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TAGORE'S
AUTONOMOUS LEARNER

Archana Tomar, B. Valli Pillai
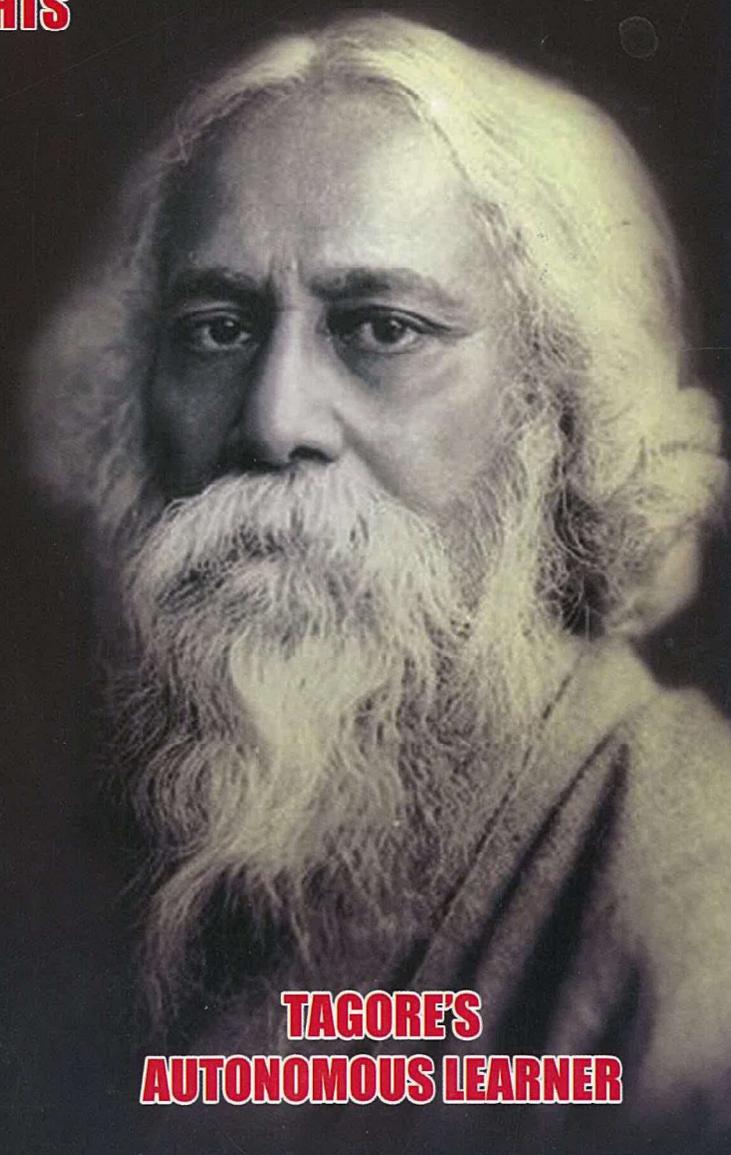
Microteaching
Baby Steps for a Giant Leap!

Knowledge possessed by mankind has been generated by the efforts of generations. The accumulated knowledge has to be pooled and shared with other members in the society for its growth and general wellbeing. The young have to be developed into well-rounded personalities. The future of the citizens of any country lies in the hands of the teacher. Very few teachers are born; others have to be trained. The teacher training passes through smooth small steps of gaining confidence, motivation and encouragement to perform better and better with the help of constructive feedback. The teachers gradually learn how to teach and acquire and disseminate knowledge Teacher education plays a vital role in educating the teachers. It has two components -theoretical and practical. The theoretical components cover philosophical, sociological, psychological and historical foundations of education along with emerging issues and concerns. In the practical aspects they are given the practical components like microteaching, integrated teaching, simulated teaching and school practice teaching and finally internship. Teacher education is incomplete without the practicum aspect. The authors believe that teachers can be groomed, prepared and nurtured through carefully selected measures. One such measure has been taken up in this paper i.e. microteaching. The authors of this paper would like to focus on the design and process followed in microteaching practiced at Navrachana College of Education.

