

DOES PPT MEDIATED TRAINING IMPACT ON KNOWLEDGE AND SKILL OF WRITING LEARNING OBJECTIVES BASED ON REVISED BLOOM'S TAXONOMY?

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ABSTRACT

The study reported Pretest Posttest Nonequivalent Quasi-Experimental design conducted to investigate Does PPT Mediated Training Impact on Knowledge and Skill of Writing Learning Objectives Based on Revised Bloom's Taxonomy (RBT)? Secondary Teacher Trainees took part in the study. PPT Mediated Training and Conventional Training intervention were used to train experimental group and control group. The study found that PPT Mediated Training is more effective than the Conventional Training in training secondary teacher trainees in knowledge and skill of writing Learning Objectives based on RBT.

Keywords: Bloom's Taxonomy, Learning Objectives, Secondary Teacher Trainees, PPT

Introduction

Taxonomy of educational objective is significant and core factor for various facets of education. Taxonomy means classification, Taxonomy of educational objectives means classification of objectives of teaching and learning. In educational setting, teacher, curriculum designers and educational practitioners keep taxonomy of educational objectives as key to organize educational activities. Initially, B.S. Bloom classified the objectives into cognitive, psychomotor and affective domain. Cognitive domain deals with knowing, thinking and problem solving; psychomotor domain related to muscular action and neuro muscular coordination related activity; and affective domain deals with attitude, value, interest and appreciation. Major changes in the field of taxonomy is revision of cognitive domain. The main cause behind revision is, old taxonomy of cognitive process ordered on a single dimension of simple-to-complex. Besides new changes and outcomes of educational psychology, learning theories i.e. treating students are independent learners and more responsible for their learning, cognition and thinking and these factors are not possible to address with the help of old taxonomy (Amer, 2006). As a result team headed by former student of Bloom, Anderson and one of the co-authors of Bloom's book Krathwohl worked on revising Bloom's taxonomy of cognitive domain. And published a book - A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy (RBT) of Educational Objective (Yadav, 2013). Revision occur in three broad categories; terminology, structure and emphasis. Revision in terminology includes change in the categories from noun to verb. Six major categories Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation readjusted and changed in the form of Remember, Understand, Apply, Analyze, Evaluate and Create. Structural change accounted one dimensional form into two dimensions. Knowledge and cognitive process are the dimensions of revised version. Learning that produce knowledge represented in cognitive process domain (Factual knowledge, Conceptual Knowledge Procedural knowledge and Metacognitive knowledge) and knowledge that result in knowledge (Remember, Understand, Apply, Analyze, Evaluate and Create) domain (Murthy, 2013). In this way, revised taxonomy separate learning into process and product (Muehleck, Smith, & Allen, 2014). It helps to frame learning objectives in accordance with process that may take place in corresponding process dimension (Paleeri, 2015). Change in emphasis focus upon use of revised taxonomy of educational objectives "more authentic tool for curriculum planning, instructional delivery and assessment" (Murthy, 2013).

New taxonomy is more universal and easily applicable at elementary, secondary and even tertiary levels (Noushad & Mohamedunni). Application of two dimension table can be used to classify the instructional and learning activities used to achieve objectives as well as assessment employed to determine how well the objectives were mastered by the students (Krathwohl, 2002). Again, in terms of consideration of levels of categories of objectives and levels of learning, Spring (2010) reported that in "revised taxonomy the three levels are sometimes identified as surface learning and the three upper levels as stage of deep learning" (As cited by Irvine, 2017). It is also noted that creation is highest level in hierarchy of categories of objective. It focuses on need of engaging students in knowledge Construction as highest level of learning. Nevertheless, Senthilkumar and Kumar, (2017) rightly stated that "Revised Taxonomy is more dynamic model for classifying the intellectual process used by learners in acquiring and using knowledge". Therefore, the important point here is that there is need for training teachers and

prospective teachers about revised taxonomy to address educational practices. Moreover RBT has been widely considered in education field. Hence, it needs to be trained during pre-service training programme to give strong foundation on revised taxonomy.

In teacher training institution activities and training organized intraditional approach and another way in the form of usage of technology. Commonly used technology is PowerPoint presentation. It is highly useful presentation tool and medium for training various skills of teacher training component. In this research, secondary teacher trainees trained in knowledge and skill of writing learning objectives based RBT using PPT Mediated Training and Conventional Training and effectiveness of both the intervention are discussed.

Purpose of the Study

To Investigate Does PPT Mediated Training Impact on Knowledge and Skill of Writing Learning Objectives Based on Revised Bloom's Taxonomy (RBT)?

Objectives

To study the difference in the secondary teacher trainees' 1) Knowledge of writing Learning Objectives 2) Skill of writing Learning Objectives based on RBT trained via PPT Mediated Training and Conventional Training.

Hypothesis

1. Secondary teacher trainees trained via PPT Mediated Training will gain significantly higher scores on Knowledge of writing Learning Objectives based on RBT than their counter parts trained via Conventional Training.
2. Secondary teacher trainees trained via PPT Mediated Training will gain significantly higher scores on Skill of writing Learning Objectives based on RBT than their counter parts trained via Conventional Training.

