

A Study of Class Interaction Analysis Using Flanders's FIAC

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ABSTRACT

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Interaction Analysis is a technique for capturing quantitative and qualitative dimensions of teacher verbal behaviour in the classroom. As an observational system, it captures the verbal behaviour of teachers and students that is directly related to the social – emotional climate of the classroom. Interaction Analysis is a tool used in the classroom to capture quantitative and qualitative aspects of verbal instructor behaviour. It captures the verbal behaviour of teachers and students as an observational device that is directly linked to the social-emotional environment of the classroom. Interaction Analysis (IA) theoretical assumptions are that verbal contact is prevalent in a typical classroom situation; the teacher exerts a great deal of control on the student and the behavior of the student is influenced to a great extent by this form of teacher behavior seen. The ten-category structure of Flanders, which aims to categories all the verbal actions to be found in this paper. The aim is to promote the implementation of FIAC in the educational process in schools, as the quantity and consistency of teacher-student interaction is a vital element of effective teaching and improved learning in the classroom.

Keywords : Interaction Analysis, Teacher Talk, Pupil Talk, Indirect Influence, Direct Influence

I. INTRODUCTION

Classroom communication is a vital ingredient in the instructional and learning process in the school environment. It is as necessary as food is a prerequisite for healthy growth. The quality and quantity of teacher-student interaction is a critical dimension of effective classroom teaching. The term 'interaction' implies an action – reaction or a mutual or reciprocal influence which may be between

individuals, e.g. pupil – pupil; teacher-pupil in classroom setting or between materials and individuals or groups. An interaction is usually inferred from the behaviour of persons in the environment being studied. This behaviour maybe verbal or non-verbal and can be classified as being predominantly cognitive, affective or controlling in nature.

Interaction Analysis (IA) is an analytical observation scheme that gives an insight into what a

teacher does while teaching. It is a systematic observation that represents a useful means of identifying, studying, classifying and measuring specific variables as the teacher and his/her students interact within instructional learning situation. It uses a system of categories to encode and quantify classroom behaviour of teacher and students.. The purpose of developing the observational system is that a teacher can be trained to use it for analyzing classroom behaviour; for planning, and studying his/her teaching activities in order to create more effective classroom learning. Interaction Analysis as an observational system captures the verbal behaviour of teachers and pupils that is directly related to the social-emotional climate of the classroom.

Interaction Analysis is a process of encoding and decoding the study pattern of teaching and learning. In the coding process, categories of classifying statements are established, a code symbol is assigned to each category and a trained analyst interprets the display of coded data and reconstructs the original events on the basis of the encoded data even though he may not have been present when data were collected. Interaction Analysis is used as a technique capturing qualitative and quantitative dimensions of teacher's verbal behaviour in the classroom.

II. INTERACTION ANALYSIS

Classroom communication in the school environment is a key element in the teaching and learning process. It is as important for healthy growth as food is a prerequisite. A crucial component of effective classroom teaching is the quality and quantity of teacher-student interaction. The word 'interaction' means an action – reaction or a shared or reciprocal effect that may be between individuals, e.g. pupil – pupil; teacher-pupil in classroom environment, or between materials and individuals or groups. Typically an association is derived from the actions of the individuals in the studied area. This conduct can

be verbal or non-verbal and can be defined as mainly cognitive, affective or fundamentally controlling.

Interaction Analysis (IA) is a scheme of performance observation that offers an insight into what a teacher is doing while teaching. It is a systematic observation that represents a valuable means to define, research, classify and quantify relevant variables as the teacher and his / her students interact in the sense of the learning situation. It uses a category framework to encode and measure classroom behaviour of teacher and students. The aim of creating the observer method is to prepare a teacher to use it to evaluate the actions of the classroom; to plan and research his / her teaching activities to build more successful learning in the classroom. Study of interaction as an observational framework captures teachers and pupils' verbal activity that is directly related to the social-emotional environment of the classroom.

Interaction Analysis is a method in which the research pattern of teaching and learning is coded and decoded. Categories of classifying statements are defined in the coding process, a code symbol is allocated to each category, and a qualified analyst interprets the display of coded data and recreates the original events on the basis of the coded data, although he may not have been present when data were collected. Interaction analysis is used as a tool to examine the qualitative and quantitative aspects of the verbal behaviour of teachers in the classroom.

