

What Is the Difference? Online and Face-to-Face Authentic Assessment Strategy

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Abstract

Online learning has gained more attention in educational institutions recently, and various assessment strategies have been examined to improve performance. Despite these contributions, there is a lack of studies in eastern countries within their own contexts that investigate and compare online and face to face authentic assessment. The purpose of this research is to understand the effectiveness of online and face- to- face instructional methods on students' performance based on authentic assessment strategy. To achieve this goal, a quantitative method is adopted and paired T- test is applied to analyze the data. The sample consists of 38 female students in sixth grade registered in English subject class in a primary school, and has been taught by the same instructor. The result shows that students who assessed during online class have achieved higher scores than those who assessed in the traditional section. However, the article has presented further explanation, discussion, and a direction for future research.

Keywords: authentic assessment strategy; students' performance; learning effectiveness; teaching methods.

1. Introduction

Bringing essential changes across learners is crucial for teaching development processes (Tebabal & Kahssay, 2011). To facilitate the process of knowledge transmission, appropriate teaching methods should be applied which suit planned objectives and outcomes (Hightower, Delgado, Lloyd, Wittenstein, Sellers & Swanson, 2011). Alongside, learning techniques have to consider souring conditions since each environment has its own circumstances such as gender, age, grade and so on. However, researchers continually seek to examine the extent to which different methods could improve students' performance (Ganyaupfu, 2013).

Remarkably, students' poor academic achievement is mainly linked to application of ineffective teaching techniques by teachers (Adunola, 2011). Regarding these effectiveness methods, literature indicates that the quality of teaching strategy associated with appropriate assessment tools, which is reflected into performance of learners. In other words, students' outcomes are an index of the quality of the methods and assessment strategies application. For instance, pupils have various accomplishments once they were learned under several methods and strategies. However, teachers must be familiar with a plenty of educational approaches to select appropriate ones that consist with environmental circumstances for obtaining the desired goals (Ganyaupfu, 2013; Adunola, 2011).

However, examinations or/and continuous assessments are used to measure these approaches despite there is no agreement on what is the better test or which aspects are more important (Mingle & Adams, 2015). Cunningham and Cordeiro (2000) have asserted that measuring achievement by assessment should be grounded in authentic tasks to monitor and evaluate changes on outcomes. Alternative assessment types such as authentic assessment provide solutions to such a real-world problem. For example, enable teachers to make a link between their instructions and the real-world experience through meaningful tasks, and encourage learners' higher order thinking skills to solve real-life challenges (Simonson, Zvacek, & Smaldino 2019; Reeves, 2000). Therefore, teachers can introduce and implement several types of evaluations and methods to enhance the accomplishment of the students (Jordanian Ministry of Education, 2004).

Besides, instructors should modify their teaching methods to incorporate innovative methods into their teaching pedagogy (Gaytan & McEwen, 2007). The quality of implemented assessments has to measure the actual abilities of students; in addition, assessment goals have to be related to achieving learning and should not be restricted to assessing learning (Stiggins and Chappuis, 2006). This kind of assessment reflects students' performance and measures it in actual events, since it engages students in meaningful tasks. In this way, the assessment looks like learning activities instead of secret tests. In authentic assessment, students practice high-level thinking skills such as making judgments and problem solving by using a variety of strategies and tools (Al-Basheer, Ashraah, & Alsmadi, 2015).

However, researchers have investigated how students' outcomes can be affected by teaching methods (e.g. Ayeni, 2011), others have concentrated on subject matters (Adunola, 2011), students' abilities differences (Baradwaj & Pal, 2011). Despite those contributions, we need to know more about appropriate teaching methods linked with a suitable assessment which

could enhance students' achievement, mainly, across developing economies due to these states have different abilities and tools to do so. Thus, we aim to examine the effectiveness of online and face-to-face instruction on students' performance based on alternative assessment strategy.

