

## CHAPTER ONE

### INTRODUCTION

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The enigma of qualitative improvement in education arises over and over again in the discussions of educators and administrators, like an uneasy ghost stubbornly revisiting the seminar tables and haunting conference halls, and again and again such disturbingly interminable discussions degenerate into inconclusive debates and ultimately trail off into acrimony or futility what with the controversy generated by policy questions involving decisions about the remedial measures. Several reasons are adduced. One school of thought might say that it is the inevitable price paid for quantitative expansion attempted in fulfilment of our constitutional 'directive'.

When confronted with the problem of falling standards to attempt to ascribe it to quantitative expansion, though not completely untrue, is *petitio principii*. All the young ones that are born have a

constitutional right to be educated and we have a moral obligation too, to give them a 'quality education'.

In the matter of qualitative improvement in education our efforts ought to be multi-dimensional. We cannot, of course, say that we can achieve this by improving things on a particular front. There has to be, inter alia, content enrichment, consequent periodic revisions of syllabi, improving teacher training programmes, bringing about administrative and organizational improvements so that the teachers will have a healthier morale and many other such improvements.

But the question arises whether all this abracadabra will solve the persistent problem facing us. At this point one is concerned. Perhaps, in our frantic bid to set things right one has gone wrong in terms of priorities. Something significant has been lost sight of with miserable results. What is that loophole in the line of thinking?

Could it be a lack of purpose? One has, of course, the goal of qualitative improvement in education. One feels that this statement of objective is too general to suggest any specific strategy of improvement. It is felt that there should be something rather specific the improvement of which should be the primary concern owing to its importance in the scheme of things. Is there then

consciousness of any such specific thing towards which to direct the efforts? If no, is it not a pointless effort and a meaningless waste of resources to beat about the bush?

Alice, one is told, in Wonderland asked the Cheshire cat:

"Would you tell me please, which way I ought to go from here?"

"That depends on where you want to go" said the Cheshire cat, meaningfully.

"I don't care where, much" said Alice.

"Then it does not matter which way you go" said the Cheshire cat again meaningfully.

One is afraid the literary conversation aptly describes the efforts in this direction. Proper identification of the area of emphasis is a necessary prelude to the efforts at qualitative improvement.

#### The Probable Answer

If, for the purposes of research, a cordon sanitaire is set up around the immediate environs of the classroom situation perhaps one will be brought face to face with the problem of studying the classroom interaction and more particularly teacher's classroom behaviour.

The Education Commission (1964-'66) has

highlighted the significance of what goes on in the classroom with its crisp statement, "The destiny of India is now being shaped in her classrooms".

It is indeed the classroom and what goes on in the classroom that should be the first and foremost concern in the crusade against the 'fall in standards'. In other words, the classroom interaction between the teacher on the one hand and the students on the other as also among the students themselves should be improved obviously because it is this interaction which is the manifestation of the methodology the teacher adopts to 'teach' the students.

A good deal of attention has been directed in the recent past to the techniques of revitalizing classroom teaching in Indian schools. Basic education was intended to revolutionize the whole fabric of primary education in India. The Secondary Education Commission (1952-'53) in its report devoted <sup>a</sup> full chapter to a discussion on the dynamic methods of teaching, discussing the objectives of the right techniques, the values of the various activity methods and the different ways in which these methods and techniques could be adapted to suit different levels of intelligence ..... and yet the picture presented by most of our schools is dismal and the much sought — after improvement in classroom teaching is still as elusive as ever like a will-o'-the-wisp.

When it comes to the question of instructional methodology in the classroom one is aghast with wonder and scepticism whether at all one has put the house in order. Could it be that the cart has been put before the horse? A British Professor is reported to have once remarked, possibly in a vein of despair, of our views, in general, being "topsy-turvy, a systematic attempt to put second things first and first things nowhere".

