching and learning. Critical thinking is difficult to be defined (Abrami, Bernar, Borokhovski, Wade, Surkes, Tamin, & Zhang, 2008). Some believe that critical thinking is a broad concept and theory that focuses primarily on logical thinking, that focuses on belief and action (Paul & Elder, 2019), while some others consider it more narrowly that is specific to a certain content area (Marsh, 2012). According to Halvorsen (2005), critical thinking is not easy to define because it may mean different things to various people in different contexts. Nevertheless, instructors can incorporate some of its key elements in their classrooms. Huff (2000, cited in Anderson-Meger, 2011) emphasizes that good critical thinking is not an innate, or natural, ability for most students, but that they can be taught through effective pedagogical methods to learn to think critically. Students need the ability to question and to find alternatives, but also to evaluate their own values and belief systems (Huff, 2000, cited in Anderson-Meger, 2011). Therefore, teachers, in general, and ESP instructors, in particular, should make sure they apply an appropriate methodology to improve L2 learners’ critical thinking.

One of the concepts that could be consistent with the development of critical thinking among L2 learners is the ability to be engaged in purposeful judgment (Memari, 2021). Although *engagement* is a commonly used term in the literature of education, it is not easy to describe it exactly because it has broad and complex meanings (Dörnyei, 2001; Russell, Ainley, & Frydenberg, 2005). Particularly, L2 learners’ task engagement is very often used to describe or see their motivation by many researchers because motivation is difficult to observe. It

seems that motivation and task engagement is regarded almost identical since engagement in doing tasks indicates the learners' high motivation.

As [Aubrey, King, and Almukhaild \(2020\)](#) believe despite being an intriguing and well-studied construct in education and educational psychology ([Christenson, Reschly, & Wylie, 2012](#); [Fredricks, Blumenfeld, & Paris, 2004](#)), L2 learners' engagement during task performance has received scant attention in L2 learning domain. In general education, there is consistent evidence that learner engagement is strongly related to desirable educational outcomes like higher academic achievement (e.g., [Finn & Zimmer, 2012](#); [Fredricks et al., 2004](#)). In the L2 classroom, [Ellis \(2018\)](#) maintains that "examining engagement during task performance is crucial for L2 learners in terms of originating and activating learning cognitive processes such as noticing and establishing form-meaning connections, that would, in turn, allow learners to absorb the L2 more effectively" (p. 148). [Mercer and Dörnyei, \(2020\)](#) state that although engagement is important for L2 instruction, "discussions of engagement have been largely absent from the literature of L2 learning and teaching" (p. 4). However, "learners' engagement during tasks has come to the fore in the L2 learning field, benefiting from potential insights in educational psychology" ([Aubrey et al., 2020, p. 1](#)).

Previous L2 studies that have examined task engagement (e.g., [Aubrey, 2017](#); [Butler, 2017](#); [Lambert, Philip, & Nakamura, 2017](#); [Qiu & Lo, 2017](#)) define it as a state of "heightened attention and involvement in a learning task" ([Philip & Duchesne, 2016, p. 51](#)). A variety of task factors and conditions have been recognized as being of critical importance to students' task engagement in the L2 classroom, and these studies have yielded valuable insights into L2 learner task engagement. However, scholars have noted that task engagement is often examined without much attention paid to context (e.g., [Ellis, 2018](#); [Sato & Storch, 2020](#)). Thus, it remains unclear how task characteristics together with contextual factors related to the L2 learner and classroom environment influence engagement. Furthermore, relatively little research has been carried out on the factors that support or inhibit L2 learners' task engagement experiences.

As reported by [Zepke and Leach \(2010\)](#), engaging L2 learners in classroom activities increases their attention and focus and motivate them to boost their critical thinking level and promote meaningful learning experiences. Applying student-centered approaches in

instruction increases opportunities for L2 learners to engage in classroom activities that help them achieve the learning objectives of a course. On the other hand, in most institutional classes in Iran, L2 learners feel bored and are tired because there are some missing points from a psychological point of view that make them biased toward their learning and on L2 teaching and learning in classroom and ignoring them lead to ineffective teaching strategies and wasting time. Taking the importance of task engagement and critical thinking in today's world into consideration, the second and third objectives of this study were to check whether or not flipped classrooms influence L2 learners' critical thinking ability and task engagements in Iranian ESP contexts. Moreover, the study explored ESP students' attitudes toward flipped classrooms

Therefore, the current researcher believes that casting a further light on factors (e.g., flipped classroom) that support or inhibit L2 learner engagement at the task-level might provide ESP instructors with a more informed decision regarding applying an appropriate teaching methodology for ESP contexts. Thus, the following research questions were posed in order to address the objective of the study:

1. Do flipped classrooms have any significant effect on Iranian students' critical thinking in ESP courses?
2. Do flipped classrooms have any significant effect on Iranian students' task engagement in ESP courses?

