Efficacy of Digital Self Learning Material (SLM) on Blogging developed for Teacher Educators and Student Teachers

[1]Urvashi Sachdeva & [2]Jasim Ahmad
[1]Research Scholar, Department of Teacher Training and Non-Formal Education (IASE), Faculty of Education, Jamia Millia Islamia, New Delhi, India, Email: urvashisachdeva26@gmail.com
[2]Professor, Department of Teacher Training and Non-Formal Education (IASE), Faculty of Education, Jamia Millia Islamia, New Delhi, India

Abstract

Blogging is one of the modern Information and Communication Technologies (ICTs) which is establishing its role as an important pedagogical tool. If Blogging has to be used for the said purpose, one should know the 'how-to-do-it'. A Digital Self Learning Material (SLM) on Blogging has been developed by the researchers which was shared with the purposely selected Teacher Educators and Student Teachers as an intervention. A Single group Pretest Posttest design was used for this study. Mean, Standard Deviation and t values were computed for the statistical analyses of pretest and posttest scores. Means of posttest scores for Teacher Educators (M= 19.267) as well Student Teachers (M=14.970) were observed to be almost double of the means of pretest scores (M=8.600 for Teacher Educators; M= 8.000 for Student Teachers). Computed t values (-11.674 for Teachers Educators and -11.092 for Student Teachers) were found to be much higher that the critical t values at 95 percent and 99 percent Confidence levels. A significant difference between the means of pretest and posttest scores of the sample proved the efficacy of the Digital SLM developed by the researchers.

Keywords: ICT, Digital Self Learning Material, Blogging, Teacher Educators, Student Teachers

Introduction

History has never witnessed mankind's connections as much as today. These endless connections could have been made possible only because of the electronic infrastructure called Information and Communication Technologies. Human lives have transformed personally and professionally due to these ICTs.

Blogging, which stands for the practice of writing a blog, is one of booming ICTs which has a global impact. Weblogs, or simply blogs, have seen considerable growth lately on the Internet. Blogs can be considered as an online digital diary which is used for recording of one's thoughts (Ray and Hocutt 2006). Blogging is characterized by documenting ideas through frequent online posts. It gives ample opportunities for self-expression, sharing, collaboration, cognitive as well as professional development. In addition to text, Blogs can also have

graphics, images, audio as well as video content.

There is a growing body of literature on using Blogs as an effective pedagogical tool (Churchill 2009; Stiler and Philleo 2003). Using blogs, podcasts, wikis have enabled students to showcase their creativity with the help of technology (Mapuva, Stoltenkamp, & Muyengwa, 2010). Using blogs for teaching and learning a.k.a. educational blogging is not a new phenomenon but in India, it is still in its infancy stage.

To start using a new technology, one should have the knowledge of that technology. With this aim in mind, researchers of this study have created a Digital Self Learning Material (SLM) on Blogging which gives learners theoretical as well as practical knowledge of blogging.

Literature Review

The concept of Blogging is not new. This technology took birth in the 1990s but it progressed slowly especially in India. When the talk is about the role of Blogging in pedagogical practices, it is yet to blossom here. Some international studies which highlight the usefulness of Blogging for Teachers and Students have been mentioned below. Blogging will take time to establish its role in Indian Education context. Researchers of this study intend to contribute to this direction.

Sevilay Cirak Kurt and Ibrahim Yildirim (2021) in their research study explored the role of blogging on the reflective thinking and self- efficacy of pre-service teachers and in addition to confirming the positive role of blogging on the aforesaid variables, it was also pointed out by the respondents that blogging contributed to their personal and professional development as well.

The study by Katia Ciampa and Tiffany L. Gallagher (2015) revealed that the use of blogs to promote collective inquiry by teachers has both advantages and challenges. The blog was seen by the participants in this study as a platform to promote the exchange of information, teaching methods, and appraisal practices, as well as networking between colleagues. Teachers who were reserved, introverted, and reflective were more likely to benefit from blogs. Participants faced some challenges too. These included low amounts of perceived utility and perceived ease of use, lack or inadequate amount of in-service teacher training on the use of the blog, time constraints, technological problems, etc.

The use of blogs as a reflective platform in the training processes of English as a Foreign Language (EFL) student teachers from Taiwan was explored by Shih-Hsien Yang (2009). These student teachers were learning English as a requirement for their future employment. They used blogs to critically reflect on their learning processes and for their professional growth.

The noteworthiness of blogging in pre-service teachers' professional learning was also found by Keith Turvey and Mike Hayler (2017) in their study. They found this practice significant in two ways - firstly, through its potential for collaboration and secondly, through its compatibility with a narrative conception of professional learning.

