

THE IMPACT OF FORMATIVE ASSESSMENT ON HIGH SCHOOL ENGLISH LEARNERS' MOTIVATION AND ACHIEVEMENT

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ABSTRACT: *The present investigation probed into the effect of formative assessment (FA) on Iranian high school EFL learners' motivation and academic achievement in Rafsanjan, Iran. Via convenience sampling, 50 male EFL high school students from Shahid Hasani, Hemze, Rah-e-Danesh, and Ali Sheibani in Nogh Rafsanjan, Iran, were selected. Then, they were assigned into two equal experimental and control groups. Before the instruction, two groups were pretested regarding language achievement and motivation. To this end, two groups took the achievement pretest and motivation questionnaire in different sessions within the allotted time. Next, each group received the treatments. The participants in the experimental group received instruction based on formative assessment. Thus, apart from their course materials, the participants in the experimental group were given formative tests (cloze tests, C-tests, etc.) and quizzes, homework exercises, exercises with short, extended, or multiple-choice answers, one-minute papers, and one-sentence summaries. In contrast, the control group was taught the same materials with traditional book exercises and activities (homework exercises, gap filling, matching, true/false or multiple-choice exercises, correcting mistakes, etc.). These types of activities were not provided with feedback. After the instructions, which lasted 10 sessions (30 minutes each session), the achievement and motivation posttest were administered to compare the performance of the two groups. The data were then analysed by an independent samples t-test to examine the null hypotheses. The results revealed that FA had a positively significant effect on both the motivation and academic achievement of Iranian high school EFL learners. That is, the findings of the study showed that formative assessment did improve students' academic achievement and increased their learning motivation, which is in line with previous studies on the efficacy of FA.*

Keywords: Formative Assessment, Motivation, Academic Achievement, Iranian EFL Learners

1. INTRODUCTION

According to Lam [1], assessment is a process by which results are reported in terms of skills, abilities, knowledge, and perceptions. In 1967, Scriven [2] came up with the term's formative and summative assessment. He explained that these two types of assessments have different purposes and are used in different ways. Formative assessment is when teachers look at students' work to give them information that helps them do better in the future. One of the most important components of formative assessment is feedback which helps to provide evidence on student learning [3]. Feedback helps students to understand the current status of their learning to make further progress [4]. This feedback to advance student learning could come from different agents such as teachers, self-assessment, peer assessment, group assessment, and even computers [5]. Feedback may be given to students in different periods (instantly or delayed) [3]. Thus, different types of feedback provide different formative assessment interventions [6]. This study seeks to investigate the effect of FA on students' motivation and achievement in secondary school. The importance of FA was proposed by many researchers. For example, [7] emphasized the importance of using techniques like self-assessment, feedback, and peer assessment in the classroom. These practices are crucial for helping students improve their language skills. Research studies have looked into using FAS, and they show that this method helps teach and learn a second language [8, 4, 9, 10]. The results of this study can also help improve teacher training programs. As new types of assessments come out, teachers need to work hard to provide different kinds of learning training. The use of assessment as a teaching tool is growing quickly in language education. Teacher training courses often focus a lot on how to teach and assess students. This helps language teachers improve their knowledge and teaching skills. Also, teacher trainers can improve their understanding of how students learn language skills by seeing

how using formative assessment (FA) helps. This will help them learn more about how students develop their language abilities and how they think.

Formative Assessment Strategies

Black and Wiliam [11] believe that formative assessment includes these strategies: First, it explains what students will learn and how they will know they succeeded; second, it creates good class discussions and activities that show how well students understand; third, it gives feedback that helps students improve; fourth, it encourages students to help each other learn; and fifth, it helps students take charge of their learning. [12] have explained the activities used for formative assessment. In 2006, there were quizzes, short tests, question-and-answer sessions, assignments, and homework, among other things. These activities should help students learn to assess themselves, keep their interest, and improve their learning.