Knowledge possessed by mankind has been generated by the efforts of generations. The accumulated knowledge has to be pooled and shared with other members in the society for its growth and general wellbeing. The knowledge generation is one task and its compilation another and the third task is the dissemination of knowledge. The dissemination of knowledge requires either the support of group interaction, print media or it could be disseminated through virtual mode. The most important and quintessential knowledge has to be transmitted to the generation next in various modes possible which could be formal, informal or nonformal. The most popular and widely practiced mode is the formal mode. In the formal mode the teachers transmit knowledge to the learners. They educate the young citizens to grow up and take the functional roles in the society for individual and social welfare. Concurrently teachers themselves have to be taught how

to teach others. Teacher education plays a vital role in educating the teachers. It has two components - theoretical and practical. The theoretical components cover philosophical, sociological, psychological and historical foundations of education along with emerging issues and concerns. In the practical aspects they are given the practical components like microteaching, integrated teaching, simulated teaching and school practice teaching and finally internship. Teacher education is incomplete without the practicum aspect. Good teachers are a nation's asset. But are the teachers born or made?

Teaching as a Skill: Inborn or Nurtured?

The debate is on for a long time whether teachers are born or made. Both the positions are true. Some individuals do have a gifted set of explanation skills and explain so well, but may not choose or prefer to become teachers. Even if they prefer to become teachers they may not be

sufficient to take care of growing population and growing need for good teachers. So the proper alternative is to prepare the teachers for generation next. In other words teachers need to be made. Teacher preparation is a process of empowering the young adults to take up the role of teachers directly and prepare future citizens under their tutelage indirectly. The authors believe that teachers can be groomed, prepared and nurtured through carefully selected measures. One such measure has been taken up in this paper i.e. microteaching. The authors of this paper would like to focus on the design and process followed in microteaching practiced at Navrachana College of Education. The authors have also included some reflections and insights gained over a period of ten years.

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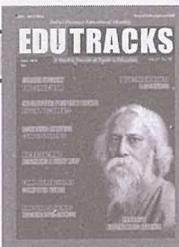
Microteaching

The term *micro* was coined in 1963 in Stanford University. Microteaching has been described as a scaled down teaching encounter designed to develop new skills and refine old ones (McKnight, 1971).

A trainee (student or teacher) teaches a small group of pupils for five to ten minutes. The lesson is usually video-recorded and subsequently observed and analyzed by the trainee with his supervisor.

The original microteaching cycle was developed at Stanford in the early 1960's (Allen and Ryan, 1969). It consisted of the sequences -Plan – Teach –Observe (critique) – Re-plan –Re-teach – Re-observe. Each cycle was devoted to the practice of one component skill such as set induction and closure, effective questioning, pupil reinforcement and pupil participation.

Lectures and skill demonstrations were given to the students prior to the practice of the skill. There are many variations in the original Stanford model (Ward, 1970: Berg, 1970). The model used at the New University of Ulster is Plan-Teach-Observe.

Emphasis is given to planning and perception as well as performance of skills. The program is carried out in a small group with a supervisor. Immediate re-teach scores at Ulster were almost always lower than teach scores and students disliked the re-teach session (Brown & Gibbs, 1974). Despite this and other related evidence reviewed elsewhere (McAleese & Unwin, 1971, Brown 1973) there are still a few critics who view microteaching and similar approaches with suspicion (Andrews 1971). But the authors of the paper believe that Microteaching will help to sharpen and develop teaching skills, eliminate gross errors and build up a student teacher's confidence.

Definition and Technique of Microteaching

Microteaching is a procedure in which a pupil-teacher practices teaching with a reduced number of pupils in a reduced period of time with emphasis on a narrow and specific teaching skill. Thus, microteaching is a scaled down encounter in class size and class time. It is therefore a skill-based approach to teacher training.

