

# **Online Learning and Assessment: Students' Experiences and Feedback**

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## **ABSTRACT**

This paper investigates the effectiveness of online learning and assessment methods in assisting students' learning process. The research also discusses students' experiences during this progression and gauges students' readiness for online learning and assessment. Finally, it evaluates the challenges faced during the implementation of the program, examines the level of improvement in students' performance and collects students' feedback for further enhancement. To explore how online learning and assessment influences teaching practice and students' learning and motivation level, action research method is chosen for the study. In this connection, five strategies of formative assessment are selected for the research: threaded discussions, online quizzes, online educational games, reflections and visual representations. Interviews with individual candidates are also carried out to capture independent views.

**Key words:** Online learning and assessment, students' feedback, formative assessment

## **INTRODUCTION**

21st century learning explores and implements the skills required to survive and succeed in the complex and connected world: ‘problem-solving skills’, ‘critical thinking’, ‘application of ideas’ and ‘analytical skills’. Inevitably, it is the age of creativity where pupils’ minds are receiving a continuous influx of information. To evaluate this knowledge in an appropriate way, it is necessary that our assessment procedures should align with the nature of skills exhibited by the pupils. Walvoord & Anderson (1998) stress, “Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time”. Therefore, the research has undergone assessment methods which do not merely focus on the content knowledge of the examinees rather it also judges the abilities the learners develop during the learning process.

## **LITERATURE REVIEW**

Assessment includes all activities that teachers and students undertake to get information that can be used to improve teaching and learning (Black and William, 1998b). There are various benefits of online instructional and assessment methods. Graff (2003) finds it a flexible and student centered learning method in which the learner can progress at his or her own pace and is responsible for his/her own learning. According to Robles and Braathen (2002), “Students must be responsible to read the material, explore the links, partake in the discussion, ask questions, choose to learn the objectives, and set aside the time to learn.”

Ally (2004) further explains, “For learners, online learning knows no time zones, and location and distance are not an issue. Online materials can be updated, and learners are able to see the changes at once. When learners are able to access materials on the Internet, it is easier for instructors to direct them to appropriate information based on their needs.” Additionally, Thelwall (2000) suggests that computer-based assessment has many advantages encompassing improved learner motivation for study.

Teacher-student interaction is an essential feature of assessment used formatively (Poplau, 2008; Corie and Bell, 1999). Traditionally, in face-to-face relationship between a teacher and a student, the information is provided through lectures or notes whereas, in online instructional methodology this contact is further enhanced through audio, video and threaded discussions. Draves (2000) acknowledges, “There is more interaction between and among students and the teacher with online learning than with traditional instructions”. Furthermore, online assessment systems provide prompt feedback to the learners; as a result they learn by taking the test.

As this research monitors students’ learning in order to offer continual feedback to the students by finding out their strengths and weaknesses and addressing the areas that require immediate action; therefore, formative assessment alone is used.

Online assessment system is equally constructive for both, teacher and students. Once teachers assess learner’s knowledge, they can restructure their instructional goals to cater the needs of the students. Furthermore, learners, on receiving timely feedback, can assess their progress intermittently. The results help them to modify and improve their ‘learning to learn’ skills.

## **IMPLICATIONS FOR ONLINE LEARNING AND ASSESSMENT**

The potential to use technology based learning and assessments effectively ruminates multitude of repercussions which should be contemplated when making such a choice. Firstly, it is teacher's responsibility to design appropriate material to meet students' learning outcomes. The assessment should be tailored to the needs and expectations of the learners.

Students possessing weak IT skills may be disadvantaged during online assessment systems. Therefore, differentiated instructional method can be applied here as it permits teachers to encounter this challenge by taking into consideration the styles, interests, and abilities observed in the students while planning and providing the instruction.

Some of the significant guidelines are found in Angelo and Cross' Classroom Assessment Techniques: A Handbook for College Teachers. Even though, they are written within the context of classroom instruction, most of the assumptions relate to online learning. Angelo and Cross highlight that the quality of teaching should be improved to enhance students learning. Moreover, teachers should design explicit and specific goals which should be shared with the learners, so that learners can set expectations and evaluate their performance. Besides, comprehensive and timely feedback should be provided to the students, in such a way they can take remedial actions.

On the other hand, Ally (2004) stresses that the learning materials must be well-ordered and categorized aptly to promote learning. The sequencing could be according to the difficulty level, from simple to complex. Furthermore, various forms of testing and assessment should be incorporated into the learning structure to assess the learner's accomplishment level.

## **PARTICIPANTS**

The study involved 14 grade ten students of two co-education English medium schools of Karachi. The group was comprised of mixed ability children, aged between 15 to 16 years. They possessed intermediate to advance language and IT skills proficiency (elicited from respective subject teachers).

## **METHOD**

This study is established on action research. Noffke & Somekh (2009) states, "Action research directly addresses the problem of the division between theory and practice. Rather than research being a linear process of producing knowledge which is later applied to practice setting, action research integrates the development of practice with the construction of research knowledge in a cyclical process."