2. Literature Review

2.1 Academic Performance

Academic performance has different definitions according to different views and contexts. For example, it is the outcome of education, and the extent to which students, teachers and institutions have obtained whether in short or/and long-term educational objectives (Mingle & Adams, 2015). It refers to how well one does one's job (Bulach, Boothe, & Pickett, 2006). Bulach et al., (2006) pointed out that a person who performs efficiently to achieve his/her objectives and results to the proper standard. According to Narad and Abdullah (2016) academic performance is the acquired knowledge which is estimate by marks by a teacher and/or educational goals that have been fixed by students and teachers to be accomplished over a specific period of time, which often a semester. Martha (2009) has affirmed on students' examination, tests, and in a course work. Elfaki, Abdulraheem, & Abdulrahim, (2019) have emphasized on what pupils have learned throughout the entire course.

Academic outcomes are seen to be the axis around which the whole education system revolves. Narad & Abdullah (2016) suggested that learners' achievement assigns the success or failure of any academic institution. Singh, Malik & Singh (2016) also have mentioned that pupils' performance has a direct effect on the socio-economic development of a country. Similarly, Farooq, Chaudhry, Shafiq & Behanu, (2011) argued that the base for knowledge acquisition and the development of skills is the achievement. Additionally, they asserted that the prime concern of all educators is academic performance of students. And to do so, scores on tests, class work etc. have been used to set the competence of a student in a course. Gagne (1985) has classified the learning outcomes in five main categories, which are verbal information, intellectual skills, cognitive strategies, attitudes and motor skills. All the previous outcomes are significant to the learning process and learning tasks which demand the demonstration of learning outcomes.

2.2 Authentic Assessment and Instructional Methods

Assessment is a process of collecting, classifying, and analyzing data regarding the educational event or/and students' behaviors to evaluate changes and modifications in a school curriculum, teaching methods and guidance technique (Badawi, 2003). The use of assessment criteria fulfills many goals such as observing students' progress toward achieving educational objectives, making educational judgments, and assessing educational programs as whole (National Council of Teachers of Mathematics, 2000). Stiggins and Chappuis, (2018) pointed out that the quality of the implemented assessment should measure the actual abilities of students. In addition, they noted that the essential goal of assessment has to be related to achieving learning and should not be restricted to assessing learning. Furthermore,

assessment clarifies the strengths of students' academic accomplishment and their areas of weaknesses. (Al-Basheer et al., 2015).

This is where alternative assessment or authentic assessment comes in. Authentic assessment is one approach of such alternative assessment (Simonson et al., 2019). It is an alternate to standard tests and exams due to it provides an accurate evaluation of what the student has learned, and going beyond acquired knowledge to focus on what he/she has actually learned by looking at their application of this knowledge (Rousseau, 2018). It also, can motivate pupils in their approach for learning, and helping them to develop thinking and problem-solving skills, and allowing them to assess their own understanding of the course content (Mazur, 2015; Hodgman, 2014).

In Jordan, the Ministry of Education has highlighted the main objectives of authentic assessment. These goals include: improving daily life skills, thinking skills and creative responses, focusing on the process more than the product, enhancing the ability to self-assess, and collecting data on students' progress. (Al-Basheer et al., 2015). According to Abbas and Al Absi (2007), there are other benefits of authentic assessment; for instance, screening reading and learning disabilities, monitoring the learners' progress and analyzing the curriculum. Besides, the government has paid attention on online authentic assessment since it allows efficacious social interaction, develop critical thinking, analysis, reflection and exposure to others point of views (Adams, 2011).

Alternative assessments can be implemented by giving students educational activities that encourage the use of high-level thinking skills and exploration which can lead to high-level problem-solving skills that students need in their lives. These activities could also increase their abilities to engage in self-reflection that help them to become lifelong learners. Moreover, it includes variety of instruments for different situations whether online or traditional learning; for example, checklists, products, journals, reading logs, videos, audio tapes of discussion, work samples, and teacher's observations. This variety of evaluation tools helps to assess higher-order thinking skills (Anthony, Johnson, Mikelson, & Peerce, 1991; Goodman, 1991; Holt, 1994). More importantly, teachers have an opportunity to measure the strengths and weaknesses of the students in a variety of areas and situations (Law and Eckes, 2007).

