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# Effectiveness of Online Evaluation Techniques in Promoting Teacher-Initiated Practices

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**Abstract**

*The digital transformation of the education system at all levels has made it possible to integrate a new teaching-learning environment known as e-learning. The utilize of machinery and digital tools to ensure the expansion of access to quality education is a trend in full bloom, and it challenges people to think deeply about the future of teaching and learning processes. One of the challenges is the progress of digital assessment. Information and communication technology has been used in various fields. ICT has its impact to enhance the learning environment and process. Therefore, digital assessment offers a solution to assess the routine of the students online. Lack of knowledge in developing the digital assessment technique and lack of interest and confidence in using technology were identified. In the first part of the pre-test, the question paper evaluates the basic knowledge of the teacher regarding Google form. In the second part of the pre-test, the question paper evaluates the application skill of using Google forms. Online training for the interventional procedure was conducted on the sample through Google-meet for a period of four days, and each session was conducted for an hour. The mean gained scores of female teachers were found to be higher than that of the male teachers regarding knowledge of Google form. The mean gained scores of the male teachers were found to be more or less equal to that of their female counterparts regarding application skills of Google forms. Digital assessment provides instant feedback, and it saves time and efforts to be put in for paper correction. Teachers would be able to analyze not only their students' achievement level but also their teaching competence through digital assessment effortlessly so that they could initiate their professional development, thus paving the way for quality education.*

**Keywords: teacher initiatives and online assessment techniques**

## Introduction

In this 21st century, the concept of "Technology" is a significant concern for many sectors, including education. Technology integration in the current world has experienced innovations and has changed our societies and has completely altered the way people think, work, and live. In this regard, schools and other institutions of learning that are meant to equip students to live in "a knowledge society" must take into consideration the integration of ICT in the Curriculum.Assessment is at the center of the learning process, as it offers tangible evidence of learning, measures student progress, and indicates an understanding of the curriculum.As online learning becomes more popular, many teachers are struggling with the challenges of designing and implementing effective online assessment strategies that support and enhance student learning. One of the challenges indicates the design and development of online assessment.ICT makes a contribution to enhance the learning environment and process. Due to the Covid-19 outbreak, a new innovation in teaching and learning is needed. Therefore, digital assessment

provides a solution to determine the performance of the students online.

**Digital Assessment Techniques**

The application of digital technology in assessment will enable us to identify the potential of digital technology in changing the assessment system. Digital assessment will help in improving the performance of students because it will encourage them to apply technology, which has become part and parcel of the daily learning process of the current generation.Digital assessment will help the teacher in improving the quality of feedback to the students. Digital assessment will enable the teacher to monitor the performance of the students at that time and make analyses based on several assessments.The advantages of digital assessment are: giving direct and immediate feedback to the student, improving the performance of the students, saving time and effort for the teacher, saving costs for the institution**,** and promoting high-order thinking, which is one of the aims of education.

**Significance of learning Digital Assessment Techniques**

Assessment is a prominent feature of teaching and the curriculum. It is a powerful way of conceptualizing the learning process and what students achieve. The application of digital technology in assessment enables us to explore what potential there is for changing the assessment system. The key benefits of digital assessment are: giving direct and immediate feedback to the student, enhancing the student's performance, saving time and effort for the teacher, saving costs for the institution, and promoting high-order thinking, which is one of the educational objectives. Digital assessment assists the teacher in enhancing the quality of feedback to the students. Digital assessment allows the teacher to monitor the students' performance at that time and place and analyze them for a large number of assessments. The immediate feedback from digital assessment enables the teacher to identify the misconceptions, which are not apparent to the students, and resolve it before the final examination. Applying digital assessment may alleviate the burden on the teachers to assess a large number of students. Digital assessment has its own security features, which while providing the questions to the students, prevents them from copying the questions. It also includes checking identification and password verification to ensure the identity of a student. It reduces malpractice by students by providing different questionsin a different order.

