

DIGITAL TOOLS FOR TEACHING BEYOND BOUNDARIES

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Abstract

The classroom transaction after pandemic due to Covid 19, has made a great impact on teachers which demanded hands on proficiency in operating digital tools in Teaching, Learning and Assessment. Teachers were hunting for opportunities to train themselves in digital tools which will facilitate and enhance the profession and connect with the learners with much interest. As the demand was increasing, we as an institution initiated a faculty development programme for teachers of an institution, on digital tools for teaching beyond boundaries. As the researcher, had a passion for verifying the effectiveness of the programme, investigator prepared a tool with 49 items and administered the Pre-test and Post-test. The sample were 52 participants (College faculty). The scores were analysed with statistical measures and the findings were found to be effective.

Keywords: *Digital tools, Teaching, Learning and Assessment.*

INTRODUCTION

Learning Objective of the program was to enhance and upgrade the skills of teachers in using the latest Information and Communication Technology tools for catering to teaching-learning requirements of student groups of different sizes and subject streams and

1. To equip the teachers well in advance to meet the challenges of teaching arising due to disruption in offline teaching in physical classrooms, caused by the pandemic.
2. To provide an interactive and active learning platform to teachers by creating a rigorous learning environment well assisted by skilled resource persons.

Teachers play an essential role in education, especially on students' learning process in the classroom. Teachers teach and educate. Teachers set the tone of their classrooms, build a warm environment, mentor and nurture students, become role models, and listen and look for signs of trouble.

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OBJECTIVES OF THE STUDY

1. To find out the significant difference between the pre-test and post-test scores of the participants of the training programme.
2. To find out the significant difference between the pre-test and post-test scores of the female participants of the training programme.
3. To find out the significant difference between the pre-test and post-test scores of the male participants of the training programme.
4. To find out the significant difference between the pre-test and post-test scores of the age above 40 participants of the training programme.
5. To find out the significant difference between the pre-test and post-test scores of the age below 40 participants of the training programme.
6. To find out the significant difference between pre-test and post – test scores of participants of the training programme teaching arts subject.
7. To find out the significant difference between pre-test and post – test scores of participants of the training programme teaching science subject.

HYPOTHESES OF THE STUDY

1. There is no significant difference between the pre-test and post-test scores of the participants of the training programme.
2. There is no significant difference between the pre-test and post-test scores of the female participants of the training programme.
3. There is no significant difference between the pre-test and post-test scores of the male participants of the training programme.
4. There is no significant difference between the pre-test and post – test scores of participants below 40 years of age of the training programme.
5. There is no significant difference between the pre-test and post – test scores of participants above 40 years of age of the training programme.
6. There is no significant difference between the pre-test and post – test scores of participants of the training programme teaching arts subject.
7. There is no significant difference between pre-test and post – test scores of participants of the training programme teaching science subject.

DESIGNING AND DEVELOPMENT OF TRAINING PROGRAMME ON DIGITAL TOOLS FOR TEACHING BEYOND BOUNDARIES

The curriculum for the virtual faculty development program on ‘Digital Tools for Teaching Beyond Boundaries’ was developed by the faculty of St. Christopher’s College of Education. It has the following steps:

1. Demonstration of using various tools with the necessary explanation.
2. Hands on training for the participants to use the digital tools.
3. Online support for those who have problems in using the tools.
4. Doing tasks and assignments for hands-on experience of working with online tools.
5. Resource Person’s feedback on the assignments submitted by the participants.

Course Content:

Google Classroom, Google Forms, Quizziz, Live Board, Jam Board, Screencastify, Loom, FlipGrid, Google Meet, youtube and Kahoot for interactive and effective conduction of virtual classes.

Designing the test:

Multiple Choice Questions with four alternative answers with only one correct answer were constructed. 100 multiple choice questions were prepared from the said topic. They were refined based on the diligent discussions that were made with subject experts. 49 MCQ were finalized to evaluate previous knowledge of participants on ‘Digital Tools for Teaching Beyond Boundaries’. The same test was used to test the knowledge of the participants at the end of the programme also.

METHODOLOGY

Research Design:

One-group Pre-test Post-test Design was adopted for the present study.

Implementation of the Training Program on ‘Digital Tools for Teaching beyond Boundaries:

The training program was divided into day-wise sessions. The program was offered in online mode, through Google meet platform. from 10.30 am - 01.15 pm. Participants were given assignments every day to be submitted by 7.00 p.m. daily. Every minute details were keenly

observed by the participants and they were eager to immediately work and clarify their doubts. They were constantly posting their doubts to clarify in the chat box revealing their inquisitiveness to learn and use technology in their profession. The daily assignments were done and handed in by the maximum number of participants.

DATA ANALYSIS AND INTERPRETATION

Hypothesis 1: There is no significant difference between the pre-test and post test scores of the participants of the training programme.

