



**A STUDY OF CLASSROOM INTERACTION CHARACTERISTICS USING  
FLANDER'S CLASS ROOM INTERACTION ANALYSIS IN A MATHS CLASS OF  
RURAL AND URBAN SCHOOLS.**

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**Abstract**

*A Study of Classroom Interaction Characteristics in mathematics Class Conducted. For these reasons, the interactions in the rural maths classes are supposed to be different from the urban ones. This condition motivates the writer to focus the study on the classroom interaction. The objectives of this study are to explore the classroom interaction characteristics and to find out whether or not the maths classroom activities as used to teach. The sample for present study was comprised of two clusters of students of class IX standard from rural and urban school, Faridkot in Punjab. The observation used for **Flander's class Room Interaction Analysis** to analyze the data;. The results of the analysis showed that the most dominant characteristic in urban classroom interaction was the content cross ratio, Student Talk Ratio, Pupil Initiation Ratio. It reflected that most of the teaching-learning time was devoted urban areas student seems to be more aware and take part in the discussion as compared to student of rural area and high student talk ratio in urban school sample reveals a lively class room with max discussion in class i.e. democratic climate..*

**Introduction**

Teaching is one of the oldest professions, but still it could not assume a professional status equal to engineers and medical scientists until recently, it was thought that a person who possesses knowledge of content can teach it functionally the professionals in the field of teachers do require much more than the knowledge of contents to be tough conditionally the teaching profession uses only verbal expression as the tool of communication with the help of which it is supposed that every type of learning can be developed. The assumption about teaching has done more harm than good to the cause of developing teaching as a profession, which today, requires training, the hard ground of conservation in the field of instruction and communication, broken by laboratory psychologists, training exells, engineers and educational technologist.

The present day teacher finds himself in the midst of revolution in communication in class room strategies and the knowledge about the very nature of students. Today a teacher faces a three bold challenge.

1. Needs to keep him up to date about information in his field learning.
2. Needs to deal with individual differences among learners.
3. Needs to apply best of class room or canted communication on techniques.

### **Class Room Interaction Analysis**

Class room interaction analysis refers to a technique consisting of objective and systematic observation of the class room events for the study of teacher ' s class room behaviour and the process of interaction going inside the class room. It assists a teacher to bring desirable. Modification in his behaviour and improve his interaction with his pupils for making his teaching more purposeful and effective. A system of interaction analysis essentially consists of the process of encoding and decoding. Encoding helps in recording the class room events in a meaningful way, while decoding is used in arranging the data n to useful display and them analyzing the result in order to study patterns of teacher behaviour and class room interaction.

Ruhela's (2004) view-"Educational technology writes the class room interaction Analysis may be currently divided in to two parts. Verbal interaction – it involves the influence of the teacher on the students and of the teacher through verbal statement. Non verbal interaction – the actions or gesture through which the teacher teaches a certain subject content come under non verbal interaction.

In other words of Flander (1970), the class room interaction refers to chain of events which occur one after the other, each occupying only a small segment of time, event being defined as shortest. Possible act that a trained observer can identify and record Interaction analysis is defined as a label that refers to any technique for studying the chain of class room events in such a fashion that each event is taken into consideration. Flander identified a twofold purpose of interaction analysis one to help teacher develop and control his teaching behaviour and second to investigate relationship of class room interaction and the pattern of teaching events with student attainment so as to explain the variability in student attainment. A number of interaction analysis techniques have been formulated. Among the earlier ones, the one formulated by flander has become very popular.

### **Flander's class Room Interaction Analysis**

Interaction analysis provides information about the communication that exists between the teacher and the pupils and can help to identify the alternatives that the teacher would like to try.

Flanders and his associates developed this techniques confined only to the classroom verbal behaviour, in 1970. The system consists of 10 categories, 7 of which were used when the teachers is talking, two are used when any pupil is talking and the last category is used to indicate silence/confusion. So far as the communication is concerned these three conditions:

- Teachers Talk
- Pupils Talk
- Silence/confusion are said to exhaust all possibilities. It is an objective and systematic techniques for evaluating the classroom performance of a teacher. The system permits the coding of teaching behaviour at a content rate of 3 seconds per observation throughout the observation.

