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A Study of Effectiveness of Micro-teaching on trainee teachers and Students with reference to few training colleges and schools of Burdwan District in West Bengal

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Abstract

This paper tries to analyze the effectiveness of micro teaching on trainee pre-service and in-service teachers and students of training colleges and senior secondary level schools of Burdwan district in West Bengal. The study includes of two hundred teachers and one hundred students of different areas of Burdwan district in West Bengal. The analysis were undertaken by the Students' t- test and the results indicate that micro teaching have a significant positive impact in alleviating the difficulties of traditional class room teaching. A binary logit regression model has been fitted to establish the nature and magnitude of relationship between efficacy of micro teaching and a set of selected factors undertaken for the present study of the trainee teachers and students.

Key Words: *Micro teaching, Students't- test, traditional class room teaching, binary logit regression.*

Introduction: Teaching is a complex process. Teaching is not merely a long lecture impregnated with a mass of facts but consists of several purposeful tasks of skills. A teaching method comprises the principles and methods used for teaching-learning situations of students. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these. The choice of teaching method or methods to be used depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students. In this context, micro-teaching which is one of the recent innovations comes as a remedy to the above problem (Wikipedia, 2014).

The term 'micro' in micro teaching means small but its application in class room teaching is large. It was first adopted at Stanford University, USA in 1961 by Dwight W Allen and his co-workers and is now followed in many countries with modified and improved techniques. Micro-Teaching is now considered not only as a constructive teacher training technique but also as "a versatile research tool which dramatically simplifies the logistics of investigating certain teaching skills and learning variables." Teaching constitutes a number of verbal and non-verbal acts. A set of related behaviors or teaching acts aiming at specific objectives and performed with an intention to facilitate pupils' learning can be called a teaching skill. Micro-Teaching concentrates on specific teaching behaviours and provides opportunity for practicing teaching under controlled conditions. Micro-Teaching not only offers a helpful setting for an inexperienced teacher to acquire new skills but is also equally helpful to more experienced teachers to refine the skills they already possess. It is useful in pre-services as well as in-service training of teachers Agarwala, 2008).

Objectives: The following specific objectives are fixed to substantiate the study:

- To build awareness and sensitivity of the trainee teachers and students about the importance of micro teaching as modern method of teaching;
- To acquire knowledge and understanding about the micro teaching and its scope of application in school education;
- To make attitude about the micro teaching and help to maintain teaching learning quality;
- To acquire skills to achieve efficacy of micro teaching;
- To encourage participation for exercising existing knowledge and capacity building of the trainee pre service as well as in service teachers;
- To identify the factors which are conducive to ensure effectiveness of micro teaching as modern method of teaching;
- To assess the feedback for the students as alternative method of teaching reducing complexities of normal classroom situations.

Hypotheses:

Null Hypotheses: H₀₁: There exists no significant variation of opinion among the trainee teachers and students to overcome the complexities of micro teaching as compared to normal classroom teaching methodologies

H₀₂: There is no significant variation of opinion about capacity building among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₀₃: There is no significant variation of opinion about maintaining the principle of individual differences among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₀₄: There is no significant variation of opinion about the effective feedback among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₀₅: There is no significant variation of opinion about the integration of skills among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₀₆: There is no significant variation of opinion about the strong supervision among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

Null Hypotheses: H₁₁: There exists significant variation of opinion among the trainee teachers and students to overcome the complexities of micro teaching as compared to normal classroom teaching methodologies

H₁₂: There exists significant variation of opinion about capacity building among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₁₃: There exists significant variation of opinion about maintaining the principle of individual differences among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₁₄: There exists significant variation of opinion about the effective feedback among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₁₅: There exists significant variation of opinion about the integration of skills among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

H₁₆: There exists significant variation of opinion about the strong supervision among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

Materials and Methods: The study is mainly analytical in nature. A self made questionnaire has been used for the collection of primary data during 2013-2014 from 100 students of Higher Secondary school students and 100 pre-service as well as 100 in-service trainee teachers in Burdwan district of West Bengal. The factors selected to examine the effectiveness of micro teaching in school education are- i) Capacity building (CB) ii) Principle of individual differences (PID) iii) Feedback (F) iv) Integration of Skill (IS) iv) Supervision (S). A binary logit regression and students't-test have been used to examine the selected hypotheses.

