

**COURSE NAME –M.Ed IV SEMESTER**

**SUBJECT NAME = EDUCATION TECHNOLOGY & ICT ( SC-5)**

### **3.1 INTRODUCTION**

Our educational program is designed to bring about desired changes in the student behaviour. Teachers playing an important role in this Teacher effectiveness directly depend on the quality of the teachers. Hence there is a need of preparing quality teachers. This is a challenge before the teacher training institutions to change the behaviour of the teachers and adopt new techniques in educational practice. In this direction micro teaching has evolved as a new technique in pedagogy.

### **3.2 OBJECTIVES**

After studying this unit, you will be able to,

- i. Define Micro teaching.
- ii. Define Micro teaching cycle.
- iii. Explain the Characteristics of Micro teaching.
- iv. Explain the skills namely reinforcement, stimulus variation, explaining, probing questioning, demonstration and the skill of using black board.
- v. Explain the importance and need of link lesson.

### **3.3 MICRO TEACHING**

#### **3.3.1 Meaning**

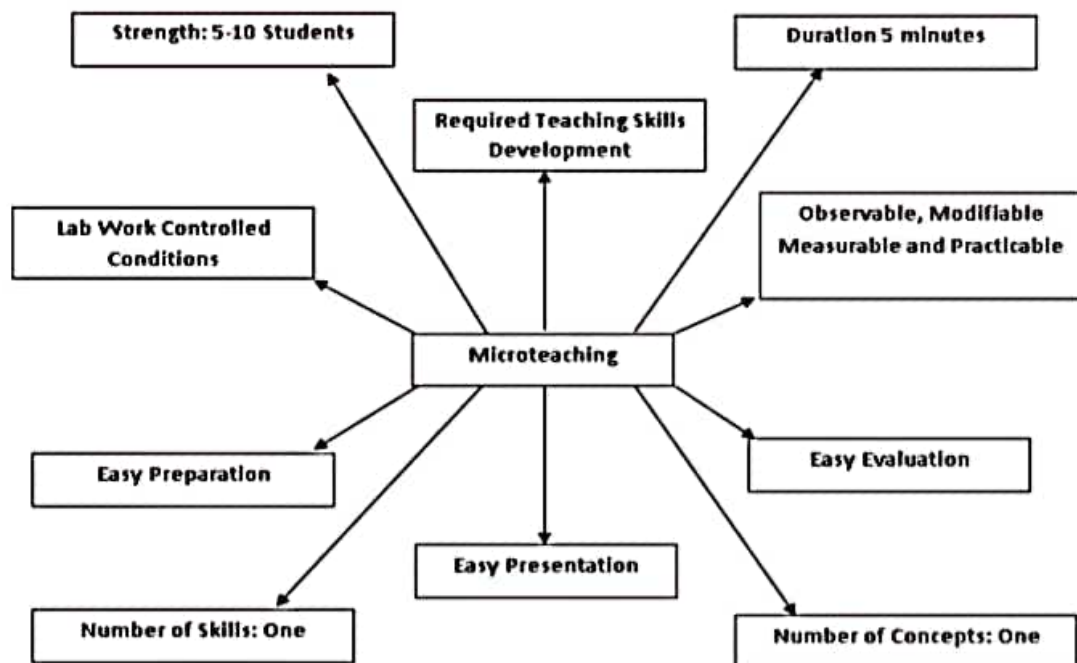
Micro teaching using is a training technique in which a student teacher is required to teach a single concept writing a specified teaching skill on a small group of

pupils in a short duration of time. Micro teaching is practiced in terms of desired teaching skills.

A skill cannot become one's own unless it is practiced periodically. A.W. Dwight Allen of the Stanford University first adopted the term "Micro Teaching" in 1963.

Thomas Green has explained that learning is not possible without teaching, but without learning, teaching is not possible. Among the different practices of teacher training, Micro teaching is an important technique, which imparts intensive training in the component skills of teaching to the teacher trainees.

The following diagram represents the meaning and properties of Micro teaching.



**Representation of Meaning and Properties of Micro Teaching**

### 3.3.2 Definitions

MC. Knight (1931): Micro teaching is a scaled down teaching encounter designed to develop new skills and refine old ones.

Passi, B.K. and Lalitha, M.S. (1936): Micro teaching is a training technique, which requires student teachers to teach a single concept using specified teaching skill to a small number of pupils in a short duration of time.

