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Research Article

Explicit vs. Implicit Corrective Feedback and Grammar Accuracy in Flipped and Non-Flipped Classes

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Abstract

This study investigated the effects of corrective feedback (CF) and the Flipped Teaching Model (FTM) on English language learners' overall and categorical grammar accuracy. The study was conducted at Payame-Nour University (PNU) of Mahabad, Iran. A total of 80 Iranian EFL learners participated in the study. The participants were randomly assigned into two flipped and two non-flipped groups of 20: one in each pair of groups receiving explicit and the other implicit CF. Data were collected across two time periods (pre-intervention and post-intervention). Two measures of Multivariate Analysis of Covariance (MANCOVA) were conducted. The results revealed no significant differences in the effect of CF type in the flipped classes, and both led to the learners' higher level of overall grammar accuracy. However, the explicit group outperformed the implicit one in the non-flipped classes. Explicit feedback in flipped and non-flipped classes led to the learners' outperformance in acquiring specific grammatical structures, such as adjective/reduced adjective clauses, but not in others, like comparative/superlative adjectives, gerund/infinitive, word forms, word order, and apposition. These findings have implications for language educators seeking to enhance learners' grammatical accuracy in both flipped and non-flipped classrooms, particularly in relation to the use of explicit feedback for certain types of grammatical structures.

Keywords: flipped teaching method, corrective feedback, explicit feedback, implicit feedback, grammar

Introduction

Grammar is an undeniable part of language learning in developing learners' accuracy (Chang, 2011). It is an instrument of language learning rather than an object (Debata, 2013; Rutherford, 2014); thus, language teachers and learners must attach utmost importance to its teaching and learning. However, mastering English grammar is difficult for many students because they need to perceive and apply abstract concepts (Abdulmajeed & Hameed, 2017). It is even more difficult in English as a Foreign Language (EFL) contexts where English is not used to communicate in the community. As has been pointed out by Ellis (2001), the role of grammar and how to integrate it into language classrooms have been central issues in both ESL (English as a second language) and EFL learning and teaching contexts.

Turan and Akdag-Cimen (2020) argue that time, patience, and practice are required to acquire language. Having years of experience in language teaching, the researchers of this study noticed that following the academic curriculum and delivering course materials (which are the priorities of higher education) might be at the expense of learners' knowledge acquisition in traditional classes. In traditional classes, much of the class time is devoted to presenting lectures by the teacher or doing tasks for which the learners might not be ready. In the Iranian context, specifically at universities, instructors have a shortage of time as the load of the course content is high; they do not have sufficient time to practice the course materials with learners to ensure they have acquired the knowledge. Mostly, in such classes, teachers have to explain the material in the class, and they do not have enough time to interact with learners (Sigurosson, 2016). As a result, as Alsowat (2016) argues, learners' English achievement is poor, and they could not attain the desired grammatical precision.

Flipped Teaching Method (FTM), as a unique approach integrated with technology, has brought about modifications in the traditional pedagogy (Vaughan, 2014). FTM reverses the role of homework and teaching; in conventional classes, students are presented with lectures in class, and they need to work on the taught material and homework at home. However, in FTM, learners acquire new knowledge at home by watching the prepared videos and practicing the skills in class under the teachers' control (Chen Hsieh et al., 2017). By integrating technology into the classroom, educators and academics have sought to provide learners with information-rich and dynamic learning environments (Chang & Hwang, 2018). In such environments, learners would be active participants who discover the knowledge independently using their cognitive and affective perceptions

(Lee, 2013). Teachers do not overwhelm learners with information; instead, they would be communication facilitators, and learners would be language detectors (Long, 1991).

In traditional teacher-centered classrooms, pupils receive minimal instructional feedback (Yang et al., 2012). The lack of class time is one of the flaws of traditional classrooms; there is insufficient time for reflection, questioning, active learning, and delivering personalized feedback (Lee & Wallace, 2017; Pudin, 2017). Furthermore, providing timely feedback to numerous students under time limitations takes much work (Chang & Hwang, 2018). Suo and Hou (2017) argue that broad comments give little practical help to learners, but learners should be motivated to improve their future performance by receiving specific feedback on their errors. Negative feedback may be helpful when it is inadequate to alert language learners to a mismatch between their interlanguage and the target language (Rutherford, 1987). In positive feedback, as Long (1996) notes, learners are provided with the correct form of language; however, in negative feedback, teachers make learners aware of the incorrect or inappropriate use of language. The usefulness of negative feedback, particularly in the form of corrective feedback (CF), relies (to a considerable degree) on the sort of negative feedback that is supplied (Carroll & Swain, 1993). CF allows learners to cognitively compare their interlanguage and the target input (Ellis, 1994); thus, it could be an appropriate type of feedback for grammar classes. According to Fulton (2012) and Sigurosson (2016), FTM allows teachers to provide learners with individualized feedback during class time. In other words, FTM allows teachers to engage students in interactive activities and offers them personalized feedback during class (Chen et al., 2014; Glopan, 2019).