Analysis and Discussion: The whole results and discussion of the article have been carried out under the following heads:

1. Principle of micro teaching and chief merits as teaching methodology: A Conceptual Framework

2. Micro teaching and the associated factors for its successfulness: A Binary Logit Regression Model
3. Micro teaching and opinion of the studied trainee teachers as well as students: An Analysis in terms of Students' -test.

Principle of micro teaching and chief merits as teaching methodology: A Conceptual Framework

The following are the basic principles of micro teaching for its operation as methodology of teaching in education:

1. Principle of enforcement – feedback and reteaching make teaching perfect.
2. Principle of practice and drill – like surgery, teaching also is a complex skill which needs constant drill and practice. Micro-teaching affords practice in each small task or skill and thereby the pupil-teacher gains mastery.
3. The Principle of continuity - Micro-teaching is a continuous process; teaching-feedback-reteaching-feedback till perfection is attained.
4. Principle of microscopic supervision – The supervisor has an observation schedule which he fills up while supervising and makes an assessment on a rating scale. The supervisor sees through the lesson all important points, paying full attention to one point at a time (Sen, 2008).

Chief Merits of Micro Teaching: The chief advantages of micro teaching are the following:

1. Only one skill is practised at a time.
2. The size of the class is very much reduced.
3. It individualizes instruction.
4. Feedback is provided immediately after the completion of the skill.
5. Duration of each micro lesson is 5 to 7 minutes.
6. The use of video tape and closed circuit television makes observation very objective.
7. There is a high degree of control in practising a skill in this technique.
8. Micro teaching is an analytical approach to training.
9. Micro teaching involves real teaching unlike other teaching models.
10. It is useful for pre-service and in-service teacher training.
11. It is helpful in developing confidence in teachers.
12. It helps in sorting out problems relating to classroom teaching.
13. Close supervision is possible in this technique (Sampat et al, 2007).

Micro Teaching and the Associated Factors for its Successfulness: A Binary Logit Regression Model:

The successfulness of micro teaching depends on several factors taken under consideration. The factors are- i) Capacity building (CB) ii) Principle of individual differences (PID) iii) Feedback (F) iv) Integration of Skill (IS) v) Supervision (S). A binary logit regression model has been fitted from the opinions of respondents (i.e., trainee teachers).

Table-1: Linkage between Micro Teaching and its Associated Factors: A Binary Logit Regression Model

$EMT = C_0 + C_1*CB + C_2*PID + C_3*F + C_4*IS + C_5*S$				
Variable	Coefficient	Std. Error	Z-Stat	Prob.
C	-8.654375	2.258761	-5.321456	0.0100
CB	0.321435	0.001578	4.651243	0.0000
PID	0.654784	0.459781	0.673412	0.3200
F	3.342154	0.354781	6.652341	0.0000
IS	5.532451	1.847513	5.134265	0.0000
S	1.564312	0.635178	4.643214	0.0068
Mean dependent var	0.453452	SD dependent var		0.128769
S.E. of regression	0.452135	Akaike info criterion		0.317823
Sum squared resid	13.16532	Schwarz criterion		0.654732
Log Likelihood	-47.18754	Hannan-Quinn criter		0.864321
Restr. Log likelihood	-238.6534	Avg. log likelihood		-0.017642
LR statistic(5df)	514.6547	McFaddenR- squared		0.148641
Probability (LR stat)	0.000000	-		-

Source: Authors' calculation based on field survey, 2013-14

Dependent Variable = Efficacy of Micro Teaching (EMT)

Total number of observations = 200

Note: Capacity building (CB), Principle of individual differences (PID), Feedback (F), Integration of Skill (IS), Supervision (S)

