

Chapter Six

S_U_M_M_A_R_Y

" A Study Of The Effects of Feedback From Different Sources On The Classroom Behaviour of Student Teachers Using The Technique Of Interaction Analysis."

Teaching may be thought of as an activity on the part of some one the interest of which is that pupils should learn. An appraisal of the teaching effectiveness of a teacher should entail an analysis of his efforts to help pupils learn and preferably provide greater insight into what contributed to his success and how greater success might be achieved. In attempting to increase the effectiveness of teaching, a need exists for an instrument to analyse and describe different forms of that activity; and for a means of communication of the results of such an analysis to beginners so that they can initiate self-directed improvement and become more analytical and precise in stating their instructional objectives.

One recently developed process of systematic observation of classroom interaction shows great promise as a vehicle for the feedback of information.

The present inquiry is concerned with a well known procedure of interaction analysis which can be used during student teaching. Its prime concern is with the organisation of information about the spontaneous verbal behaviour of a teacher and how to incorporate this information in a programme of student teaching. One possible goal of such a training programme is to

discover the extent to which the spontaneous patterns of verbal communication which are observed are consistent with the intentions of the teacher and why he did not achieve his teaching objectives. In such a programme the assumption is made that behaviour can be modified and made more consistent with interaction and teaching objectives.

The purpose of the inquiry is to compare the effects of different forms of feedback on the scores obtained by groups of students on a schedule of interaction analysis. To this end, six groups of students were constituted as described in a later section.

RELATED STUDIES:

Research on teaching and teaching competence represents a vast field. Gage's, " A Hand Book of Research on Teaching " gives an indication of time and energy devoted to this area of inquiry by 1963, in America; and further studies have poured out since. However, it is only comparatively recently that researchers in the field of education have begun to study the interaction between teachers and pupils in classroom and to determine what effect instruction in and observation with interaction analysis has on the attitudes and performance of teachers.

Interaction analysis has been used to study the spontaneous verbal behaviour of teachers and has also been taught to teachers with a goal of behaviour change by Flanders (1963), Kirk (1963), Hough and Amidon (1964), Zahn (1965), Simon (1966), Amidon (1967), and Bondi (1970) among others.

Some of their important findings are as follows:

Hough and Amidon (1964), found that student teachers who had learned interaction analysis were rated as better than student teachers who had been taught learning theory. Amidon (1966), in presenting findings from a pilot study reported that student teachers who knew interaction analysis talked less in the classroom, were more indirect in their use of motivating and controlling behaviour, were more indirect in their overall interaction patterns used more extended indirect influence; and accepted pupil ideas in an extended fashion more than student teachers not so trained in interaction analysis.

Simon (1966), compared student teachers trained in interaction analysis with those trained in learning theory. It was found that student teachers trained in Flanders' technique were more accepting, less critical and less directive than student teachers not trained in interaction analysis.

Zahn (1965), found that student teachers who learned interaction analysis developed more positive attitudes towards student teaching than student teachers not taught interaction analysis.

Bondi (1970), studied the effect of interaction analysis feedback on the verbal behaviour of student teachers and found significant F - ratios for group mean differences in 15 of the 24 analyses of the study.

SAMPLING:

A random sample of 48 women students has been drawn from a population of the B.Ed. unmarried women student teachers who

have passed the B.A. Examination in the previous year with History/ Political Science or both in the 2nd Division, have no previous professional qualification and experience of teaching, aged between 21 and 23 years; and following Hindi as their medium of instruction. Members of the sample were later randomly assigned to the six treatment groups, e.g. T₁, T₂, T₃, T₄, T₅, and T₆. The description of these are as follows:

- T₁ self appraisal and self directed feedback;
- T₂ peer feedback;
- T₃ college supervisor feedback;
- T₄ external observer feedback;
- T₅ control group having been taught interaction analysis;
- T₆ control group having not been taught interaction analysis but taught learning theory.

Further for practice in teaching and to enquire into chain of events in the classroom and the effects of the experiment, two student teachers from each treatment group were randomly assigned to each of the four grades: 7th, 8th, 9th, 10th. The subjects for teaching (Social Studies, History or Civics), units of study, sequence of learning experience, the text-books, number of teaching days, and total duration of teaching time within all treatment groups have been arranged in such a way to ensure matched opportunity for learning.