Recently, the effectiveness of FTM on different areas of language learners' performance has attracted the attention of many researchers. Alhamami and Khan (2019), for example, investigated the effectiveness of FTM in a reading course and discovered that there is no superiority of one approach over the other, namely face-to-face and FTM. Lee and Wallace (2017) explored the effect of the flipped learning approach on South Korean learners' achievements and revealed the flipped group's overall outperformance compared to the non-flipped one. Similarly, Saglam and Arsalan (2018) examined the effect of FTM on learners' academic achievement manifesting the learners' higher achievements in FTM compared to traditional instruction. Oraif (2018) investigated the impact of FTM on intrinsic motivation and learning outcomes in an EFL writing course based on self-determination theory. Oraif found that FTM positively

impacted the learners' outcomes and motivation, which helped learners be more self-determined in performing demanding tasks.

While scholars have been keen on researching FTM to encourage language acquisition, little research has been conducted on the influence of various feedback forms on language learning in flipped classrooms. Therefore, this study examines the effect of different types of CF, explicit versus implicit, on learners' grammar accuracy in flipped and non-flipped classes.

Feedback in FTM

The ultimate goal of the educational setting is not only to help learners develop their knowledge and skills and train them to be lifelong independent learners, the teacher's feedback can pave the way for learners' self-regulation (Sadler, 1998). In other words, feedback is crucial in enabling learners' self-regulation (Nicol & Milligan, 2006). According to Black and Williams (1998), there is a degree of feedback in all classroom activities. However, the quality of interaction between the instructor and learner is at the heart of pedagogy and has the power to effect change. Long (1996) contends that feedback during interaction facilitates language acquisition because engagement drives learners to regulate the input. When information does not make sense to learners, they can request that it be modified, increasing the likelihood that they will integrate that knowledge into their growing interlanguage system (Lyster et al., 2013). Numerous academics (e.g., Bergman & Sams, 2012; Chuang et al., 2018; DeLozier & Rhodes, 2017; Sigursson, 2016) have acknowledged the significance of feedback in the context of FTM. However, few have investigated the advantages of feedback in FTM; consequently, it is an issue that needs to be addressed.

CF is a type of external feedback, specifically in the context of language learning, which provides scaffolding to individual learners (Lyster et al., 2013). CF responds to learners' inaccurate expressions (Ellis, 2006) and enables them to bridge the gap between their present accomplishments and goals (Yorke, 2003). Sheen (2007) defined CF as teachers' reaction by which learners are encouraged to attend to grammatical accuracy. FTM provides a broader range of feedback: it may be either CF from the instructor or student or any other feedback that reinforces learners' learning (Ryan, 2016). CF can be defined as explicit to implicit manifestations (Lyster et al., 2013). In the case of implicit feedback, there is no overt indication that the learner made a mistake, while in explicit feedback, the learner is made aware of committing the mistake (Ellis et al., 2006). Learners get explicit feedback that identifies off-target utterances and redirects their emphasis

from meaning to form at one end of the spectrum (Loewen & Philp, 2006). In contrast, implicit feedback preserves the emphasis on meaning via inference instead of highlighting the problem immediately (Ellis et al., 2006). Different types of CF can be placed on the implicit-explicit continuum. Recast as a sort of CF is implicit, whereas prompts are more explicit (Ranta & Lyster, 1997). Ranta and Lyster (1997) characterized recasts as instances in which the instructor reformulates learners' utterances while eliminating errors. Conversely, a prompt is a kind of negotiated feedback that requires learners to respond explicitly or implicitly (Lyster & Saito, 2010). Thus, recasts provide students with the desired form while prompts maintain it and urge students to develop it (Lee & Lyster, 2016).

Although there has been a wealth of studies on the superiority and efficacy of FTM compared to other techniques, the literature remains silent on its impact as an alternative way of instruction that offers learners personalized feedback. Therefore, the current research aimed to investigate the influence of explicit and implicit feedback on learners' grammatical accuracy in flipped and non-flipped classrooms. Consequently, the following research questions are addressed:

1. Does feedback (recast vs. prompt) have a significant effect on Iranian EFL learners' overall grammar learning and their accuracy in specific grammatical structures in the flipped classes?
2. Does feedback (recast vs. prompt) have a significant effect on Iranian EFL learners' overall grammar learning and their accuracy in specific grammatical structures in the non-flipped classes?