Table 1: Scores before and after the treatment – Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Pre-test	52	32.85	5.311	8.027	0.000
Post-test	52	38.35	3.452		

In the above table p value ($.000 < .05$) is less than .05, therefore there is a significant difference between the pre-test and post- test scores of the participants of the training program. Hence the null hypothesis is rejected. Post - test mean scores of the participants of the training program is higher than that of Pre-test mean scores of the participants.

Hypothesis 2: There is no significant difference between the pre-test and post test scores of the male participants of the training programme.

Table 2: Scores of Male participants, before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Male - Pre-test	28	31.64	5.208	5.688	0.000
Male - Post-test	28	37.25	3.296		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between pre - test and post - test scores of male participants of the training program. Hence the null hypothesis is rejected. Post - test mean scores of the male participants of the training program is higher than that of Pre-test.

Hypothesis 3: There is no significant difference between the pre-test and post test scores of the female participants of the training programme.

Table 3: Scores of Female participants, before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Female - Pre-test	24	34.25	5.186	5.594	0.000
Female - Post-test	24	39.63	3.241		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between pre - test and post - test scores of female participants of the training program. Hence the null hypothesis is rejected. Post - test mean scores of the female participants of the training program is higher than that of Pre-test.

Hypothesis 4: There is no significant difference between the pre-test and post – test scores of participants below 40 years of age of the training programme.

Table 4: Scores of participants based on Age (Less than 40), before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Below 40 years of Age - Pre-test	19	33.11	5.152	4.949	0.000
Below 40 years of Age- Post-test	19	38.95	3.922		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between pre - test and post - test scores of participants below 40 years of age in the training program. Hence the null hypothesis is rejected. Post - test mean scores of the participants below 40 years of age in the training program is higher than that of Pre-test.

Hypothesis 5: There is no significant difference between the pre-test and post – test scores of participants above 40 years of age of the training programme.

Table 5: Scores of participants based on Age (above than 40), before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Above 40 years of Age - Pre-test	33	32.70	5.474	6.231	0.000
Above 40 years of age- Post-test	33	38.00	3.162		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between pre - test and post - test scores of participants above 40 years of age in the training program. Hence the null hypothesis is rejected. Post - test mean scores of the participants above 40 years of age in the training program is higher than that of Pre-test.

Hypothesis 6: There is no significant difference between the pre-test and post test scores of the participants of the training programme teaching arts subject.

Table 6: Scores of participants based on stream (Arts), before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Arts - Pre-test	39	32.90	5.220	6.286	0.000
Arts - Post-test	39	37.69	3.286		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between the pre-test and post test scores of the participants of the training programme teaching arts subject. Hence the null hypothesis is rejected. Post - test mean scores of the participants of the training programme teaching arts subject is higher than that of Pre-test.

Hypothesis 7: There is no significant difference between the pre-test and post test scores of the participants of the training programme teaching science subject.

Table 7: Scores of participants based on stream (Science), before and after the Training Programme.

Variable	N	Mean	Std. Dev	t-Value	p-Value
Science - Pre-test	13	32.69	5.793	5.446	0.000
Science- Post-test	13	40.31	3.301		

In the above table p value ($0.000 < .05$) is less than .05, therefore there is a significant difference between the pre-test and post test scores of the participants of the training programme teaching science subject. Hence the null hypothesis is rejected. Post - test mean scores of the participants of the training programme teaching science subject is higher than that of Pre-test.

MAJOR FINDINGS

There is a significant difference between the pre-test and post – test scores of the participants of the training programme. Post - test mean scores of the participants of the training program is higher than that of Pre-test mean scores of the participants.

There is a significant difference between the pre-test and post – test scores of male participants of the training programme. Post - test mean scores of the male participants of the training program is higher than that of Pre-test.

There is a significant difference between the pre-test and post – test scores of female participants of the training programme. Post - test mean scores of the female participants of the training program is higher than that of Pre-test.

There is a significant difference between the pre-test and post – test scores of participants below 40 years of age of the training programme. Post - test mean scores of participants below 40 years of age of the training program is higher than that of Pre-test.

There is a significant difference between the pre-test and post – test scores of participants above 40 years of age of the training programme. Post - test mean scores of participants above 40 years of age of the training program is higher than that of Pre-test.

There is a significant difference between the pre-test and post test scores of the participants of the training programme teaching arts subject. Post - test mean scores of the participants of the training programme teaching arts subject is higher than that of Pre-test.

There is a significant difference between the pre-test and post test scores of the participants of the training programme teaching science subjects. Post - test mean scores of the participants of the training programme teaching science subject is higher than that of Pre-test.

CONCLUSION

The training programme was very effective and encouraged the participants to use the digital tools in their classrooms. They gained Knowledge, Skills and Techniques to add Quality and Effectiveness in their teaching methods.

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