METHOD OF INQUIRY:

The method of inquiry adopted was pre-test/post-test design and began with the observation, and coding of classroom behaviour of each member of the sample for a period of 20 minutes active interaction using the Flanders category system.

The usual 10 x 10 matrices were prepared and discussed with 3 of the 4 experimental groups by their respective observers who formed the source of feedback. In the self appraisal and self directed feedback treatment group, the matrix was just presented to the members of the group for their self study of the same. No information was provided to the members of the control groups regarding their interaction in the classroom. The experimental groups have in common the fact that the student teachers have laid down the goals of their behaviour and intention. The appraisal is followed by attempts to improve classroom interaction.

Six feedback sessions spread over a period of four weeks have been conducted as follows:

Two sessions during the first week of practice in teaching
Two sessions during the second week of practice in teaching
One session during the third week of practice in teaching
One session during the fourth week of practice in teaching.

The dependent variables as measured by the system are the total use of each category (with the exception of category 1 and 10), i/d, I/D, S/T, flexibility, 2-2 Cell, 3-3 Cell, Instantaneous Teacher Response Ratio, Teacher Question Ratio, Instantaneous Teacher Question Ratio, Extended Indirect, Extended Direct, 9-9 Cell, and Pupil Initiative Ratio.

METHOD OF ANALYSIS OF DATA:

The principal method of analysis adopted was a repeated measure design for the analysis of variance. F - ratios were determined to study the differences ' Between Subjects ' and ' With Subjects. '

Following the observation of a significant value for the F - ratio, comparisons between pairs of means were made using the Tukey Method and values for q, referred to the studentized probability range.

H_Y_P_O_T_H_E_S_E_S:

In the present investigation, the guiding hypotheses tentatively set up are as follows:

(A) There will be significant differences between the mean scores of the treatment groups in the form of interaction analysis in their general overall measures of performance for each treatment. More specifically these will be as follows:

(i) There will be no significant differences between the mean scores of the four experimental groups e.g.

$$H_0 : M_{T_1} = M_{T_2} = M_{T_3} = M_{T_4}$$

(ii) There will be significant differences between the mean scores of the four experimental groups and the two control groups e.g.

$$\begin{aligned} H_1 : M_{T_1} > M_{T_5} & \quad \& \quad M_{T_1} > M_{T_6} \\ M_{T_2} > M_{T_5} & \quad \& \quad M_{T_2} > M_{T_6} \\ M_{T_3} > M_{T_5} & \quad \& \quad M_{T_3} > M_{T_6} \\ M_{T_4} > M_{T_5} & \quad \& \quad M_{T_4} > M_{T_6} \end{aligned}$$

(B) There will be significant differences between the mean scores of the gains of six trials when averaged over the six treatments e.g.

$$H_1 : M_{G_1} \neq M_{G_2} \neq M_{G_3} \neq M_{G_4} \neq M_{G_5} \neq M_{G_6}$$

R_E_S_U_L_T_S:

The overall measure of performance for the six treatments suggests that interaction analysis can be an effective feedback mechanism and student teachers who received interaction analysis feedback have made significant gains in the predicted direction in their use of the specific teacher verbal behaviour. The results of the present study demonstrate that interaction analysis feedback information has implications for consideration of those who are engaged in supervision.

More specifically it may be stated that changes in certain patterns of teaching behaviour of the treatment groups have been demonstrated as follows:

- (i) They praised or encouraged pupil action or behaviour more.
- (ii) They accepted, clarified, developed, compared, or summarized ideas suggested by a pupil more.
- (iii) They gave less directions, commands, or orders to which a pupil is expected to comply.
- (iv) They illicited more student-initiated student talk.
- (v) They made more indirect talk as opposed to direct talk.
- (vi) They made more praise extension.
- (vii) They were more responsive to the ideas suggested by the pupil and pupil initiative as they made more extension of ideas suggested by the pupil.
- (viii) They made less negative affective (extended direct) talk.
- (ix) They asked more questions while guiding the content oriented part of class discussion. Thus they solicited more pupil reaction to certain ideas which they thought important and checked on their understandings more.

- (x) They developed a skill to respond to pupil talk with questions compared to their tendency to lecture.
- (xi) They developed a skill to praise or integrate pupil ideas more into class discussions at the moment pupil stop talking.
- (xii) They encouraged more pupil initiated pupil talk compared to their initiating the contact or soliciting student statements.
- (xiii) They made more extension of pupil initiated pupil talk.