Different Types of Motivation

Motivation is a key factor that helps to explain why people learn languages differently, but it can be complicated. According to Brown [13] and Gardner [14], there are two basic types of motivation: integrative and instrumental. According to Gardner and Lambert (1959 as cited in Pourhosein et al. [15]), integrative motivation refers to language learning for personal growth and cultural enrichment; that is, the learner likes to learn a language to enter successfully into the target language society. They continued that instrumental motivation arises out of a need to learn the L2 for functional or external reasons. They involve the attainment of aims, functional aims for learning like passing exams and financial rewards. Dörnyei [16] expressed that a motivational construct involves both instrumental and integrative motivation. Most situations in learning a language include a mixture of each type of motivation. It is impossible to attribute language learning success to certain integrative or instrumental causes. It is stated that the significance of

integrative and instrumental motivation depends on situations or contexts whether learning language functions as a foreign language or as a second language.

2. STATEMENT OF THE RESEARCH PROBLEM

Formative assessment (FA) is considered an effective framework for promoting learning in schools [17]. Previous research on FA has focused on its effects on student achievement, which are well documented [1, 8]. However, in addition to achievement, student motivation is another important goal dimension in education as formulated in school curricula. At the same time, motivation is an essential prerequisite for successful learning [18]. However, the effects of FA on motivation as well as language achievement have rarely been studied [19]. In particular, little is known about the underlying mechanisms mediating the effects of FA on students' motivation and achievement. Several studies [20, 21] on Iranian high school EFL learners' motivation and achievement confirmed the low motivation and achievement of Iranian high school EFL learners due to various factors as well as the type of assessment. Such studies indicated that traditional assessment had a significantly negative effect on learners' achievement, and made them demotivated. Reviewing the related literature revealed that in the Iranian educational context, very few studies have been conducted to examine the effect of FA on learners' motivation and achievement. In addition, there is a need to find new ways to develop learners' achievement and enhance their motivation. Thus, to fill such a gap in the literature, the present research was an attempt to explore the effect of FA on Iranian high school English learners' motivation and achievement.

3. RESEARCH QUESTIONS

The purpose of this study is to answer the following research questions:

RQ1. Does FA have any significant effect on Iranian high school EFL learners' motivation in Rafsanjan, Iran?

RQ2. Does FA have any significant effect on Iranian high school EFL learners' achievement in Rafsanjan, Iran?

4. RESEARCH HYPOTHESES

Ho1. FA has no significant effect on Iranian high school EFL learners' motivation in Rafsanjan, Iran.

Ho2. FA has no significant effect on Iranian high school EFL learners' achievement in Rafsanjan, Iran.

5. EMPIRICAL STUDIES

Hattie [22] examined the factors that were significantly related to student achievement through multiple meta-analyses and found that one of the most important factors is teachers' use of formative assessment strategies. Kingston and Nash [23], in their meta-analysis research, examined a limited number of studies (13 studies) to uncover the effect of formative assessment on K-12 student achievement and reported the mean effect size as .20. They suggested that more studies are needed to investigate the relationship between formative assessment and academic achievement. Rakoczy et al. [24] investigated the impact of FA in ninth-grade mathematics instruction revealing that compared to regular mathematics instruction, teachers' use of FA practices (using assessment tasks and feedback including hints for improvement) had a positive effect on students' change in

self-efficacy. Lee and Coniam [25] analyzed 33 studies about K-12 education in the USA and reported an overall mean effect size of .29. They found the effectiveness of formative assessment on different subject areas. Moreover, *Graham et al.* [5] investigated the effect of formative assessment on students' writing performance and reported a weighted mean effect size of .61. They also reported the impact of feedback from adults ($d=.87$), feedback from students (peer assessment, $d=.58$ and self-assessment, $d=.62$), and feedback from computers ($d=.38$) to student writing performance. Piroozmanesh and Imanipour [21] aimed to evaluate the effect of formative evaluation on the test anxiety of students. The quasi-experimental study was conducted on 68 nursing students and contained two groups, before and after the procedure. In the intervention group, a formative test was held every four weeks. However, subjects of the control group took only one final exam. In addition, the level of test anxiety of the participants was measured before and after the intervention using motivated strategies for learning questionnaire by Pintrich and De Groot. Data analysis was performed in SPSS version 16. In this research, the mean and standard deviation of anxiety in the control group significantly increased after the intervention. In the intervention group, the mean and standard deviation of test anxiety significantly reduced after the intervention. While the comparison of the mean score of test anxiety of both groups before the intervention revealed no significant difference, there was a significant difference between the groups after the intervention. Aust et al. [26] aimed to test whether FA has a positive effect on intrinsic motivation mediated by students' perceived competence support (PCS). In a three-group design, two versions of FA were compared with a control group. In both versions of FA, teachers used a tool for learning progress assessment (LPA), while in one version, teachers received a combination of LPA and additional support consisting of materials for feedback and adaptive instruction (LPA+). A path model for half-longitudinal designs was estimated. Results support the motivational effect of FA. LPA and LPA+ both positively influence students' PCS which is in turn associated with higher intrinsic motivation. A small indirect effect on intrinsic motivation mediated by PCS was shown for both intervention groups, which was only significant for LPA. For LPA+, higher-performing students particularly benefitted from the intervention. Teachers' use of FA practices can foster students' PCS, which seems to be a promising way to motivation-enhancing teaching.

