

## **Formative Assessment and Feedback as Predictors of Students' Engagement**

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### **Abstract**

To explore the effects of formative assessment on student engagement in classroom, 60 upper-intermediate level EFL students, were chosen out of a convenience sample of 120, using the Oxford Placement Test and were randomly assigned to experimental and control groups. After the intervention, the students were asked to complete the Student Course Engagement Questionnaire. Independent sample t-test results using SPSS revealed that the difference between the two groups' engagement scores was statistically significant and that formative assessment and feedback were highly correlated with students' engagement. Results also indicated that formative assessment and meaningful feedback can facilitate teachers' efforts to improve student engagement in classroom activities.

**Keywords:** Assessment, Feedback, Formative Assessment, Student Engagement.

### **1. Introduction**

As an important part of today's language teaching, formative assessment becomes more influential when, according to Wiggins and McTighe (2007), it occurs during instruction. Ruiz-Primo and Furtak (2007) define formative assessment as "assessment for learning and not as an assessment of learning" (p.205-235). As Ainsworth (2006) argues that formative assessment should be followed by feedback, Irons (2008) asserts that feedback is a key aspect in assessing. Thus, when formative assessment coincides with meaningful feedback, it would be really fruitful as a means of learning.

In a widely noted study centered upon formative assessment, Black & William (1998) alluding to a study by Crooks (1988), suggested that the excessive focus on the summative functions of assessment has damaged the effect that assessment should have on learning. They mentioned that a crucial component of formative assessment is feedback. Indeed, feedback is not only about a prediction of what the learner may and will learn, but also about the engagement of the learner with this specific prediction. Also, Gibbs et al, (2004) state that assessment provides positive feedback on students' learning and engagement. Ruiz-Primo and Furtak (2006) reported that students whose teachers engaged them in assessment results significantly outperformed others on the research post-tests. William, Lee, and Black (2004) investigated the effect of formative assessment within a six-month duration of instruction. The final results suggested that the success in the

experimental group was considerably higher than in the control group. In still another study, Henly (2003) examined the effect of formative assessment on students' learning. She discovered that the top students in the class accessed formative assessment twice as much as the low-ranking ones. Martinez and Martinez (1992) employed a four-group experimental design in which two groups were instructed by a novice teacher and the other two by a professional one. In each pair, one group received formative feedback and the other did not. The findings revealed that the only significant differences in achievement were seen between the control group and the experimental group taught by the novice teacher. It was then concluded that formative assessment is more essential in novice teachers' classes. The study carried out by Moyosore (2015) explored the impact of formative assessment on learners' achievement in mathematics. Results showed that formative assessment has a substantial impact on the achievement scores of those students who received it. There still exist some gaps which need to be tackled despite the extensive body of studies on students' engagement. To the best of the researchers' information, no study has so far been conducted to investigate formative assessment in relation to classroom engagement in Iranian context. The present study, therefore, was an attempt to see whether providing formative assessment through feedback can act as a facilitator of student engagement or not. In order to attain the purpose, this study investigated the answers to the following research questions:

1. Do students provided with formative assessment have higher level of classroom engagement than those who are not?
2. Is there any relationship between systematic formative assessment and students' classroom engagement?

## **2. Method**

### ***2.1 Participants***

60 EFL learners (male and female) were chosen from Iranian Academic Center for Education, Culture and Research, IUT Branch (ACECR), Iran, based on their English proficiency level, out of 120 EFL students chosen initially via convenient sampling. Their ages ranged from 18 to 31 years. To identify their level of language proficiency the Oxford Placement Test (OPT) was administered then participants at upper intermediate level were randomized into two (experimental and control) groups.

### ***2.2 Instruments***

With regard to the purpose of the study, the following instruments were selected and utilized:

**Oxford Placement Test (OPT):** This test consists of 100-items used here for homogenizing the participants as the learners with the upper-intermediate level of English language proficiency.

**Student Course Engagement Questionnaire (SCEQ):** Devised by Handelsman, Briggs, Sullivan and Towler (2005), SCEQ measures engagement in terms of:

- 1) Skill engagement
- 2) Performance engagement
- 3) Interaction /participation engagement and
- 4) Emotional engagement

In fact, by covering behavioral, cognitive and affective components of engagement, the SCEQ explores every aspect of engagement with regards to students' course involvement (Goldspink & Foster, 2013; Laird, Smallwood, Niskode-Dossett & Garver, 2009). As pointed out by Handelsman et al. (2005), the SCEQ gives a more thorough insight into student engagement. The justification just given convinced the researchers of the present study to employ SCEQ to gauge students' engagement.