Without venturing into the wider implications of these obiter dicta, one would like to raise the question how far people in the field of education are responsible for the making of this topsy-turvidom. Would it not be a plausible suggestion that the teachers' ineffective, if not defective instructional methodology adopted in the classroom is as much a cause as, if not a greater one than, the pupils' inability or failure to learn for the phenomenal incidence of wastage and stagnation witnessed? Something may be basically faulty with the instructional methodology orientation. An immediate diagnosis is the urgent need.

Generally, all teachers may conveniently take for granted that effective teaching consists in excellent delivery of factual knowledge and exposition of curricular content. Is that all? Is it not just a half-way accomplishment of the uniquely complex business of teaching? How could there be at all any teaching -- much less effective teaching -- unless and until there is

reliable indication of learning? Nothing is given until it is taken. It is a circus approach to the problem if people say that one can only take the horse to the pond and one cannot make him drink. It may be true with the horses and the pond but certainly not in the context of teaching - learning situation in the classroom.

It sounds a plausible proposition to say that effective teaching as would ensure purposeful learning in the classroom would be possible only if the pupils could be baited into an active and interesting dialogue with the teacher. Active pupil participation in terms of free verbal communication both with the teacher and amongst the pupils themselves is the proper orientation for the instructional methodology in the classroom.

#### Whither the Theory of Teaching?

That brings one to the need for studying the means whereby active and meaningful student participation could be augmented in the classroom. Evidently, this would depend upon the teacher's ingenuity and capacity to manoeuvre his verbal behaviour in such a way that pupil participation is encouraged. Study of teacher classroom behaviour is germane to the analysis of classroom communication. However, this is precisely another point where one cuts a sorry figure due to the lack of a theory of teaching which will equip the teachers better to serve

more effectively in terms of their classroom communication behaviour.

That the concept of teaching is a key concept in education is a truism that needs no explication. The growing concern about teaching, in the recent past, is a development of utmost importance. The need and desire for the development of a theory of teaching are evident from any perusal of educational discussions. Most of the recent research effort of educators can be rightfully viewed as being part of the overall attempt to develop a theory of teaching.

The lack of a theory of teaching thwarts the attempts at qualitative improvement. Teacher preparation programmes are, therefore, placing a heavy premium on educational psychology abounding in many theories of learning which by themselves have not delivered the goods. Perhaps, one has lost sight of the need to build a sound theory of instruction in terms of behavioural concepts of crucial classroom communication patterns, in one's blissful delusion that the theories of learning alone would suffice. Surely, it is to be hoped that in future, however distant it might be, teacher education will focus more sharply on the care and nurture of teaching behaviour. That would mark the beginning of an era of reappraisal of the traditional complacency and educational shibboleths. When this happens the need would be there for

studying classroom interaction. On the basis of the results of these empirical studies would be erected the edifice of teacher preparation programmes.

It is given to perceptive teachers to sense that the quality and quantity of teacher - pupil interaction is a crucial dimension of effective classroom teaching. The lack of a theory of teaching, however, has been a handicap to them insofar as they could not generalize principles of instruction from specific instances. Without a proper way of objectively describing the nature of classroom instruction, teachers in the past were left with no means of manoeuvring the elusive phenomenon of their instructional behaviour, the climate that it generates in the classroom, and the effect of this climate on students' attitudes and achievement.

One is thus awakened to the stark reality that unless and until a valid and empirically verified theory of classroom instruction is developed, there is no hope of reaping the maximum returns from the efforts at qualitative improvement in education. Or else, the efforts at qualitative improvement would be only characterized by the attempts of mythical Sisyphus who was punished in the underworld by having to roll uphill a huge rock, which as soon as it reached the top always rolled down again!

### Significance of Classroom Communication

As one scans through the research attempts to develop a theory of teaching one notices periodic shifts in emphasis. Problems of research undergo perceptible changes over time in terms of priorities. One of the relatively recent areas of research identified is the classroom communication phenomena. Perhaps, for well over three decades now, the attention of researchers and theorists alike has been focused on what goes on in the classroom by way of interaction between the teacher and the pupils as also amongst the pupils themselves.