6. METHODOLOGY

Participants

The target participants included 50 male students, who were at the ninth-grade high school in Rafsanjan, Iran, from three high schools, Shahid Hasani, Hemze, Rah-e-Danesh, and Ali Sheibani in Nogh city of Rafsanjan. The age of the participants ranged from 14 to 16. They were selected based on convenience sampling.

7. RESEARCH INSTRUMENTS

Motivation Questionnaire

The Likert-scale questionnaire adapted from Gardner [27]

was employed to assess the motivation of the learners in the experimental and control groups before and after the treatment.

English Language Achievement Pretest t and Posttest

In addition to the motivation questionnaire, a researcher-made pretest on English language achievement was utilized. It consisted of 50 questions based on multiple-choice options, covering all aspects of the topics to measure the different levels of language achievement.

8. DATA COLLECTION PROCEDURE

In the first step in conducting the present research, the pilot test was run. In the pilot study, the participants had similar characteristics to the participants in the main study. Based on the results of the pilot study, some items of the motivation questionnaire, the pretest as well as the posttest were modified in line with the experts' comments. To perform the main study, 50 male EFL high school students from Shahid Hasani, Hemze, Rah-e-Desh, and Ali Sheibani in Nogh City of Rafsanjan, Iran, were selected. Then, they were assigned into two equal experimental and control groups. Before the instruction, two groups were pretested regarding language achievement and motivation. To this end, two groups took the achievement pretest and motivation questionnaire in different sessions within the allotted time. Next, each group received the treatments. The participants in the experimental group received instruction based on formative assessment. Thus, apart from their course materials, the participants in the experimental group were given formative tests (cloze tests, C-tests, etc.) and quizzes, homework exercises, exercises with short, extended or multiple-choice answers, one-minute papers and one-sentence summaries. Throughout the instructional process, the teacher monitored students' progress and provided feedback on their strengths and weaknesses. All the types of formative assessment applied during the experiment were always provided with feedback (by teacher, peer or self-assessment) and discussed thoroughly with the students, as part of formative assessment practices, classroom teachers used the following strategies to estimate their students' progress:

- a. Observations of student language usage in speaking and writing

- b. Use of visuals to represent conceptual understanding
- c. demonstrations
- d. Student participation in critical dialogues or conversations
- e. Student interviews
- f. Student Questioning: What types of questions do students ask about content and how they use language?
- g. Observation checklists
- h. Student work samples
- i. Student self-reflection
- j. Games: Can they participate in classroom games, and how much language or visual support do they need to participate?
- k. Journals
- l. Think-pair-share activity
- m. Picture Interpretation
- n. Ability to use graphic organizers to compile ideas
- o. Note-taking

In contrast, the control group was taught the same materials with traditional book exercises and activities (homework exercises, gap filling, matching, true/false or multiple-choice exercises, correcting the mistakes, etc.). These types of activities were not provided with feedback.

9. DATA ANALYSIS

The data in this study was analyzed through SPSS (version 26). Descriptive statistics (frequency, mean, and standard deviation) were used to address the research questions. The data were then analyzed using the Kolmogorov-Smirnov test of normality and independent samples t-tests were conducted to test the null hypotheses.

10. RESULTS

Answer to the First Research Question

The first research question examined the effect of FA on Iranian high school EFL learners' motivation in Rafsanjan. To this aim, two groups were compared in terms of motivation after the instruction. The results are presented in Table 1.