Encyclopedia of Education (Ed. Deighton, L.C. 1931): Micro teaching is a real, constructed, scaled down teaching encounter, which is used for teacher training, curriculum development and research.

The above definitions are very useful to know the significance of Micro teaching.

### 3.3.3 Characteristics of Micro Teaching

From the definitions stated above, the characteristics of Micro teaching can be summarized as follows:

- i. Micro teaching is a teacher training technique and not a teaching method.
- ii. In Micro teaching the teacher trainee practises one specific teaching skill at a time, till he/she attains mastery over the skill.
- iii. Micro teaching operates on a predecided model: Plan, Teach, Feedback, Re-plan, Re-teach and Re-feedback.

- iv. Micro teaching allows for increased control of practice by providing feed back to the teacher- trainees.
- v. Micro teaching is not a substitute, but a supplement to the teacher-training programme.
- vi. Micro teaching is a cyclic process.

#### **3.3.4 Features of Indian Model of Micro Teaching**

After a lot of research studies undertaken by various institutions and efforts taken by NCERT, the concept of micro teaching has been modified to suit the needs and requirements of the Indian teacher-trainees and the facilities and infrastructure available in our teacher- training colleges.

Some of the salient features of this model have been listed below.

- i. Indian model of micro teaching is a low technology model with minimum electronic gadgetry.
- ii. In the Indian model of micro teaching peers are used as students instead of real pupils.
- iii. In the Indian model of micro teaching, observers, using appraisal guide, systematically record the performance and provide the feed back to the trainees.
- iv. It is flexible to suit the varying conditions available in teacher-training institutions.
- v. The duration of the micro teaching cycle, as adhered to in the Indian model of micro teaching varies from 35 to 50 minutes.

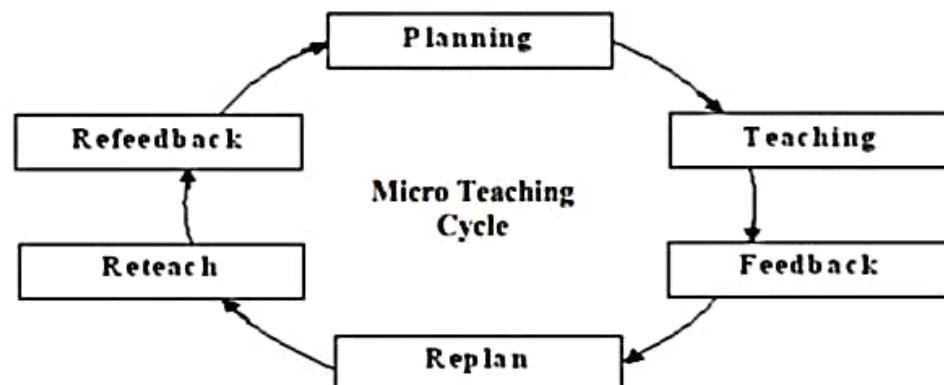
The duration of the Indian model of micro teaching as recommended by NCERT is 36 minutes as follows:

Teaching Session	: 6 mts
Feed back Session	: 6 mts
Re-plan Session	: 12 mts
Re-teach Session	: 6 mts
Re-feed back Session	: 6 mts
Total Duration of Micro Teaching Cycle	: 36 mts

#### **3.4 MICRO TEACHING CYCLE**

The training procedure for one teaching skill is called as 'Micro teaching cycle'. In this cycle, the teacher trainee chooses a specific skill, prepares a micro-lesson plan and teaches a small group of students for duration of 5-3minutes. The teacher educator and the peer group observers rate the lesson using an observation schedule or an appraisal guide.

On the basis of the performance appraisal, immediate feedback is given to the teacher-trainee by the observers. The trainee then modifies her/his lesson and re-teaches another set of students (peer or real students) This lesson is also rated by the supervisor and other observers and then analyzed and discussed with the trainee. This process is repeated till the trainee attains adequate level of the skill. The completion of these steps results in the completion of one Micro teaching cycle as shown in the following figure.



### 3.4.1 Steps in Micro teaching Cycle

The steps in Micro teaching cycle can be listed as under.

**i. Planning:** This involves selection of the skill to be practised, awareness of the components of the skill, selection of a suitable concept and the writing of a micro lesson plan.

**ii. Teaching:** The trainee teaches the lesson in the Micro teaching setting. NCERT has suggested the following setting for Micro teaching.