Classroom interaction refers to the process of verbal interchange between the teacher and the pupils as also amongst the pupils themselves. It is the process through which the teaching - learning task takes place. Effective teaching occurs when the teacher and the pupils interact with each other as also when the pupils interact amongst themselves. This interaction in the classroom is mostly guided by the teacher by virtue of his position as leader of the group. A study of classroom interaction, therefore, is well-nigh impossible except with an examination of the classroom behaviour of the teacher. Classroom interaction and teacher behaviour are thus functionally related to each other.

A theory of teaching should obviously contain

behavioural specifications for the teacher to function effectively in the classroom. The behavioural specifications again are to be in terms of the interaction in the classroom.

### Programmed Learning Technique and Teacher Behaviour

Experts in programmed learning technique promise an educational El Dorado in the not too distant future. Dr. Arthur A. Lumsdaine, a noted specialist on "programmed learning" in an interview to a columnist, is reported to have visualized the future schools and pupils, with such an overtone of optimism that even an incorrigible pessimist is sure to be trumped by the sheer astounding prospects. Should his prophecy come true, the day may be coming when a twelve year old will take a course in advanced calculus while his classmate of the same age at present is seen struggling with long divisions and fractions. And, also classrooms of today may disappear and the school building of the future may resemble a honeycomb of cubbyholes for individual pupils (plus a few classrooms and assembly halls) with hundreds of electrical outlets studding the walls for plugging in every kind of electrical apparatus from complex teaching machines to closed circuit television sets. These, in fact, are not just fanciful dreams of an optimist revelling in a rapturous mood; but, they are simply the

unexaggerated probabilities and the logical result of "programmed learning" technique.

Programmed instruction is not really a new idea at all. It is simply an adaptation of the tutor-system which was well-defined by Socrates in the fourth and fifth centuries B.C., by the Czech educationist of the seventeenth century, Comenius and by scores of other educators ever since. What is new is the use of modern electronic and information media to achieve the age-old ideal of providing a private tutor for every student.

The most revolutionary result of programmed instructional material and computer assisted instruction could be the effective individualization of instruction procedures, allowing pupils to proceed at their own pace, and the teacher in turn could reduce, if not shed, his concern with pure information delivery, review and drill. A decrease in these traditional teaching functions might mean a corresponding increase in the teacher's capability to devote greater time to the relatively more constructive problems of motivation, diagnosis of difficulties, appreciation of each individual student's ideas, etc. In a slightly technical parlance, this might mean that the role of the teacher in the classroom will undergo such a metamorphosis that there will be less emphasis on teacher initiation inviting pupil response and more emphasis on strategies conducive to pupil initiation with responses

from the teacher. It is difficult to imagine otherwise since the amount of time and energy of the teacher, conserved through the use of the new approach of programmed learning would be immense and would call for a judicious management to aid the process of learning by pupils.

Hence, some of the latest developments in the field of education, like programmed learning only point to the urgent need for a rethinking with regard to classroom interaction and teacher classroom behaviour.

#### What is Classroom Interaction Analysis

The term classroom interaction analysis should refer to many systems that have been or may be developed for coding the spontaneous verbal communication, arranging the data into useful display formats and then analyzing the results in order to study the patterns of teaching (and of course, learning). Each system will have a particular process of encoding and decoding which implies definite category classifications to cover all relevant types of statements, assignment of code symbols to the categories and details regarding training the observers and the observational procedure. Decoding follows encoding as a trained analyst interprets the displayed coded data into the conventional language. In effect, a reconstruction of the classroom communication phenomena observed is

attempted. This, therefore, means that a particular system for interaction analysis shall usually include (a) a set of clearly defined categories, (b) observational procedures and a set of ground rules governing coding process, (c) procedures for tabulating the data into meaningful display formats, and (d) suggestions which can be followed in some of the more common applications.

Most of the category systems developed have been restricted to analyzing only verbal communication. That does not, however, mean that no other kind of spontaneous behaviour is amenable for encoding and decoding.

Classroom interaction analysis systems seek to abstract verbal communication by choosing to ignore most of its characteristics. The loss is, however, more than offset by keeping an accurate record of the frequency, and the sequence in which a teacher does the verbal act encoded. It is conceded that the procedure makes no sense at all when what is lost by the process is more important than what is gained.