The research has two facets. It was concerned with the effectiveness of online learning and assessment and the reforms incorporated in the teaching and assessment of latter modules of the course content after receiving students' feedback. It was a purposeful attempt to find out students' receptiveness to the modern technology and its impact on their learning process.

The study involved the participation of students in an online course, entitled, 'Human Physiology- Circulatory and Excretory System'. The duration of the course was six weeks based on six modules. Before the commencement of the course, there were two orientation sessions (face to face) for the participants to make them acquainted with the use of software and pedagogy required during the course.

Students were provided with e-readers which enabled them to download books, videos, animations and audios. This also facilitated them to view their course material and access the course website, 'Moodle': a learning platform. Not only this, guidelines for use of e-reader and Moodle were posted on the forum along with the link for continual IT support.

Each module was comprised of tasks consuming not more than 3 to 3.5 hours per week. At each level, scaffolding activities were embedded to provide supportive learning environment. The given information was organized in charts and graphic organizers complemented with videos, podcasts, and PowerPoint presentations. Students used both words and pictures to support creation of connections. The learning was evaluated through various types of assessment strategies, catering different learning styles of learners.

At the end of every module, students' feedback was collected, using discussion forums and questionnaire, which was used to modify the forthcoming modules. Such changes included increase in the difficulty level of the questions, addition of time-barred tasks and more coordination with the course facilitators.

## **PROCEDURE**

A variety of different online assessment paradigms were being utilized to check for understanding, collect 'evidences' of learning and formulate future strategies. In this connection, the following assessment strategies were carried out.

### **A. Threaded Discussions**

It is an excellent online learning tool which allows the learners' to reflect before speaking. Bouchat (2006) states, "Although, threaded discussions are probably more time-consuming and technically challenging, they offer options to improve teaching that are not available in the traditional classroom".

Similarly, students had the opportunity to communicate with other course participants and facilitators on the forum (Moodle). The topics for discussions were regularly posted to develop students' concepts and demonstrate their level of comprehension. Critical thinking was encouraged among students and the instructor assistance was less frequent but more focused. The students' involvement was assessed on the basis of the number of times they wrote on the discussion board and the appropriateness of the responses they produced.

## **B. Online Quizzes**

Use of unsupervised online quizzes allows students to work at their own pace in a non-threatening environment; the quizzes can be accessed by the learner any time and most importantly this strategy fosters learner autonomy. Secondly, the students are able to receive timely feedback which corrects their misunderstanding on the spot. Stressing on the significance of online quizzes, Tuttle (2011) mentions, “Teachers can quickly analyze in what areas students are successful and in what areas they have demonstrated learning gaps. They can select an appropriate learning strategy for each student of the class.”

Online quizzes were offered during the learning period. The multiple-choice questions and matching exercises were designed to meet a variety of learning styles and wide-ranging difficulty levels. Some of the quizzes were based on the concepts previously taught to the students in the classrooms. Others were comprised of new concepts. Students were already informed about the learning outcomes for preparation and the correct answers were displayed at the end of the quizzes. Students could even retake a quiz as often as they wanted to increase their scores which actually showed their improved level of understanding.

## **C. Online Educational Games**

There are many potential advantages of online educational games. They utilize students’ analytical thinking and decision making skills to solve the problems and complete the levels. The entertainment leads them to gain concentration and engage in the course content. Online educational games also tend to enhance motivational level and sense of achievement.

Kapp (2012) describes gamification (use of game thinking in non-game settings to involve users in problem solving) as “the careful and considered application of game thinking to solving problems and encouraging learning using all the elements of games that are appropriate”.

Online games like blood typing game, jigsaw puzzle of question-answer cards were incorporated in the modules to offer a conducive learning experience and consolidation of learners’ concept.

## **D. Reflections**

Reflection is one of the strategies to boost self- assessment. The students cogitate on their learning experience that has taken place over a specific period of time. It exhibits both the strengths and weaknesses of the learners so that they can easily identify what they have learned and what they are still required to learn.

Students used reflection as one of the tools to check and gauge their progress during several phases of the course. The activity also aimed to develop metacognitive skills, boost confidence and sustain motivation level for the study.

## **E. Visual Representations**

The use of visualizations has become nearly global in the teaching and learning practice as it permits pupils to create connections, develop understanding and retain knowledge. Furthermore, students organize their ideas and improve thinking skills. Kirrane (1992) points out, “People have been using images for the recording and communication of information since the cave-painting era”.

To assess students’ understanding of the course contents, they were assigned with tasks to display the given information in PowerPoint presentations and design posters using publication software. Not only individual but collaborative work was also encouraged through these activities.

## **RESULTS AND DISCUSSION**

The results of the research were collected through students’ feedback forms, Likert scale responses and individual interviews of the learners.

The feedback was taken after every module to incorporate modifications in the forthcoming modules, meeting the needs of the learners. On the other hand, Likert scale scoring and students’ interviews were conducted at the end of the course completion.