Method

Setting and Participants

The study was conducted at Payame-Nour University (PNU) of Mahabad, Iran. A self-study policy at PNUs requires students to independently study course materials and ask questions at a few problem-solving sessions on campus. English language learners are taught grammar in these sessions in two or three consecutive semesters, each comprising about 12 sessions. With years of teaching expertise at PNU, the researchers saw that students could not attain the desired grammatical precision. This might be either due to not understanding the structures or simply not studying them before attending the problem-solving sessions. Consequently, in such grammar courses, instructors explain grammatical structures from the start during problem-solving sessions and have insufficient time to engage students in the course material. Learners in such classes become passive recipients of knowledge. According to Alias (2010), FTM is a beneficial method to be utilized in grammar classes for active

learning, control over content delivery, and the efficient use of time. Thus, the researchers decided to flip the course.

Eighty PNU EFL students whose results on an institution-administered Paper-Based TOEFL (PBT) exam fell within one standard deviation of the mean were invited to participate in the research. This selection was applied to include homogeneous participants in the study. The study was on a volunteer basis, necessitating a non-probability convenience sampling; learners were not required to attend this grammar course as part of their university curriculum, and written informed consent was obtained from them. The participants (62 females and 18 males) were majoring in English language translation at PNU. All participants had Kurdish as their first language and Persian as their second. Despite having completed English classes throughout their university and secondary education, they had, on average, two years of experience studying English at language institutions. They were randomly allocated to one of four groups: one flipped class with explicit feedback (prompt), one with implicit feedback (recast), one non-flipped class with explicit feedback, and one non-flipped class with implicit feedback. One of the researchers of this study, who had years of teaching experience at PNU, taught in all classes.

Design

The study sought to investigate cause-and-effect relationships; therefore, a quasi-experimental design was employed. Four classes participated in the research consisting of a pre-test, treatment, and post-test. The dependent variable of the research was grammatical accuracy (in eight English structures). The independent variables of the research were the flipped grammar teaching model and the explicit and implicit feedback types.

The Target Forms

Ellis (2006) found the choice of grammatical structures controversial. There were two opposite positions in teaching grammar, neither of which received support in the literature. On one end of the spectrum is Krashen's (1982) minimalist viewpoint, according to which grammar instruction should be reduced to a handful of simple rules. On the other end, Swan and Walter (1990) adopted the extended position focused on teaching all the grammatical structures. According to Ellis (2006), this is difficult due to the shortage of time. A proposed solution by Ellis is to make a selection based on the errors committed by the learners, which means instructors should concentrate on those structures known to be difficult for students.

Therefore, the researchers of this study attempted to identify the structures with which the students struggled the most. The participants' grammatical difficulties were determined by analysing a sample of the original PBT used to select them. Thus, the problematic grammar areas were determined based on the learners' performance on the exam and the mistakes that most of them made. The test questions were thoroughly studied, the target grammatical structure of each question was established, and the number of correct and incorrect responses for each question was tallied. Eight grammatical constructions which had the most significant number of incorrect responses were the passive voice, adjective/reduced adjective clause, comparative/superlative adjectives, gerund/infinitive, word forms, word order, parallel structures, and apposition. Therefore, they were chosen as the focus of the study.

Instruments and materials

Proficiency Test: A sample of the TOEFL PBT was given to ensure the individuals' English language competence was comparable. There are three sections in each TOEFL PBT: listening, structure, and reading. As the emphasis of this research was on grammatical knowledge, the listening section was excluded. There were 40 structure questions to be answered in 25 minutes and 50 reading questions to be completed in 55 minutes.

Focused Grammar Pretest and Posttest: Based on the learners' performance in the grammar section of the proficiency exam, eight structures were chosen as the focus of the study. Thus, a BPT-like test of grammar composed of 40 items with equal focus on the eight selected structures, that is, having about five questions for each, was made. The required items were drawn from various versions of the original PBT tests. Each question was worth one point, with a maximum score of 40 and a minimum score of zero. Two English-language teaching experts verified the test validity, one assistant and one associate professor.

Regarding test reliability, a pilot test was administered to 25 PNU students who were not involved in the research. The estimated reliability was 0.9. Thus, as the study pretest (see Appendix 1), this test was administered to the learners in the second week. Similarly, another focused grammar test was made as the posttest (see Appendix 2) and administered to the learners in the tenth week.

Teaching Material: To teach the selected grammatical structures, the English Grammar Digest book, authored by Aronson (1984), and Arco: Master the TOEFL Tests by Sullivan et al. (2001) were utilized. These books were selected because they had worksheets (see Appendix 3) relevant

to the grammar problems on the PBTs. Each session focused on one of the target grammatical structures, and learners were provided with the associated worksheets.

Procedure

This research was carried out during regular class hours throughout the semester. After administering the proficiency test, 80 students were chosen as research participants. They were allocated randomly to four groups; two got flipped instruction, and two did not; one in each group received explicit feedback (prompt), and the other received implicit feedback (recast) for their class activities. The duration of the treatment was 12 weeks. Initially, the pretest was administered to all of the students. Both flipped groups were briefed on what would be expected regarding in-class and outside-classroom work before the treatment began. In this study, flipped teaching was applied by preparing videos that learners had to watch at home and spending class time on the exercises. One of the researchers created videos to help with the grammar lessons in flipped classrooms. In each lesson, the instructor concentrated on one of the aforementioned eight grammatical forms. On average, the videos showed the teacher spending 15–20 minutes on a single grammatical concept. At least three days before the class, the videos were shared with the students to watch using the online platform. The textbooks used in class were "English Grammar Digest" and "Arco: Master the TOEFL Tests," and the exercises students completed were aligned with the material in both books.