In other words, the procedure would be useful only when keeping an accurate sequential and frequency record of the types of verbal acts encoded is crucial to some investigation. That, therefore, brings one to the need for establishing the usefulness in terms of appropriateness of the observational system to the problems of investigation.

Classroom interaction analysis is directed to analyzing teaching behaviour which, per se, exists in the context of a social situation. Teaching acts lead to reciprocal contacts between the teacher and the pupils. These reciprocal contacts are perceived as series of events occurring in well-definable succession on a time-continuum. An element of causation characterises the nature of succession.

Analysis of classroom interaction would yield valuable information which would be useful to teachers to develop strategies of teaching behaviour in a continuing programme of self-development.

#### A Promising Departure

Educational literature abounds in suggestions regarding how the novice in the teaching profession should teach. They are all too generally verbalised to suggest specific models or strategies of behaviour in the classroom.

One may consider for example the practice of suggesting some altruistic intentions as "try to be sensitive to the needs of children" or "consider pupils' interests and abilities before assigning a learning task" and directions as "teachers ought to consider the feelings of boys and girls".

Prescriptive intentions and conditional admonitions about teaching often describe an end point of self-development and oftener yet fail to suggest ways of reaching this desirable state of affairs.

Interaction analysis which provides for careful accounting of small behavioural acts strikes a sharp departure from stale prescriptions and irksome admonitions about intent.

It takes care of details to a greater extent and suggests in clearer and more definite terms useful patterns of teaching acts or the strategies that could be cultivated to achieve a particular intent.

Further, prescriptive intentions and conditional admonitions smack of deductive reasoning. Accordingly, the statement of intent is usually followed by a clarification of the meaning of the initial generalization, then by examples and finally by suggestions of specific ways to start. In sharp contrast to this is the inductive reasoning process which characterises the objective analysis of behaviour whereby series of behaviour acts are identified and grouped into distinguishable patterns. And finally, the patterns can be strung together into strategies of classroom teaching and learning.

For a more effective understanding of the complex business of teaching and a more promising bid to help

teachers develop successful teaching patterns these two reasoning processes should be combined and brought to a healthy blend. While intentions may help set goals for teaching performance an analysis of teaching behaviour would help explain what actually occurs. To reiterate, the gap between fairly good intentions (intent) and the actual teaching behaviour (action) is sought to be bridged by the analysis of classroom interaction. The teachers are thus helped not only to conceive instructional objectives but are equipped as well with means whereby they can endeavour to realise them.

#### Classroom Interaction Analysis and Teacher Behaviour

Classroom interaction analysis is, therefore, a technique that facilitates in a remarkable way observation, quantification and subsequent analysis of the classroom verbal communication events both in their quantitative and qualitative dimensions. It is a scientific exploration of what until recently was perhaps as uncharted sea. One of the important aspects of current concern in the form of sustained research on social interaction in the classroom is the increasing attention given to careful development of theories of the classroom interaction as a dynamic process in which the teacher is an important participant but is not the total determiner of the outcomes of learning. The theories, taking the lead from studies in group dynamics, may be miniature systems rather than

attempts to encompass all behaviour and may contain sets of related concepts referring directly to behavioural events defined in terms of an observational system.

Studies designed to explore the classroom climate began to lay emphasis on 'teacher behaviour' since it was found that the direction of influence in the classroom was from the teacher to the pupils. The type of teacher behaviour was found to be chiefly responsible for the kind of classroom climate. It is necessary to draw up a perspective of teachers' behaviours relevant to, and observable in, the classroom. Studies by Anderson (1939), Withall (1949) and Flanders (1951) brought out the crucial role of the 'climate' vis-a-vis learning by pupils and their attitude formation. The gist of their findings underscored the importance of teacher's democratic and permissive role.