### **i. Feedback Forms**

#### **A. Threaded Discussions**

These discussions enabled students to express their views freely. Some of the students recognized this expanded discussion as a drain on time; nevertheless, many offset this criticism by appreciating the time and opportunity they were offered to prepare responses, establish connections and understand the concepts through other participants’ posting. The learners even acknowledged the support and meaningful interaction with their facilitators in attaining self-study skills.

#### **Students’ Feedback:**

1. “I feel no hesitation to give wrong answer because it was not face to face.”
2. “You can work when you want.”

#### **B. Online Quizzes**

Online quizzes provided learners a flexible supplementary learning tool in order to check improved course outcomes. Some of the students who had performed poorly in the class prior did relatively well in online quizzes for the same concepts. They mostly liked the option of retaking the quiz for enhanced learning and comprehension.

#### **Students’ Feedback**

1. “I found the self-assessment really helpful and the use of technology was really good. These all things can make us better 21<sup>st</sup> century students.”

2. “Self-assessment was really helpful and amazing in this course as the results were evaluated at the same moment after attempting the test. This is good and worthy technique for preparation of exams.”

### **C. Online Educational Games**

The students were readily involved in the game activities which reinforced important syllabus content. While playing such games, they learnt through their mistakes and found this medium a safe environment to sharpen and test their skills.

#### **Students’ Feedback**

1. “The game of blood compatibility was really fun and I enjoyed it.”
2. “The animated videos were very helpful for me. All the self-assessments such as games and quizzes help for better understanding.”

### **D. Summaries and Reflections**

Reflection engaged students in deeper learning by stimulating autonomous thoughts. This fostered optimism and sense of accomplishment among students as they received a clear picture of the learning outcomes they had achieved and the areas which needed focus.

#### **Students’ Feedback**

1. “The course was helpful in understanding and doing self-assessment and getting comments on our work was great.”
2. “It helps in improving our observational and analytical skills.”

### **E. Visual Representation**

The visualization activities were intended to help the students to simplify complex information and manage their learning process. This strategy seemed to have the additional benefit of increased retention of the information and establishment of connections with the related topics.

#### **Students’ Feedback**

1. “Animated assessments were the best ways of examination of our abilities. Through it, concepts were stored and carved into my brain, those I will never forget.”
2. “Pictorial representations, animations and videos helped me learn a lot.”
3. “During this course I learned to use many other software like making PowerPoint presentation and poster.”
4. “Involvement of technology in the course like working on different software was very good and helpful throughout the course.”

## ii. Likert Scale and Students' Interviews

The results of the Likert scale that employed a questionnaire (14 pointers) are as follows:

SCALE: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)

S.No.	Pointer	SA %	A %	N %	D %	SD %
1	The course helped me to gain a good understanding of the topics	93	7	-	-	-
2	I was encouraged to actively participate in the online discussion	43	50	7	-	-
3	The assessment was clearly explained and relevant to the course	57	36	7	-	-
4	I received helpful and timely feedback during the course	15	64	21	-	-
5	I was treated fairly during the course	72	21	7	-	-
6	There was opportunity for individual consultation with course facilitators	35	50	15	-	-
7	The workload was appropriate for the course	35	43	15	-	7
8	I have got chance to review my performance in the course	64	15	21	-	-
9	I was encouraged to work cooperatively with other students	57	28	15	-	-
10	Face to face and online sessions helped me broaden my understanding of the subject	93	7	-	-	-
11	The online material contributed to my understanding of the course	57	43	-	-	-
12	Coordination between course facilitators facilitated my learning	21	43	29	7	-
13	Overall quality of teaching in this course was good	79	21	-	-	-
14	Overall, I learned a lot from this course	85	15	-	-	-

The overall findings from the Likert Scale scoring and students' individual interviews suggest that technology aided learning environment facilitates the learners in a very significant way. Most of the students, who were used to conventional teaching methods, when provided with visual support and self-assessment situations, appeared to be more confident and independent, being in charge of their own learning.

Students explored numerous ways to learn and demonstrate their comprehension. They were pleased to receive comprehensive and immediate feedback; nonetheless, some learners still demanded a quicker online tutor's response. Most importantly, the editing option in discussion forum and automated marking of the online quizzes and games were acknowledged by all of the students.



Additionally, most of the students approved the innovative way to approach the instructor. However, a few of them did not find online consultation satisfactory which shows that they need more time and support for the substitution of ‘physically present class room teacher’ with the web tutors. As online courses expect students to manage their pace of work, a few students found the online course challenging. They could not divide the tasks wisely over the given time (3-3.5 hours/week); therefore, felt that the workload was inappropriate.

## **Conclusion**

With the growth of knowledge and advances in technology, the demands on learning are escalating. The intervention of digital tools in the educational world forces us to upgrade ourselves from conventional classroom teaching to the global world of online studies.

Inevitably, technology-based assessments shape learners’ understanding of the course content, control their ability to progress and foster lifelong learning skills that are essential for 21st century. Despite some of the challenges encountered by the students, online assessment and learning opens the door of numerous possibilities and opportunities for both learners and facilitators.

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