Kuchta (2000) found that humanistic teachers had high achievement pupil and teacher age of teaching experience did not affect the results. Teacher self- disclosure resulted in pupils effective learning. The use of praise in the classroom is teacher behaviour, which is usually positively co related with the use of pupil's ideas and opinions.

Jones (2000) reported that increasing student participation and teacher support for the student enhances learning. For practice using relevant activities in class room, providing more planning time for teachers and using variety of teaching model to interact with student. Pheasanty (2003) conducted a research that the objective was to identify the characteristics of the classroom interaction in the elementary school English classes; to identify the English mastery of the Elementary school students; and to find out whether there are any significant differences in the effectiveness of teaching learning process among classes with different percentages of of classroom interaction characteristics. This study involved the fifth grade students and the English teachers of some schools as the subjects. The observation used Flanders Interaction Analysis to identify the classroom interaction. While the English mastery test were analyzed by using one way ANOVA. The result of the analysis showed that the dominant characteristics of classroom interaction in Elementary School are the student participation, indirect ratio, and content cross. The English mastery tests of the fifth graders of these Elementary Schools are good enough. The inferential analysis shows that there are significant differences in the effectiveness of teaching learning English among classes which

have different percentages of characteristics of classroom interaction. Inamullah (2005) conducted the research to explore patterns of classroom interaction at secondary and tertiary levels in the North West Frontier Province of Pakistan using Flanders Interaction Analysis system. This study was significant because its findings and conclusions may stimulate teachers to improve their teaching behaviour in order to maximize students learning. Fifty observations were carried out, each in one classroom, using Flanders Interaction Analysis system to secure the data. To do this, time sampling was used and each classroom was observed for 810 second in a 45-minutes class. After obtaining and encoding the data, it was tabulated, analyzed and interpreted by using percentages, means, standard deviations and t-test. The result shows that the students talk time at secondary and tertiary level differed in favor of secondary level classes where students talk time was greater than at tertiary level. The talk time of teacher at tertiary level was greater than that of the teacher's at secondary level. Silence time at secondary level was significantly greater than at tertiary level.

Davis, (2006) Lower expectations and limited opportunities to learn may be a function of math teachers' enactment of deficit beliefs about diverse students or maladaptive beliefs they hold about mathematics outlines the ways in which teachers communicate low expectations such as calling on students less often, seating them farther away, seating them closer as a form of behavioural control, paying less attention and demanding less of them, offering inappropriate criticism or praise, or failing to give feedback altogether. Math teachers may also inadvertently communicate stereotypes about the field including messages that minorities do not belong (Jennings & Greenberg, 2009,). As the classroom climate deteriorates, the demands on the teacher increase, triggering in the teacher what has been referred to as a "burnout cascade" Under these conditions, teachers' responses to student behaviour may become hostile and punitive, reactions that may derail student motivation and contribute to a self-sustaining cycle of classroom disruption. Over time, high levels of distress may lead to burnout.

### **Objectives**

Study was designed with a view to attain the following objectives:

- Observation of class room teaching in math class rooms in rural and urban schools.
- Analysis is interaction using Flanders's system.

## **Methodology**

### **Design**

Two groups of children were selected from two different schools. One from rural area and other for urban area and they were compared for interaction in their mathematics class room.

### **Sample**

The sample for present study was comprised of two clusters of students of class IX standard from rural and urban school, Faridkot in Punjab.

### **Tool Used**

Flanders interaction analysis category system for class room observation on verbal interaction was used.

### **Procedure**

The investigator selected two schools one from rural area other from urban are of district Faridkot in Punjab then principal of these school were contacted. The purpose of the investigation was explained to them and an assurance was given to them that school programme would not be disturbed in any way. The investigator took the observation of class room verbal interaction, on the 20x20 observation format in both the schools.