### ***2.3 Procedure***

Oxford Placement Test was administered to homogenize students with respect to their proficiency level. Based on the results of the proficiency test, participants at upper intermediate level were identified and randomized into two equal (experimental and control) groups. Then, the experimental group underwent formative assessments and was given prompt and constructive feedback on the results of their assignments and tests, and their ideas were thoughtfully responded to at a number of pedagogic tasks. Feedback included detailed account of the criteria for assessing their answers. Students were provided with the feedback for all activities related to the course contents including quizzes/tests, oral questions, and their assignments, they were also given frequent opportunities in order to practice and reinforce the correct answer. On the other hand, the control group did not receive any such treatment. All learners participated in sixteen 90-min sessions. In order to assess students' engagement, in the last phase of the study, the participants were provided with the SCEQ and asked to complete the SCEQ on their own, and to return the completed questionnaire at the end of the semester. The students completed the SCEQ after reading the following instructions: To what extent do the following behaviors, thoughts, and feelings describe you, in this course. Please rate each of them on the following scale: 1 = not at all characteristic of me, 2 = not really characteristic of me, 3 = moderately characteristic of me, 4 = characteristic of me, 5 = very characteristic of me. In order to test reliability of the SCEQ for the present study, Cronbach's Alpha Coefficient was calculated.

### ***2.4 Data Analysis***

SPSS version 23 was used to analyze the data running independent samples t-test to reveal the differences between two groups' engagement and calculating the correlation via Pearson's correlation coefficient.

### 3. Results

Cronbach's Alpha Coefficient for the SCEQ in the present study turned out to be 0.98, which is considered to be a good level of reliability (Develiis, 1991). (Table 1)

Table 3.1 *Reliability statistics for SCEQ*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.987	.988	23

Applying an independent sample t-test revealed that the difference between the two groups' responses to the first dimension consisting of nine items tagged as skills engagement, was statistically significant. (Table 2)

Table 3.2 *Experimental and control group responses relating to the first Engagement dimension*

Dimension	Group	N	Mean	SD	t-value	P-value
Skills	Experimental	30	3.8333	.37905	10.45	<0.05
	Control	30	2.6667	.47946		<0.05
Skills	Experimental	30	4.3333	.47946	14.00	<0.05
	Control	30	2.1667	.69893		<0.05
Skills	Experimental	30	3.5000	.50855	10.56	<0.05
	Control	30	1.8333	.69893		<0.05
Skills	Experimental	30	2.8333	.37905	13.44	<0.05
	Control	30	1.3333	.47946		<0.05
Skills	Experimental	30	3.3333	.47946	19.41	<0.05
	Control	30	1.1667	.37905		<0.05
Skills	Experimental	30	4.1667	.37905	11.84	<0.05
	Control	30	2.3333	.75810		<0.05
Skills	Experimental	30	4.5000	.77682	8.37	<0.05
	Control	30	2.8333	.69893		<0.05
Skills	Experimental	30	4.6667	.47946	16.97	<0.05
	Control	30	2.5000	.50855		<0.05
Skills	Experimental	30	4.6667	.47946	2.69	<0.05
	Control	30	4.3333	.47946		<0.05

Based on the results presented in Table 3 it is concluded that the difference between the two groups' responses relating to the second dimension consisting of five items tagged emotional engagement, was statistically significant.

Table 3.3 *Experimental and control group responses relating to the second Engagement dimension*

Dimension	Group	N	Mean	SD	t-value	P-value
Emotional	Experimental	30	4.1667	.37905	16.42	<0.05
	Control	30	2.3333	.47946		<0.05
Emotional	Experimental	30	3.6667	.95893	11.92	<0.05
	Control	30	1.3333	.47946		<0.05
Emotional	Experimental	30	4.1667	.69893	12.93	<0.05
	Control	30	1.8333	.69893		<0.05
Emotional	Experimental	30	3.6667	.75810	3.15	<0.05
	Control	30	2.8333	1.23409		<0.05
Emotional	Experimental	30	4.5000	.50855	17.69	<0.05
	Control	30	1.5000	.77682		<0.05

As illustrated in Table 4, there was a statistically significant difference between the two groups' responses relating to the third dimension consisting of six items tagged participation/interaction engagement.

Table 3.4 *Experimental and control group responses relating to the third Engagement dimension*

Dimension	Group	N	Mean	SD	t-value	P-value
Part/int	Experimental	30	4.3333	.47946	24.23	<0.05
	Control	30	1.3333	.47946		<0.05
Part/int	Experimental	30	4.1667	.69893	10.93	<0.05
	Control	30	2.0000	.83045		<0.05
Part/int	Experimental	30	4.3333	.75810	11.50	<0.05
	Control	30	2.1667	.69893		<0.05
Part/int	Experimental	30	3.8333	.69893	11.00	<0.05
	Control	30	2.0000	.58722		<0.05
Part/int	Experimental	30	4.0000	.58722	16.85	<0.05
	Control	30	1.6667	.47946		<0.05
Part/int	Experimental	30	4.0000	.58722	16.97	<0.05
	Control	30	1.8333	.37905		<0.05

As evident in Table 5 there was a statistically significant difference between the two groups' responses relating to the fourth dimension consisting of three items tagged performance engagement.