Time: 6 mts

No. of students: 5 to 10, Real pupils or preferably peers.

Supervisor: Teacher Educator and / or one or two peers.

The lesson is being observed by the teacher supervisor and/or peers or videotaped or audio taped

**iii. Feedback:** The observers analyse the performance and discuss it with the teacher trainee on the basis of their ratings using the appraisal guide. The supervisor can give feedback to develop the skill.

**iv. Re-plan:** In the light of the feedback received from the supervisor and peer observers the teacher trainee re-plans her micro lesson by writing another micro-lesson plan or modifying the existing one.

**v. Re-teach:** The teacher-trainee re-teaches the revised lesson to another, but comparable group of students. The supervisor checks to see whether there is any improvement in skill attainment.

**vi. Re-feedback:** The supervisor assesses the lesson once again and provides the feedback to the trainee. This process repeats till the teacher trainee acquires the required level of competency.

### **3.5 PRACTISING OF RELEVANT SKILLS**

A skill is a specific activity which requires doing a particular work or job or task. Teaching activity involves different skills which are essential to teach effectively.

#### **3.5.1 Classification of teaching skills**

Here, we can classify the teaching skills using the areas,

1. Motivational skills.
2. Presenting and communication skills.
3. Questioning skills.
4. Skills of small group and individual instruction.
5. Developing pupil thinking
6. Evaluative skills.
7. Classroom management and discipline

There are so many classifications using area, researchers, subject-wise etc. But we are going to discuss some of the skills which are involved in science subject.

1. Reinforcement
2. Stimulus Variation
3. Explaining
4. Probing Questioning
5. Demonstration
6. Skill of using Black Board

### **3.6 SKILL OF REINFORCEMENT**

The term 'reinforcement' is taken from psychology. The skill of reinforcement is used to avoid the unpleasant experiences and replace with the pleasant experiences. The pleasant experiences are called positive reinforcements and the unpleasant experiences are called negative reinforcements. The positive reinforcements are used for strengthening the responses or behaviours of individuals and negative reinforcements for weakening or eliminating the undesirable responses or behaviours. These reinforcements are in the form of verbal or non-verbal.

#### **3.6.1 Components of Reinforcement Skill**

##### **1. Positive Verbal Reinforcements (PVR)**

The verbal behaviour (statement) of teacher accepts student feelings, repeats and rephrases student responses, summarizes student ideas etc., using praise words such as

'good', 'very good', 'excellent', 'fantastic', 'splendid', 'right', 'yes', 'correct', 'fine', 'continue', 'go ahead', 'carry on', 'well done', etc. which can be considered as positive verbal reinforcements.

## **2. Positive Non-Verbal Reinforcements (PNVR)**

Teachers gestures conveying pleasant feelings and approval of student responses such as smiling, nodding of head, delighted laugh, clapping, keeping eyes on the responding student and giving ear to the student-indicate positive nonverbal reinforcements.

## **3. Negative Verbal Reinforcements (NVR)**

Teacher's statement such as the use of discouraging words like 'no', 'wrong', 'incorrect', 'stop it', 'you don't know even this', 'I do not like what you are doing', 'do not do like this', 'that is not good' etc. correspond to negative reinforcements.

## **4. Negative Non-Verbal Reinforcements (NNVR)**

The teacher demonstrates his disapproval to indicate nonverbal expression of a student's inappropriate behaviour or incorrect response to his questions. Frowning, raising the eyebrows, hard and disapproving stares etc., are the nonverbal negative reinforcements.

In the above four components, the first two components indicate the skill of desirable reinforcements and the last two components indicate the skill of un-desirable reinforcements, which affect the students learning adversely and these are to be avoided as far as possible.

### **3.6.2 Micro Teaching Lesson Plan No. 1**

#### **Skill: Reinforcement**

Name of the teacher-trainee:

Subject : Biological Science  
Class : IX  
Topic : Cancer

Date:

Time:

Duration: 6 mts

#### **Teaching Points:**

1. Cancer - its meaning.
2. Types of agents - causes for cancer.
3. Common cancer diseases in men and women and
4. Treatments for cancer.