For the online platform, Telegram instant messaging was used. Telegram application is available in both IOS and Android operating systems and can be installed on the desktop. It is a popular application used by millions of users in Iran. One telegram group was created for each flipped group, and the members were invited to join. The researcher posted the videos on the telegram groups for the two flipped groups. Due to the problem of downloading a 15- or 20-minute video, the corresponding researcher tried to cut the video to three or four five-minute videos. For those students who had an internet-connection problem or did not have access to a smartphone, the researcher put the videos on the learners' USBs to watch them on their computer desktops.

The video lectures were assigned as homework for the students to watch in their own time. If students do not get a concept the first time around, as is common after a teacher teaches a subject in class, they may constantly refer back to the video and have a better grasp of the material. Based on the pre-

class input, the instructor presented the students with worksheets pertinent to the class structure.

In a 60-minute flipped classroom, the instructor spent five to ten minutes addressing the students' difficulties or queries. Thus, if a part of the lesson seemed unclear to the students, the instructor attempted to clarify it and make it easier to comprehend. The rest of the class was dedicated to worksheet practice, questioning, and individual feedback. The questions on the worksheets were utterly aligned with the concepts being taught, and they familiarised students with various aspects of the structure.

Each session focused on a single structure; hence, the feedback offered to the students pertained to that structure. The worksheets had sufficient questions to offer personalized feedback to each student. The pertinent question was written on the board, and a student was instructed to respond. In the explicit feedback group, if a student made an error in the indicated structure, the instructor pointed out the error and attempted to elicit the proper answer via prompts (see Example 1). The teacher used clarification requests, repetition, and metalinguistic feedback to make learners aware of the non-target utterance and push them to produce the target one. The instructor did not give the students the target form; instead, she had them progressively approach it. Occasionally, the feedback supplied to the students evolved into a lengthy dialogue between the student and the instructor. The student stated all potential justifications for adopting this choice. The implicit group followed the identical process: putting the question on the board and asking a student to respond; the instructor implicitly corrected the students' errors using recasts (see Example 2). This means that the teacher reformulated the learners' utterances without error and provided the learners with the target form. In flipped classrooms, the instructor had sufficient time to expose each student to the concepts individually and offer personalized feedback.

In the non-flipped classes, the students were taught traditionally, which means the lecturer presented the specific grammatical structure assigned to that session to the learners. The first fifteen to twenty minutes of class were dedicated to teaching the grammatical structure, while the remainder was devoted to worksheets. The lecturer continued the same approach, writing the questions on the board, assigning one student to respond, and providing that student with feedback. The feedback was explicit or implicit based on the group she was teaching. In the final week, week 12, the learners were given the posttest.

Example 1: Explicit Feedback

T: "The brand-new Cadillac, purchasing less than two weeks ago, was destroyed in the accident".

L: It is correct.

T: which part is the reduced adj. clause?

L: "purchasing less than two weeks ago".

T: ok, could you tell me what the full form of the adjective clause is?

L: "which is purchasing"

T: Is it active or passive?

L: well….err…. Cadillac is a car, it should be passive

T: ok, change it to passive

L: "which is purchased"

T: ok, what tense is your sentence?

L: Tense, err…. oh, past tense, sorry teacher, it is "was purchased".

T: good job, now change it to reduce adj. clause

L: well, we should omit which and is, so it is "purchased"! Yes, "purchased"

T: yes, good job.

Example 2: Implicit Feedback

T: "The brand-new Cadillac, purchasing less than two weeks ago, was destroyed in the accident".

L: It is correct.

T: The brand-new Cadillac, **purchased** less than two weeks ago, was destroyed in the accident.

Data Analysis

To analyze the data, the researchers employed quantitative methods. The collected data were analyzed using the SPSS software version 24 with a confidence level of 95% ($p < .05$). Two measures of Multivariate Analysis of covariance (MANCOVA) were employed. MANCOVA allows us to examine the effect of one or two types of independent variables on two or more dependent variables. This research aimed to examine the effect of two forms of feedback (explicit vs implicit) on students' overall grammar accuracy and accuracy in eight categories across two time periods (pre-intervention and post-intervention) in flipped and non-flipped classes.

Results

The descriptive statistics for flipped and non-flipped classes exposed to various feedback forms during the two testing occasions (pretest and posttest) are shown in Appendix 4.