The study of experiences is a method for examination and evaluation of behaviour in the classroom. The structure, components and actions of teaching activities are given. The interaction analysis can also be used for observing and modifying the teacher behaviour as a feedback mechanism.

The teachers of pupils are educated as observer and input instruments in the theory and practise of interaction study.

You should be familiar with the interaction analysis encoding and decoding process. The classroom teaching of teacher's trainees is studied through interaction analyses during my teaching training

programme. The classroom observation sheet should be given to the teacher concerned and the matrix table should be prepared for him to decipher his own behaviour. The process of decoding provides him with own educational and behavioural components.

Characteristics of interaction analysis :-

The interaction analysis may be helpful for creation of the following teaching actions as an observation device:-

1. It is important to enhance the verbal contact between classrooms and their needs.
2. The instructor in his teaching will improve student involvement.
3. The instructor will turn his direct actions into indirect conduct.
4. The innovative behaviour, understanding and exercise of interaction modes can be established.

Class interaction analysis:-

Interaction analyses are specialised research processes that provide only some of the various aspects of education. interaction analysis It is an analysis of spontaneous teacher-school communication and it is worthless if no one talks or the teacher is talking continually or if the student reads from a book.

Interaction analysis in the classroom refers to a technique of objective and systematic study of the teacher's behaviour in a school, as well as the process of interaction in the classroom.

It helps a teacher change his behaviour to make his teaching more purposeful and effective, and enhances his interaction with students. The process of encoding and decoding is essentially an interaction analysis system. By coding the classroom events are registered in a meaningful way; during decoding, the data is arranged in a useful display and analysed for study purposes.

Teacher behaviour patterns and interaction between classrooms. The interaction analysis therefore works as a standardised monitoring tool and analytical technique for identifying teacher behaviour patterns and analysing teacher-student communication in the classroom.

Some of the famous definitions of the interaction analysis in classrooms are the following:-

Thakurs' view

According to Dr. S.K. Thakur classroom interaction analysis "may be defined as an instrument which is designed to record categories of verbal interaction during, or form, recorded teaching learning sessions. It is a technique for capturing qualitative and quantitative dimensions of teachers' verbal behavior in the classroom."

Sharma's view:-

In words of Dr. R.A. Sharma "interaction analysis is specialized research procedure that provides information about only a few of many aspects of teaching. It is an analysis of spontaneous communication between teacher and pupils Interaction analysis applies only to the content free characteristics of verbal communication. The entire process of interaction analysis becomes a measure of teacher influence because it makes the assumption that most teacher influence is expressed through verbal statements and most non-verbal influence is positively correlated with verbal."

III. THE BASIC THEORETICAL ASSUMPTIONS OF INTERACTION ANALYSIS

The different theoretical concepts that are fundamental to the concept of an interaction analysis are as follows:

- In typical school settings, the primary word interaction is verbal communication.
- Through the use of spoken language can revert to non-verbal gestures in the classroom, verbal activity can be detected more accurately than other non-verbal behaviour and can fairly be detected. serve as an adequate sample of the total behaviour in classroom.
- We should generally presume that a teacher's verbal comments are in accordance with his non-verbal movements and, in fact, his overall behaviour.

- Much influence the teacher exerts on the pupils. The behaviour of the pupil is greatly influenced by this form of teacher behaviour highlighted.
- A key element in the instructional process is the interaction between students and teachers, which must be considered an important feature of curriculum.
- Social environment has been known to be linked to productivity and the standard of interpersonal relations. It has been shown that, even in the absence of a teacher, the democratic environment appears to hold work at a reasonably high level.
- Children seem to be mindful of the teacher's warm approval and show utmost fondness for the teacher of democracy.
- For the learning process, the position of the classroom environment is crucial.
- The verbal behaviour of the teacher-classroom can be critically analysed with the use of observational methods intended to 'catch' the usual behavioural types, which would also enable the measuring phase with a minimal disruption of the group of individuals' regular activities..
- Modification of teacher classroom actions by feedback is feasible, but more study will be needed about how much should improve and more information about the permanence of these changes.
- The impact of teachers is conveyed primarily through verbal statements. No -verbal acts of influence occur, but are not documented by the interaction analysis The reasonableness of this argument is based on the assertion that the standard of non-verbal acts is equivalent to verbal acts; it is therefore reasonably easy to determine verbal influence. (Niki, 2011)