Steps	Teacher's activity	Student's activity	Components
<b>1. Introduction</b>	Hello Good morning Students (Nodding head) O.K. How are you?	Good morning, Sir  Fine, Thank you, Sir	PVR  PVR & PNVR
	<b>2. Presentation</b>	All right, what is your name?	Ramesh, Sir.  PVR
	Nice, do you know about any disease?	Yes, Sir	PVR
	(Nodding head) oh! What are they?	T.B., Cancer, Heart attack etc.	PVR & PNVR
	All right, what is cancer?	I don't know Sir	PVR
	Why not? (Nodding head to the left and right)	The students listen curiously	NNVR
	Teacher explains that some cells from tumors, spread to other parts of the body and produce large number of cells in other parts of the body and this is called malignant tumor, and that condition is called cancer Teacher asks some questions. All right. At what age do we get Cancer?	At any age, Sir	PVR
	Good. Is it a contagious Disease?	No, Sir	PVR
	Right. Will it spread from person to person?	No, Sir	PVR
	Yes. Is it an inherited disease?	No, Sir	PVR
	All right. Do you know the types of agents that cause the cancer?	No, Sir	PVR
	Why? (Nodding head to the left and right) Teacher explains by showing a chart (CHART) Three types of agents that cause Cancer 1. Physical 2. Chemical and 3. Biological	Students listen Curiously	NNVR
	O.K. Now, how does the physical cancer happen?	Silence	PVR
	(Angrily) see the chart and tell me how does the physical cancer happen?	By ionizing radiation	NVR, NNVR
	How does the ionizing radiation come into effect?	By ultra violet light, X-rays, radiation, emitted by radioactive material	PVR

	Nice, How does the chemical cancer happen?	By having chemicals	PVR
	Good observation. What are the Cancer-causing chemicals?	Tobacco, soot, coal, tar, Pesticides, etc.,	PVR
	Yes, How does the biological cancer occur?	Some Viruses.	PVR
	Wonder, what are the major types of cancer among men?	Digestive System, especially, mouth and throat and lungs	PVR
<b>3. Conclusion</b>	All right. What are the more common cancer diseases among women?	Cancer of cervix and breast	PVR
	O.K. How do we survive from cancer?	1. By Surgery 2. Killing the cancer cells with powerful x-rays 3. by drugs	VR
	Very good. Today we discussed cancer and its remedies	Thank you, Sir	PVR

### 3.6.3 Observation with Rating Scale

#### Skill: Reinforcement

Name of the Teacher - trainee :  
 Subject : Biological Science  
 Name of the observer :  
 Class : IX  
 Topic : Cancer

Date: Time: Duration:

Sl.No.	Components	Rating	Comments/Suggestions
1.	PVR		
2.	NVR		
3.	PNVR		
4.	NNVR		
	Total		

Rating: Poor = 0; Below Average = 1; Average = 2; Above Average = 3; Excellent = 4

#### Overall General Comments / Suggestions

1. ....
2. ....

### **3.6 SKILL OF STIMULUS VARIATION**

It is very important for a teacher to secure and sustain pupil's attention. For this purpose the teacher uses some gestures, body movements, makes certain verbal statement etc. All these behaviour are related to stimulus variation. The skill of stimulus variation can be defined as deliberate change in the attention drawing behaviour of the teacher in order to secure and sustain pupil's attention towards the lesson. Variation in the stimulus secures more attention among the students.

The following components of the skill of Stimulus Variation the teaching-learning process effectively.

1. Teacher's Movement (TM)
2. Pupil's Movement (PM)
3. Teacher's Gesture (TG)
4. Sensory Focus (SF)
5. Change in Voice (CV)
6. Change in Interaction Pattern (CIP)
7. Pausing (P)
8. Audiovisual Switching (AVS)

#### **(1) Teacher's Movement (TM)**

The teacher should move from one place to another on the teaching dais and towards the entire student to attract the attention of the entire class and to focus the attention of students towards the teacher. The movement should be purposeful. The movement of the teacher secures and maintains attention of the students. (e.g.: Movement towards blackboard to discuss the diagram drawn on it)

#### **(2) Pupil's Movement (PM)**

A pupil moves from one place to another. The physical participation holds pupil's interest and attention in the task in which they are engaged. Physical participation can be in the form of handling apparatus, dramatization, and writing on the blackboard.

#### **(3) Teacher's Gesture (TG)**

Expression of feelings and emotions involving nonverbal behaviors are called gestures. Gesture consists of hand and head movements, eye movements, facial expressions, etc. Use of gestures is important teacher behaviour to enhance the value of the message what the teacher actually imparts. The appropriate gestures increase the effectiveness of verbal communication

**(4) Sensory Focus (SF)**

The movements, gestures and change in voice of teacher secure pupils attention. The verbal statements and gestures together are known as verbal-cum-gesture focusing. Verbal-cum-gesture focusing is termed as sensory focus. The sensory focus intends the attention of the students.

