



## A comparative study of interaction analysis of classroom behaviour of effective and ineffective college teachers

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### Abstract

The present study is an attempt to determine the interaction analysis patterns of effective and ineffective college teachers. This will have great implications for the Human Resource Manpower at higher stage of education. After knowing the general interaction patterns in case of effective teachers for higher education, and to redirect their training experiences towards accomplishing the desirable interaction patterns inside the classroom. Teacher's personal qualities, mastery over the subject matter and some other skills are undoubtedly the basic features of effective teaching. However, what a teacher does inside the classroom is equally important. Therefore a classroom is a place where interaction patterns emerge on the basis of Presage-Process-Product criterion. Therefore, it is appropriate that 'analyzing classroom interaction' patterns are the best way to understand the effectiveness of a teacher in a classroom and its resultant impact on the quality of the product. The study revealed that: 1. The findings of the research shows that effective college teachers in comparison to ineffective college teachers accept feelings of the pupils; clarify; praise and encourage make lessons interesting, and give positive reinforcement inside the classroom. 2. The study reveals that effective college teachers in comparison to ineffective college teachers accept and develop the ideas expressed by the pupils inside the classroom. 3. The findings of the study reveal that effective college teachers in comparison to ineffective college teachers ask questions about the content, involves thinking and reasoning inside the classroom. 4. The study reveals that effective college teachers in comparison to ineffective college teachers ask questions about the content, involves thinking and reasoning inside the classroom. 5. The study reveals that effective and ineffective college teachers in general on verbal teacher behaviour of Flanders 10 categories were found significant on indirect teacher talk and criticising or justifying authority category in direct teacher talk. The effective and ineffective college teachers in general on verbal teacher behaviour of Flanders 10 categories were found significant on pupil talk and silence/confusion. 6. Effective and ineffective college teachers in general were insignificant on two categories of direct teacher talk (lecturing, give proper directions). 7. As compared to ineffective college teachers, effective college teacher's change voice during the run of lecture, encourage student's initiatives, express jolly mood, makes eye contact, moves across the classroom, and nods head. 8. The effective college teachers as compared to ineffective college teachers were found to be smiling, expressing a jolly mood, patting the students, move to each student inside the classroom for paying individual attention during the conduct of their class. 9. The ineffective college teachers in comparison to effective college teachers were found to move outside the classroom and proceeds towards windows during the conduct of the class.

**Keywords:** interaction analysis, classroom behaviour, effective, in-effective

### Introduction

The systematic observation techniques are used for analysing the teaching activities systematically and objectivity. The flow of classroom events can be recorded and analysed. It provides the structure of teaching events and flow of teacher-behaviour. Thus, the teaching activities are diagnosed and provide the awareness about the teaching event and components, but teaching or teacher behaviour cannot be evaluated or graded. The theory of teacher-behaviour has oriented the concept of interaction analysis of teaching. The systematic observation is a set of procedures. It uses a system of categories, encodes and quantifies classroom behaviour of teachers and students. The systematic observation represents a useful means of identifying, studying, classifying and measuring specific variables as they interact within educational learning situations. The purpose of developing observational system is

that a teacher can be trained to use them in analysing classroom behaviour and for planning and studying his own teaching activities. Since 1940, the efforts have been made in this direction to develop the systems of observation. The works of with all Flanders and Amidon (1960), Medlay and Mitzel (1948) and Galloway (1968) have developed systems of observation for studying the classroom teaching activities. During the last decade some educational researchers have been trying to develop concepts in terms of which classroom interaction could be described. Only when it is possible to describe the teacher classroom behaviour reliably it is possible to manipulate variables to cause modifications in the classroom behaviour. If relevant aspect of teacher behaviour cannot be modified it make little sense to prescribe change in that behaviour (Neujahr, 1972) [6]. Attempts have been made to analyze interaction process in a classroom. Of seventy nine

such instruments reviewed in a study forty seven were used in teacher training (Simon and Boyer (eds.), 1970). Classes from elementary schools to colleges have been systematically observed. Researchers have collected data through observers in classroom, photographs, movies, audiotapes and videotapes. They have used a wide variety of basic units for their analysis. Smith and Meux (1963) attempted verbal interaction in terms of logical character; Taba's (1964) study is unique in its dependence on development psychology, the study of Bellack, *et al.* (1966) analytical system is based on cognitive view point; Adams (1967) [8] analyzed classroom activities in terms of their structural and functional aspects. The work of Paul Gump (1967) [8] represents a different line of classroom research namely ecological research. Anderson (1969) based his system on evolutionary concepts. The observational system which is widely known and used is that of Flanders (1960 (b)). The basic assumption of this system is that classroom interaction is a series of events and that teaching behaviour consists of acts or patterns of behaviours, embedded to the chain of classroom events. Flanders used ten category observational instruments to obtain a measure of teacher influence.