Research Method

The study adopted Pretest Posttest Nonequivalent Quasi-Experimental design. 54 Secondary teacher trainees drawn using purposive sampling technique from one of the B.Ed. college of Bangalore city took part in the study. By tossing, Social Science and English method group and Science and Mathematics method group as whole two intact method class selected for experimental group (30) and Control group (24). These groups considered for PPT Mediated Training and Conventional Training respectively. Both the groups were administered with Pretest and posttest of knowledge and skill of writing Learning objective based on RBT.

Tools Used in the study

The study used Personal Data Sheet to collect personal information. Knowledge of Learning Objective Questionnaire (closed ended) - consist of 15 multiple choice questions to check knowledge of writing learning objectives. Skill of Writing Learning Objective Questionnaire (Open-ended) - to assesses skill of write Teaching Point (2 Marks), Learning Aids (3 Marks) and Learning Objectives (10 Marks) for topic of their method.

Statistical Analysis

"t" test and one way ANCOVA were applied for data analysis.

Analysis, Interpretation and Findings:

Hypothesis-1: Secondary teacher trainees trained via PPT Mediated Training will gain significantly higher scores on Knowledge of writing Learning Objectives based on RBT than their counter parts trained via Conventional Training.

Table-1: Comparing Posttest scores of Knowledge of Writing Learning Objectives based on RBT

Intervention	N	Mean	SD	t-Value	'p' value
PPT Mediated Training	30	11.73	1.46	-7.241	.000
Conventional Training	24	8.46	1.86		

Table 1 reports t value of -7.241 and $P = .000$. As $p < .05$, this indicate that there is significant difference in posttest scores of PPT Mediated Training and Conventional Training at .01 level of significance, $t(52) = -7.241, p = .000$. Mean gain score favors Experimental group and results suggest that PPT Mediated Training is more effective than Conventional Training in training knowledge of Writing Learning Objectives based on RBT. To control the influence of pretest scores on posttest scores one way ANCOVA is calculated.

Table-2: ANCOVA for Pretest scores as co-variate to partial out the pretest influence on posttest scores of Knowledge of Writing Learning Objectives based on RBT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	206.869	2	103.435	67.661	.000
Intercept	71.568	1	71.568	46.816	.000
Covariate (Pretest)	63.861	1	63.861	41.774	.000
Main Effect (Treatment)	121.394	1	121.394	79.409	.000

Table 2 reports F value of 79.409 and $p = .000$ for main effect of treatment. $Asp < .01$, this indicate that even after adjusting for the pretest scores, the posttest scores of knowledge of writing Learning Objectives based on RBT still significantly differ by type of intervention i.e. Conventional Training and PPT Mediated Training at .01 level of significance, $F = (1, 51) = 79.409, p < .01$. Thus, experimental group exposed to PPT Mediated Training has significant higher scores than the Conventional Training in knowledge of writing Learning Objectives based on RBT.

Hypothesis-2: Secondary teacher trainees trained via PPT Mediated Training will gain significantly higher scores on Skill of writing Learning Objectives based on RBT than their counter parts trained via Conventional Training.

Table-3: Comparing Posttest scores of Skill of Writing Learning Objectives based on RBT

Intervention	N	Mean	SD	t-Value	'p' value
PPT Mediated Training	30	12.03	1.69	-6.940	.000
Conventional Training	24	9.17	1.24		

Table 3 reports t value of -6.940 and $P = .000$. As $p < .01$, this indicate there is significant difference in posttest scores of PPT Mediated Training and Conventional Training at .01 levels of significance, $t(52) = -6.940, p = .000$. Mean gain score favors Experimental group and results suggest that PPT Mediated Training is more effective than Conventional Training in training Skill of Writing Learning Objectives based on RBT. To control the influence of pretest scores on posttest scores one way ANCOVA is calculated.

Table-4: ANCOVA for Pretest scores as co-variate to partial out the pretest influence on posttest scores of Skill of Writing Learning Objectives based on RBT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	156.682	2	78.341	56.124	.000
Intercept	169.282	1	169.282	121.275	.000
Covariate (Pretest)	47.112	1	47.112	33.751	.000
Main Effect (Treatment)	92.012	1	92.012	65.918	.000

Table 4 reports F value of 65.914 and $p = .000$ for main effect of treatments. $Asp < .01$, this indicate that even after adjusting for the pretest scores, the posttest scores of skill of writing Learning Objectives based on RBT still significantly differ by type of intervention i.e. Conventional Training and PPT Mediated Training at .01 level of significance, $F = (1, 51) = 65.918, p < .01$. Thus, experimental group exposed to PPT Mediated Training has significant higher scores than the Conventional Training in skill of writing Learning Objectives based on RBT.

Discussion & Conclusion:

The study found that difference in mean scores of Knowledge as well as Skill of writing Learning Objectives based on RBT trained via Conventional Training and PPT Mediated Training and mean gain scores favors experimental group. It indicates that PPT Mediated Training is more effective than Conventional Training. After controlling pretest scores as covariate, the study found that there is significant difference in adjusted mean scorers of PPT Mediated Training and Conventional Training. Thus, one way ANCOVA clearly indicated that PPT Mediated Training is more effective strategy than the Conventional Training in training Knowledge and Skill of writing Learning Objectives based on RBT.

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The secret of success is to know something nobody else knows.

~ Aristotle Onassis