Verbal Statement : Excellent

Gesture : Nodding of head

Verbal-cum-gesture: Excellent and nodding of head at the same time.

**(5) Change in Voice (CV)**

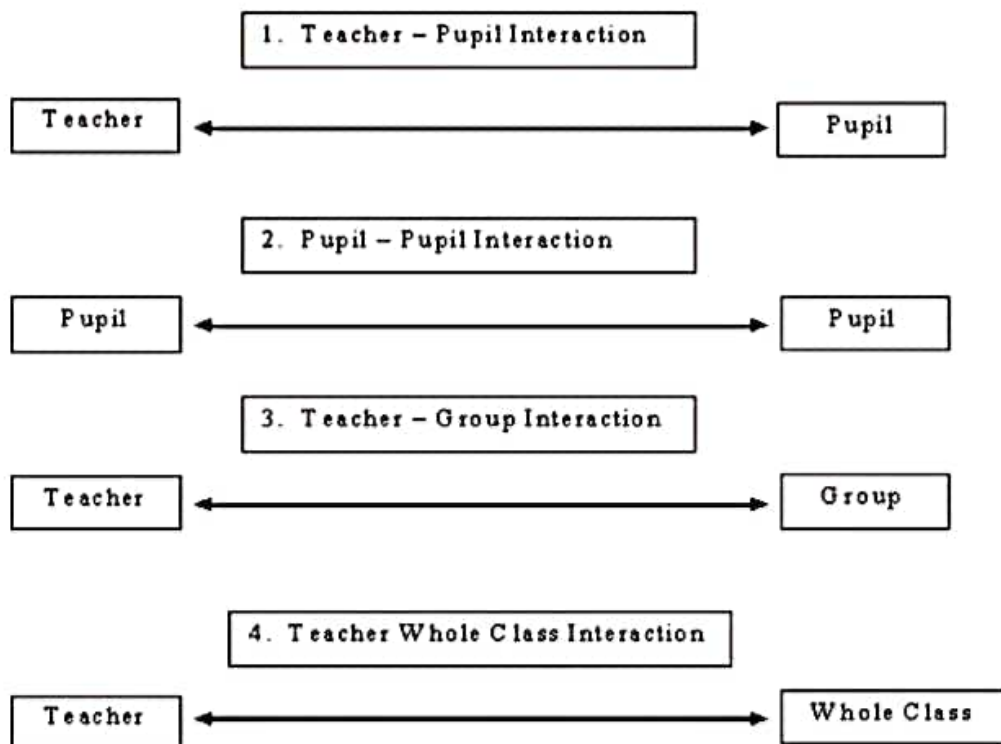
Constant use of the same level of pitchy tone and speech by the teacher makes his communication dull, inactive and has an adverse effect. So, the teachers should modulate their voice modulation of pitch, tone and speed plays a vital role in the classroom communication.

**(6) Change in Interaction Pattern (CIP)**

The interactive act of teaching constantly communicates between the teacher and pupils as an initiatory or responsive act.

The interaction is broadly of two types: Verbal and Nonverbal. This interaction is nothing but communication. The main patterns of interaction between teacher and pupils are teacher-pupil interaction, teacher-group interaction, pupil-pupil interaction and teacher-whole class interaction.

The following diagram indicates the changes in interaction pattern in a classroom.