The technique of classroom interaction analysis may be deemed as a device that helps capturing such of the behaviour acts occurring in the classroom that are directly related to the social - emotional climate of the classroom. It has been deliberately designed that interaction analysis should take care of the social - emotional climate prevailing in the classroom. Interaction analysis as a classroom observation system was developed by Flanders from out of a social psychological theory and was designed to test the effect of social emotional climate on

student attitudes and learning (Flanders, 1965).

It may be reiterated that the analysis of classroom interaction and teacher behaviour, in the present context, is content-free in orientation. The underlying conviction, as reinforced by earlier researches, is that the type of social-emotional climate generated by the particular type of teacher behaviour in the classroom has a decisive influence upon pupils' attitude and achievement.

Perhaps, by way of illustration, one may say that the factually correct content information delivered in the most ineffective manner of teacher behaviour would be as much infructuous as the most incorrect information delivered in the most effective and acceptable (to pupils) manner would be ruinous. The analogy seeks only to highlight the fact that the methodology of content delivery is as much significant as, if not more so than, the content itself.

#### The Strategy of the Study of Teacher Behaviour

The best way of analysing a classroom situation and studying teacher behaviour is through actual observation of classes in real settings.

Systematic analysis of the verbal communication occurring in the classroom which is largely influenced by the teacher behaviour what with his position of leader of the house would help to discover laws governing the

variations that exist within the chain of classroom verbal events. The laws would ultimately reveal the relationships between the teacher's behaviour and the nature of classroom climate. In the long run, such knowledge of the relationships should facilitate more reliable examination of differences in educational outcomes associated with teaching. This is, perhaps, one of the direct advantages of classroom interaction analysis. Nothing short of systematic and unbiased observations of teachers in action, with the aid of an acceptable scale of measurement of their teaching behaviour in the classroom and a careful analysis of the results of observation is, therefore, the answer to the problem of study of teacher behaviour.

As early as in the beginning of this century Dewey, in the course of his writings on the relationship between theory and practice, underscored the importance of observation of classroom (teacher) behaviour. The utility of observational technique is not confined to just the experienced teachers passing on the "tricks of the trade" to the novice. It will be with reference to seeing the interaction of mind, to see how teacher and pupils react to each other - how mind answers mind. It was, rightly so, his firm conviction that the observation of what goes on in the classroom would contribute to a sense of the nature of teaching and to an insight into the special kind of world that one finds in the classroom. He finally believed that an understanding of the actual classroom communication

might contribute to the nature of 'teaching-learning' process going on in the classroom.

As mentioned earlier the concept of 'observation' of classroom phenomena, pivotal to the idea of interaction analysis is basically not altogether a new concept. Although it has been there in the training programmes for a long time now, efforts to develop objective and reliable scales of observation are of recent origin. In the traditional methods observational procedures did not lend themselves to any quantification and as such relied on the subjective estimates of the observers.

In the newer perspective, however, more reliable and valid observation is provided for, what with the provisions for exact quantification and scientific analysis of the classroom phenomena. In fact, all these render the new method capable of more objective and reliable assessment of teaching behaviour as distinct from the subjective and imperfect estimate of the same by the traditional method.

#### Type of Observation

Observation of classroom phenomena can proceed in either 'participant observer' method or 'non-participant observer' method. Mostly, however, it is the non-participant method that is frequently used. The observer does not participate in the business of the classroom but

only observes and encodes the proceedings.

### The Observer and the Observation Process

The success of direct observation for identification of behaviour characteristics depends to a very great extent upon the ability of the observer to perceive accurately; upon the extent to which the objectivity and the standardized nature of the procedures employed in the observations are ensured; and also upon the extent to which significant aspects of the behaviour sought to be observed may be identified and sampled.

### Qualities Needed for Efficient Observation

With the procedure of direct observation of classroom phenomena becoming an accepted means of assessment of behaviour questions relating to the efficiency of persons chosen as observers came to demand the attention of researchers. The variability of individuals in their efficiency as observers or judges of behaviour characteristics of other persons has been taken note of/and consequently the need for careful selection of observers in the light of certain personal characteristics conducive to competent observation arose.