Students' overall and categorical grammar accuracy after being exposed to different feedback types in flipped classes

A measure of MANCOVA was utilized to answer the first research question, the

effect of feedback (recast vs. prompt) on Iranian EFL learners' overall grammar learning and their accuracy in specific grammatical structures in the flipped classrooms. Levene's Test of Equality of Error of Variances (Table 1) was performed first.

Table 1
Leven's Test of Equality of Error Variances of the Learners' Achievements of Specific Grammatical Structures in two Flipped Classes

Indexes	F	df1	df2	P
Passive	0.62	1	38	0.43
Parallel Structure	0.01	1	38	0.89
Superlative/Comparative Adjectives	1.29	1	38	0.26
Infinitive and Gerund	0.74	1	38	0.39
Word Forms	0.67	1	38	0.41
Word Order	0.12	1	38	0.72
Apposition	0.008	1	38	0.92
Adjective/Reduced Adjective Clause	0.002	1	38	0.96

As shown in Table 1, the homogeneity of variances assumption was fulfilled since the P-values of all variables were more than 0.05. The Box's Test of Equality of Covariance Matrices was then completed (Table 2), and the results revealed that the second assumption was met as well (P=.003> .001).

Table 2
Box's Test of Equality of Covariance Matrices for the Learners' Achievements of Specific Grammatical Structures in the Flipped Classes

Box`s M	F	df1	df2	P
92.45	1.98	36	4858.84	0.003

After meeting the assumptions of equality of Variance and Covariance, the MANCOVA test was utilized, the results of which are presented in Table 3.

Table 3
The Results of MANCOVA for the Learners' Overall Grammar Achievements in the Flipped Classes

	Value	F	Sig	Eta
Wilks` Lambda	0.57	2.16	0.07	0.42

As shown in Table 3, there was no significant difference between the grammar achievement of two explicit and implicit flipped classes (Wilk's Lambda = .57, F = 2.16, Eta Squared = .42 and P = .07). In fact, both explicit and implicit feedback had the same effect on the grammar accuracy of the students in the flipped classrooms. Table 4 represents the separate analyses of dependent variables, that is, the effect of feedback on different grammatical categories.

Table 4
Investigating Between-Subjects Effects over Time

Variables	Indexes	Sum of squares	df	Mean square	F	Sig	Eta
Group	Passive	0.08	1	0.08	0.07	0.78	0.003
	Parallel Structure	6.83	1	6.83	8.18	0.005	0.21
	Superlative/Comparative Adjectives	0.49	1	0.49	0.42	0.52	0.01
	Infinitive and Gerund	0.35	1	0.35	0.47	0.49	0.01
	Word Forms	0.06	1	0.06	0.05	0.82	0.002
	Word Order	1.38	1	1.38	1.22	0.27	0.03
	Apposition	1.2	1	1.2	1.38	0.24	0.04
	Adjective/Reduced Adjective Clause	10.51	1	10.51	10.18	0.003	0.25
Error	Passive	31.71	30	1.05			
	Parallel Structure	25.07	30	0.83			
	Superlative/Comparative Adjectives	35.12	30	1.17			
	Infinitive and Gerund	22.24	30	0.74			
	Word Forms	38.58	30	1.28			
	Word Order	34.08	30	1.13			
	Apposition	26.07	30	0.86			
	Adjective/Reduced Adjective Clause	30.98	30	1.03			
Total	Passive	386	40				
	Parallel Structure	367	40				
	Superlative/Comparative Adjectives	502	40				
	Infinitive and Gerund	393	40				

Word Forms	251	40
Word Order	268	40
Apposition	179	40
Adjective/Reduced Adjective Clause	673	40

As depicted in Table 4, for the second and eighth indexes, parallel structure, and adjective/reduced clause, the P values were .005 and .003 ($p<.006$), and the F values were 8.18 and 10.18, respectively. Thus, there was a significant difference between explicit and implicit flipped classes in the learners' accuracy in these two categories suggesting the outperformance of the explicit flipped class. However, there was no significant difference among other indexes, including passive ($F = .07$), superlative/comparative adjectives ($F = .42$), infinitive/gerund ($F = .47$), word forms ($F = .05$), word order ($F = 1.22$), and apposition ($F = 1.38$) in all of which $p>.006$. Therefore, applying explicit or implicit feedback in each grammatical category in the flipped classes had the same impact on the learners' grammar accuracy.

As shown in Table 5, the mean score for the second index, parallel structure, in the explicit flipped class was 3.33, which was higher than the implicit one, M=2.11.

