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Role of Teacher as a Facilitator in Improving Quality Learning among Students; A Case Study

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Abstract - In 21st century, education has reformed from, a teacher centered to student centered model. Technology has offered wider learning methods and hence substituted an instructor/teacher in the class room learning. The syllabus to be covered is available as word, pdf or videos making learning more interesting. In such a scenario, role of teacher needs a revisiting. In virtual method of learning a student's brain, ears and eyes are kept engaged. He needs to be glued in front of the system for learning. Real class rooms should out beat virtual learning in order to retain its value. Only when a teacher becomes a facilitator and not a mere lecture deliverer this objective can be achieved. This paper throws light on unique learning strategies adopted for PG (M.Sc.) chemistry students. Students were introduced to crossword puzzle preparation for learning in laboratories and key words to lecture completion method in theory classes. At end of each method feedback from students were collected. 100 % of students found the new method satisfactory and effective.

Key Words: Teacher facilitator, virtual learning, crossword puzzles, effective learning.

1. INTRODUCTION

According to Swami Vivekananda Education is the manifestation of perfection already in men. The question of why teachers are appointed in higher education therefore needs to be revisited.

Teaching in college demands a teacher to be facilitator more than a mere instructor of subject concerned. Challenges in science teaching can be overcome by providing experimental models and conducting experiments themselves. Use of ICT to some extent solves this problem, but availability of resources to all and implementing the same without hurdles like power supply, smart class room facilities etc. have to be overcome. In a government college like ours where such smart class rooms are limited, providing such facilities to all learners becomes impossible. Alternatively when it comes to effective teaching, it was found that coupling humanities with science raised the graph of productive learning.
Literature survey reveals that attempts to merge science with arts have been made for higher primary school learning. Use of anecdotes, riddles, quizzes, puzzles, poster presentation etc. have been adopted and found useful[1]. Mixing psychomotor learning methods, like involving drama/movies in teaching not only improves presentation skills of students but leaves un erasable memories. We can understand the depth of such learning by the effect movies leave on young brains.[2-5] It may sometimes be difficult for Under Graduate and Post Graduate students to enact a role due to peer pressure and associated nagging thereafter. Alternatively writing poems can be more effective method of innovative teaching. There are many teachers who have adopted this method and reported success[6-8]. Few researchers have voted promoting use of poems for socio-historic understanding inculcating scientific literary skills to meet requirements of modern world.[9] When arts is incorporated in scientific teaching the campus can been made colorful with presentations and poems can be used to publish in college magazines.[10] Students of Under graduation and Post-graduation are youth with emotionally high state. Utilizing such emotions in poems can be more beneficial in the long run[11]. Buddy system of learning has been one of the promising methods for educating young minds[12]. In this paper emphasis has been laid on importance and effectiveness of using crossword puzzles and key word to lecture method.

2. OBJECTIVES

- To revive traditional method of education
- To include innovative methods of learning
- To trigger thinking capacity of students through on spot crossword puzzle preparation project.
- To improve student presentation and learning capacity through key words to lecture method.
- To collect feedback and analyze effectiveness of the adopted methods.

3. HYPOTHESIS

- Students have good access to net learning.
- Students do not require conventional methods of teaching to fare well in examinations.

4. SIGNIFICANCE OF STUDY

This study will add to innovative methods of teaching in Higher Education. It will increase student thinking capabilities and involve their psychomotor abilities for effective learning. Since teacher will only be guiding the

students, boredom which is usually generated in one way instructional methods can be eliminated.

5. METHODOLOGY

Study location: IDSG Government College, Chikkamagaluru, Karnataka, India, is affiliated to Kuvempu University. It is the only Government College in this district that offers both Under Graduate and Post Graduate courses in Science, Arts and Commerce. Our institution is a sample with large population size fit for such studies. M.Sc. Chemistry is the oldest PG course of the college and can be a study on the students of this college represents the study on students of Karnataka in larger perspective.

5.1 Method: Two methods of teaching learning was incorporated

a) Students performed the experiments with one of their batch mate as teacher performer, another student prepared all viva voce questions and corresponding answers that may appear in the experiment. Two groups were then framed. A task of preparing two crossword puzzles with any other challenging questions was assigned. After putting up the crossword puzzle batches were exchanged to solve each puzzle as seen in Figure - 1. A cash prize was announced for maximum scoring batch.
b) During lecture class, key words of the day's lecture were written on the board. Students were allowed to sit in groups of three. Each bench was assigned a key word. They were then asked to search for information on internet and prepare a short reference material. After 30 minutes one student representative from each bench was asked to present the information, the other student from the same group was assigned job of summarizing the presentation as seen in Figure – 2. Both picking was done on the spot. After all students had presented the assigned key words, a test was announced. After test all key words were connected and lecture was linked into a meaningful summary by the instructor (me).

5.2 Population and sample size

Students (30) of M.Sc. Chemistry (IV semester) were considered and included for laboratory teaching method (a).

Students of M.Sc. Chemistry (38) (II semester) were chosen for Theory class method (b).

Figure 1: M.Sc. chemistry students of IV semester preparing and solving puzzles on two laboratory experiments

Figure 2: M.Sc. chemistry student of III semester delivering a short lecture on assigned key point

6. ANALYSIS AND INTERPRETATION

The effectiveness of method was analyzed by taking student feedback as in Annexure – 1 and Annexure – 2

Annexure – 1: Questionnaire with YES/NO type answers

Sl.No.	Acceptance parameter	YES	NO
1	Was the method implemented new?	68	NIL
2	Did this new method involve minimal investment and quality learning?	68	NIL
3	Did this method improve overall functioning quality indicators?	68	NIL
4	Are such pedagogical methods useful and to	68	NIL

	be implemented regularly?		
5	Because of this method can the presenter improve his/her delivering skills	68	NIL

Annexure – 2: Questionnaire with YES/NO type answers

Sl.No.	Acceptance parameter	G	S	E
1	How was the student-teachers' performance?	44	NIL	24
2	How was the student-teachers' confidence level?	52	4	12
3	How was the student-teacher presenters' content level?	28	36	4
4	How was the overall student-teachers' convincing capability?	41	27	NIL
5	Overall rating of the new method of instruction	32	12	24

* G = Good, S = Satisfactory and E = Excellent

All students felt that the new method adopted was effective, useful and would improve their skills. Because students were new to these methods, the student- teacher/presenter needed much more improvement in confidence level, content level and convincing capability. These methods got an overall rating of 47 %. However if such methods are used frequently, the quality of student can improve over a period and the method can become more credible.

7. DISCUSSION AND CONCLUSION

Both the methods were received and acted on with enthusiasm by the students. It removed boredom usually present in class rooms and laboratories. Since students took role of a teacher, it improved their presentation skills. Technological help was availed and hence recent developments in the particular field of study were easily accessed in the class room itself through internet. Such an update is otherwise absent in text books and syllabus under study.

Group tasks helped in improving interpersonal skills and developed leadership attitude. A new facelift was given to conventional method of teaching. Such students will be skill oriented and hence add to the quality output of an institution.

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