Ryans (1969) lists the following characteristics of the observer as being associated with efficient observation: (a) sensory acuity; (b) perceptual speed;

(c) general mental alertness; (d) the ability to observe and recall details (perhaps involving good imagery); (e) understanding and acceptance of the definitions of behaviours to be observed; (f) ability to maintain attention - not easily distracted by non-essentials; (g) familiarity with the behaviours to be observed; and certainly, (h) ability to set aside personal predispositions and biases which might influence perception of the behaviours to be observed.

#### Observer Training

Observation of classroom phenomena is such a delicate job that the persons assigned the job of observation need systematic training. Also the spontaneous behaviour of a teacher in the classroom is so complex and variable that an accurate description of the same is, more often than not, most difficult to obtain.

Flanders says,

...even trained observers struggle with the same biases that distort the testimony of witnesses at the scene of an accident. Too often an observer's preconceptions of what he thinks should happen creates a screen through which the perceptions of some behaviours can pass and are noticed and other behaviours cannot pass and are ignored. (Flanders, 1960, p.1)

Hence, it is imperative that these difficulties are minimised to a non-significant level and a

systematic record of spontaneous acts is rendered possible of accomplishment.

Much of the ambiguity of the data from direct observation and assessment of behaviour appears to arise from a lack of common understanding and procedure on the part of different observers.

In view of the varying experiential backgrounds of persons which predispose them to perceive the same behaviour in different ways, and also the semantic difficulties giving rise to controversial codification details, inter-observer agreement cannot be expected to any appreciable extent, except by chance, unless systematic and well-directed 'training' is imparted to the observer-trainees.

#### What to Observe in the Classroom?

According to Wayne (1958), the teacher classroom verbal behaviour can be observed objectively by use of observational techniques designed to "catch" the natural modes of behaviour which will also permit the process of measurement with a minimum disturbance of the normal activities of the groups or individuals.

The process of teaching can be perceived as a series of verbal events, occurring one after another. Each event occupies a small segment of time, and the chain of

events can be spaced along a time continuum. Understood in the light of this perception, it is clear that each verbal event of the given moment will influence what is to follow while that itself has been influenced by what preceded.

Flanders (1965) says that in a normal classroom situation it is verbal communication which is predominant. This ubiquitous verbalism is a *fait accompli*. Probabilities are, in any school classroom, better than 60 per cent that one would hear someone talking.

Also, he says (1966) that verbal behaviour is consistent with non-verbal gestures etc. and is an adequate sample of the total behaviour in the classroom. This was borne out by Minnesota studies, he claims.

#### Purpose and Techniques of Analysis of Teacher Behaviour

Once, it is realized that classroom communication does occur it should be possible to develop a suitable tool of observation in order to observe the communication. The procedure of observation would require recording interaction data in such a way that selected events are being kept track of, keeping in view the purpose of interaction analysis.

The general purposes of such interaction analysis, which are applications of such knowledge, will include (1) helping the teacher to develop and control his teaching

behaviour and (2) to discover and explain through research the variations occurring in the chain of classroom verbal events. The second application would help realization of better educational outcomes.

The technique of observation requires that a trained and reliable observer, on appointment, enters the classroom and sits in a convenient place and 'observes' the interaction and records it in terms of a system of observation.

Facilities permitting the observations can be made by use of video-scope; tape-recorder or even one-way glass windows.

The recordings will be made on the observation form. He may be using a set of categories and he will decide which category best represents each event occurring or continuing to occur within a specified time interval and then writes down the code symbol of that category. Attempts to develop systematic recording techniques began about 30 years back. Medley and Mitzel (1963) cite the work of Horn as the earliest attempt.

#### Teacher Behaviour and Teacher Effectiveness

Research in the area of teacher effectiveness must, in the ultimate analysis, be capable of specifying the predictive factors contributing to the criterion.

Perhaps such knowledge would help in formulating more effective and realistic policies of recruitment to teaching profession, reorientation of teacher preparation programmes as also inservice training strategies.

Added to these relatively distant advantages of such research in this area, is the more immediate benefit of imparting to the teachers the knowledge and the capacity for manoeuvring the different patterns of influence in different classroom situations.