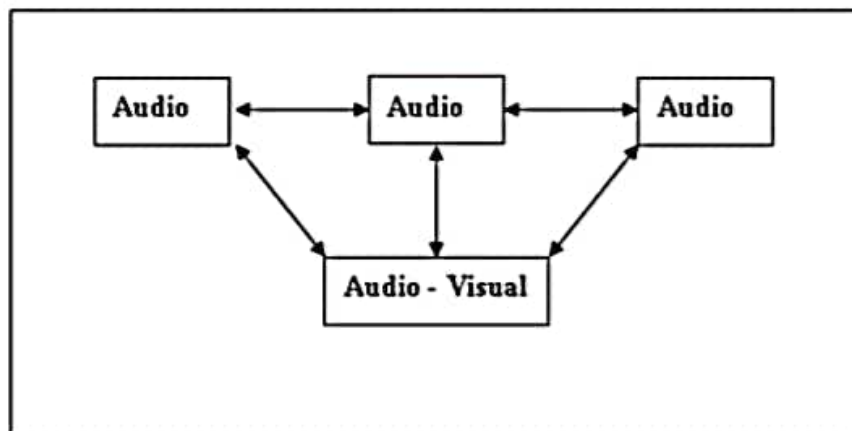


**(7) Pausing (P)**

Pausing is silence for some seconds. The silence indicates pause during talk. Short deliberate intervals of silence used, while conveying information, lecturing, explaining, etc. Silence has a meaning of its own and if it is used effectively, it helps in securing and sustaining pupil's attention. A pause of 3-4 seconds duration is considered appropriate for this purpose.

**(8) Audio-Visual Switching (AVS)**

Visual Medium can be in the form of showing a chart, picture, graph, map, and model or in the drawing pictures, figures, and graphs on the blackboard. Only audio medium or only visual medium creates boredom in the class. A teacher while imparting knowledge to his pupils uses either audio or visual medium. A teacher should vary his medium in order to secure and sustain attention. The audiovisual switching can be diagrammatically represented as follows.



**Micro Teaching Lesson Plan No. 2**

**Skill: Stimulus Variation**

Name of the teacher - trainee:

Subject : Biological Science

Class : VIII

Date: Time: Duration: 6 mts

Topic : Sense organs

**Teaching Points:** 1. Sense organs.  
2. Functions of sense organs.

Steps	Teacher's Activity	Student's Activity	Components
<b>1.Introduction</b>	(with smile) Good morning students.	(moving from their seats) Good morning, Sir	(TM) (PM) (TG)
	(Raising eyebrows) How are you?	(Taking on their seats and smiling) Fine, thank you Sir	(TM) (PM) (TG)
<b>2.Presentation</b>	How many sense organs do we have?	Five	(CV)
	Good (showing with	Eyes, ears, nose, tongue and	(TG)

	finger) Radha, can you tell me what are the different sense organs?	skin (students observe the chart)	(SF) (CIP) (P) (AVS)
	CHART (Teacher shows the chart explains it and asks) Ramana, what is the important function of a sense organ?	It receives information and sends the message to the brain	(SF) (PM)
	(Answer any one from last bench). How is a sense organ made up of?	It is made up of several hundreds of cells	(CIP)
	Lakshmi, can all the cells receive the information?	No Sir, only a few cells	(CIP) (SF) (PM)
	(Slowly) what do we call these cells?	Receptor cells or receptors	(CV)
	(Loudly) what is the specialty of these receptor cells?	Each receptor cell receives a particular type of sensory information	(CV)
	(Moving towards first bench students) How is a sense organ formed?	Several receptor cells together form a sense organ	(TM) (CIP)
	(Coming back) What is the major function of a sense organ?	To sense the changes in the environment	(TM)
	(Moving eyes) Paul, the function of eyes is ...?	To see	(TG) (P) (PM)
	(Answer any one in the second bench) What is the function of our nose?	To smell	(CIP) (PM)
	Ravi, can you tell me the function of our tongue?	To taste	(SF) (PM)
<b>3. Conclusion</b>	John, which organ do we need to hear?	Ear	(SF) (PM)
	Paul, what is the function of our skin?	To touch	(SF) (PM)
	Today, we have discussed the functions of our sense organs.	Thank you, Sir	(CIP)

**Observation Schedule: (Teach / Re-teach)**

Name of the trainee :

Name of the supervisor:

Standard : IX

Subject :

Date :

Concept : Sense Organs

Duration: 5 mts

Sl. No	Components	Tallies	Rating of Performance						
			Not at all			Very much			
1.	Teacher's Movement (TM)		0	1	2	3	4	5	6
2.	Pupil's Movement (PM)		0	1	2	3	4	5	6
3.	Teacher's Gesture (TG)		0	1	2	3	4	5	6
4.	Sensory Focus (SF)		0	1	2	3	4	5	6
5.	Change in Voice (CV)		0	1	2	3	4	5	6
6.	Change in Interaction Pattern (CIP)		0	1	2	3	4	5	6
3.	Pausing (P)		0	1	2	3	4	5	6
8.	Audio-Visual Switching (AVS)		0	1	2	3	4	5	6
<b>Total</b>									

<b>Comments (if any)</b>