Progress in teaching behaviour depends on feeding back of information to the teacher which reflects what actually happened, which shows certain behaviour did or did not occur, whether changes in behaviour could take place, whether such changes were or were not improvements, and whether certain predicted relationships are to be accepted or rejected. Feedback mechanism is likely to help a teacher practise a particular pattern, notice any improvement in his/her performance on teach-reteach cycles, develop more suitable plans of lessons and sharpen the differences between two settings or two patterns that are to be compared.

There is little difference between the results of college supervisor and external observer engaged in observation and feedback of information to the student teachers. Both the treatment groups indicate an increase of indirect teacher talk. Student teachers in these groups react to the ideas pupil express by acknowledging, clarifying and using them in the problem-solving process. The use of this pattern is most effective when a teacher wants to support or reinforce pupil participation, when

P/Th
26/4/4 151

the ideas expressed by the pupil are to be selectively developed during problem-solving, and when a shift from teacher initiated structure to pupil initiation is about to take place.

Further, in both these treatment groups there is decrease in criticism of pupil action or behaviour and issuing of directions and orders with the intent that pupils obey, as is evident from the analysis of the variable " Extended Direct." Teachers with improvement in this pattern of behaviour expect to produce more positive pupil attitudes and make their authority more reasonable, understandable and less arbitrary. Student teachers who have been observed by a practising school teacher have shown a significant decrease in the use of category 6, i.e. use of directions, commands or orders to which the pupils should obey.

Comparing the effects of the different sources of feedback, it can be argued that continual self appraisal of behaviour and self directed feedback in the form of interaction analysis seems to be more effective, as this group indicated significant increase in indirect teacher talk, in acknowledging, modifying, developing, and summarizing the ideas suggested by the students.

This has been achieved in college supervisor and practising school teacher (external observer) feedback groups as well. But the self-directed feedback group has in addition made a higher score on the pupil initiated pupil talk.

This suggests that the student teachers who made a self appraisal of their behaviour supported pupil initiative and independence.

They developed skills which provide pupils genuine opportunities to express initiative, judgement or opinion. Student Teachers in this treatment group asked broad, open questions about subject matter, or about procedure, or about feelings and attitudes; which became more consistent with some model of teaching behaviour and provided greater opportunities to the pupil to express their own point of view.

When opinions or feelings are expressed which may move the discussion toward desired objectives, a teacher can ask the pupil who spoke, or some other pupil to elaborate by asking a number of broad questions. When this is done skillfully, the pupils progress in their analysis of a problem, actively express their own point of view, and experience a sense of independence.

In the present inquiry it has been demonstrated that independent self appraisal of behaviour contributed a significantly higher score over the other feedback groups in the use of category 9.

Next in the sequence is the feedback provided by the external observer and the college supervisor. There is little difference between the results of these two types of feedback as explained earlier in the chapter.

Feedback from the peers is least effective. It does not differ in any way from the control groups.

It may be concluded that the status of the supervisor engaged in feedback of information to the student teachers plays a significant role to modify the teaching behaviour. But most important point lies in the individual self determination and self appraisal. There is more academic freedom to an individual

to lay goals of behaviour for himself, analyse, plan and practise particular patterns, and to pursue individual self improvement goals. There is need for considerable tact and thoughtful planning on the part of the supervisor engaged in feedback. Observation of the teaching behaviour of a student teacher by a supervisor and later its self analysis and self appraisal by the individual; using the technique of interaction analysis is likely to yield better results.

Student teachers who were getting objective information regarding their teaching behaviour on a schedule of interaction analysis but had accepted the responsibility for studying their own teaching behaviour in terms of its consequences and decide independently further steps for continual self improvement, certainly had more freedom to develop commitments and convictions about their own teaching behaviour in terms of preferred patterns of classroom interaction and desired educational outcomes through personal experience and evaluation. Thus they excelled their colleagues in the other treatment groups in the development of skills that provide opportunities to the pupil to express initiative.

Summarisingly, it can be argued that student teachers should be helped to 'read behaviour themselves' instead of just reading about their behaviour by others and providing them printed feedback. They, when trained in the skills of interaction analysis can become participants in the evaluation of their teaching performance and move towards a means of providing continual self improvement.