Table 5
Comparing the Means of the Learners' Scores in Different Grammatical Structure after Being Exposed to Explicit and Implicit Feedback in the Flipped Classes

Indexes	Group	Mean	Std. Error
Passive	Explicit	2.96	0.29
	Implicit	2.83	0.29
Parallel Structure	Explicit	3.33	0.25
	Implicit	2.11	0.25
Superlative/Comparative Adjectives	Explicit	3.46	0.3
	Implicit	3.13	0.3
Infinitive and Gerund	Explicit	2.78	0.24
	Implicit	3.06	0.24
Word Forms	Explicit	2.11	0.32
	Implicit	2.23	0.32
Word Order	Explicit	1.97	0.3
	Implicit	2.52	0.3
Apposition	Explicit	2.13	0.26

	Implicit	1.61	0.26
Adjective/Reduced Adjective Clause	Explicit	4.53	0.28
	Implicit	3.01	0.28

In Table 5, the mean score for index eight, adjective/reduced adjective clause, in the explicit class was 4.53, which was more than the implicit class for the same index (M = 3.01). Regarding other grammatical indexes, the mean scores of the two groups did not vary significantly. Therefore, it can be concluded that using explicit feedback in flipped classes was more beneficial for learning parallel structures and adjective/reduced adjective clauses; however, using either explicit or implicit feedback for the other six categories did not result in one group being superior to the other.

Students' overall and categorical grammar accuracy after being exposed to different feedback types in non-flipped classes

Another MANCOVA measure was used to address the second study question on the effect of feedback (recast vs. prompt) on Iranian EFL learners' overall grammar learning and their accuracy in specific grammatical structures in the non-flipped classrooms. Levene's Test of Equality of Error of Variances (Table 6) was performed first.

Table 6
Leven's Test of Equality of Error Variances of the Learners' Achievements of Specific Grammatical Structures in the Non-Flipped Classes

Indexes	F	df1	df2	P
Passive	16.92	1	38	0.013
Parallel Structure	14.39	1	38	0.015
Superlative and Comparative Adjectives	2.81	1	38	0.1
Infinitive and Gerund	3.76	1	38	0.06
Word Forms	3.95	1	38	0.05
Word Order	2.66	1	38	0.111
Apposition	7.79	1	38	0.017
Adjective Clause and Reduced Adjective Clause	7.69	1	38	0.018

As demonstrated in Table 6, the homogeneity of variances assumption was satisfied since the P-value for each variable was more than 0.01. Box's Test of Equality of Covariance Matrices (Table 7) revealed that the second assumption was also fulfilled since P=.002 was greater than.001.

Table 7

Box's Test of Equality of Covariance Matrices for the Learners' Achievements of Specific Grammatical Structures in the Non-Flipped Classes

Box`s M	F	df1	df2	P
89.31	1.73	36	4439.73	0.002

Given that the assumptions of equality of Variance and Covariance were met, the MANCOVA test was utilized (Table 8).

Table 8
The Results of MANCOVA for the Learners' Overall Grammar Achievements in the Non-Flipped Classes

	Value	F	Sig	Eta
Wilks` Lambda	0.2	11.5	0.000	0.8

As indicated in Table 8, Wilk's Lambda = .2, F = 11.5, Eta Squared = .8, and P = .00. Since the P-value was smaller than .05, there was a significant difference between the grammar accuracy of two explicit and implicit non-flipped classes. Therefore, it could be predicted that providing learners with explicit feedback in the non-flipped classes led to higher grammar accuracy compared to the implicit non-flipped class. The effect of feedback on different grammatical categories is represented in Table 9.

Table 9
Investigating Between-Subjects Effects over Time

Variables	Indexes	Sum of squares	df	Mean square	F	Sig	Eta
Group	Passive	18.34	1	18.34	12.62	0.001	0.29
	Parallel Structure	1.78	1	1.78	1.07	0.3	0.03
	Superlative and Comparative Adjectives	1.19	1	1.19	1.47	0.23	0.04
	Infinitive and Gerund	0.11	1	0.11	0.07	0.78	0.002
	Word Forms	0.07	1	0.07	0.04	0.83	0.002
	Word Order	2.77	1	2.77	3.11	0.08	0.09
	Apposition	6.99	1	6.99	5.8	0.02	0.16

	Adjective Clause and Reduced Adjective Clause	19.78	1	19.78	9.56	0.004	0.24
Error	Passive	43.6	30	1.45			
	Parallel Structure	49.77	30	1.65			
	Superlative and Comparative Adjectives	24.34	30	0.81			
	Infinitive and Gerund	46.78	30	1.55			
	Word Forms	49.72	30	1.65			
	Word Order	26.72	30	0.89			
	Apposition	36.1	30	1.2			
	Adjective Clause and Reduced Adjective Clause	62.07	30	2.06			
Total	Passive	458	40				
	Parallel Structure	342	40				
	Superlative and Comparative Adjectives	501	40				
	Infinitive and Gerund	321	40				
	Word Forms	287	40				
	Word Order	459	40				
	Apposition	174	40				
	Adjective Clause and Reduced Adjective Clause	553	40				

As Table 9 shows, the P values for the first index (passive) and the eighth one (Adjective/Reduced Adjective Clause) were .001 and .004 ($p<.006$), and the F values were 12.62 and 9.56, respectively. Thus, there was a significant difference between explicit and implicit non-flipped classes in the learners' accuracy in these two categories suggesting the outperformance of the explicit non-flipped class. However, there was no significant difference among other indexes, including parallel structure ($F = 1.07$), superlative/

comparative adjectives (F = 1.47), infinitive/gerund (F = .07), word forms (F = .04), word order (F = 3.11), and apposition (F = 5.8) in all of which p>.006. Therefore, applying explicit or implicit feedback in such categories in the non-flipped classes does not make a significant difference.