The growing interest in classroom interaction analysis in recent years is indicative of the recognition that if there are to be significant improvements in our schools, it will be necessary to find means of modifying and improving teacher behaviour. In both pre-service and in-service education programme, there is a need to provide teachers with objective information about their teaching, involving in very indirect way in the study and analysis of the effects of their own teaching behaviour and to provide teachers with opportunities to practice revisions they choose to make in their interaction with pupils. These are possible if classroom interaction analysis techniques are employed in our teacher training programme as tools training as well as tools with which to measure teacher classroom behaviour patterns.

Interaction analysis (Flanders, 1967) [8] facilitates the observation of teacher-pupil verbal interchange by using a time sampling technique and coding. Observers are trained in the method before they observe a teacher. After this training, their observations in coded form are analyzed and placed in the form of suggestions, which will aid the observed individual in modifying his behaviour. Of the teacher is using patterns of verbal communication that are not consistent with his intentions, he would profit from feedback that reveals their nature. If a training programme seeks to develop specified behaviour in teachers, interaction analysis might assist teacher and other in observing the progress made towards acquisition of desired skills. The observer records a code number one to ten. No category is necessarily better than any other. It is the patterning and frequency of categories that is important. By sampling about every three seconds, the observer will have made about four hundred entries in twenty minutes. From these data, matrix may be drawn up, which may provide a number of possible analyses of verbal communication. A second matrix after a teacher has evaluated his efforts may indicate the degree of progress he has made.

## Review of Literature

The following latest review has been cited for the present study:

Amatari (2015) [5] Interaction Analysis is that in a normal classroom situation, verbal communication is predominant; the teacher exerts a great deal of influence on the student and the student's behaviour is affected to a great extent by this type of teacher behaviour exhibited. Mehraj, N. (2015) [46] investigated that Foundation and Methodology Course teacher educators on verbal teaching behaviour of Flanders categories were found insignificant on teacher talk and silence/confusion; teacher response ratio; content cross ratio and indirect/direct ratio; vicious circle ratio and steady state ratio indices of verbal teaching behaviour of Flanders categories. Foundation and Methodology Course teacher educators on verbal teaching behaviour found significant on pupil talk and direct teacher talk and pupil initiative ratio and teacher question ratio; instantaneous teacher response ratio and instantaneous teacher question ratio indices of classroom verbal behaviour of Flanders categories. The analysis revealed that the Methodology Course teacher educators use an indirect method of teacher involvement inside the classroom and encourages and supports student's participation and accepts, clarifies, praises and develops the ideas and feelings expressed by the pupil on indirect teacher talk and foundation course teacher educators restrict student's participation of verbal behaviour of Flanders categories. Methodology course teacher educators put more questions as compared to foundation course teacher educators who make frequent use of questions about content. Methodology course teacher educators restrict the freedom and student participation more than the foundation course teacher educators. Mulyati, A. F. (2013) investigated that the teacher to support students to have more opportunity to speak during the lesson. Finally, this study suggests further study to conduct similar research which covers different skills. Feng (2013) [18] Found that two behaviors, the student's play and the teacher's guidance, appeared most frequently. Widiyatmoko (2013) studied that the results of the analysis showed that the most dominant characteristic in classroom interaction was the content cross. It showed that the students were active enough in the classroom interaction. Emmanuel (2013) [17] found that students of Economics in Cross River State secondary schools do not consider the interactive pattern of their teachers as adequate and helping them better achieve academically, and they do not consider the student-student interactive pattern as adequate and helping them better to achieve academically. Goronga (2013) found that the teacher talked more than the pupils did. This means that classroom verbal interaction in primary classrooms is still teacher- dominated. Precious (2012) [60], studied teacher behaviour means the behaviour or activities of persons as they go about doing whatever is required of teachers particularly those activities which are concerned with the guidance and direction of the learning activities of students. Abdullah (2011) [45, 61, 65] revealed that Jordanian teachers practice the instructional classroom management style more than the other management styles such as behaviour management and people management. The

behaviour of children must be controlled and it may be assumed that children are unable to adequately monitor and control themselves. The correlation between instructional management style and personal teacher efficacy is likely to be cyclical, such that instructional management style affects a teacher's belief in his or her personal efficacy and vice versa. The more the teachers have personal teaching efficacy the more the practice classroom management styles and vice versa.