### 3. Method

#### 3.1 Participants

Sixty Iranian female students who studied in Payam-e Noor university participated in this study. They were from the Department of Psychology who were passing their ESP course. To make sure about the actual proficiency level of participants, 90 ESP students sat for Quick Oxford Placement Test (QOPT; 2001). The participants ( $n = 60$ ) were actually selected non-randomly based on a convenient sampling method that targeted available ESP students. All the participants cooperated voluntarily and consented that the researcher uses their performance and responses for publications. Also, they signed a consent form that briefly described the study. In addition, various characteristics of the participants were taken into account so that the generalizability of the findings could enjoy more validity. Because the ESP students in Iran are mainly young people, the selected ESP students were within the age range of 18 to 35.

**3.2 Instruments**

The instruments consisted of a language proficiency test (QOPT), a critical thinking survey, and a student engagement questionnaire.

QOPT (2001) was used to measure the proficiency level of the participants. This test is a flexible test of English language proficiency developed to give L2 teachers a reliable and time-saving method of finding a student's level of language proficiency. There are two sections in this version of QOPT (version 1): Section 1 contains 40 items assessing situations (5 items), cloze passages, assessing prepositions, grammar, pronouns, and vocabulary, (15 items), and completion items (20 items). Section 2 consists of 20 items: 10 items related to cloze passages and 10 completion-type items, which are all in multiple-choice format.

In the present study, the Persian version of the Watson-Glaser test, Form A (WGCTA-FA) was used to measure the participants' critical thinking. The test consists of five subsections: drawing inferences, recognizing assumptions, making deductions, interpreting evidence, and evaluating arguments, each comprising 16 items with 2 to 5 alternatives. The appraisal is not subject-specific and can be completed in 60 min. According to Mohammadyari (2002), this test and its subscales do have reliability and validity in the Iranian culture. To analyze the reliability of the questionnaire, she utilized the split-half reliability estimate. With the adapted version in Iran, the reliability was found to be 0.98, and the results of the factor analysis provided some support for the inventory hypothesized structure (Mohammadyari, 2002).

To obtain broad information about the students' engagement with learning, a standard questionnaire on student engagement was used. The employment of the questionnaire with the participants stemmed from the fact that it could provide opportunities to obtain data concerning the evaluation of their engagement being used by the ESP students. The questionnaire was adapted from Zepke, Leach, and Butler (2011), and it consists of eight sections with a 4-point Likert scale in which the responses ranged from 1 (*very often*), 2 (*often*), 3 (*sometimes*), and 4 (*never*). The original version (Zepke, Leach, & Issacs, 2008) consists of 38 sections and 105 items. The authors removed some items in a confirmatory item analysis of the original version to improve the reliability of the questionnaire. The final adopted version consists of 8 sections and 29 items, enjoying a good

index of reliability ( $r = .89$ ). The content validity of the questionnaire was approved by three PhD-holder teachers of English language.

**3.3 Procedure**

At the beginning of the study, QOPT (2001) was used in order to homogenize the participants. In the first stage, 60 of the ESP students were chosen based on their results on QOPT (2001). As the next phase, the participants were split into two groups (i.e., control and experimental groups), each with 30 participants. In comparison, the control and study groups were administered a critical thinking questionnaire prior to seeking medication and were asked to do so.

For the experiment conducted, the participants in the experimental group obtained guidance on the flipped classroom techniques. The flipped-classroom strategy was introduced in the following way: Before each class meeting, the participants were asked to watch a video clip on their cell phones about their classes, which were debated in the classroom. During face-to-face sessions, they were given the ability to relate their online video viewing to the course materials discussed in the classroom by debating activities taken out of the field by lecturers and/or classmates. To this end, 10 videos were created by a specialist group of EFL/ESP professors who were the researcher's colleagues, and each video lecture was followed by a lecturer's avatar, using his or her true voice and audiovisual materials representations. At most, every video was 10 min long. This video lecture is known to be an image-in-picture learning video style that shows the instructor's image, the instructor's voice, the lecture slides, and several multimedia components.

Both the vocabulary items and their meanings were explained to the control group participants in their L1, as they appeared in the various units and in the wordlist to carry out the conventional instruction. The same words were introduced to the participants in the control group by traditional translation and wordlist techniques. Also, the participants were asked to review the objects in the school. Furthermore, they were asked to use English-Persian dictionaries without any sort of preparation. They were allowed to inquire and consult the researcher about the significance of anything they wished for.

In order to investigate the effects of the flipped classroom procedures on the level of critical thinking among the ESP students, the



critical thinking questionnaire was administered before and after the treatment among the participants in the two groups. In addition, in order to study the possible effects of the flipped classroom procedures on the ESP students' task engagement, the engagement survey was run among the participants after the treatment.