Literature has linked between students' achievement and using alternative assessment methods. In an experimental study that examined the impact of alternative assessment activities on students' academic achievement levels and attitudes, the researchers found a significant difference between the experimental and the control groups regarding achievement (Kırıkkaya and Vurkaya, 2011). Also, Odeh, (2015) resulted that there are statistically significant differences in the average of the ninth grade achievement in favor of using the authentic assessment techniques. Others use authentic assessment combine with different teaching methods i.e. face to face and online. For instance, Sabtiawan, Yuanita, & Rahayu (2019) findings informed that the learning constructed through the classroom authentic assessment dimensions was effective to facilitate students' performance and they were able to achieve what they need in the future. Juele (2017) resulted that using authentic

assessments online encourage critical thinking and engagement when used in discussion forum, writing and problem based assignments. In conclusion, authentic assessment can be used to better facilitate teaching and learning either in traditional method or online learning. Despite those contributions, it is necessary to know more about authentic traditional and online methods, especially, in different context and culture. Thus, we hypothesized the following:

H1: There is a positive effect of traditional authentic assessment method on students' performance.

H2: There is a positive effect of online authentic assessment method on students' performance.

H3: There is no significant difference between traditional and online authentic assessment methods on students' performance.

3. Methodology

3.1 Participants

The participants of the research consist of 38 female students aged 11 years old in grade six enrolled in English subject class during first and second semester 2019/2020, from Amoriya first primary school for girls in Jabal al- Nasir in Amman/ Jordan.

3.2 Research Design

The research follows the quantitative method strategy, which clarifies and predicts the relationship between the study variables (authentic assessments and academic performance). On both first and second semester the teacher follows the school curriculum on face to face classes for 4 months and on an online basis for another 4 months. On the third month of each term, the students were assessed based on the alternative assessment strategy (i.e. the two months' scores were calculated to collect the data).

3.3 Instrument

Rating scale was used as an instrument to collect data in this study. It is built on certain criteria based on an authentic assessment strategy which developed by the course teacher. The purpose of this instrument was to measure the performance of the students using different authentic methods, which are face-to-face and online assessments.

3.4 Procedures

A class of 38 female students in grade six participated in English subject lectures studied 2 units for 4 weeks at the first semester by traditional teaching method (i.e. face to face method). And they have studied another 2 different units for 4 weeks at the second semester by distance education, which is delivering information via technology; however, their achievement was assessed based on authentic assessment strategy.

The essential difference between the two methods was in the delivery of information and interaction between the learners and the teacher. During the traditional class, the instructor

used direct teaching such as activity based learning, group work, pair work techniques to demonstrate the lessons using textbooks, cassette recorder, wall chart, chalkboard and flash cards. While on distance learning she used online content like web pages, videos, participation on WhatsApp and Facebook. Moreover, assignments were delivered weekly on Noor Space, which is a platforms established by Jordan ministry of Education.

In addition, students' performance was assessed by rating scale which includes variety of criteria in each semester. It is followed the Jordanian ministry of education authentic assessment criteria that has been modified to be suitable for face- to-face classes and distance learning.

3.5 Data collection

The researchers get access to the students' grades and assignments through the teacher's bookmark for both face- to-face and online versions of the course following the Jordanian ministry of education authentic assessment criteria which matching the learning-outcome of this study.

Grades for English language subject for the academic year grades 2019/ 2020 have been obtained for two months, which are traditional and remote methods, and they were calculated by authentic assessment criteria (rating scale) scores of each month. These scores for both teaching methods counted as 20% for each first and second assessment, and the following information provides details regarding the scores:

- Alternative assessments: Is the assessment of the third month for both semesters. For the first month, it is classified into speaking, listening, reading and writing skills criteria scores which counted as 5% to each skill. On the other hand, online classes have another criterion such as participation in WhatsApp activities, Noor space homework, and following the teacher's instructions in online teaching scores counted as 5% to each criterion. Thus, the score for the class work counted as 20% of the final score for each semester. Table 1 illustrates the distribution of authentic assessment marks.