Table 3.5 *Experimental and control group responses relating to the fourth Engagement dimension*

Dimension	Group	N	Mean	SD	t-value	P-value
Performance	Experimental	30	4.0000	.58722	18.65	<0.05
	Control	30	2.0000	.00000		<0.05

Performance	Experimental	30	4.0000	.58722	16.97	<0.05
	Control	30	1.8333	.37905		<0.05
Performance	Experimental	30	4.0000	.58722	19.26	<0.05
	Control	30	1.3333	.47946		<0.05

Based on the results displayed in Table 6, it is concluded that there was a significant correlation between formative assessment and students' engagement in classroom activities ( $r = -0.93$ ,  $n = 60$ ,  $p > 0.05$ ).

Table 3.6 Correlation

		groups	Score
roups	C Pearson Correlation	1	-.934**
	Sig. (2-tailed)		.000
	N	60	60
cores	S Pearson Correlation	-.934**	1
	Sig. (2-tailed)	.000	
	N	60	60

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4. Discussion

Various studies have shown the relationship between students' achievement and students' engagement (Gunuc, 2014). The findings of the current study are in line with what Gibbs et al, (2004) found in their study on students' learning and engagement; they reported that assessment provides positive feedback about students' learning and engagement. Moreover, the findings of this study are corroborated by what Ruiz-Primo and Furtak (2006) found, who reported that students whose teachers engaged them in assessment results significantly outperformed others on the research post-tests. Also, the findings of the present study are in line with what Henly (2003) found in her study on the effect of formative assessment on students' learning, the only difference, however, between the two studies lies in the fact she discovered that the top students in the class accessed formative assessment twice as much as the low- ranking ones. In the same vein, William, Lee, and Black (2004) found in their study on the effect of formative assessment on students' success, that the success rate in the experimental group was considerably higher than that of the control group. The findings of this study are in line with what Moyosore (2015) found in his study on the impact of formative assessment on learners' achievement in mathematics, who reported that formative assessment has a substantial impact on the achievement scores of those students who received it. As the results of this study indicate, there is a statistically significant difference between the two groups' responses to the nine items relating to the first dimension tagged 'skills engagement'. Results also showed that there is a

statistically significant difference between the two groups' responses to the five items relating to the second dimension tagged 'emotional engagement'. As the results illustrate there is a significant difference between the two groups' responses to the third factor consisting of six items, tagged participation/interaction engagement because it depicted students' intuition of their actual participation and interactions with instructors and other students. Results also indicated that there is a statistically significant difference between the two groups' responses relating to the fourth dimension which included three items, tagged 'performance engagement'. As for reliability and appropriateness of the scale, it should be pointed out that measuring student engagement has been accomplished via various instruments. These instruments are developed to "examine students' degrees of engagement and the results of certain engagement tasks" (Butler, 2011, p. 259). Among all, Student Course Engagement Questionnaire (SCEQ) offers useful feedback to evaluate students' engagement in the learning process. In the previous studies, Cronbach's alpha reliability coefficients for each of the four factors of the scale ranged from 0.76 to 0.82 (Handelsman, Briggs, Sullivan, & Towler, 2005). The Cronbach's Alpha Coefficient for the SCEQ in the present study turned out to be 0.98, which is considered to be a good level of reliability (Develiiis, 1991).

### 5. Conclusion

The present research was conducted to find out if formative assessment and meaningful feedback have an effect on the students' engagement in classroom activities and if there is a relationship between the two. Results of the study indicated that there was a statistically significant difference between the two groups' (experimental and control) engagement in classroom activities, that is, students provided with formative assessment have higher level of classroom engagement than those who are not. Furthermore, the results indicated that there was a significant correlation between formative assessment and students' engagement in class communications. This implies that formative assessment and meaningful feedback can facilitate teachers' efforts to improve student engagement in classroom activities. The results of the present study can make great contributions to conducting more successful courses by providing teachers with the necessary insight into congruent student engagement methods using formative assessment. Although the research has been successful in reaching its aims, there were some inevitable limitations. Because of the small size of the sample, generalizing the findings to other contexts can be made only with caution so, it should be suggested that similar studies be conducted based on a large sample size.

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