Hashem A. Alsamadani (2018) investigated the effectiveness of online blogging for students' individual and group writing skills. This study highlighted the role of Blogging in revolutionizing EFL pedagogy. This study also recommended that blogging should be made a part of writing classes and school curriculum.

Similarly, Jasminka Kochoska and Josif Petrovski (2017) investigated the importance of classroom blogs and their role in strengthening the connections between home, school and the world.
Serhiy Boltivets, Soumen Acharya and Agnes Santos (2018) in their paper discussed how blogging in an educational setting produces several benefits and they explored the disadvantages of blogging too in this setting.

In the chapter 2.1 Blogging of the book titled 'The K-12 Educational Technology Handbook', Poth, Fernando, Okoye and Karlin (2020) have identified the skills required to start and maintain a blog, mentioned the characteristics of good posts, explored the dangers and have suggested guidelines for safe blog use and finally they have highlighted the benefits of blogging with students.

Digging deep into the literature on the effectiveness of Self Learning Materials on Learning and Achievement, researchers observed that numerous studies in different fields or subject areas have been done in India as well as abroad that prove the effectiveness of SLMs consistently. A majority of them highlighted the convenience and freedom these SLMs offer to learners.

Research Question

From the studies above, it has been concluded that Blogging can be used as a great pedagogical tool if the stakeholders of education viz. Teachers and Students are made competent in this technology. For this said purpose, the researchers have made an attempt to enlighten Teacher Educators and Student Teachers on Blogging through the creation of Digital Self Learning Material. Though there is a lot of technical content available on Blogs and Blogging on the Internet, still there was a need for customized content specifically developed and having demonstrations from the own subject area of Teachers Educators and Student Teachers.

The research question that guided this study was that – Is there any significant difference in participant's theoretical and practical knowledge of Blogging after going through the Digital SLM?

Objectives of the study

Objectives of this research study were:

1. To develop Digital Self Learning Material (Text Module) for enlightening about the theoretical background of Blogging.

2. To develop Digital Self Learning Material (Video Module) for demonstrating the 'how-to' of Blogging through Google Blogger.

3. To check the efficacy of developed Digital SLM through single group pretest posttest design.

Methodology

Research Design

The present study used a single group

pretest posttest design. A Digital Self Learning Material (SLM) on Blogging has been developed by the researcher as an intervention.
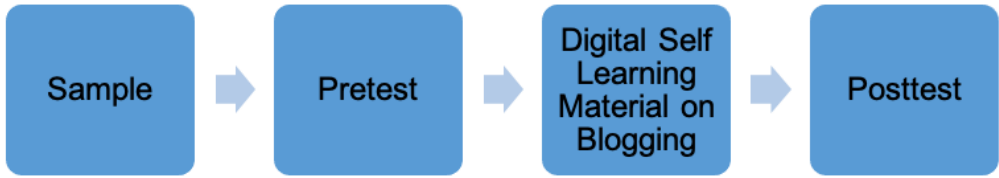

Figure-1: Experiment Design

Population

Teachers Educators and Student Teachers of Delhi NCR constituted the population for this study.

Sample

Sample consisted of 17 Teacher Educators and 52 Student Teachers (B.Ed. Students) from a Teacher Education Institute in Delhi NCR.

Sampling Technique used

Purposive sampling was used by the researchers to gather data. As Blogging is a Web 2.0 tool, the sample to be selected must have knowledge of Web 1.0. That was the reason for selecting the sample through purposive sampling.

Research Instruments

- Digital Self Learning Material: This consisted of a text module and two linked videos on Blogging as a pedagogical tool. Meaning & history of blog and blogging, types of a blog, structure and different components of a blog, Why should Teachers blog? – these all were covered in the Text Module and Part 1 of Video whereas Part 2 of Video demonstrated deeply how to create a blog, write a post, change the theme and layout of a blog and ultimately how to publish a post. This was demonstrated using 'Blogger' from Google. Selection of Google's Blogger for demonstration was finalized by researchers in another research study undertaken specifically to find the best representative application/ software/ service for the purpose.

- Pretest and Posttest: These were constructed using Google Forms. Both the tests have 20 equivalent multiple choice questions (Maximum Marks = 22) based on the theoretical and practical aspects of Blog and Blogging using Blogger from Google. Validity of the tests was established by experts and reliability of the tests was established by test-retest method.

Procedure

The duration of this study was three weeks. One week before the intervention, participants underwent a pretest. As a part of intervention, a text module having links to the videos on Blogging was given to the participants. They were asked to try their hands-on Blogging as demonstrated in the videos. At the end of the intervention i.e. after 2 weeks, participants were given the posttest.