Table 1. Distribution of authentic assessment marks

	Speaking skills criteria				Listening skills criteria				Writing skills criteria				Reading skills criteria								
Face to Face	Speak correctly	Use appropriate	Take part in	Use grammatically correct language	Total 5 marks	Do task correctly	Appreciate time	Keep eye contact	Listen attentively	Total 5 marks	Punctuate correctly	Write developed	Spell words correctly	Use grammar	Total 5 marks	Extract specific	Identify main points	Keep eye contact	Pronounce words	Total 5 marks	Total 20

	WhatsApp home work		Participatio n in WhatsApp activities		Noor space homework		Following the teacher Instructions in online teaching													
Online Learning	Submission of homework on time	How true the	Sending homework following the four skills rules	Total 5 marks	Sending videos for	Sending photos for	Sending sketches	Sending the answers	Total 5 marks	Submission of	Participate constantly following the four	Sending their	Constant	Total 5 marks	Show interest	Constant	Do all as it required	Act with respect	Total 5 marks	Total 20

3.6 Data analysis

This study obtained a quantitative method design, and SPSS was conducted. Paired-t test was applied to determine significant differences of students' scores (performance) and between using two different teaching methods (i.e. online and face-to-face authentic assessment strategy). Means and standard deviations were computed for both semesters, and all hypotheses were tested at the $\alpha = 0.05$ level.

4. Results

Data has been analyzed to compare the differences between students' performance on both authentic assessments online and traditional methods. T-test has been conducted as it is appropriate once we want to compare means of two samples (Shahid & Shaikh, 2019). Table 2 shows a significant difference in the online students' scores and the face- to-face students' scores based on authentic assessment strategy.

Table 2. Results of analysis between mean scores of online and face- to-face methods based on authentic assessment strategy

Teaching Method	Mean	N	Std. Deviation	Std. Error Mean	Correlation	Sig.
Traditional	15.6842	38	3.71342	.60240	.861	.000
Online	16.5526	38	2.45717	.39861		

The table displays the mean scores, correlation and P-value of examined variables. It has been found a significant difference between online and traditional authentic assessments since P-value is .000, which is low than .05.; thus, there is a statistically significant difference between these methods on students' performance. Besides, the mean of traditional teaching method gets 15.68, whereas online teaching methods scores is 16.55. Hence, the difference illustrates an increase of 0.868 in student ratings in the use of online alternative assessment method. In other words, online evaluations produce essentially greater quantitative scores than those administered in class by almost 6%. Moreover, the standard deviation shows no

extreme values in traditional and online authentic assessment. It illustrates that although the mean of online is greater than traditional, but the standard deviation of online is 2.45 which is less than the traditional authentic assessment (3.71). Furthermore, the correlation across variables which is .861. However, those variables online and traditional authentic assessments have high correlation with students' performance. Therefore, we can conclude that using alternative assessment in online as a teaching method can affect the academic scores of students' high performance.

5. Discussion

It has been resulted that using authentic assessment strategy in online teaching method has a better effect on performance of the students in comparison with using traditional authentic assessment strategy. Means between the two methods were statistically different on favor of the distance learning process, which indicates when pupils assessed in the online class using authentic assessment score highly academic performance rather than assessed by authentic assessment in the traditional class up to 6% improvement. This enhancement of students' marks leads policy makers to pay an attention in such method. Although, the results consist with literature (e.g. Juele, 2017), other studies found significant differences in favor of assessing students' performance on face-to-face instructional methods based on authentic assessment strategy (see Sabtiawan et al.,2019; Odeh, 2015). Indeed, any type of instructional format has its own strengths and weaknesses (Wuensch, Aziz, Ozan, Kishore, & Tabrizi 2008). Moreover, Baradwaj & Pal, (2011) sustained that when the teaching method combine with appropriate assessment criteria that suit learners' needs it works effectively, thus will be presented when every students interprets and respond in a unique way to questions.

