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EXAMINING THE USE OF VIDEO-SELF FEEDBACK FOR IMPROVEMENT IN TEACHING EXPERTISE

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ABSTRACT

In the 21st century, teacher instead of being restricting himself to enhance the knowledge of his subject matter has to be an expert in various teaching skills. He has to manage instructional environment, arouse interest of students in learning and coordinate different types of information. More and more efforts are being made to upgrade the teaching competence of student teachers. This study was carried out to examine the use of self derived feedback from one's video recording (video-self feedback) in improving teaching expertise. The effect of video-self feedback on development of five microteaching skills among student teacher was explored. The pre-test and post-test scores of teaching competence of student teachers were converted into stanine scores, to ascertain the change in the level of performance of the student teachers. The stanine scale showed that ten percent of the student teachers move from average to high performance category. The t-test results suggested that there exists significant effect of video-self feedback in improving the general teaching competence of student teachers. These results were further validated by z-test results.

KEYWORDS: VIDEO-SELF FEEDBACK, MICROTEACHING, TEACHING EXPERTISE, TEACHING SKILLS, STANINE SCALE.

INTRODUCTION

Quality of life and the wealth of nation depends on the mastery a nation has over various fields of knowledge, the ability it has to create new knowledge and the capacity it has to apply new knowledge in a pervasive manner for development. In order to full fill the above requirements, we need competent and expert teachers. No nation can rise above the level of its teachers. Teacher is that personality which makes the future of a nation by educating its youth by showing them right path and guiding them to choose right from wrong and making their unity.

Student teaching is considered by the prospective teachers to be different from other college courses as usually conceived. That is to say, the student of teaching should not approach the experience of student teaching by expecting to attend formal classes in which the usual lecture, laboratory on recitation activities which take place and in which text book assignments are made and learned and then repeated from memory. Student teaching is the usual dependence of student upon instructor or planning the course, outlining material to be learned, assigning the lessons and laboratory experiment, hearing, recitation, conducting discussions and testing the student accomplishments.

For many years, student teaching has been considered to be the most worthwhile requirement in teacher education programme. Student teaching was viewed as an opportunity for students to develop a high level of competence in all phases of the teacher's work. Thus student teaching primarily is an experience programme. It is a practice period in the preparation of the teachers. Here, the teacher learns by doing the practice what all teachers have to do. With the rapid expansion of education, the duties and responsibilities of the teachers takes him beyond the boundaries of the classroom. This presents new challenges to the teacher. Hence, the teacher in preparation should be helped to realize his role not only in the classroom but also in the total school programme. The teacher educator should be able to estimate proper relationships with the community, with the school services and to develop proper attitude among student teachers towards the profession, which he has chosen to adopt for himself.

Feedback refers to a device or a process with the help of which on individual or a system receives information about its working in terms of its strength and weakness in order to bring desirable improvement in its working. In case a learner receives proper feedback about his learning performance he may bring desirable improvement in the contents and method of his learning. If a teacher receives feedback i.e. information about the quality of his teaching he may set himself for bringing desired modification in his teaching behaviour in the light of such feedback. In case a machine or self operating system receives information about its working it may regulate and control its mechanism in view of this information i.e. feedback received by it. A behaviour or performance may get controlled, reinforced, modified & improved if it can be properly supplemented and reinforced through various modes of feedback provided through varying sources like self, others and mechanical means. Microteaching is a training concept aimed at providing teachers with a practice setting in which the normal complexities of classroom are reduced and in which the teacher gets feedback on his performance.

Orme (1966) found that the inclusion of films in micro teaching format for demonstration of desirable teaching

techniques led to increased effectiveness in terms of classroom performance. An incidental finding of the study was that ratings of teaching performance based on brief videotaped lessons were generally good predictors of late ratings of teaching effectiveness. Perl berg (1970) evaluated that audio recordings are limited to verbal interaction in the classroom and thus do not provide the whole picture since a supervisor's comment based solely on an audio would be one side. A better alternative is the video recording.

Ortiz (1990) examined how videotaped microteaching for training student teachers affected the conduct of an English-as-a-Second-Language lesson, noting how faithfully student teachers transferred teaching behaviours acquired via videotaped microteaching to the classroom. Three student teachers in a bilingual education program participated. The results indicated that this technique in the classroom context is critical. Karl & Kopf (1994) examined the impact of performance, self-esteem, self-efficacy, and self-consciousness on individual choice to seek videotaped feedback. The results indicated that those individuals who need to improve their performance the most were least likely to seek feedback. Individuals who chose not to receive feedback were also lower in self-esteem and self-efficacy.