IV. FLANDERS INTERACTION ANALYSIS TECHNIQUE

In the classroom, the teaching-learning scenarios include interaction between the teacher and the

students. A teacher's performance can be measured by the degree of efficacy of his teaching, which can be objectively determined by his actions or engagement in the classroom. A systematic or objective study of the teacher's interaction in the classroom may also provide an accurate evaluation of what happens inside the classroom in terms of teaching and learning. Teaching can be seen as an interaction mechanism between pupils and teachers. For many decades, educational scientists have been working on the issue of formal classification of teacher behaviour. Two systems have been used.

1. Sign system
2. Category system

Sign system

A system of signs requires a list of conducts. The observer actually checks or observes the activity that takes place within a given time period. In the observer era, the activity is marked only once. Florida's sign scheme of cognitive taxonomy. The compartment consists of 55 objects, grouped together in seven groups, according to Bloom (1956):

1. Knowledge
2. Translation
3. Interpretation
4. Application
5. Analysis
6. Synthesis
7. Evaluation

The activity is only marked once, as the observation time takes 40 minutes. In the case of a sign system, it measures individual occurrences and tracks frequencies, for instance, the number of times a teacher asks questions, the number of times he praises them, etc.

Device category:-

A system of categories consists of a category of a collection. A unit of conduct is categorised. An observation simply encodes class events which take place within three seconds, for example, the ten category interaction analysis structure of flinders is comprised of three major behavioural components –

A – lectures by the instructor, B-pupils – interactions, C-none, or the two. In numbers of categories each unit of behaviour:-

The system of categories has two types:

a) The reciprocal category system.

b) The equivalent talks categories.

a) The reciprocal category system: — University of Florida's Richard Oberg, (1967), has suggested a modification to the relationship analysis method in Flanders. In this method there are 19 divisions. The 9 categories refer equally to teachers or students and the 10th category is silence or misunderstanding.

b) The equivalent talks categories: E.L. E. and Bentley. The Equivalent Talk Category (ETC) was introduced by Milberg in (1970). The categories of this system emphasise the form and degree of intellectual exchange among the teacher and his students, which helps us to recognise the opportunities available to students to think and engage in the classroom. In a classroom between teacher and student, it is possible to observe and calculate the cognitive interaction.

Measures for analysing patterns of interaction

Type of ratio	Symbol	Calculation
% Teacher talk	TT	$100 / \text{total tallies} * \sum(\text{cat } 1+2+3+4+5+6+7)$
% Pupil talk	PT	$100 / \text{total tallies} * \sum(\text{cat } 8+9)$
% Silence	SC	$100 / \text{total tallies} * \sum(\text{cat } 10)$

DEVELOPMENT OF INTERACTION ANALYSIS OBSERVATION SYSTEM

The study of teacher effect on the student's accomplishments was performed by Ned A. Flanders (1951). For analysing verbal discourse in the classroom he built a ten-category scale. In his area, his category is best known.

The Flanders' ten categories were changed by Richard t-over (1968). So, nineteen categories have been

issued. This updated structure contains all types of action and reaction. It is also regarded as a scheme of collective categories.

The teacher's taxonomy also established in Brown over and soar (1968). Signification and essence of the category structure for interaction review in Flanders:-

The method for interpretation of interactions is a device type. In this attempt, the spontaneous act of the leading teacher in the classroom is routinely observed and documented and the instruction process is analysed in any small bit of interaction. The impact pattern of the instructor is of special concern. Ned A. Ned A. Ten categories have been created by Fender. When teachers take the first seven categories and two next categories. When any student takes the conversation and is used in the last group, these three criteria a) teacher talk, b) pupil speak, and c) silence and uncertainty eliminate all possibilities. It is a key aim and structural tool for the evaluation of the teacher's success on class in no less than an analytical technique – that can be used to document and evaluate spontaneously the verbal statements.