Chen (2015) <sup>[34]</sup> reported that there was no statistically significant gender imbalance in term of attention allocation from the teacher in the classroom; however girls tend to receive more positive responses from the teacher than boys do; boys tend to be more active in the early period of class while, in contrast, girls are getting more attention from their teacher in the later period of class. Ajaja (2013) <sup>[3]</sup> the study indicated a significant difference in classroom behaviour scores among teachers with 0–5, 6–10, and 11 and above years of experience and a perfect correlation between years of experience and classroom behaviour. Dhaliwal (2013) <sup>[16]</sup> indicate that teachers need to discuss with colleagues their current perceptions and attitudes towards working with those students who present challenges and investigate ways of working positively with these students. Mc Clowry (2011) <sup>[45]</sup> found irrespective of gender, students whose temperaments were high maintenance and intermediate were more likely than industrious students to receive negative teacher.

### Methodology of the Study

The present study has been undertaken through the descriptive method of research. This method has been the most popular and widely used method of research in social science and education. The descriptive method is designed to obtain pertinent and precise information concerning the current status or phenomena and also draw any conclusions from the facts discovered.

### Statement of the Problem

The problem taken for the present investigation reads as, "Interaction Analysis of Classroom Behaviour of Effective and Ineffective College Teachers".

### Objectives of the Study

The study has been designed to achieve the following objectives:

1. To identify 'effective' and 'ineffective' college teachers;
2. To compare the effective and ineffective college teachers on their verbal classroom Behaviour;
3. To compare the effective and ineffective college teachers on Fourteen Behavioural Ratios.
4. To compare effective and ineffective college teachers on non-verbal teacher classroom behaviour.

### Hypotheses

The following hypotheses have been formulated for the

purpose of the present study:

1. Effective and ineffective college teachers significantly differ on their verbal classroom behaviour;
2. Effective and ineffective college teachers significantly differ on Fourteen Behavioural Ratios .
3. Effective and ineffective college teachers significantly differ on non-verbal teacher classroom behaviour.

### Tools Used

In any piece of research, selection of tools is very important. There will be wastage of time and energy on the part of the investigator, if he would not make use of the valid and reliable tools for his or her research. Therefore, a competent investigator looks into all possible measures which can help him in arriving the desired results. Accordingly, the present investigator adopted the following tools for the collection of data.

The following tools were used in order to collect the required data.

1. Nadeem's Teacher Effectiveness Scale (TES 1993) was administered to Degree college students, teachers and principals for the purpose of identification of effective and in-effective college of education teachers.
2. Observation schedule on the basis of Flanders Model was used to assess teachers' classroom verbal behaviour.
3. Self constructed Non-Verbal Behaviour Checklist.

### Analysis of Data

Data analysis is the process of systematically applying statistical and logical techniques to describe and illustrate condense and recap and evaluate data. Good, Barr and Scates write, "Analysis is a process which enters into research in one form or another from the very beginning...It may be fair to say that research consists in general of two larger steps-the gathering of data, and the analysis of these data, but no amount of analysis can validly extract from the data factors which are not present."

### Identification of the 'Effective' and 'Ineffective' College Teachers

Stratified Random Sampling Method was employed for the Degree Colleges, Professional Colleges of Kashmir Valley and Colleges of Education from Kashmir and Jammu Regions. However, it was considered that a justifiable proportion for each type of college should come to the sampling process. It was mandatory to identify the effective and ineffective college teachers from the sampling number and therefore, Nadeem's Teacher Effectiveness Scale (TES 1993) which includes three subscales viz. Teacher's Self Rating Scale, Principals Rating Scale and Students Rating Scale and was administered to an initial sample of 660 subjects to identify the effective and ineffective college teachers. The Extreme Group Technique (EGT) of 27% high scorer and 27% low scorer were identified as effective and ineffective teachers respectively which are as under:

**Table 1:** Showing the final sample for the study

Group	Degree College Teachers	Professional College Teachers	College of Education Teachers	Total
Effective	113 (420)	32 (120)	32 (120)	177 (660)
Ineffective	113 (420)	32 (120)	32 (120)	177 (660)
Total Sample				354

Table 1 makes it clear that out of the total initial sample of 660 college teachers including Degree College Teachers, Professional College Teachers and College of Education Teachers only 354 college teachers have been selected for the present study after applying the Extreme Group Technique (EGT). As such out of 420 Degree College Teachers 113 were

selected from each group (effective and ineffective). Similarly, out of 120 each from Professional College Teachers and College of Education Teachers, equal number of 32 effective and 32 ineffective each from Professional College Teachers and College of Education Teachers were selected for the final study.