This technique is meant for developing certain skills of teaching procedure, which contains the following steps:

1. Modeling the skill
2. Planning a micro-lesson
3. The teaching session
4. The critique session
5. The re-planning session
6. The re-teach session
7. The re-critique session

Microteaching is a device involving the application of micro-training for improving teaching. Teaching is analyzed into various skills; certain well designed micro situations are created and selected skills are trained.
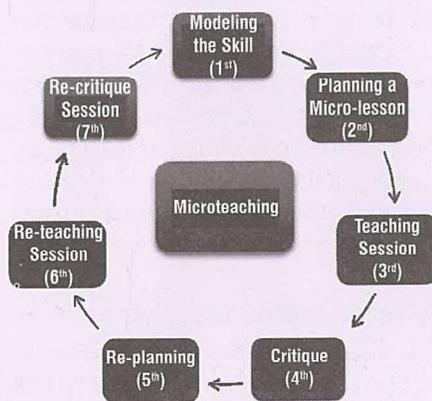

Fig.1: Microteaching Cycle

Advantages

- There comes a major awareness in pupil-teachers with regard to professional training.
- There is more scope for practice in teaching skills according to the student's potential.
- It develops confidence by having the practice of skills in microteaching under simulated conditions.
- Creates general teaching competence.
- It gives a scope for supervisory feedback.
- It helps in improving ways of analyzing pupil learning.
- Attention is on teacher behavior.
- It offers opportunity to practice a real lesson without the complexities of a normal classroom.
- Develops confidence.
- Develops skills

Disadvantages

- Cannot be a substitute for real classroom lesson.
- Teaching cannot be broken into subcomponents. The subcomponents lose meaning in isolation.
- Teaching is not a combination of these isolated bits.
- Teaching is not summation of skills.

The twelve microteaching skills

Effective teaching behaviour can be attributed to the presence of these major skills

- Motivational skills
- Presentation and communication skills
- Questioning skills
- Skills of small group and individual instruction
- Developing student-teacher thinking
- Evaluative skills
- Classroom management and discipline

They can also be represented by other names. For example reinforcement is a kind of motivational skill; explanation is a kind of presentation and communication skill and so on.

Variety of skills: The skills through microteaching will be attained in:

1. Set Induction (skill of Introduction)
2. Explanation
3. Illustrating with examples
4. Recognizing Attending Behavior
5. Silence and Nonverbal cues
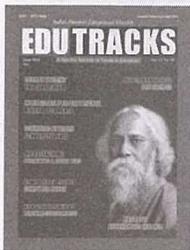
6. Use of Blackboard

7. Use of Teaching Aids

8. Questioning

9. Stimulus variation

10. Reinforcement

11. Probing

12. Attaining Closure

The essential assumption of microteaching

- It provides teachers with a practice setting where the norms complexities of classroom instruction is reduced with reference to length and scope of the lesson, number of students and class time

- It allows for increased control of practice

- It is amplifies the knowledge of feedback dimensions of teaching

- Immediate feedback is given

Profile of student teachers

As Navrachana College of Education is affiliated to SNDT Women's University, the general student profile comprises of women young or middle aged, experienced or inexperienced, language proficiency high or low; technology proficiency again may be high or low. The student-teachers belong to vernacular mediums as well. Some students are from Gujarati, Hindi and English medium. The time devoted to the training of skills varies from student to student. Some take a little longer time to master a skill and some less time. The mode of developing teaching skills in pre-service teachers is to go step by step. The logic behind going step-wise (baby steps) is to gain confidence in standing before 40 to 50 students of a classroom. SNDT University and its affiliated teacher education colleges follow it. Other universities also follow but some have done away with it. We can't for sure say it is unbeneficial. As long as we don't have a better methodology we need to accept it. We in our college have designed the sequence of microteaching in the following way.

The sequence that is followed in our institution

Brief introduction is given to the history of microteaching. There are five skills stressed by SNDT; actually there are 12 skills according to the book written by B.K. Passi and others. The first variation incorporated in the skill aspect is discussed here.