Data Analysis

Pretest in the form of Google form was shared with the selected participants (17 Teacher Educators and 52 Student Teachers) one week before the intervention and all of them responded. But in the posttest, response rate was lesser. As a result, only the scores of those participants were considered who responded both to pretest as well as posttest (15 Teacher Educators and 33 Student Teachers). The same has been presented in Table 1 in the coming pages.

Figure-2 shows the pretest and posttest means for the group of participants (N=48) and more than double the increase is clearly visible in the posttest mean. In this case, the sample group was taken together as a whole.
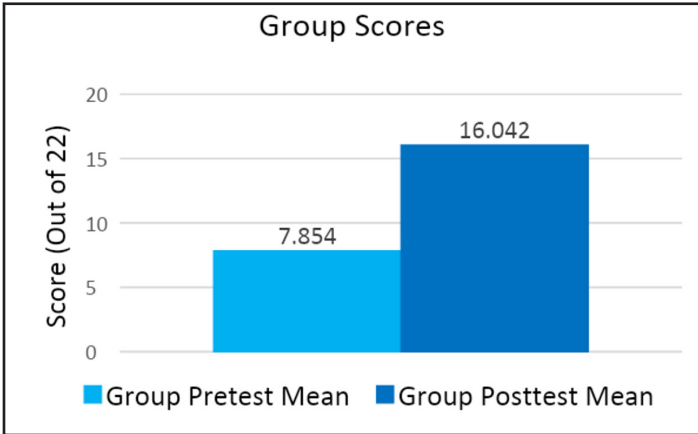

Figure-2: Group Pretest and Posttest Scores

Figure-3 represents the pretest and posttest means for the Teacher Educators (N=15). The pretest mean for Teacher Educators was 8.600 which increased to 19.267 in the posttest. This proves the efficacy of the intervention i.e. Digital Self Learning Material on Blogging.
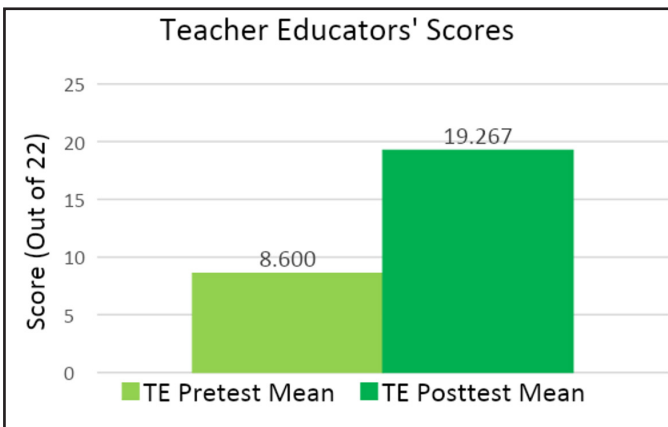

Figure-3: Teacher Educators' Pretest and Posttest Scores

Figure-4 shows the pretest and posttest means for the Student Teachers (N=33). The huge difference between the pretest mean (8.000) and posttest mean (14.970) point towards the sound quality of intervention.
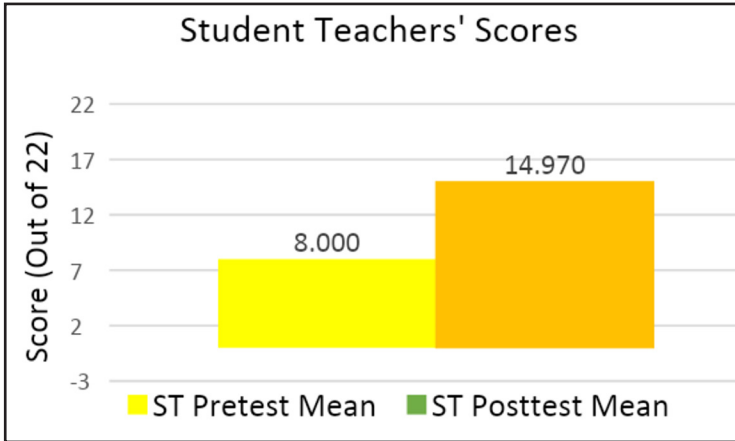