**Google Forms in Digital Assessment Techniques**

Forms are among the internet's most versatile tools. Google Forms is a service that allows you to collect information via simple web forms. One of the useful features is that the forms will automatically save your data to a Google Sheet. Google forms provide us a simple way to collect and analyze information provided by a large number of people in a single place. Google takes care of making sure that all the data gets consistently entered into one clean format - no matter how many people access the form.Google Forms is one of the simplest tools to use in collecting data and information but as they are connected to a spreadsheet (Google Sheet) they can be very powerful in terms of data analysis.

Google Forms has 12 types of fields: 9 types of questions, and text, photo, and video fields. There is another way to create an interactive form using Google Forms' Quiz feature. In your form settings, you will see a Quizzes Tab. Click on Make this a quiz. Google forms have a header color or image, and a lighter accent color as the background. By default, new forms are purple, but template forms may have an image. After creating the form, you don't have to do anything else to save the answers of the respondents in Google Forms. By default, it will save each answer in the Responses tab, with summary graphs and lists of answers. A response view shows the live form and the results of each respondent.

**Need for the Study**

The main objective of science teaching is to enlarge a scientific attitude among the learners. Online Assessment is a significant technological

advancement that should be concerned in the education system. Conducting tests nowadays should not be stressful as technology has revolutionized the whole education system. Conducting assessments online has become easier today as there is no requirement of using the paper and pen option. First and foremost, teaching and in consequence, evaluating students are two actions that should not be limited within the walls of the classroom, but they can be performed anytime, anywhere with the aid of gadgets and the internet, both online and offline mode.

**Objectives of the Study**

- To develop a positive attitude towards easy access to and use of digital technologies.
- To nurture the digital competence of science teachers through digital activities.
- To develop a positive attitude towards digital assessment techniques, incorporated with the digital classroom.
- To set the basis to create and develop digital assessment tools.
- To prepare the teachers to use digital assessment techniques regularly to enhance the effectiveness of biological concepts among the students.
- To help them learn the different methods of assessment online.

**Hypotheses of the Study**

- There is a significant difference between the pre-test and post-test scores of the science-handling teachers in their knowledge of digital assessment tools with respect to their gender.
- There is a significant difference between the pre-test and post-test scores of the science-handling teachers in their application skills in using digital assessment tools with respect to their gender.
- Providing online training on creating an effective digital assessment tool through webinars strengthens the teacher initiatives in utilizing digital assessment techniques among science-handling teachers.

**Methodology**

**a. Design:**
Single-group Experimental Design.

**b. Sample:**
Science-handling teachers of upper primary schools.

**c. Research Tools:**
Pre-test Questionnaire &Post-test Questionnaire

**d. Interventional Materials**
Manual on Google forms
Recorded videos of online sessions

**e. Statistical Techniques:**
Mean and gained score

**Evaluation of Pre Test**

The mean score of pre-test of the male teachers was compared with that of the female teachers in respect of their Knowledge on Google forms and Application Skill of using Google forms and tabulated in Table 1 below;

**Table 1: Pre-Test - Comparison of Mean Score in respect of Gender**

| Gender | Knowledge on Google forms | Application Skill of using Google forms |
|---|---|---|
| Male Teachers | 47.9 | 42.9 |
| Female Teachers | 43.7 | 44.5 |

The above table make known that the mean score of male teachers is 47.9 in Knowledge on Google Forms which is higher than that of female teachers by 4.2 percent. In Application skill of using Google forms, the mean of the pre-test is higher by 1.6 percent for female teachers.

**Description of Interventional Materials**

After conducting the pre-test and decide on the sample, interventional activities were conducted using the equipment off the cuff by the expert. Since the present study aims at enhancing digital assessment tool by providing an online training and a module was prepared by the expert which guides the teacher to create an assessment in Google Form. The

interventional material had detail explanation on the following topics:

- How to create a Google form?
- Layout of the Google form
- Question format in google form
- Customizing and settings Google form
- Online assessment through Google form

**Post-Test**

After the interventional activities, post-test was conducted by sharing the link to the teachers through Google forms and their knowledge on Google forms and application skill of using google forms were assessed. The response was evaluated and comparative analysis of pre and post-tests was carried out.