Since the focus of the present investigation is a study of teacher classroom behaviour, it is good to recall here how by implication it is suggested that there is some sort of relationship between teacher verbal behaviour in the classroom and teacher effectiveness. One may, perhaps, look askance at this implied suggestion. The answer to the question whether such a relationship between teacher verbal behaviour and teaching effectiveness really does exist, however, depends upon the definition of and the criteria used for defining effective teaching.

Typically, effective teaching has been defined on the basis of two types of criteria which may be described as external and internal. The former type of criteria includes judgments of teaching effectiveness made by persons not directly involved in the teaching-learning process. Typical examples of external criteria are those

used by principals, external observers and supervisors as they rate teachers. The term internal criteria refers to behaviours, reactions and perceptions of persons directly involved in the classroom situation. Examples are pupil ratings of teachers and pupil achievement.

The extent to which principals and supervisors are aware of and are able to identify effective teaching has been fairly thoroughly discussed. Critics have questioned the claim to ability of principals to accurately and dispassionately characterize the teaching of members of staff under their control. However, a few attempts have been made in this direction.

Robbins (1967) for example, found evidence to the effect that principals can, with some accuracy, rate the teaching style of members of their faculty.

Similarly, attempts to study teacher effectiveness by using internal criteria are also on record. Amidon and Hough (1967) report three studies of this type. Amidon and Flanders used as criterion the achievement of junior high school students in mathematics. Flanders reviews studies wherein students' attitudes and achievement serve as criterion measures. Soar used the reading achievement of students as the criterion variable.

Ryans (1963) and Smith (1962) discuss the need for a conceptual framework for understanding the research

findings on teacher effectiveness.

### Prospects for Interaction Analysis

As one sets out to study the patterns of teacher behaviour in the classroom with the use of interaction analysis it is of contextual interest to know some of the prospects that the technique has in the realm of education. This is but natural since the technique holds out a promise of facilitating improvement in the classroom instruction in our schools through the needed behaviour (of teacher) modification.

### Interaction Analysis and Teacher Education

To teacher education teacher behaviour in the classroom is the single most important factor. It is the earnest hope of educationists that this factor is given utmost attention for the success or otherwise of the teacher education programme is to be measured in terms of the pedagogic performance of the beginning teachers in the classroom. The basic assumption of a system of interaction analysis is that classroom interaction is a series of events and that teaching behaviour consists of acts, or patterns of acts, embedded in the chain of classroom events. Hence, one could break down the patterns of teaching behaviour into teachable skills. The patterns could be systematically drilled into the teacher

candidates by arranging them into a series of learning experiences starting with the simple and moving on to the more complex. The idea would be to combine the theoretical knowledge about teaching with the student's overt behaviour such that regular reinforcement could come from personal, sequential experiences in skill development. As a result, the teacher candidates would be able to discover for themselves relationships between teaching behaviour and classroom interaction. The actual learning experiences would render the kind of pedagogical knowledge readily incorporated in their repertoire of behaviour patterns and it is this kind of practical knowledge and skill development which would stand the teachers in good stead during moments of teaching.

To make a teacher appreciate the need for subjecting his own teaching behaviour carried out in the sanctuary called "privacy of the classroom" is perhaps a difficult, if not impossible, task. Very often personal illusions and predilections vitiate the self-assessment procedures and in effect confound improvement.

But then the desire to improve their own teaching may be there. A constructive inquiry into existing behaviour and alternatives for change for the better can be planned and carried out with the help of interaction analysis in combination, if necessary, with other inquiry techniques. Teachers can work in a team, helping one another.

Perhaps creating a suitable climate for the teacher to sense the need for a change in his teaching behaviour and to think of the possible alternatives would go a long way in improving instruction by the teachers. Both inservice and preservice teacher education programmes aim at imparting teachers the knowledge and the need for the modification in their respective teaching behaviour. The use of specified behaviour patterns which presumably would improve the quality of classroom instruction is commended. Interaction analysis can be of significant help in several phases of such a programme. It can be used as a tool with which to measure the behaviour patterns which would enable objective assessment.