Table 10 depicts the means of the learners' scores in different grammatical structures in two explicit and implicit non-flipped classes.

Table 10
Comparing the Means of the Learners' Scores in Different Grammatical Structure after Being Exposed to Explicit and Implicit Feedback in the Non-Flipped Classes

Indexes	Group	Mean	Std. Error
Passive	Explicit	4.21	0.36
	Implicit	1.98	0.36
Parallel Structure	Explicit	2.94	0.39
	Implicit	2.25	0.39
Superlative and Comparative Adjectives	Explicit	3.65	0.27
	Implicit	3.09	0.27
Infinitive and Gerund	Explicit	2.56	0.37
	Implicit	2.38	0.37
Word Forms	Explicit	2.3	0.39
	Implicit	2.44	0.39
Word Order	Explicit	3.6	0.28
	Implicit	2.74	0.28
Apposition	Explicit	2.33	0.33
	Implicit	0.96	0.33
Adjective Clause and Reduced Adjective Clause	Explicit	4.47	0.43
	Implicit	2.17	0.43

As shown in Table 10, the mean score for the first index, passive voice, in the explicit non-flipped class was 4.21, which was higher than the implicit one, M = 1.98. The mean score for the index eight, adjective/reduced adjective clause, in the explicit class was 4.47, which was bigger than that in the implicit class (M = 2.17). Regarding other grammatical indexes, the mean scores of the explicit and implicit non-flipped groups did not vary significantly. Therefore, explicit feedback in

non-flipped classes seemed to be more effective for teaching passive voice and adjective/reduced adjective clauses; however, in terms of the other six structures, there was no superiority of one group over the other.

Discussion

This study aimed at exploring the effects of two types of feedback: prompt as explicit and recast as implicit feedback on the learners' overall grammar learning and their accuracy of specific grammatical structures in the flipped and non-flipped classes. Regarding the learners' overall grammar learning (general aspects of accuracy without focusing on specific grammatical structures), the results revealed no significant difference between the flipped explicit and implicit classes. That means providing learners with either explicit or implicit feedback did not lead to the outperformance of one group over the other. However, in the non-flipped classes, there was a significant difference, and the explicit class outperformed the implicit one. Regarding the specific grammatical structures, the learners' performance in all explicit and implicit flipped non-flipped classes was the same for most grammatical structures, including superlative/comparative adjectives, infinitive/gerund, word forms, word order, apposition, passive (in the explicit and implicit flipped classes), and parallel structure (in the explicit and implicit non-flipped classes). However, the explicit feedback in both flipped and non-flipped classes brought about better performance in adjective/reduced clause, parallel structure (in the explicit flipped class), and passive voice (in the explicit non-flipped class).

Regarding the learners' overall grammar learning in the flipped classes, providing learners with either explicit or implicit feedback did not bring about the superiority of one group over the other. Both groups made significant progress in their overall grammar scores, manifesting the significant effect of FTM, which provided the learners with the opportunity to preview the course materials as often as needed and, more importantly, at their own pace. Moreover, the time in the flipped classes enabled the teacher to provide the learners with individualized feedback, either explicitly or implicitly. Learners in such classes became aware of their mistakes individually, resulting in better posttest performance.

Roehl et al. (2013) suggest that the available time in FTM motivates learners to take advantage of in-class activities and have a deep understanding of the concepts, and consequently, witness more progress in the learners' achievements. Learners are encouraged to take responsibility for their learning and watch the videos outside the class at their own convenience and based on their individual preferences. Thus, understanding (a lower-order thinking skill) is done outside the class; however, the available precious class time is spent on

problem-solving activities that require higher-order thinking skills (analysis, application, and creation). The activation of prior knowledge, whether old or new, might facilitate the processing of the target language (Leow & Mercer, 2015). By asking for clarification and removing the misunderstanding for each learner, the teacher tries to motivate them to modify their prior knowledge using recast or prompts.

In the non-flipped classes, the explicit group outperformed the implicit one. This is an outcome that might be expected because the learners in these classes were taught traditionally. The teacher presented the grammatical structures, and the learners received knowledge. It was less likely that previewing and self-paced learning would occur in such classes. Teaching the grammatical structures in such classes was followed by practicing those structures and receiving feedback. Although the teacher tried to provide the learners with individualized feedback, it was not possible due to the shortage of time. Students who received explicit feedback could perform better in their posttest than in the implicit group. In teaching grammatical structures, specifically in non-flipped classes, providing learners with explicit feedback might be a better option because more in-depth knowledge about grammatical structures could be obtained.