Wilkinson (1996) proposed that an inexperienced teacher has difficulties in recognizing the essentials of teaching-learning processes during unstructured observation. On the other hand, a videotape of one's own teaching behaviour is without exception emotionally very poignant: practically no one can watch a videotape of him/herself with indifference! But watching the video alone can tempt one to fix on `cosmetic' issues (e.g. voice control, expressions, gestures or dress) and consciously or unconsciously reject the pedagogically significant messages. Buggey et al. (1999) stated that videotaped self-modelling (VSM) has been developed as a means to allow participants to view themselves in situations where they are performing at a more advanced level than they typically function. VSM has been effectively used to train positive behaviours and to reduce unwanted behaviours across a range of ages and behaviours. They analyzed the effects of VSM on the acquisition and maintenance of appropriate verbal responses to questions by children with autism. The results indicated that the three participants almost doubled their rates of appropriate responding to questions during play situations.

Huang (2001) conducted a study by selecting Forty-five secondary teacher education program students in a Midwestern U.S. university. Participants were required to develop lesson plans by applying various teaching techniques. They taught lessons to a small group of peer students in the micro-teaching lab. The presentations of lessons were video-taped. Peer students were asked to write anonymous comments on feedback sheets. The videotape, peer feedback, and instructor's comments were given to participants every time after completing micro-teaching. In addition, participants were required to keep journals to reflect on their own teaching performance. The content of reflection was suggested to include the writings of strength, weakness, and improvement. Each participant presented five micro-teaching lessons and wrote five reflection journals. The study is an investigation of pre-service teachers' reflective practice in the context of their micro-teaching performance.

Embregts (2002) conducted a study to evaluate effects of a multifaceted training procedure on the inappropriate and appropriate social behaviour of five adolescents with mild intellectual disability and on staff responses. The training included video feedback and self-management procedures and staff training with video and graphic feedback. Results indicated increases in appropriate behaviour. Natarajan and Natesan (2004) worked to find the effect of competence based teaching of environmental science through video on student's attainment at primary level on 86 students studying in V class of government aided school in Pudukkotti. The tools used were entry behaviour test and pre/post test equivalent group design was followed Mean, S.D., t-test and gap closure was used to analyse the data. The study clearly indicates that the video approached programmes were superior over the conventional method.

Bell (2007) stated that although microteaching has been found to be an effective way of helping pre-service teachers learn about what it means to teach and while students themselves find it useful, researchers have not yet examined the task itself to discover exactly what it means to "micro-teach," thus the purpose of this study was to learn more about the interactional structure of the task. The results of discourse analysis that was performed on 22 videotapes of microteaching showed that the question of how to frame the task was a constant challenge to the students, who must simultaneously negotiate the roles of teacher, student, classmate, and peer/friend. Analysis of the tapes, as well as of questionnaires in which participants described their perception of the activity and explained how they approached the task, reveals that microteaching resembles "performance" or "classroom task" to a much greater extent than it does ''teaching.''

Rich & Hannafin (2008) projected that video capture and analysis tools provide potentially deeper and more precise insights into teachers' thought processes for practical inquiry. These tools are useful to record and analyze teaching practice, allowing student teachers to review & analyze their own teaching in real classroom contexts. Gun (2011) proposed that the best results for teacher's development are obtained when they are also provided with focused input sessions related to reflecting on different aspects of their classroom teaching as well as having the opportunity to watch videos of their teaching.

Kearney (2013) proposed that self-assessment has the capability to promote independent learning, which is a key aspect of sustainable learning. Sadeghi & Khonbi, 2015 depicted that peer assessment & self assessment are main factors in real assessment because they provide students a platform to introspect objectively on their own learning

and accomplishment. Bala (2018) stated that self evaluation is a best way for teachers to know about their success in teaching. Teachers will get desired information and support needed for their professional growth. The recording in their classroom teaching sessions can be used by them and this will be useful to develop greater awareness about their teaching expertise.

In almost all the research studies effectiveness of feedback derived from video recordings in improving the teaching behaviour is explored. The usefulness of video-self feedback in improving teaching expertise by acquisition of micro teaching skills is still not much studied. The present study was carried out to explore whether video-self feedback is useful in improving the teaching expertise by developing set of micro teaching skills under micro teaching setup. In video feedback the lesson of the student teacher is recorded with the help of video tape recorder, video camera or similar device. After the lesson, videotape is replayed. If the student teacher views & listen's the lesson alone and derives the self-feedback then the type of feedback is known as video-self feedback. The following are the null hypotheses for the study:

1. There is no significant effect of video-self feedback on the level of performance of student teachers.
2. There is no significant effect of video-self feedback on the general teaching competence of student teachers.