Classroom interaction analysis is also useful for training exercises. While certain behaviour patterns are practised the system could be used by other trainees to "observe" the practice. It is thus possible and desirable that all trainees learn interaction analysis and use the technique to pursue individual self-improvement goals.

Interaction analysis facilitates immediate feedback to a teacher. The extent to which the time lag between the exhibition of teaching behaviour and administration of feedback is shortened decides the effect of feedback on the trainees. The more immediate the feedback is the longer lasting its effects would be. Perhaps, use of system of interaction analysis combined with voice or

video recordings would facilitate remarkably immediate feedback.

Interaction analysis can be very usefully applied in some of the more sophisticated feedback techniques. The procedures of T-groups, Simulated Social Skill Training (SSST) and micro-teaching are fairly known. In each case interaction analysis can be used as a part of the feedback with definite positive advantages.

It may be mentioned here that all the feedback systems, sophisticated or otherwise, are meant to help change the behaviour of teachers so that the quality of their classroom interaction is improved.

In fact, helping a person change his behaviour that would improve the quality of classroom instruction is not easy and there is much leeway to make. But then classroom interaction analysis holds out a promise as a technique.

#### Interaction Analysis and Research on Teaching Effectiveness

Research on teaching effectiveness mostly attempts to discover relationships between teaching behaviour and measures of pupil growth. Very often the results in terms of pupil growth are not satisfactorily explained because no assessment of classroom interaction takes place. It is an awkward situation to the investigator to have only to conclude whether or not the pupils under the

'experimental' group of teachers learned more without being enabled to collect data to explain why the results turned out the way they did. Interaction analysis would provide highly significant information regarding the exact types of teaching behaviour, in behavioural terms, that were causal for the results.

### The Present Need

Giles (1954), Kilpatrick (1948) and Weston and others (1949) firmly urge a warm, friendly democratic atmosphere in classes. This means that classroom situation must be modelled along democratic principles. An "indirect" (democratic) approach on the part of the teacher, by encouraging and inviting pupil participation enlarges their freedom of expression which is likely to result in greater learning by them, 'ceteris paribus'. On the contrary, a "direct" (authoritarian) teacher behaviour, by curbing or curtailing the students' freedom of action would hamper their learning. The qualifying condition of this prognosis is the relative 'unawareness' of the goals on the part of the pupils. Well, that, in general, is the characteristic of the Indian students.

Naturally, therefore, if one could, using a good tool of observation, investigate the predominant teacher behaviour patterns in Indian classrooms, one would consequently be able to evolve remedial strategies of

reconstruction of the whole concept of teaching methodology. By and large, teaching until now appears to have gone forward by a combination of intuition, guess work and the ability of the older generation of teachers to pass on the tricks of the trade to the novices. In the present day society which is becoming increasingly technological, failures at school could mar the later life of the children in the society.

It is the concern of research to make the classroom life a successful one for the children and hence the emphasis on teacher classroom behaviour and classroom interaction analysis. To increase the area of knowledge about school life and particularly classroom situation is an urgent task as well.

For this tremendously significant task of reorientation of classroom practices the technique of classroom interaction analysis and study of teacher behaviour is challenging and the modus operandi of instructional improvement promising.

In keeping with the growing conviction that improvement in classroom instructional methodology cannot come off except in terms of an established broad theory of teaching, increasing attention is given to the empirical study of classroom interaction. Explorations of classroom interaction naturally, therefore, seek to study the

variables which are significantly affecting, in one way or the other, the classroom behaviour of the teacher.

There may be, perhaps, several significant variables relating to the teacher affecting his classroom behaviour. A large number of studies are warranted for probing the classroom interaction and the present study which seeks to explore the area with a view to identifying some non-personality variables relating to the teacher affecting his classroom behaviour is an answer, in a small measure, to the need. Attempt is made in the present study to investigate the relationship of age, experience, recency of training, sex and marital status of the teacher as also the subject taught on a chosen criterion of his classroom behaviour.