The Effect of Using Formative Assessment in Distance Learning on the Achievement of Public Schools' Students in Amman

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Abstract

This research aims to know the effect of formative assessment on the achievement of university students in the English language course. The study sample included (196) students intentionally selected from among the first-year students at Al-Isra University in Jordan. These students were divided into two identical groups: one was taken to represent the experimental group, and the other was to represent the control group. The experimental group used formative assessment methods to study the (English Language) course. The students of both groups sat for the final achievement examination. The student's results in the two groups were placed in tables and then treated statistically. It was found that the performance of the experimental group students was better than that of the control group, which indicates the effectiveness of using the formative assessment method in teaching English. In addition, a questionnaire was used with the study sample of students to monitor the attitudes of students and teachers toward the formative assessment. The advanced statistical analysis of students' responses showed their positive attitudes toward this assessment. Then the study concluded with some recommendations to strengthen this type of evaluation.

Keywords: formative evaluation, final evaluation, feedback, reinforcement, attitudes towards learning

1. Introduction

In the recent period, educational evaluation has received significant attention from many researchers and educators. The focus has become more on diversification in the strategies used in the evaluation process, especially the modern ones, which have become closer to the constructivist theory of Piaget and the social constructivist view of Vygotsky instead of Pavlov's behaviorism, assuming that the learning process is active, it is carried out by the student under the guidance and direction of the teacher (Al-Saaduwi, 2014). Recent trends in evaluation have brought about fundamental changes to evaluation philosophy, methodologies, procedures, and methods, including diagnostic assessment, formative assessment, and the final evaluation. These trends came after paying attention to the fact that traditional assessment is useless or of little use in achieving students' learning goals. There needs to be more than assessment based on tests to provide an accurate picture of students' learning levels or even the skills they possess and can employ. It is also no longer adequate to achieve quality products from individuals and the ability to meet the requirements of society and the needs of this age.

Assessment is linked to the goals of the educational process and includes all of them. It is necessary to diversify the assessment tools, be consistent, honest, objective, and involve students. Muhalal and Mahdawi (2016) indicated that the educational evaluation process must be built on a set of foundations. It is a continuous process that accompanies all planning and implementation stages and considers a human process of self-knowledge and realization. These foundations make the evaluation process diagnostic, preventive, and curative. It contributes to the growth of the student's personality in a healthy way. It takes care of his tendencies, trends, habits, and abilities, in addition to identifying the social aspects of his personality, such as cooperation and acceptance of others and other matters related to social fitness.

With the many types of modern assessment, this study focuses on one of the types of evaluation that is closer to accurate and realistic; It is a formative assessment. It was defined as a systematic, organized process in light of goals, the pattern of responses, and the level of operations and employment. It is a procedure that the teacher takes during teaching to provide the learner and the teacher with feedback and sufficient information on the effectiveness of the teaching methods and methods used and the quality of tools used to improve the learning

process Mosmli et al. (2019). Also, according to (Ahmed, 2013), it is an organized process that occurs during teaching to provide the teacher and the learner with knowledge of their performance results to improve the teaching-learning process. Abu Allam (2014) defined formative evaluation as the evaluation that the teacher performs during the learning process. It begins with the beginning of learning and accompanies it during the lesson.

Electronic assessment is a development of traditional evaluation that relies on paper-based tests to obtain student achievement information. This type of assessment needs some help in the educational field. Because it measures simple skills and concepts expressed in numbers that do not provide valuable information about students' learning, it is difficult to determine the outcomes of elaborate education. The student in it is the focus of the evaluation, but he does not participate in the assessment of himself. In light of the requirements of the twenty-first century, the student has become facing challenges that require him to be a lifelong learner, so the trend towards electronic evaluation was in response to the characteristics of the times. And its requirements (Electronic Assessment Guide, 2015, p. 3).

1.1 The Problem of the Study

The researcher noticed that the student's results in the English language course are not at the required level, and the reason may be due to the evaluation method used, as the summative evaluation method that is followed in evaluating students' performance in this subject could be one of the main reasons for these disastrous results. The researcher believes that the real problem lies in the evaluation procedures that come too late and do not allow the student to promptly identify his weaknesses and redress them. This type of evaluation usually comes at the end of the school period, and there is no chance for performance improvement. The problem of this research is represented in the gap represented in the absence of direct feedback on each lesson or on each unit of study and the time difference between the time of studying the subject and the time in which the examination is presented. The formative assessment seeks to bridge this gap through its procedures based on applying the principles of continuous evaluation, which are included in the integration of tests and exams in the teaching process.