The time schedule of observing the classes was fixed with teacher on individual basis. Then investigator took observation with the 3 second interval of each and reordered each event according to flander system of observation then based on this observation the interpretation matrices were prepared for each class room events.

## **Discussion and Analysis**

### **Different ratios of classroom interaction of rural and urban areas of district Faridkot**

|                         | <b>Urban</b> | <b>Rural</b> |
|-------------------------|--------------|--------------|
| Student Talk Ratio      | 18.3         | 10.5         |
| Silence/Confusion Ratio | 3.2          | 7            |
| Pupil Initiation Ratio  | 11.5         | 5.5          |
| Content Cross Ratio     | 80.5         | 74.5         |
| Steady State Ratio      | 75.4         | 84.2         |

### **Student Talk Ratio (STR)**

In urban area Student talk ratio was found to be 18.3% where as in rural are it was 10.5% In other words student talk ratio in urban area was hogher as compared to rural area .Thus in urban areas student seems to be more aware and take part in the discussion as compared to student of rural area and high student talk ratio in urban school sample reveals a lively class room with max discussion in class i.e. democratic climate.

### **Silence/Confusion Ratio (S/CR)**

After comparing the table we see that silence / confusion ratio in rural sample is 7% where as in urban sample is 3.2%. It shows that silence /confusion ratio is high in rural area than urban area, which indicates a poor flow of communication with maximum pauses i.e. class room with lazier – fair climate in rural area as compare to urban area.

### **Pupil Initiation Ratio (PIR)**

It is an index which represents pupils high initiative in introducing their own ideas into the class room discourse. After comparing table it was found that pupil initiation ratio in urban area is 11.5% and 5.5% in rural area. Thus we see that pupil initiation ratio in urban area is more as compare to rural area. It mean that high pupil initiation ratio in urban area indicates a most deal class room interaction in a democratic setting as compare to rural area.

### **Content Cross Ratio (CRR)**

Content cross ratio as shown in table that in urban area was 74.5% and 80.5% in rural area content cross ratio was high in rural area as compared to urban area therefore high content cross ratio in rural area is an indication the main focus of class room interaction was on subject matter that most of time teacher has been lecturing in the class. That the teacher was the most active participant in the class room discussion and there was no attention to motivation or discipline problem in the class.

### **Steady State Ratio**

Steady state ratio reflects the tendency of the teacher or the pupil talk to remain in the same category for periods longer than 3 seconds in urban area steady state ratio was 75.4% and in rural area was 84.2%. It means that steady state ratio is high in rural area. The high steady state ratio in rural area indicates that on the average there had been less rapid interchange between the teacher and student has compared to urban area.

### **Educational Implications**

Flanders interaction analysis system is very useful technique to study chain of events that occur in class during teaching learning process. It is an analytical approach to understand develop an insight into what actually goes in the class. The system is based on taking an observation after every three second which ensure an observer who record almost all behaviour of teacher and students. It is an objective and scientific technique of explaining the difference in educational outcome and also that what actually goes on in the class. It helps an individual to develop and controlled his teaching behaviour. The system is best used as mechanism of feedback devise for modification of teacher behaviour. The inferences reached are based on events, which can be said to help occur with greater degree of certainty than is

usually true of the class room observation .It is used as an observation technique in pre service, in service teacher education programmes apart from being used as observation technique. It is also employed as a research tool for analyzing and studying teaching.During teaching learning process, Teacher should be impartial to students and treat all students in the classroom equally and a good classroom environment will ultimately lead to development of better attitudes towards mathematics and ultimately to better achievement in mathematics.

### **Suggestions for Further Research**

The research by virtue of his experience in the field of study offers the following suggestions for the further research, which could be undertaken by prospective researcher.

- This study may be applied on the wider sample.
- A study may be designed to study analysis of class room interaction of rural and urban school for other subject also.
- The study may be further expanded to explore impact of that behavioral pattern of teacher on learning outcomes of students.
- An analysis of class room interaction of the private / govt. and urban/ rural schools can be carried out.
- The study can be extended to special group of teachers and students.
- Competence can be checked among boys and girls in other subject and also for another class.

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