The study of Flanders' behaviour specifically concerns verbal comportment. This can be seen with high reliability as the teacher's nonverbal conduct is an acceptable indication of his teacher's full statements in conjunction with his non-verbality. It is difficult to test this theory easily because the development of a consistent non-verbal behaviour would take too long. A teacher's skills can be measured by the efficacy of a degree that can be learned by his teaching or by interaction. Therefore a systematic or comprehensive study of teacher experiences in the classroom may provide a credible measure of teaching and learning in the classroom. The word interaction analysis is used to analyse this form of classroom activity and interaction.

Therefore, the term interaction analysis refers to a method consisting of objective and systematic evaluation of the activities in the classroom in order to analyse the actions of the teacher and the

communication process within the classroom. It helps a teacher change his actions and improves his interaction with his students to make teaching more productive and successful.

Ned. A. Flanders developed it in 1963. Kurt Lewin, Ronald Hip and Ralph White can track the beginning of an interaction study at classroom levels. Yet Flanders is the most well-known and commonly used method of verbal interaction analysis. It is mainly a framework in which all the sets of potential verbal acts of a teacher in the classroom are classified when communicating with his or her students.

6. CATEGORIES OF FIACS:-

In this method there are 10 divisions. Of these 7 teachers and two students are assigned to chat. The last group is for delays, the brief silence and the noisy or loud talking. The following are the ten categories:

1. Accepting feeling: -

This category involves the interpretation or advancement of ideas presented by the students. When the instructor puts his ideas into practice, he passes into the fire group.

2. Praises : -

The instructor honours the action or behaviour of the students in this group. Smiling, jokes, nodding, or 'bon,' 'yes,' 'Nice' and 'fine' go on with what you're saying, this category includes 'Tell us more about your ideas.'

3. Use Student Ideas:

Clarification or the development of ideas as presented by the students is included in this group. As an instructor plays with more ideas, he turns to stone.

4. Asking Questions :

In this category an instructor asks questions about content or procedure in order for a student to respond

5. Lecturing: -

In this group, an instructor discusses the facts or opinions about the material or process. He shares his own ideas and opinions, questions about politics, etc.

6. Giving Directions: -

In this type, the teacher offers guidance, directions or directives for students to obey.

7. Criticising: -

This last category involves breaks, brief silences and intervals of uncertainty in which the listener is unable to understand contact.

8. Student Talk Response:

Students' talk to the teacher is included in this group. The instructor initiates or demands a response from the student or organises the situation. There is minimal freedom to share your ideas

9. Students Talk Initiation:

In this final category are delays, brief silences and misunderstanding times in which the observer cannot understand communication

10. Silence: -

This last category includes delays, brief periods of silence, and periods of uncertainty in which the observer cannot understand communication.

In this system, all teachers' statements are either indirect or direct. This classification gives central attention to the amount of freedom the teacher grants to the student. In a given situation therefore, a teacher has a choice. He can be direct, that is minimizing the freedom of the student to respond. His preference, consciously or unconsciously, relies on several aspects like his interpretation of the circumstances and the aims of the individual learning circumstance. In order to make measurable the overall actions or activity in the classroom, the Flanders method often allows for the categorization of students speaking. A third major category is used, that of silence or uncertainty to account for the time expended in actions other than that which can be categorised as neither instructor nor student speaking. Reviewing the FIAC, a simplified example of a teaching / learning process interaction study in a classroom was discussed.

A SIMPLIFIED EXAMPLE IN A CLASS SITUATION

Category 1: Accepts feeling

Teacher: Why are you sad Ramesh ?

Ramesh: Sir, I lost my pocket money

Teacher: Well, that is enough to make one sad, but cheer up, a replacement will come up.

Category 2: Praises or encourages

Teacher: How many states are in India?

Anshul : 28states Sir!

Teacher: Very good. Put your hand together for Anshul.

Category 3: Accepts ideas

Rohan: Sir I think a major reason for massive failure among students is ill-preparedness of students towards assessments.

Mahesh: I will like to say that the lack of preparation is as a result of poor reading habit among students.

Teacher: Tokoni and Fortress had suggested interesting points of view. Fortress buttressed Tokoni's ill-preparedness of students by linking it to our societal disregard for a reading culture.