METHODOLOGY

SAMPLE

The sample of 10 student teachers from B.Ed. course in D.A.V. College of Education, Hoshiarpur was selected randomly out of which six were female & four were male.

DESIGN OF THE STUDY

The study was carried out using single group Pre-Test Post-Test design. In this the investigator has measured the dependent variable (teaching competence), before the independent variable (video-self feedback) is applied and then he takes the measurement of dependent variable again. The five teaching skills i.e. Skill of Introducing the Lesson (ITL), Skill of Explanation (E), Skill of Probing Questions (PQ), Skill of Stimulus Variation (SV) & Skill of Blackboard Writing (BW) were developed among the student teachers with the help of video-self feedback.

TOOLS USED

The following tools: Baroda General Teaching Competence Scale; Observation Schedule cum Rating Scale for the Skill of Introducing the Lesson; Observation Schedule cum Rating Scale for the Skill of Explanation; Observation Schedule cum Rating Scale for the Skill of Probing Questioning; Observation Schedule cum Rating Scale for the Skill of Stimulus Variation; Observation Schedule cum Rating Scale for the Skill of Black Board Writing as described by Chawla & Thukral, 2011were used in this study. Two Handy Cams, Television & HI-8 video cassettes were the instruments used for video recording of micro lesson. The video recording was subsequently used for video-self feedback.

DATA COLLECTION

The pre-test score of student teacher was obtained by administering the BGTC scale before the start of the skills acquisition phase. After this all the student teachers were taught in detail about the concept of microteaching, teaching skills, and components of selected teaching skills. Subsequently each student was asked to prepare the four micro lesson plans (two for each teaching subject) of about six minutes for each of the selected skill. In this way each student teacher had prepared the 20 micro lessons. Subsequently video recording of the micro lesson delivered by the student teacher on the Handy Cam was done by using HI-8 video cassette. Immediately after the recording, Handy Cam with HI-8 video cassette was shifted to the feedback room. Here it was connected to Audio-Video Sockets of the television with the help of AV lead. Subsequently it was played on the television by selecting TV/AV button of the television and viewed & listened by the student teacher alone. Subsequently the feedback was derived by student teacher himself/herself on the basis of his/her video recording so as to bring desired changes in his micro lesson plan and teaching skill. The student teacher then modifies the micro lesson and teaching behaviour in light video-self feedback. This process of video recording and deriving video-self feedback continues till the desired behaviour or teaching skill was acquired. In this way each student was trained by video-self feedback in five selected teaching skills by using standard microteaching cycle. Finally BGTC Scale was applied on each student teacher for obtaining post-test score.

DATA ANALYSIS

The effect of video-self feedback on the level of performance of student teachers was evaluated by Stanine scale. The data was analysed through descriptive statistics like mean, standard deviation, product moment coefficient of correlation, t-test & sum-of-ranks test (z-test) to quantify effect of video-self feedback on the general teaching competence of student teachers

RESULTS AND DISCUSSION

The first hypotheses of the study was evaluated by converting raw scores of the student teachers were converted into Stanine scores to assess the change in the level of performance of the student teachers at pre-test and post-test stages. Table 1 elucidates the level of the performance of student teachers after pre-test and post-test stages on Stanine scale. The mean score of student teachers at the pre-test stage have been calculated to be 81.10 with S.D. 6.45 whereas the mean score at post-test stage have been calculated to be 99.90 with S.D. 8.16. It is clear from the above table that at pre-test stage the performance of 20 percent of the student teachers is high whereas 20 percent of the student teachers fall in the category of low performance. It has been also observed that 60 percent of student teachers

have shown average performance. On the other hand at the post-test stage the performance of 30 percent student teachers may be termed as superior or high whereas performance of 20 percent student teachers has been found to be low or below average. 50 percent of student teachers fall in the category of average performance. This shows that development of the teaching skills through video-self feedback has increased the percentage of student teachers in the high category from 20 to 30 percent i.e. 10 percent of the student teachers show an upward tendency. In other words there is a shift of 10 percent of student teachers from average performance category to the high performance category. However there is no change in the percentage of student teachers showing below average performance. Thus it can be stated that with the development of teaching skills among the student teachers through video-self feedback there is considerable increase in the percentage of the student teachers falling in the high performance category.