1.2 Questions of the Study

The study seeks to answer the following questions:

1. What is the effect of formative assessment on the achievement of Al-Isra University students in the English language course?
2. What are the attitudes of students and their teachers toward formative assessment?

1.3 Definition of Terms

Formative assessment strategies: The methods and methods used to measure students' learning progress during teaching to provide feedback, identify needs and adapt teaching accordingly, and provide the teacher with sufficient information about learning (Qassem & Al-Baz, 2015, p. 44). Procedurally, they can be known as the methods used. To follow up on students' learning and provide continuous feedback on the strengths and weaknesses of the teaching methods, activities, and teaching aids used by students and the teacher.

Educational assessment: linguistically: Al-Moheet Dictionary defines it for Al-Fayrouz Abady: his strength is equal, upright, and straight. Procedurally, A descriptive or quantitative judgment about the value of a person, subject, process, or organization to present data helps make decisions (Al-Farbi et al., 1994, p. 122).

2. Previous Studies

Al- Habardi's (2017) study aimed to reveal the reality of using electronic assessment tools among teachers of social and national studies at the secondary stage in Riyadh, the difficulties preventing its use, and the development of a proposed vision for its development. The study used the descriptive survey method, and the appropriate tool was the questionnaire. The study population consisted of all secondary school social and national studies teachers in Riyadh in public and private schools and their number was (207) teachers. The study revealed that the reality of using electronic evaluation tools indicates a medium degree of use. In contrast, the difficulties of using electronic evaluation tools show a high degree of difficulty. The study also found a proposed conception to activate electronic assessment tools for social and national studies teachers at the secondary stage in Riyadh.

Ahmed (2016) study aimed to investigate the role of electronic assessment in making the education process clearer; by revealing the effect of the feedback, the study used the case study method. The manner of contrasting scenarios and electronic forums to communicate with students asynchronously through discussion and dialogue pages allowed teachers to consider each student's participation at any time, and students were linked to e-mail to

provide feedback to them. The study concluded that a significant degree of honesty and stability was achieved through the electronic evaluation process and that the electronic evaluation process contributes to increasing the interaction of learners with each other and accepting points of view. The results also indicated that the immediate feedback provided via e-mail further improves the quality of learning for students.

Abu Amra's (2016) study aimed to reveal the effect of employing the digital concept maps strategy in developing the scientific sense of science for ninth-grade students. The study used the quasi-experimental approach. The study sample consisted of (73) female students from Deir Al-Balah Preparatory Girls School. The study tools included testing the scientific sense's cognitive aspects and identifying the scientific sense's emotional aspects. This helped the student's interaction with the scientific material and the evaluation process, through which they identified the amount of information acquired by the students. The study concluded that digital concept maps could attract students' attention and increase their participation and are suitable for the nature of scientific materials.

Marc's (2015) study aimed to investigate the role of electronic assessment in making the education process clearer; by revealing the effect of the feedback, the study used the case study method; This is done in the manner of contradictory scenarios and electronic forums to communicate with students asynchronously through discussion and dialogue pages. It allowed teachers to go and consider each student's participation at any point in time, and students were e-mailed to provide feedback. The study concluded that a large degree of honesty and stability was achieved through the electronic evaluation process and that the electronic evaluation process contributes to increasing the interaction of learners with each other and accepting points of view, and the results indicated that the feedback provided via e-mail immediately improves the quality of learning students have.

3. Methodology

3.1 Study Approach

The current study follows the quasi-experimental approach to measure the effectiveness of using formative assessment in improving academic achievement in the English language course among students at Al-Isra University. First, two equal groups were selected for the application of this study. To ensure that the two groups were equal, the students of these groups were subjected to an English language placement test, and the results proved the convergence of the group's performance levels. Then the students were classified into two groups: a control group taught using the traditional method, and an experimental group studied using formative assessment. Finally, at the end of the pilot period, students sat to test a later, and the results of students were developed in that tests in tables where they were statistically analyzed to determine whether there are significant differences between the two groups can be returned to the effect of using configurable calendar strategies with the experimental group.

3.2 Study Variables

The current study included two types of variables:

1. The independent variables are represented in the formative evaluation procedures.

2. Dependent variables are represented in the academic achievement of students.

3.3 The Population of the Study

The population of this study consists of all Al-Isra University students in the academic year 2020/2021.

3.4 The Study Sample

The study sample was intentionally selected from the students of the English language course, which numbered (98) students.