We have designed the set of skills that go together naturally and are somehow complementary to each other. The set of skills as such are practiced in schools also. Single skills do not help in understanding other requirements. For example, we do not practice questioning alone. We have clubbed together skills as Questioning Probing and Reinforcement (QPR) as questioning, higher order questioning, redirecting, reforming and giving different types of reinforcement go together.

We club together skills as Explanation and Illustration with example and silence and nonverbal cues together (E &IWE, SNVC). As it can be seen from the combination itself whenever the example is given one needs to give a corollary or an illustration to comprehend and to fix the explanation. They must focus on silence and nonverbal cues that is, the gestures and the body language used by them during the instructional process.

The next set of skill that we train in is blackboard work and stimulus variation (BBW&SV); these skills are taught together. As some students tend to talk much and don't use blackboard, some others in order to avoid students face the blackboard for most of the time. In this set of skills they have to balance between blackboard writing, stimulus variation like voice modulation, gestures and movements along with it.

Use of teaching aid is an individual skill (TG Aid) that is practiced by the student-teachers. Here in both the teaching subjects they are supposed to make the teaching aid and explain the teaching aid to the peer group members and the supervisor.

The last set of skills introduced is the skill of introducing the lesson and closing the lesson. Both the skills are taught at the end. These skills teach the student-teachers to introduce the lesson and declare the objectives of teaching and immediately they are supposed to close the lesson, recap and give homework.

Rubrics are put up immediately after the first skill orientation; 6 indicators in behavioural terms. The rubric is enclosed immediately. This was the rubric prepared when there were only four set of skills to be trained in. This was followed from the academic year 2004 till 2008. Both the rubric the old and the new one are enclosed at the end of the article after the references.

Reflections

This sequence was found beneficial instead of starting with Introduction and Closure. We start with the QPR skill as this set is used in explaining too. Even before they get familiarized in explaining skill they need to know how to frame questions well. Explanation and illustration with example also requires questioning for developing the logical sequence. In all other skills also QPR is used as a small integral part. So right from the beginning we try to secure the questioning skill appropriately. The next set of skills introduced is the explanation and illustration with example. The third set BBW and SV is taken next. The teaching aid skill was added later in the set whereas earlier there were four skills. The skill of introduction and closure are taught at end. The set of skill introduction and closure had to be shifted to the end as it also needed the prerequisite questioning skill. We found explaining came easier than questioning. We realized either out of modesty or not being habituated in giving full hearted praise, the skill of reinforcement was inadequate. To give enthusiasm energetic reinforcements had to be often reminded to the students. After seeing others do it, it came easier for them.

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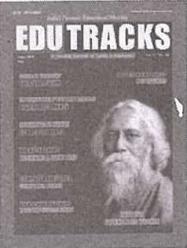
Assessment of the skill was done based on the rubric displayed at the end of the article. The rubric has also seen change. The previous rubric had the scoring pattern as 5-4-3-2-1-0 but it was difficult to see the skill exhibition and exactly to put it in place. The difficulty was perceived similarly by almost all staff members in tallying up the marks. So we developed the next set of rubrics to address the problem. The modified version had only 0-1-2 points. The new model was found user-friendly as the scoring and counting of marks as well as looking for the indicator became comfortable.

Criteria for Evaluating Microteaching

Name of the student-teacher: Roll no:

Skill	Teaching behaviour		
1. Questioning Probing Reinforcement	Method: Topic selected: Std:	Marks Teach	Marks Re-teach
	1 Asks adequate questions	5/4/3/2/1/0	5/4/3/2/1/0
	2 Asks questions of different levels	5/4/3/2/1/0	5/4/3/2/1/0
	3 Uses pupil's response for further questioning	5/4/3/2/1/0	5/4/3/2/1/0
	4 Gives appropriate reinforcement to pupils	5/4/3/2/1/0	5/4/3/2/1/0
	5 Asks thought provoking questions	5/4/3/2/1/0	5/4/3/2/1/0
	6 Asks accurate /focused questions	5/4/3/2/1/0	5/4/3/2/1/0
		Marks Tr's sign Date:	Marks Tr's sign Date:

Skill	Teaching behaviour		
2. Explanation Illustrating with examples, silence and non-verbal cues	Method: Topic selected: Std:	Marks Teach	Marks Re-teach
	1 Speaks with clarity and fluency	5/4/3/2/1/0	5/4/3/2/1/0
	2 Imparts adequate matter	5/4/3/2/1/0	5/4/3/2/1/0
	3 Gives interesting and relevant illustrations	5/4/3/2/1/0	5/4/3/2/1/0
	4 Establishes cause and effect relationship	5/4/3/2/1/0	5/4/3/2/1/0
	5 Presents matter effectively / meaningfully	5/4/3/2/1/0	5/4/3/2/1/0
	6 Makes use of prompts /silence	5/4/3/2/1/0	5/4/3/2/1/0
		Marks Tr's sign Date:	Marks Tr's sign Date:

Skill	Teaching behaviour		
3. Blackboard stimulus variation	Method: Topic selected: Std:	Marks Teach	Marks Re-teach
	1 Writes legibly and correctly	5/4/3/2/1/0	5/4/3/2/1/0
	2. Uses coloured chalk	5/4/3/2/1/0	5/4/3/2/1/0
	3. Draws good labeled diagrams	5/4/3/2/1/0	5/4/3/2/1/0
	4. Organizes content in available space	5/4/3/2/1/0	5/4/3/2/1/0
	5. Brings change in instruction pattern	5/4/3/2/1/0	5/4/3/2/1/0
	6. Underlines / highlights important points	5/4/3/2/1/0	5/4/3/2/1/0
		Marks Tr's sign Date:	Marks Tr's sign Date:

Time Management

The second variation we have adopted is in the time management of the sessions. Initiation to practice teaching takes place in the 1st week of the academic year. We do so keeping in mind practice teaching in September / October when schools allow us to come for practice teaching. This is the time when school's academic session is moving in its set path. Due to completion of first term exams the teaching staff is relatively free and they readily accept us and our students to conduct the practice teaching. Moreover this would enable schoolteachers to focus on term paper's corrections. It is essential the students acquire required skills to a moderate extent before they set out to schools. Keeping this in mind we begin with microteaching within the first two weeks of the academic year.
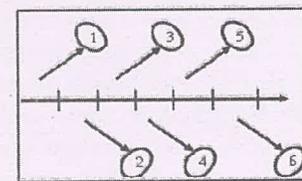
Timeline

Fig.2: Time line of Microteaching

1. **2 days getting the student's main subject:** The student-teachers get the admission on their subject of graduation. So one subject is clear; the second subject is allotted to them based on their other subjects at the graduation level. This process of second subject allocation takes two days.

2. **1 day in identifying teachers and venues:** The next day is spent in identifying the relevant venue looking at the availability of the needed infrastructure facilities in the organization.

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Book Name	Author	ISBN	Price
Philosophical Perspectives of Education	Prof. T. Mrunalini, Dr. T. Sumalini	978-93-85877-47-6	195-00
Philosophical Perspectives of Education	Dr. V. Srinivas, Dr. Kadem Srinivas & Others	978-93-85877-31-5	175-00
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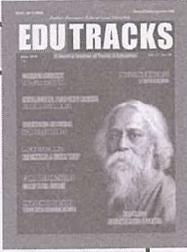
Skill	Teaching behaviour	Marks Teach	Marks Re-teach
4. Introduction, closure	Method: Topic selected: Std:		
	1 Defines objectives clearly	5/4/3/2/1/0	5/4/3/2/1/0
	2 Links content with previous knowledge	5/4/3/2/1/0	5/4/3/2/1/0
	3 Writes title on the board	5/4/3/2/1/0	5/4/3/2/1/0
	4 Consolidates major points	5/4/3/2/1/0	5/4/3/2/1/0
	5 Gives assignment/homework	5/4/3/2/1/0	5/4/3/2/1/0
	6 Adopts inductive/deductive method/ discussion to arrive at topic	5/4/3/2/1/0	5/4/3/2/1/0
		Marks Tr's sign Date:	Marks Tr's sign Date:

In the later years, that is from 2008 to 2010 we have been following the rubrics mentioned below.