TABLE 1: PERFORMANCE SCORES OF STUDENT TEACHERS AT THE PRE-TEST AND POST-TEST STAGE

Pre-Test							**Post-Test**						
Stanine	Scores			Frequency	%age	Category	Stanine	Scores			Frequency	%age	Category
9		93		1	10	-------	9	115	+		0	0	-------
8	90	-	+	0	0	20	8	111	-	114	1	10	30
7	87	-	89	1	10	**High**	7	107	-	110	2	20	**High**
6	84	-	86	1	10	-------	6	103	-	106	1	10	-------
5	80	-	83	4	40	60	5	99	-	102	0	0	50
4	77	-	79	1	10	**Average**	4	95	-	98	4	40	**Average**
3	74	-	76	1	10	-------	3	91	-	94	1	10	-------
2	71	-	73	1	10	20	2	87	-	90	0	0	20
1	+	70		0	0	**Low**	1	+	86		1	10	**Low**
Mean = 81.10							Mean = 99.90						
S.D. = 6.45							S.D. = 8.16						

The second hypothesis of the study was tested by first applying t-test on pre-test and post-test BGTC scores to study the impact of microteaching video-self feedback, followed by sum-of-ranks test (Z-test) to establish the validity of results as size of the sample chosen for the study was small. From the mean & standard deviation (SD) of pre-test and post-test BGTC scores of student teachers trained by video-self feedback, standard error of mean (SE_M) & difference of means (DM) and by using correlation coefficient between the pre-test Scores and post-test BGTC scores (r_{if}), standard error of difference between means (SE_D) has been calculated. Subsequently t ratio has been calculated and the results obtained are tabulated in Table 2:

TABLE 2: DIFFERENCE OF MEAN BETWEEN PRE-TEST & POST-TEST BGTC SCORES OF STUDENT TEACHERS

Test	Mean	SD	SEM	DM	r_{if}	SE_D	t
Pre-Test	81.10	6.45	0.77	18.80	-0.06	1.28	14.70
Post-Test	99.90	8.16	0.98				
Note : t**.05** for 9 df = 2.26; t**.01** for 9 df = 3.25;							

The t-ratio between the pre-test BGTC scores and post-test BGTC scores is 14.70, which is highly significant at .01 level of significance. This shows that mean post-test score (99.90) is significantly higher than their mean pre-test score (81.10). This reveals that video-self feedback results in significant improvement in the general teaching competence of the student teachers. Table 3 shows the Z-value calculated by using the Sum of Ranks (SOR) between pre-test and post-test BGTC scores. The analysis and interpretation of results obtained is discussed below:

TABLE 3: DIFFERENCE OF SUM OF RANKS OF PRE-TEST & POST-TEST BGTC SCORES OF STUDENT TEACHERS

Test	SOR	N	Z-Value	FTA	PNC
Pre-Test	58.00	10	-3.55	4998	0.02

Post-Test	152.00	10	3.55		

Note : Z.01 = 2.58; Z.05 = 1.96; Z.10 = 1.645; Z.15 = 1.44; N = Sample Size; FTA = Fractional Parts of Total Area (taken as 10000) under normal probability curve towards the right/left; PNC = Percentage of Normal Curve lies towards the right/left of Zσ

In Table 3 the result of video-self feedback shows that .02 percent of the normal curve (PNC) lies to the right of 3.55σ and .02 percent lies to the left. The total percent is less than .01 level of significance. Thus with the present evidence in hand we can state that there is significant difference between pre-test and post-test BGTC scores of student teachers trained by video-self feedback. This shows that video-self feedback helps in increasing the teaching competence of student teachers. The Z value result confirms the result of t-ratio discussed earlier at .01 level of significance. Hence, the results analysed are reliable and valid at .01 level of significance. Therefore the null Hypothesis, "There is no significant effect of video-self feedback on general teaching competence of student teachers" therefore rejected at .01 level of significance. It shows that development of micro teaching skills through video-self feedback results in the increase of general teaching competence of the student teachers.

CONCLUSIONS

The Skill of Introducing the Lesson, Skill of Explanation, Skill of Probing Questioning, Skill of Stimulus Variation & Skill of Blackboard Writing can be developed among student teachers through video-self feedback under microteaching framework to increase their teaching expertise. The video-self feedback had been found to be effective in improving the level of performance of student teachers in terms of general teaching competence. 10% of the student teachers move from average to high performance category. The t-test test results showed that there exits significant difference between pre-test and post-test BGTC scores of student teachers trained by video-self feedback. Thus video-self feedback helped in increasing the teaching expertise of student teachers. The reliability and validity of this result is further established by Z-test at .01 level of significance. The video recording of micro lesson delivered by the student teacher and viewing & listening to it afterwards helped the student teacher in correcting his mistakes. The use of video recording enhanced the effectiveness of micro teaching. Therefore it can be concluded that development of micro teaching skills through video-self feedback could increase of teaching expertise by improving the general teaching competence of the student teachers.

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