#### 4. Results and Discussion

In order to verify the first research question of the study in finding whether implementing flipped classrooms had any significant effect on

the Iranian students' critical thinking in the ESP courses, ANCOVA was performed. Because the critical thinking ability, as a cognitive variable, might be dependent on a number of variables, for instance, age and gender, that were not controlled in the current study, the ANCOVA statistical procedure was used. The results are shown in Table 1.

Table 1. Analysis of Covariance (ANCOVA)

Dependent Variable: Posttest						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	129.831 <sup>a</sup>	2	64.916	38.123	.000	.711
Intercept	12.545	1	12.545	7.367	.011	.192
Pretest	80.390	1	80.390	47.211	.000	.604
Groups	59.826	1	59.826	35.134	.000	.531
Error	52.786	31	1.703			
Total	13425.000	34				
Corrected Total	182.618	33				

a. R Squared = .711 (Adjusted R Squared = .692)

As indicated in Table 1, the first line highlighted shows that the pretest was significantly related to the posttest ( $p < 0.05$ ), with the magnitude of 0.604. The next line is the indicator of the main effect of the flipped classroom on the dependent variable, that is, critical thinking. After adjusting for the pretest scores, there was a significant effect of the group,  $F(1, 31) = 35.134$ ,  $p < 0.05$ , partial  $\eta^2 = 0.531$ . As the  $p$  value is less than 0.05, the difference between two groups is significant, and the effect of the flipped classroom on critical thinking is clear. Therefore, the first research question of the study is supported.

In order to verify the second research question in finding whether implementing the flipped classroom had any significant effect on the Iranian students' task engagement in the ESP courses and to see whether there was any statistically significant difference among the choices of every item in task engagement survey, a chi-square goodness-of-fit test was

performed on all the items. It is used to determine whether the distribution of cases (e.g., the participants) in a single categorical item (i.e., questions number # 1 to number # 8 in the task engagement questionnaire) follows a known or hypothesized distribution. Accordingly, the following assumptions were first checked.

- There was one categorical variable (e.g., a 4-point scale for measuring task engagement, ranging from "never" to "very often").
- There was independence of observations, that is, there was no relationship between any of the cases (e.g., the participants).
- There were, at least, 5 expected frequencies for each choice of the categorical variable.

Once the assumptions were fulfilled, the chi-square goodness-of-fit test was run. The results are provided in Table 2.

Table 2. Chi-Square Goodness-of-Fit for Impact of Flipped Classroom on Developing Task Engagement

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Chi-Square	17.000 <sup>a</sup>	15.800 <sup>b</sup>	22.250 <sup>a</sup>	19.850 <sup>c</sup>	48.600 <sup>b</sup>	7.850 <sup>c</sup>	15.050 <sup>c</sup>	18.050 <sup>c</sup>
df	3	3	3	3	3	3	3	1
Asymp. Sig.	.002	.001	.000	.000	.000	.000	.001	.000
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 8.0.								
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.0.								
c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 13.3.								

The result indicates that in all the 8 items, the  $p$  value for the calculated is  $p < 0.05$ , meaning that there is lower than 5% chance that this deviation in the obtained data from the observed data is due to chance alone.

The present study measured the impact of flipped classroom procedures on the level of

critical thinking among the ESP students and on their task engagement. The results of ANCOVA showed that implementing the flipped classrooms had a significant effect on the Iranian students' critical thinking in the ESP courses. This finding supports those of O'Flaherty and Phillips (2015) who reviewed the use of flipped learnings in higher education



settings from 2012 to 2014 around the world and suggested that the implementation of a successful flipped class approach was effective for student learning and facilitated critical thinking and improvement of student engagement both within and outside the class. Here, the flipped classroom brings flexibility in which it allows L2 learners to select a variety of means to receive instructional materials. In other words, menus, icons, and word-based search, and different ways to utilize them provide flexibility for such learners. This finding supports the viewpoints of Bagui (2017) regarding the benefits of the flipped classroom instruction in providing flexibility for L2 learners.

The results of the present study regarding the positive influence of the flipped classroom over the participants' task engagement support the idea that L2 students engage with learning when the teacher offers opportunities for deeper learning and experiences and presents academic challenges (Zepke & Leach, 2010). The results of the participants' attitudes support the idea that the learners' classroom participation and activities had a positive relationship with their engagement and, as a result, their outcome. This finding is in line with those of Finn (1989) who believed that school outcomes are mediated through L2 students' active participation in school and classroom activities and a concomitant feeling of identification with school. The findings of this study also support those of Reason, Terenzini, and Domingo (2006) who demonstrated that the teachers' educational practices, when innovative, lead to the students more actively engaged with the subject taught, which, in turn, benefited the students in terms of learning and cognitive skill development. This study can acknowledge the findings of Bryson and Hand (2007) who concluded that learning environment and learning relationships that the teacher helped to create, student engagement was also influenced by the teacher's own engagement and enthusiasm.