Figure-4: Student Teachers' Pretest and Posttest Scores

Figure-5 represents the compiled mean scores of the Group, Teachers Educators and Student Teachers. Increase in mean posttest scores is clearly visible in all the three cases.
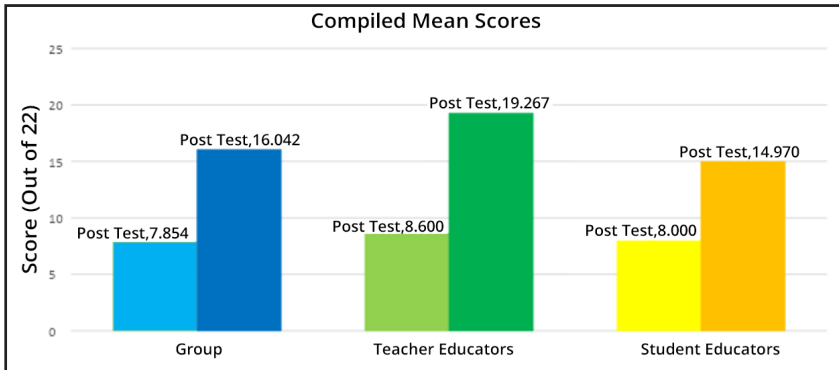

Figure-5: Compiled Pretest and Posttest Scores

Pretest and Posttest Mean scores and their Standard Deviations for the Group, Teacher Educators and Student Teachers are presented in Table-1. t values are computed for each and compared with the critical t values at 95 percent and 99 percent Confidence levels.

| Sample | N | Pretest | | Posttest | | df | t value | Critical t value (at 95% Confidence Level) | Critical t value (at 99% Confidence Level) |
		M	SD	M	SD				
Group	48	7.85	2.82	16.04	3.72	47	-14.899	+/- 2.011	+/- 2.684
Teacher Educators	15	8.60	2.52	19.26	1.98	14	-11.674	+/- 2.145	+/- 2.977
Student Teachers	33	8.00	2.79	14.96	3.48	32	-11.092	+/- 2.037	+/- 2.738

N= Number; M= Mean; SD = Standard Deviation; df = Degrees of Freedom

Findings

The researchers have developed a Digital Self Learning Material on Blogging and it was shared with a sample as an intervention. The efficacy of this Digital SLM is evaluated by the difference in the mean scores of pretest and posttest. Paired t test was applied to check the significance of difference of these means. Only the scores of those participants were considered who gave both pretest as well as posttest.

Data presented in Table-1 shows a clear and around double the increase in the mean scores of posttest over pretest in all the three cases of sample i.e. Group, Teacher Educators and Student Teachers. This difference in means can be credited to the efficacy of the Self Learning Material on Blogging developed by the researcher.

In the first case when the entire sample was taken as a Group (N=48), t value was calculated as -14.899 at df=47 using SPSS. The computed t value was found much higher than the corresponding critical t values at both 95 percent (t value = +/- 2.011) and 99 percent (t value = +/- 2.684) Confidence Levels. This means that the difference in the means of pretest and posttest is significant and the Digital SLM on Blogging is effective.

When only Teacher Educators (N=15) were taken as sample in the second case, t value was calculated as -11.674 at df=14 using SPSS. Again the trend was the same and the computed t value was found much higher than the corresponding critical t values at both 95 percent (t value = +/- 2.145) and 99 percent (t value = +/- 2.977) Confidence Levels. This is considered as a significant difference and the efficacy of Digital SLM on Blogging is proved.

In third scenario, when only Student Teachers (N=33) were taken as sample, again the similar pattern was observed and the computed t value (-11.0920 was found much higher than the corresponding critical t values at both 95 percent (t value = +/- 2.037) and 99 percent (t value = +/- 2.738) Confidence Levels. This difference is considered significant statistically and the efficacy of Digital SLM on Blogging as an intervention is proved.

Discussion of the findings

As the computed t value was found higher than the critical t value in all

the three cases of sample studied, this shows that the Digital Self Learning Material (consisting of a text module and two demonstration videos) developed by the researchers is successful in achieving the objectives for which this was made. After going through this SLM, participants could create a blog on their own and they shared their blog address in the posttest as well. This Digital SLM is effective in equipping the sample with Blogging skills.

Implications of the study

The Internet has been the source of information for ages now. Each one of us has taken so much from it. The time has come when we should think of contributing back to the internet. This is possible through content creation. Blogging is one of the booming technologies which can help in that. Not only this, Blogging also connects Teachers and Students virtually.

For this study, the researchers have created a Digital Self Learning Material on Blogging. The effectiveness of the SLM was confirmed by Teacher Educators and Student Teachers who participated in the study. This SLM can be used by one and all to learn the skill of blogging. As this is a SLM, one can learn as per his or her own convenience and time. Happy Blogging!!!

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