The conclusions of the study have confirmed on the importance of authentic assessment distance strategy since it provides learning for students who faced emergency cases such as spread of illness and epidemics like Covid 19. This research conducted on 2020 while this virus spread all over the world, and most of educational institutions prompted to move to such method. This quick transformation led ministry of education in Jordan to take an advance step to set up platforms for students. It is taking into consideration the applying of authentic assessment for improving thinking skills, creative responses, focusing on the process more than the product, improving the ability to self-assess (Al-Basheer et al.,2015). However, the awareness and capabilities of teachers, students and parents have contributed positively on switching immediately on online authentic assessments method.

Furthermore, learning process demands a sense of self-directed learning (Song & Hill, 2007). In other words, authentic assessment emphasizes on pupils as active learners to have the ownership of their learning (Lam, 2018). Hence, students take the responsibility of their education and with the assist of experienced teacher, who support them with appropriate material to allow them see and do their assignments across internet that motivate and encourage them for better performance (Suwaed, 2018). In this study, teachers interact with students via Facebook, WhatsApp, and Noorspace platforms to provide students with visual materials like videos, tapes, and makes art crafts. Additionally, they used many websites in the internet such as Google translate and YouTube to simplify the learning process and

motive them to do their jobs. Therefore, the consciousness of teachers in using technology was an important reason for achieving good outcomes based on online authentic assessment.

In general, although many studies have concluded into similar results, each country has its own context. Moreover, online performance based on authentic assessment has been influenced by students and teachers' abilities, but other conditions have affected it like families and the government. Thus, Jordanian students have performed better once online authentic assessment is in place and their environment has supported them.

6. Limitations

Despite the study has provided a contribution on online authentic assessment and performance, there are some limitations. Firstly, the sample size was limited for only one primary school. Ideally, more participations would have better evidence. Secondly, the sample of the study was exclusive to one group because of the rapid transfer for all educational institutions from traditional to distance learning according to the spread of Covid 19, this change limits the researchers to choose one group as a sample. So, researchers are advised to examine two groups (i.e. experiment and control groups). Thirdly, due to this sudden shift, the study did not control the appropriateness of the material taught online since the time of transferring was critical, which can affect authentic assessment. Future research needs to be conducted to measure the quality of materials that appropriate to distance education, and its role on such evaluation. Fourthly, both semesters also differed in the resources that have been provided to students. The authors believe that the learners in the online class were provided vary mechanisms to learn while the face-to-face course basically utilized lecture and discussion formats only. Researchers have to investigate this issue to avoid any bias and for deeper knowledge. Another limitation of the study, it concentrated on elementary school, but high school, and universities need to be explored to know the difference across such levels. However, it would be interesting to explore several domains like mathematics, science, and social science to compare results of the performance of the students on the effectiveness of the different methods of teaching based on authentic assessment strategy.

7. Conclusion

The result shows that there is a difference between online and face-to-face authentic assessment strategy on students' performance. Pupils who take part in the online English subject class received higher grades scores than traditional class. Means indicate a positive effects on the performance of the students who assessed online by authentic assessments. In other words, their achievements have been improved significantly more than the students who assessed by authentic assessment on face-to-face classes. However, we still have a shortage of studies regarding online authentic assessment methods that improve students' performance, mainly in Arabic contexts. As the online learning method continues to rise, the primary methods of assessment will continue to change; therefore, once designing online courses, assessment should be a focus on course objectives and outcomes. Meyers and Nulty (2009) state that the "careful design of an assessment strategy (not task or items) can ensure

that the students engage with the associated learning resources provided and in learning activities that lead to achievement of the desired learning outcomes” (p. 575).

In spite of the fact that online is appropriate method of alternative learning; we should acknowledge that online learning has its unique advantages and disadvantages. In curriculum design, we have to take into consideration how to take advantages by integrating different styles of instructions to specific courses. In other words, we should not rely only on face-to-face or online methods, but also hybrid classes to overcome the constraints of time, place, and resources, which might provide better authentic assessment outcomes. We can employ technologies such as social media and internet to involve students in order to increase their confidence and improve their cognitive and creative skills in academic sectors. Future researchers are advised to take varied samples to investigate the effects of using online authentic evaluation in academic context on a wider scale.

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