Category 4: Asks questions

Teacher: What is the difference between dramatization and simulation methods of teaching?

Category 5: Lecture

Teacher: Social studies education is centered round the desire to proffer solutions to perceived and anticipated problems that arises from man's interaction with the environment. It is a school discipline....

Category 6: Giving directions

Teacher: Sele, I want you to tell me what you have done with your textbook.

(The degree of freedom that Sele has in response to his teacher's direction determines whether it is a command or direction).

Category 7: Criticizes or justifies authority.

Teacher: What do you think you are doing out of your seat Geeta?

Category 8: Pupil-talk-response

Teacher: Do you understand?

Students: Yes (chorus)

Category 9: Pupil-talk-initiation

Teacher had just taught on air pollution

A student, not asked for her opinion but stood up to give her experience of inhaling smoke emitted from a

running generator and that made her sneezed and coughed for a while to explain effect of air pollution.

Category 10: Silence or Confusion

Teacher: Bring out your English textbook and open to page 20

Students: Period of silence and confusion as the students try to find the page.

BENEFITS OF FIAC

- The matrix analysis is so reliable that even a person not present when observations are made may make valid assumptions about verbal communication and get a mental picture of the interaction in the classroom.
- Different matrices may be created and used to compare teachers' behaviour at various levels of age, gender, subject matter, etc.
- This study will serve as the teacher or instructor trainee's critical input about his / her intentions and real behaviour in the classroom. This framework can also easily be observed by the supervising or inspecting staff.
- It is an efficient instrument in the classroom to evaluate the social-emotional environment.

PRECAUTIONS IN THE USE OF FLANDERS INTERACTION ANALYSIS

- An observer who is familiar with the entire process and knows its limitations should do the classroom encoding work.
- It is an exploratory system, so it is important to avoid value judgements about good and poor teaching behaviours. This method is not a classroom teaching assessment system.
- Only by examining the matrix table can questions about classroom teaching be answered. The observer cannot answer the question concerning the behaviour of the teacher.
- Reliability terms of activity ratios, interaction variables and percentage of frequencies in each group and calls for frequency may be a contrast

between the two matrices but value judgement is not feasible.

- The accuracy of the result depends on the observer's reliability. After estimating the reliability of observers, the classroom recording should be done.
- The classroom activity must be coded by at least two observers to evaluate teaching and teacher behaviour.

LIMITATIONS OF FLANDERS INTERACTION ANALYSIS

- The totality of the classroom activity is not defined by the method. Some acts are still ignored and that is to say that the unrecorded elements of the teaching act are more relevant than those registered.
- Efforts to characterise teaching are sometimes viewed as measuring the act of teaching and the teacher. Although descriptions can be used as an assessment basis, decision can only be taken after additional value assumptions have been defined and applied to data.
- The interaction analysis framework is content-free. In particular, it concerns the social skills of the management of the classroom as demonstrated by verbal communication.
- It is expensive and tedious and requires some form of automation to collect and analyse raw information. It is not a research instrument that has been completed.
- Most of the inferential power of this interaction analysis method comes from tabulating the information in a 10 x 10 matrix as a series of pairs. This is a process that consumes time.
- Once the high cost of tedious tabulation (electric computers) is under control, the issue of training and maintaining the reliability of qualified observers will still remain.
- Its capacity as a research method is to be explored for a broad application to problems.

V. CONCLUSION

It has been found that in the transformation about which our education system is learning, Interaction Analysis has a lot to give. As a system for evaluating verbal activity in the classroom, it provides a tool for students, prospective teachers and managers to provide comprehensive information on teaching actions relevant to educational enhancement. On the other side, laying a good basis in the education provided to our children in schools for science, critical and reflective thought. In our current educational system, an unsatisfactory state of affairs is the type of behaviour teacher's display inside the classroom that has a direct impact on the behaviour of pupils. The call for the adoption of FIAC as an important instrument for assessing the social emotional environment in the classroom is therefore highlighted in this paper. However, in a live classroom lesson, there is a research need for the testing of the hypothetical sample in this analysis in order to evaluate the congruence between the theoretical and practical context of FIAC as a true tool for the establishment of social climate and interpersonal relations.

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