Criteria for Evaluating Microteaching

Name of the student-teacher:

Roll No:

Method 1:   **Method 2:**

Date: Std: Topic: Date: Std: Topic:

SR NO	Skill of questioning, probing Reinforcement	Teach	Re-teach	Teach	Re-teach
1	Asks questions of different levels	0/1/2	0/1/2	0/1/2	0/1/2
2	Uses pupil's response for further questioning	0/1/2	0/1/2	0/1/2	0/1/2
3	Gives appropriate reinforcement to pupils	0/1/2	0/1/2	0/1/2	0/1/2
4	Asks thought provoking questions	0/1/2	0/1/2	0/1/2	0/1/2
5	Frames questions properly	0/1/2	0/1/2	0/1/2	0/1/2
	Total				

Date: Std: Topic: Date: Std: Topic:

SR NO	Skill of explanation, Illustrating with examples, Silence and non verbal cues	Teach	Re-teach	Teach	Re-teach
1	Imparts adequate matter	0/1/2	0/1/2	0/1/2	0/1/2
2	Gives interesting relevant illustrations	0/1/2	0/1/2	0/1/2	0/1/2
3	Establishes cause and effect relationship	0/1/2	0/1/2	0/1/2	0/1/2
4	Present matter effectively / meaningfully	0/1/2	0/1/2	0/1/2	0/1/2
5	Makes use of prompts and silence	0/1/2	0/1/2	0/1/2	0/1/2
	Total				

3. *2 days for making groups:* The group of microteaching is more or less homogenous in nature. That is the group composition is such that students belonging to more or less same subjects are clubbed together. As far as possible they are also allotted the same subject method master.

4. *1 day for displaying:* As soon as the groups are ready they are displayed on the bulletin board.

5. *1 day for orientation:* The students are oriented in the preparation of lesson plan and also in the preparation

and presentation of the requisite set of skills along with the do's and don'ts.

Physical Environment

The rooms selected accommodate 13 students. Blackboard, chalks, desks and chairs are ensured. The physical environment is made very comfortable for the students, as this is the first step towards teaching. The students are made comfortable, they are asked to breathe, relax, drink water and leave aside anxieties. "It is a lesson for five minutes only so just relax" is the message uttered to them by almost all supervisors.

Transaction and Communication Flow

It involves creating a template like this. The entire lesson plan for microteaching is in dialogue form. Alternatively there are teacher's dialogue and student's dialogue.

Reflections

The student-teachers need to write the lesson plans of the first two days in a rough paper. They are supposed to write the name of the skill in the right margin. The students have to mention (Q) when they ask questions and (R) when it is reinforcement. Initially the student-teachers write the plan in the rough pages, later they write in the journal provided to them. Some of the student-teachers are careless and lose the rough papers or even misplace them. At times the supervisors also feel that rough paper quality is not good. So we insist that they write lesson plans in the journal itself after two or three lessons.

Navrachana College of Education was established in 2004. Currently,

Name	Roll no
Subject	Topic
Date Skill	

Tr: —————————
St: —————————
Tr: —————————   (Q)
St: —————————
Tr ——————   (R)

Fig.3: Format of Microteaching Plan

it offers two programs B Ed. and M Ed. The experiments and ideas discussed about microteaching process are the result of task over a period of five years. In the initial years we oriented the students in all the skills and later asked them to practice; that style was not found useful as more students were confused. Later we switched to a single set of skill followed by its practice. The decision was a collaborative decision to switch from group orientation to set orientation.