Table 1 provides an indication about the role of micro teaching in enhancing quality of teaching of the surveyed trainee teachers. The findings implied that all the indicators (e.g., capacity building, principle of individual differences, feedback, supervision and integration of skill) have been found to be positively associated with the quality of teaching among the trainee teachers although there occurs some extent of insignificance. The values of probabilities of all the factors except principle of individual differences and supervision have been estimated to be highly significant. These findings recommend one important view that in order to achieve the quality of teaching through micro teaching among the trainee teachers, strong supervision and confidence are required.

Table-2: Attitude of trainee teachers and students about the micro teaching to overcome the complexities of normal classroom teaching

Respondents	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
Teachers	100	64.71	8.34	2.23	P>0.05	P>0.01
Students	100	43.53	7.35			

Source: Author's calculation based on field survey, 2013-14

Table 2 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that there exists no significant variation of opinion among the trainee teachers and students to overcome the complexities of micro teaching as compared to normal classroom teaching methodologies.

Table-3: Attitude of trainee teachers about the principle of maintaining individual differences through micro teaching

Type of Teachers	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
In-service	100	64.81	8.34	2.16	P<0.05	P<0.01
Pre-service	100	43.83	7.34			

Source: Author's calculation based on field survey, 2013-14

Table 3 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that there is no significant variation of opinion about the principle of maintaining individual differences through micro teaching of the studied training institutions.

Table-4: Attitude of trainee teachers about the capacity building through micro teaching

Type of Teachers	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
In-service	100	64.67	9.08	2.32	P<0.05	P<0.01
Pre-service	100	43.61	8.51			

Source: Author's calculation based on field survey, 2013-14

Table 4 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that there is no significant variation of opinion about capacity building among the trainee in-service and pre-service teachers involved in micro teaching of the studied training institutions.

Table-5: Attitude of trainee teachers about the necessity of strong feedback through micro teaching

Type of Teachers	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
In-service	100	65.87	9.17	2.49	P<0.05	P<0.01
Pre-service	100	44.15	8.31			

Source: Author's calculation based on field survey, 2013-14

Table 5 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that there is no significant variation of opinion about the necessity of strong feedback through micro teaching of the studied training institutions.

Table-6: Attitude of trainee teachers about the necessity of integration of skill through micro teaching

Type of Teachers	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
In-service	100	64.25	8.92	2.33	P<0.05	P<0.01
Pre-service	100	43.27	7.39			

Source: Author's calculation based on field survey, 2013-14

Table 6 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that about the necessity of integration of skill through micro teaching.

Table-7: Attitude of trainee teachers about the feedback through micro teaching

Type of Teachers	N	Mean	S.D.	't' Value	Significant level	
					5 %	1%
In-service	100	64.43	8.26	2.39	P<0.05	P<0.01
Pre-service	100	43.23	7.12			

Source: Author's calculation based on field survey, 2013-14

Table 7 indicates that the calculated value of t is lower than the critical values both at 5 % and 1 % level of significance. Therefore, the null hypothesis is accepted indicating that about the feedback through micro teaching.

Conclusions and Policy Suggestions:

Conclusions: The present paper describes the role of micro teaching in enhancing quality of teaching of the trainee pre-service as well as in-service teachers of the studied B.Ed. colleges and senior secondary schools of Burdwan district in the state of West Bengal. The result exposed a significant relationship between micro teaching and enhancement of teaching abilities of the trainee teachers. There has been occurred significant positive influence on teaching ability of the studied teachers by taking into consideration the factors like capacity building, maintaining the principle of individual differences, feedback and supervision.

Policy Suggestions: The following policy suggestions are required for smooth functioning of micro teaching and enhancing quality of teaching among the trainee teachers:

- i) Conducive classroom environment
- ii) Small number of students
- iii) Short duration of periods
- iv) Small unit of subject matter of teaching
- v) Strong confidence of trainee teachers

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