3.5 Procedures of the Study

The students sat for their achievement test, which a group of experienced faculty members at the English Language Center designed. This test was judged by three professors who hold PhDs in applied linguistics. These professors have acknowledged that this test is characterized by high reliability in terms of content and apparent validity. This test was given to all students of the English language course, including the experimental and control groups. The exam was an achievement test to measure students' performance in all the basic language skills they studied, including listening, grammar, vocabulary, reading, and writing. The test questions were strongly related to the course content the students studied to ensure the validity of the test content and its relevance to what the students studied. After correcting the students' papers automatically, the experimental and control group scores were placed in tables and used to document their achievement in the English language.

Later, these results were statistically analyzed and compared to verify whether there were significant or statistically significant differences between the experimental group's performance and the control group's performance in the English language, which can be attributed to the principles of formative assessment.

4. The Results of the Study

Results related to the first question: What is the effect of formative assessment on the achievement of Al-Isra University students in the English language course?

Table 1. Mean, arithmetic mean, pattern, standard deviation, range, minimum and maximum scores of students in both the control group and the experimental group after the experiment

	Control group	Experimental group
Number	98	98
Mean	75	86
Arithmetic mean	73	84
Pattern	73	83
Standard deviation	7.4	8.7
range	32	31
Minimum score	53	60
Maximum score	85	95

The data presented in Table 2 above reveal a significant difference between the average scores for the two groups. The control group had an average score that did not exceed (75) degrees, while the experimental group had an average score of (86) degrees. These numbers indicate significant differences between the two groups, and this difference is in favor of the experimental group. But to confirm this, a T-test must be performed to check whether this difference is statistically significant.

Table 2. Results of the T-test for the two groups in the post-experimental period

Group	N	Mean	Standard deviation	T value	The difference	α-Coeff.	Statistically significant at the level of 0.01	Result
Control	98	75	7.4	2.7	11	0.01		There is a statistically significant difference between the two groups in favor of the experimental group
Experimental	98	86	8.7				The difference is statistically significant	

It can be seen that the T-value reaches (2.7), which is a value that is statistically significant even at the level of (0.01). This result proves that formative assessment can significantly improve the level of English language learning for Al-Isra University students. To confirm the validity of these results, the research team reviewed some papers of the experimental group and the control group to find that the students of the experimental group performed well compared to the students of the control group. Among the procedures for reviewing other documents, the researcher reviewed the reports written by teachers on student performance and some of the problems encountered in implementing the plan for formative assessment strategies. Many of the positives that support the validity of the research findings have become clear, and some problems have emerged that must be addressed in the future. Among those problems is controlling the educational process during group work and the reluctance of some students to participate at the required level.

In general, by referring to the data included in Table 1 and Table 2 above, it is possible to answer the first question of the study, which inquires about the impact of formative assessment on students' achievement in learning the English language course. It can be said with complete confidence that formative assessment can raise the performance of Al-Isra University students in the English language. Therefore, based on these same results, the study's first hypothesis can be rejected, which states that formative assessment will not affect students' performance in the English language. On the contrary, these results indicate that the formative

assessment method has positively affected students whose performance has improved significantly after using this form of assessment.

Results related to the second question: What are students' and teachers' attitudes toward formative assessment?

To measure the students' attitudes towards formative assessment, they were asked to fill out a questionnaire designed by the researcher to elicit the views of these students about this type of assessment. This questionnaire, after its design, was presented to the three professors who judged the achievement test designed to measure students' performance. These professors pointed out the need to amend some items of this questionnaire, and these notes were immediately considered when formulating the final form. The following table includes the students' responses and reactions to the questionnaire questions.

Table 3. Students' attitudes towards formative assessment

N	Item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	The assessment method that was applied to us motivated me to study English.	08	70	04	10	08
2	The assessment method that was applied to us helped me improve my English language performance.	13	64	06	13	04
3	Direct testimonials and directions from the teacher (feedback) helped me spot my mistakes at an early stage before it was too late	43	35	08	08	06
4	Self-evaluation allowed me to understand my weaknesses and then seek to remedy them myself	14	66	08	07	05
5	Self-assessment increased my self-confidence and gave me a sense of independence	16	64	05	04	01
6	Evaluation by colleagues helped me work as a team and allowed me to learn from my colleagues	60	15	20	01	04
7	The activities and techniques of this type of evaluation were varied, unconventional, and non-routine	45	33	08	08	06
8	This assessment gives me time to think and reflect on the material I am learning.	26	40	24	06	04
9	This type of assessment helps me be in charge of my learning	16	58	12	08	06
10	The evaluation method that was applied to us helps to reduce the psychological pressure associated with the tests, allows us to get used to it, and removes its intimidation.	18	61	16	04	01

From the totality of the student's responses to the questions of this questionnaire, they have particularly appreciated many of the activities and methods of formative assessment. In addition, students were largely positive about the activities associated with applying this type of assessment. The above table reflects the students' attitudes toward the formative calendar and its various procedures.