Feedback from Supervisor and Peers

The third variations we focus are on the feedback mechanism. The presentation of micro lesson is followed by the feedback by self (student-teacher), supervisor and the peers. Sometimes after completion of the session the student-teacher herself reports what was missing in her session. Initially the supervisor gives the feedback first but as the sessions proceed gradually first opportunity is provided to the observers -that is the peer and later the supervisor gives the feedback. Care is taken not to criticize too much as the microteaching phase is also a confidence building measure. The whole exercise is geared to enable a student-teacher to stand confidently and utilize time meaningfully in the teaching-learning process. The observers play a dual role -one of the observer and second of the students of a particular class. The observers have dual benefit also; they learn from other students what mistakes not to make as well as to imbibe some of the strengths exhibited by their friends. Some of the microteaching sessions are also recorded on camera to show to the students and than feedback is given to the students.

Conclusion

The young have to be developed into well-rounded personalities. The future of the citizens of any country lies in the hands of the teacher. Very few teachers are born;

others have to be trained. The teacher training passes through smooth small steps of gaining confidence, motivation and encouragement to perform better and better with the help of constructive feedback. The teachers gradually learn how to teach and acquire and disseminate knowledge and thus are able to play the role of building a knowledge society. The teacher training begins with the baby steps they take towards enriching the knowledge base of the learners. Later the same baby steps get converted into giant leaps as these new entrants of teacher training colleges take charge as full-fledged school teachers in regular schools.

References

– **Dahiya, S.** (2007) "Educational technology" Delhi, Shipra Publication

– **Mohanty, J.** (2004) "Modern Trendz in Educational Technology" Hyderabad Neelkamal publication private limited.

– **Pathak R.** (2003) "New dimensions of educational technology" New Delhi, Radha publications.

– **Singh Y.** (2005) "Instructional technology in education" New Delhi, A.P.H publishing corporation

– **Singh Y. Sharma A.,** (2004) "Micro teaching" New Delhi, A.P.H. publishing corporation.

– **Vanaja M.** (2006) "Educational Technology" Hyderabad, Neelkamal publication private limited. ●

Date: Std: Topic: Date: Std: Topic:

SR NO	Skill of using Blackboard, stimulus variation	Teach	Re-teach	Teach	Re-teach
1	Writes legibly and correctly uses coloured chalk	0/1/2	0/1/2	0/1/2	0/1/2
2	Draws good and labeled diagrams	0/1/2	0/1/2	0/1/2	0/1/2
3	Organizes content in available space	0/1/2	0/1/2	0/1/2	0/1/2
4	Brings changes in interaction pattern	0/1/2	0/1/2	0/1/2	0/1/2
5	Underlines / highlights important points	0/1/2	0/1/2	0/1/2	0/1/2
	Total				

Date: Std: Topic: Date: Std: Topic:

SR NO	Skill of using teaching aid	Teach	Re-teach	Teach	Re-teach
1	Relevance of the teaching aid	0/1/2	0/1/2	0/1/2	0/1/2
2	Approximate size of the teaching aid	0/1/2	0/1/2	0/1/2	0/1/2
3	Appropriateness of letters /colour/ concept	0/1/2	0/1/2	0/1/2	0/1/2
4	Appropriate use of teaching aid	0/1/2	0/1/2	0/1/2	0/1/2
5	Cost effectiveness of teaching aid / innovative / creative / related to real life	0/1/2	0/1/2	0/1/2	0/1/2
	Total				

Date: Std: Topic: Date: Std: Topic:

SR NO	Skill of introduction and closure	Teach	Re-teach	Teach	Re-teach
1	Defines objectives /aims clearly	0/1/2	0/1/2	0/1/2	0/1/2
2	Links content with previous knowledge	0/1/2	0/1/2	0/1/2	0/1/2
3	Writes title on the board	0/1/2	0/1/2	0/1/2	0/1/2
4	Consolidates major points	0/1/2	0/1/2	0/1/2	0/1/2
5	Gives assignment /homework	0/1/2	0/1/2	0/1/2	0/1/2
	Total				

Name of the Supervisor   *Sign of Supervisor*