The results of this study corroborate those of Ayçiçek and Yelken (2018) who found that the flipped learning model was effective on the students' learning engagement in teaching English. The findings of this study are in line with those of Shotaro, Fumiya, and Haruya (2018) who applied the flipped learning approach to teaching English and found that adopting the flipped learning strategy enhanced the students' grammar and speaking

performances. It was also shown that the students and teachers' attitudes towards using the flipped learning strategy in the ESP class were positive.

An explanation for the improvement of task engagement in ESP context, as this study supported, is that the flipped classrooms can provide an atmosphere for L2 teachers to monitor their teaching in the online learning environment (which could be the formal aspect of flipped teaching), while the feedback is given in the classroom to foster more interactive learning atmosphere in order for L2 teachers and learners to benefit from purposeful classroom involvement (which is probably the communicative aspect of the flipped classroom). In fact, as argued by Strayer (2012), integration of online instruction into classroom activities can be positively applied in L2 teaching to direct L2 learners' attentions to the tasks and give feedback to them, assisting them to have better concentration on task by developing more interaction in the L2 classroom, which causes more chances of L2 learners' participation in the learning environment resulting in their success in the learning process (Moranski & Kim, 2016; Bishop & Verleger, 2013).

The results of descriptive statistics showed that the most of the ESP students confirmed that flipped classroom helped them facilitate their learning. Therefore, the participants of the experimental group acknowledged that implementing flipped classrooms has positive effect on their attitude in ESP courses. This finding could provide a support for Roach (2014) who implemented a partly-flipped class during a semester for microeconomics course and analyzed students' perceptions toward the flipped learning method. He found that students had a positive impression of the flipped learning. Furthermore, this finding confirmed the results of a study developed by Hsu and Chang (2010) who developed a flipped-based listening through multimedia, and showed that it was effective in more listening comprehension.

This study support Nguyen (2018) who investigated student's perceptions and teacher's inspection toward the implementation of flipped learning approach and showed a significant improvement of students' language competence through an open-ended survey and a semi-structured interview. The findings are also able to support those of Farrah and Qawasmeh (2018) who studied students' attitudes toward using flipped learning approach and found that

the participants considered the flipped learning exciting, motivating, and engagement.

The findings confirmed those of Ceylaner and Karakuş (2018) who showed that flipped learning method had positive contributions to students' self-directed learning readiness and attitudes towards the English course. Furthermore, Oraif (2018) showed that there was positive correlation between motivation and learning outcomes of flipped approach, and between learning outcomes and the supporting environment for the satisfaction of the psychological needs. The findings of this study acknowledge those of Vaezi, Afghari, Lotfi (2019) who indicated that improvement in the listening performance directly attributable to the flipped approach.

## 5. Conclusion

The findings of this study show a significant effect of the flipped classroom on critical thinking ability on ESP learners. However, the flipped classroom is not the only responsible item for determining L2 learners' thought, and it could just help to shape their thought. There are other factors affecting critical thinking like entering social life and being educated. However, flipped classrooms provide an opportunity for L2 students to become more autonomous; this autonomy calls for more critical thinking. Accordingly, flipped classrooms could provide the forum for potential critical thinking abilities of L2 students to blossom and improve.

The flipped classroom model flips the traditional relationship between class time and homework. Students learn at home via online coursework and lectures, and teachers use class time for teacher guided practice or projects. This model enabled teachers to use class time for more than delivering traditional lectures.

Developing active L2 learning environments is a key element for the support of ESP learners, especially for the Iranian ESP learners who have difficulty satisfying their language learning needs within the limited class hours during their L2 learning years. The findings of this study can be beneficial to ESP pedagogy. The results of the present study help ESP teachers make use of the flipped classroom to provide authentic communicative situations for ESP learners. Moreover, ESP teachers are able to detect their ESP learners' areas of weakness and strength and act accordingly. The findings regarding the effectiveness of the flipped classroom and its prospected implication in developing L2 learning can pave the way for better communication in an ESP context and community. ESP learners knowing how to communicate with other ESP learners on the

flipped classroom can try to do their best to improve their communicative competence.

To sum up, on the basis of the findings of this study, as well as the existing research on the topic, there is a strong indication that language learning can be best acquired in engaging learners in activities embedded in the instruction. The results of the present study suggest that the striking potential role of learners' engagement to positively enhance different aspects of language learning should not be underestimated in the current activities of the ESP classrooms.

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