In terms of numbers, it was found that (78%) of the students agree or even strongly agree that direct feedback or immediate feedback allows them to know or discover their mistakes at an early stage; they said this gives them a chance to correct these mistakes before it is too late. Moreover, 80% of the students believe that self-assessment related to formative assessment has enhanced their self-confidence, adding that self-assessment allows them to diagnose their weaknesses and seek solutions to the problems they face after identifying and diagnosing them themselves.

On another level, many students admit that peer or peer assessment as an original practice in formative assessment has benefited them greatly, and it was found that 75% of students believe that working with their peers helped them learn better and encouraged them to seek peer support. On the other hand, the vast majority (78%) of the experimental group admit that the formative assessment motivated them to learn and to exert more effort to achieve the objectives set for each lesson. Hence, these positive opinions positively affected the

students' achievement English language. Furthermore, it was found that (77%) of the students admitted that the formative assessment methods helped them improve their English language learning and allowed them to master that language. On the other hand, 78% of the sample members in the experimental group say that the activities and techniques associated with formative assessment are exciting and not traditional or monotonous. Moreover, (66%) of the individuals in this group agree or strongly agree that assessment activities give them time to think about their educational tasks with more focus.

On another level, about three-quarters of the study sample (74%) testify that the assessment activities used with them, that is, the formative assessment activities, helped them become more responsible for their learning. Moreover, the vast majority (79%) of the students say that applying the methods of that assessment, which included taking frequent exams, made them get used to dealing with exams, and thus helped them to overcome examination phobia.

Contrary to the opinions of the majority of the sample in this questionnaire, some students expressed some negative feelings towards the formative evaluation during interviews with them during the study period. They complain that this assessment needs to give marks during the learning process. As one student commented, "Without marks, you do not know your actual level of performance."

Another student expresses his dissatisfaction with the many tasks and duties included in the formative assessment, saying: "The application of this type of assessment takes most of our time, as it asks us to do a lot of tasks and homework."

In general, the above data collected from the students' answers to the questionnaire and the interviews with them can be used to answer the second question of the study, which inquires about the students' attitudes toward the methods and procedures of formative assessment. The attitudes of the majority of students towards this type of assessment were positive. Therefore, these same responses can be used to reject the second hypothesis presented in this research, which states that the study members have negative attitudes toward formative evaluation.

In general, most respondents expressed their deep satisfaction with formative assessment practices. However, excluded are a few students who expressed their dissatisfaction with the lack of grades in the assessment or complained about many tasks and duties during the application of the formative assessment.

5. Discussion

Formative assessment includes a variety of methodological procedures and strategies, which begin with planning and defining learning objectives and sharing them with students, and this necessarily means formulating directions and comments in a simplified and concise manner to advance during the lesson as the new learning style, and course of work requirements, what is known as a learning style and course of action. In addition, it includes urging the practice of self-and peer evaluation and providing moral support and encouragement to students. At the same time, there is a need to avoid giving marks or grades and to be satisfied with providing notes that will help the student overcome the difficulties of the specific educational task.

These strategies aim to meet the formative assessment requirements in their most complete form, which helps students perform well and avoid repetition and failure. To this end, the learning objectives are usually straightforward, and the next steps for each step are accurately described in short-term planning. In general, formative assessment strategies allow the teacher to follow up on the progress made by students step by step, diagnose learning problems accurately, and help provide feedback that meets students' educational needs promptly. This situation requires the teacher to know where each student is in their educational journey to plan where they need to go in the next step. Teachers can get all this information about their students through direct observation, carefully designed questions, and students' performance in quizzes that are given regularly after each unit. The teacher can also obtain information through the students' interpretation of homework and their participation with colleagues and peers in the presentations, discussions, and observations made during lessons, lectures, and other constructive activities.

The research team has observed that carefully designed questions related to the lesson material and careful notes help the teacher check the level of understanding of his students and allow him to move forward in the learning journey of these students. Students can quickly achieve any educational goal if they understand it and identify what they need to do to achieve it. Therefore, self-assessment is an essential component of the learning process. These procedures' effectiveness has been proven to improve students' performance in language learning in many academic subjects and the English language in particular.

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