In order to compare the mean post test score in respect of gender in knowledge on Google forms and application skill of using Google forms to the attributes respectively, they are tabulated in Table 2.

**Table 2: Post-Test - Comparison of Mean Score in respect of Gender**

| Gender | Knowledge on Google forms | Application Skill of using Google forms |
|---|---|---|
| Male Teachers | 92.6 | 91.4 |
| Female Teachers | 90.8 | 92.8 |

It is clear from Table 2 that the post-test score of male teachers is found to be upper than that of female teachers by 1.8 percent in knowledge on Google forms and female teachers lead in the application skills of Google forms by 1.4 percent than male teachers.

**Table 3: Gender-wise Comparison of Mean Gained Score in respect of Knowledge & Application Skill on Using Google forms**

| Gender | Knowledge on Google form | Application Skill on Google form |
|---|---|---|
| Male Teachers | 44.7 | 48.5 |
| Female Teachers | 47.1 | 48.3 |

The assessment of gained scores with esteem to the attributes of Knowledge and Application skills on using Google forms shows that the mean gained scores of both Male teachers as well as female teachers are found to be more or less equal in both aspects.

**Findings of the Study**

**Knowledge of Google form**

- Though both the male and female teachers have scored low in knowledge on Google forms in the pre-test, male teachers were found to have scored higher than the female teachers.
- In the post-test on knowledge on Google forms, the scores of both male and female teachers have improved significantly. Similar to the pre-test, the mean score of the male teachers was found to be higher than that of the female teachers.

**Application Skills in using Google form**

- While testing their application skills on using Google forms related to preparing assessments, irrespective of gender, it was found to be low before the intervention. However, the application skills of the female teachers in using Google structures were higher than that of the male teachers.
- In the post-test on application skills on using Google forms, it was proved that both the male and female teachers have displayed tremendous improvement after the interventional activities. Comparative scores of both the male and female teachers revealed that the female teachers have scored privileged than their male counterparts in creating assessments through Google forms.
- The involvement of female teachers in the knowledge and application skill in using Google forms was found to be elevated than that of the male teachers as they handled with a kinesthetic approach and much involvement and patience.

**Net Gain of the Study**

Providing online training has enhanced the knowledge on Google forms of teachers for assessment in online classes. The four-day workshop

organized as interventional activity has helped the instructors to create a creative and innovative digital assessment to evaluate the students and ensure that the students have understood the concept clearly. A module prepared by the expert has been a handy tool for the teacher to proceed with an effective digital assessment

**Recommendations for Educational Implementation**

- Though most teachers have access to the internet through smartphones and have knowledge in browsing the internet, they are not conscious of the numerous technical tools available online that could be used for teaching as well as assessment purposes. Hence, providing webinars on such topics would enhance their knowledge in finding the available online resources.
- Since effective online evaluation has become an inevitability in the pandemic situation, finding ways and means to create innovative digital tools for assessment purposes with no scope for malpractice has become the necessitate of the hour. Therefore, teachers are expected to enlarge their scientific skills for e-assessment which could be fostered through hands-on e-workshops.
- Accessibility to computers and internet at any time at school is necessary and hence the schools should have entirely prepared computer labs with internet access for teachers.
- Social media peer groups through WhatsApp or Facebook could be formed among teachers so that they could work as a team in preparing digital assessment tools and share the link of their creations on a particular topic for the assistance of the others. Such sharing of work would save time and energy and promote development in the teaching-learning process.

**Conclusions**

The application of information and communication technology in classrooms is erupting and moving faster than one's imagination. Information and communication technology helps to remove barriers of distance and time. Apart from being helpful in executing online surveys and data collection, Google Forms, an administration survey software, facilitates quick online assessment of student performance by the teachers. As digital assessment offers quick feedback, it saves time and much physical effort to be position in for a paper correction. Moreover, teachers would be clever to analyze not only their students' achievement level but also their teaching competence through digital assessment effortlessly so that they could commence their professional development, thus paving the way for quality education.

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