Prompt as explicit feedback involves learners in problem-solving and guided learning, which fosters reflection and brings about the long-term acquisition (Zohrabi & Ehsani, 2014). When learners repeatedly recall the target form from their long-term memory, the connection between their stored knowledge and their actual output is strengthened (Young & Lyster, 2010). Unlike Hyland and Hyland (2001), who maintained that prompts might cause confusion and misunderstanding between the teachers and learners, the findings of this study showed that the non-flipped group receiving prompts obtained a higher level of accuracy. The result of this study is in line with Hyland's (2004) study, which mentioned the superiority of explicit feedback over implicit one in traditional (non-flipped) classes. However, the findings of this study do not correspond with Srichanyachon's (2012) and Zohrabi and Ehsani's (2014) findings revealing the efficiency of recast as implicit feedback in bringing about clarity and providing learners with sufficient information about their errors.

In terms of the specific grammatical structures, the performance of the learners in both flipped groups was the same for six grammatical structures, including passive voice, superlative/comparative adjectives, infinitive/ gerund, word forms, word order, and apposition, and both groups showed higher accuracy in their posttests. However, for the other two categories, parallel structures and adjective/reduced adjective clauses, the learners in the explicit

flipped class outperformed the ones in the implicit group, which could be due to the complexity of these structures. In the non-flipped explicit and implicit classes, the learners performed similarly in six grammatical structures: parallel structures, superlative/comparative adjectives, infinitive/gerund, word forms, word order, and apposition. However, in terms of two other structures, passive voice and adjective/reduced adjective clause, learners in the explicit group outperformed the implicit one.

The outperformance of the explicit groups in both flipped, and non-flipped classes in specific structures might be because of the learners' lack of sufficient knowledge of such structures. The explicit feedback allowed learners to test their hypotheses (Benson & Dekenser, 2019) and, consequently, bring about better performance. However, such an opportunity was not provided for the learners in the implicit flipped and non-flipped classes. As a result, they could not improve their accuracy as well as the explicit groups. In other words, most of the learners of this study might have heard about structures such as superlative/comparative adjectives, infinitive/gerund, etc. In contrast, adjective/ reduced adjective clauses, parallel structures (in the flipped class), and passive voice (in the non-flipped class) seemed novel to them. Other researchers have made the same claim (e.g., Benson & Dekenser, 2019; Young & Lyster, 2010). When learners have declarative knowledge about a form, implicit feedback might be enough; however, it might not be the same for novel, complicated structures. According to Dekenser (2016), the saliency of the structure, including the abstractness and the transparency of form-meaning relations, also matters.

The current study suggests that CF provided in flipped classes, whether explicitly or implicitly, improves the learners' overall grammar learning. However, in non-flipped classes, it is recommended that the students be provided with explicit feedback. In specific grammatical structures, such as adjective/reduced adjective clauses, providing learners with explicit feedback in both flipped and non-flipped classes led to the learners' outperformance compared to the implicit feedback. This might be because of the complexity of specific structures for learners to gain mastery over. However, for other structures, the performance of all groups was the same, and there was no significant difference among them.

Previous research examined the influence of FTM on speaking, listening, writing, reading, and grammar; this study seems to be an initiative in terms of conducting the effect of FTM integrated with CF on the learners' grammar accuracy of specific structures. This research was a novel contribution to the FTM field; hence, more research is required to evaluate its efficacy. Furthermore, the emphasis of this research was on problematic grammatical structures; thus, different outcomes may be found when other

structures or language skills are considered in CF-integrated flipped classrooms. Therefore, it is recommended to use similar studies on other grammatical structures and language skills. Such studies can also be conducted in language schools and at different proficiency levels. Moreover, it is suggested that such studies on FTM integrated with CF be conducted in other academic disciplines to see whether similar outcomes can be obtained or if it is a discipline-specific outcome.

This study's findings have several educational implications. First, the findings indicate that FTM is an excellent model for enhancing learners' grammatical understanding, particularly for structures that seem to be challenging for learners to acquire. Second, FTM brings about more active learning in the classroom. In flipped classrooms, instructors are no longer directors but facilitators, and learning is collaborative. Thirdly, the methodology allows instructors to deliver personalized feedback to students. In terms of complex grammatical structures, explicit feedback might boost the learners' knowledge in flipped and non-flipped classes. Regarding teaching other structures, teachers could utilize explicit and implicit feedback in flipped classes, but explicit feedback might be more beneficial in non-flipped classes. Fourth, enhancing learners' language learning with technology in the era when almost everything is conducted via technology can flavour learning according to today's learners' interests. Finally, due to time availability, FTM is an appropriate model to use at universities.

Declaration of interest: none

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