

LEARNING PSYCHOLOGICAL CONCEPTS BY THE POST GRADUATE TEACHER TRAINEES – A SIGMA ANALYSIS

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Abstract

The effective implementations of Six Sigma in the industrial units have been widely published. However, academic research on Six Sigma is still in its early stage. The Six Sigma is a quality management method utilised for the critical analysis of various factors governing the academic process. This research paper focuses on the quality enrichment of educational activities through the academic six sigma methods which is relatively a new approach. Totally 30 post graduate scholars studying in M.ED were taken as sample of this Experimental method which was adopted by a self-prepared ICT- questionnaire and the sigma level of the various learning process were noted. The results showed the learning capability of M.Ed students were not optimum as they engaged in the economical wellness of their families as they hailed from sub rural hamlets in southern TamilNadu.

Key words: **Learning, Psychological concepts, Sigma Analysis**

Introduction

Rich circumstantial evidences showed that Six Sigma can help organizations to achieve significant performance development. For an instance, Motorola reported \$16 billion benefits from Six Sigma for the period of 1986-2001 (Eckes, 2001; Hendricks and Kelbaugh, 1998). Six Sigma allows a multidimensional approach, as it could be viewed as “a metric, a philosophy or a methodology for quality improvement” (Mitra, A., 2004).

The variety of approaches depends of the organizational level the concept is utilized. Top management perceives Six Sigma from a philosophic point of view, as it incorporates the commitment of the entire organization to achieve continuous quality improvement.

Six Sigma could be defined as a metric not only at top management level, but at other levels, as well as, such as the level of the operating personnel (Mitra, A., 2004). From a statistical perspective, six sigma defines a “process performance that produces 3.4 defects per million opportunities” with other words the concept is used for processes that, virtually, perfectly meet the customers’ requirements and needs.

Need for the study

The ICT based skills are essentially required for the prospective teachers as their potentialities will be realised by their students in their respective class rooms. Modern technological implications are profoundly realised so as to make them much utilised in the class room atmosphere particularly in the teacher education. Considering

the scarcity of the existing research, this study has been undertaken under the title “Sigma level of the psychological learning of the Post graduate teacher trainees” .

Definition of the key terms

The sigma level Schroeder et al. (2008) defined the Six Sigma is an organized, parallel-meso structure to reduce variation in organizational Processes by using improvement specialists, a structured method, and performance metrics with the aim of achieving strategic objectives.

In this study the sigma level is denoted as an outcome of the academic process which has been carried out.

Psychological learning: It includes the learning the psychological concepts given in the M.Ed. Syllabus of Tamil Nadu teachers Education University, Chennai.

Post graduate teacher trainees: The students who are studying the M.Ed. course are considered in the present study.

Objective: To find the sigma level of the Psychological learning of the Post graduate teacher trainees.

Hypothesis: Is there any significant improvement in the sigma level of the Psychological learning of the Post graduate teacher trainees?

Methodology: The present study has adopted the experimental method by which the learning psychological concepts by the M.Ed. scholars and learning efficiency were denoted as sigma level in the dimensions like the structuralism, Functionalism and behaviorism theories of learning. The duration of the transactional process was 20 days and the story board and web based instruction were the transactional methods adopted.

Population The prospective teachers of Tuticorin district of Tamilnadu state were selected as population.

Sample The sample of the study comprised of 30 students from the Dr. Sivanthi Aditanar College of Education, Tiruchendur, Tuticorin district

Tool - The Tool Psychological learning deficiencies was employed to conduct the current research. It is the self-prepared questionnaire comprised of 50 questions on psychological concepts was used so as to find the learning outcome. The tool has content validity and the reliability of the tool was 0.81 and 0.76 respectively.

Calculative procedure

The marks of the 30 students were calculated and average marks in every dimension were converted in to 100 marks for making the calculation more convenient. This method was used to denote the overall outcome of the prospective teachers through the calculating the defective count of the responses (answers) acquired. From this defective count the DPMO (Defects-Per-Million Opportunities) and the sigma value were calculated. The area occupied in the normal curve by the sigma values of various dimensions of the ICT learning were noted from the table.

Table – 1: The process sigma level of various dimensions

ICT Learning Process	No	Total marks	error	DPMO	DPU= DPMO/ 1000,000	process sigma level
structuralism	30	100	48	480000	0.480	1.6
Functionalism		100	38	380000	0.380	1.8
behaviorism		100	31	310000	0.310	2.0
Theories of learning		100	22	220000	0.220	2.2
Total learning capability level						65.37%

Interpretation

1. The table 1 reveals that the learning of ICT basics, 9.45% of the prospective teachers will fall under the upper specification area. Similarly 9.64% in multimedia, 9.77% in satellite T.V, 9.86% in virtual learning were noted as they fall under the upper specification area. The table 1 also predicts sigma value was progressive as there was a struggle at the initial level learning of the ICT concepts. This condition exists as the prospective teachers might not have studied the concepts related with ICT in their under graduate or in the Post graduate studies.

Further, the sigma values along with upper specification limits (structuralism 1.6, Functionalism 1.8, behaviorism 2.0, Theories of learning 2.2) showed that the learning capability of students of Master in Education (M.Ed) are not optimum and it was about (65.37 %) in overall learning of psychological concepts were noted. Though the ICT based teaching method was adopted for learning these concepts, the percentage (65.37 %) level of learning capacity is not at desirable level.

This is due to reason that the rural agronomy based economy of the most of students forced them to engage in the household economy and to perform the agricultural or mercantile activities after reaching their homes.

2. The level of learning efficiency increased in the due course of time as they have developed the real attitude in learning the ICT concepts which makes them as digital teachers of this century.

3. The overall sigma level in various dimensions was not optimum as it must reach 3.4 sigma level i.e.99.90% outcome and hence the process improvement must be carried out by adopting various transactional methods repeatedly. This assessment on learning must be cyclic so as to improve a quality in learning of psychological concepts

Discussions

Though the six sigma methods are used in the industrial units for its proven quality products, some research studies have been conducted in the academics so as improve quality performance in overall performance of the academic process.

This study reveals that Six Sigma based DMAIC technique can improve the quality learning process of the secondary teacher trainees. It is in concurrence with the findings of Chlaidze & I. Linde (2006) who

reported that the Six Sigma pertains to improving the quality of matter taught, the character generated of the students, and the quality of study and student's life. They have also measured the Lecture quality and the quality of learning materials. Their research work treated DMAIC, one of the sequences of the Six Sigma methodology, and provided an overview of the statistical toolkit for improving the teaching quality. It is concurrence with the findings of Mirko Savic (2006) who indicated that a control chart can reduce the common cause variation which is usually a student's responsibility, for instance, poor preparation for exams, concentration, tiredness, etc. Further, they have stated that, a control chart can reduce our chances of making possible errors.

Conclusion

Since the six sigma strategy applies the rigorous statistical methods, it can be effectively used not only in analysing the learning outcome but also in the evaluation of the entire institutional process, teaching skills and the psychological adaptability towards academic atmosphere etc. can also be thoroughly studied for bring better transformation.

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