Table 1. Independent Sample T-test Results for Language Achievement Performance

Groups	N	Mean	SD	Levene's t-test for Equality of Means				
				F	Sig.	t	df.	Sig. (2-tailed)
EG	30	254.72	1.673	9.012	0.001	2.304	480	
CG	30	252.08	1.239					

As it can be seen in Table 1, the mean of the EG is 254.72 (SD=1.673), and that of the CG is 252.08 with a level of significance of .000. Because the level of Sig. is less than 0.05 set for the study, $F(2, 48) = 9.012, p < .05$, it can be concluded that generally there is a significant difference between two groups in terms of the learners' motivation. Accordingly, it is concluded that FA had a positively significant effect on Iranian high school EFL learners' motivation in Rafsanjan. Therefore, the first null hypothesis is rejected.

Answer to the Second Research Question

The second research question explored the effect of FA on Iranian high school EFL learners' achievement in Rafsanjan. To this end, the performance of the control and experimental groups in the post-test was compared for Language Achievement via independent samples t-tests. Table2 presents the results of the independent samples t-test for Language Achievement.

Table 2. Independent Sample T-test Results for Language Achievement

Groups	N	Mean	SD	Levene's t-test for Equality of Means				
				F	Sig.	t	df.	Sig. (2-tailed)
EG	25	29.001	1.129	7.226	0.001	2.494	480	
CG	25	25.001	1.031					

As it can be seen in Table 2, the mean of the EG group is 29.00 (SD=1.129), and that of the CG group is 25.00 with a level of significance of .000. Since the level of Sig. is less than 0.05 set for the study, $F(2, 48) = 7.226, p < .05$, it can be concluded that generally there is a significant difference between two groups in terms of the students' Language Achievement, indicating the positive effect of FA on Iranian high school EFL learners' achievement. Thus, the related hypothesis is not verified.

11. DISCUSSION

The present investigation probed into the effect of FA on Iranian high school EFL learners' motivation and academic achievement in Rafsanjan, Iran. The results revealed that FA had a positively significant effect on both the motivation and academic achievement of Iranian high school EFL learners. That is, the findings of the study showed that formative assessment did improve student academic achievement and increased their learning motivation, which is in line with previous studies on the efficacy of FA. Earlier studies have shown that practices of FA can enhance achievement [22, 28, 29]. The results of this study explicated that FA provided different affordances for, and constraints upon, possible effects. These results are also consistent with reviews of the effects on students' academic achievement to FA, which report positive average effects from the different approaches, and large differences in effect sizes of the studies within each FA approach [30, 5, 31, 32]. The results of the present study also showed that the particular ways in which the FA practices were performed by the teachers were sufficient for improving students' academic achievement and motivation. If the characteristics of the implemented activities had been different (for example if activities had included more specified instructions and practice for students about how to assess and give feedback to their peers, or if activities would have more explicitly supported students in self-regulating their learning), there might have been a relationship between the number of implemented formative assessment activities and student achievement gains. In addition, the findings are in congruence with the results obtained by Mirzaei et al. [33], who found that formative evaluations during the academic semester significantly reduced the anxiety level of students during the final exam, and increased their motivation. This finding is also consistent with previous studies on the relationship between the use of FA and perceived competence [34]. It appears that the influence of the implemented FA might be strong enough to achieve greater effects on motivation mediated by students. The assumed mechanism that students' motivation strengthened by teachers' use of FA is beneficial for their motivation could nevertheless be confirmed. In addition, the impact of features of FA interventions on student learning was examined in a few

studies, e.g., [5, 25].

12. CONCLUSION

Based on the findings, it is concluded that FA is crucial for the sake of successful EFL teaching and learning. Moreover, FA involves setting learning goals and measuring progress, highlighting the importance of assessment and its usefulness in learners' performance. In addition, the comparisons between summative and formative groups revealed that the mere use of assessment in EFL contexts regardless of the method has a significant effect on learners' end-of-term performance. Receiving continuous feedback helps students to understand the strengths but also weaknesses they show during the activities that are implemented in the English language class. FA also helps a lot in learning the English language and improving it, since all the time the students are constantly active in doing different activities and tasks. The continuous evaluation they get from the teacher through FA, students understand as a necessary approach for learning better since it enables them to figure out their strengths or weaknesses that need improvement. According to Chandio and Jafferi [35], when the learners realize that assessment is not all about scores, but also about learning the process, they will start taking an interest in it, which ultimately paves the way for better understanding and motivation.

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