**Table 2:** Showing the Mean and Standard Deviation of the final sample of the study (N=177 each)

Group	Mean/ S.D.	Nadeem's Teacher Effectiveness Scale		
		Sub- Scale-I	Sub-Scale-II	Sub-Scale-III
		Teacher's Rating Scale	Principal's Rating Scale	Student's Rating Scale
Effective	Mean/S. D.	109.62/4.02	15.08/1.14	15.24/1.16
Ineffective	Mean/S. D.	85.22/7.16	10.51/2.33	10.55/2.67

Table 2 indicates the mean and S. D. of two groups of effective and ineffective college teacher's viz. Degree College Teachers, Professional College Teachers and College of Education Teachers. The mean and S.D. of effective group came equal to 109.62/4.02, 15.08/1.14, 15.24/1.16 on Sub-

Scale-I, Sub-Scale-II and Sub-Scale-III respectively. Similarly, the mean and S.D. of ineffective group came equal to 85.22/7.16, 10.51/2.33, 10.55/2.67 on Sub- Scale-I, Sub-Scale-II and Sub-Scale-III respectively.

### Percentage occurrence of categories for Effective and Ineffective College Teachers in General

**Table 3:** Showing the percentage occurrence of Flanders categories for the Effective and Ineffective College Teachers in General (N=177 Each Group)

Categories		Percentage of occurrence	
		Effective (N=177)	Ineffective (N=177)
Teacher Talk	Accepts feelings of the pupils	7.11	3.31
	Praises or encourages them	13.25	4.32
	Accepts the pupils ideas	11.15	4.29
	Ask relevant questions	8.29	2.30
	Lecturing	38.08	70.03
	Give proper directions	3.44	3.53
	Criticizing or justifying authority	1.34	3.51
Pupil Talk	Pupil talk response	10.28	2.44
	Pupil talk initiation	5.69	1.18
Silence	Silence or confusion	1.37	5.09
Total		100.00%	100.00%

Table 3 The above table shows the percentage of occurrence of the effective and ineffective College teachers in general on Flanders 10 categories. The table reveals that the effective teachers have 7.11% accepts feelings of the pupils, 13.25% praises or encourages pupils, 11.15% accepts the pupils ideas, 8.29% ask relevant questions, 38.08% lecturing, 3.44% give proper directions, 1.34% criticizing or justifying authority in Teacher Talk. In case of ineffective college teachers in general 3.31% accepts feelings of the pupils, 4.32% praises or encourages, 4.29% accepts the pupil's ideas, 2.30% ask

relevant questions, 70.03% lecturing, 3.53% give proper directions, 3.51% criticizing or justifying authority, in Teacher Talk. The table also reveals that the percentage of occurrence during the Pupil Talk of effective college teachers in general 10.28% pupil talk response, 5.69% pupil talk initiation during the pupil talk. While ineffective teachers have 2.44% pupil talk response, and 1.18% pupil talk initiation during the pupil talk. The occurrence of silence or confusion of effective teachers is 1.37% and 5.09% in case of ineffective teachers in general.

### Comparison of the Effective and Ineffective College Teachers on their verbal classroom behaviour of Flanders Categories in General

**Table 4:** Showing mean difference of effective and ineffective College Teacher on their verbal classroom behaviour of Flanders Categories in General. (N=177 Each Group)

Categories		Group	Mean	S.D.	t-value
Teacher Talk	Accepts feelings	Effective	11.93	7.548	8.35**
		Ineffective	5.86	5.967	
	Praises or encourages	Effective	22.23	12.886	13.22**
		Ineffective	7.82	6.566	
	Accepts or uses ideas of pupils	Effective	18.71	10.409	12.97**
		Ineffective	7.11	5.684	
	Asks questions	Effective	13.91	7.338	16.15**
		Ineffective	3.84	3.812	
	Lecturing	Effective	63.93	18.380	2.98**
		Ineffective	69.55	17.111	
	Giving directions	Effective	5.78	8.111	0.17
		Ineffective	5.90	3.568	
	Criticizing or Justifying authority	Effective	2.24	2.713	8.89**
		Ineffective	5.89	4.705	
Pupil Talk	Pupil talk response	Effective	17.27	13.098	12.20**
		Ineffective	4.06	5.852	
	Pupil talk initiation	Effective	9.55	7.122	12.98**
		Ineffective	1.95	3.089	
Silence	Silence or Confusion	Effective	2.30	2.589	14.08**
		Ineffective	8.52	5.262	

\*\*significant at 0.01 level, \*significant at 0.05 level

Table 4 A quick study of the above table evidences that the effective and ineffective college teachers in general differ on 'accepts feelings', 'Praises or encourages' 'Accepts or uses ideas of pupils', 'Asks questions', 'lecturing', and 'Criticizing or justifying authority' in Teacher Talk. The mean scores of effective college teachers in general (11.93), (22.23), (18.71), (13.91) and (63.93) is better than the mean scores of ineffective college teachers (combined) showing significant difference at 0.01 level on 'accepts feelings' 'Praises or

encourages', 'accepts or uses ideas of pupils' and 'asks questions', lecturing and criticizing or justifying authority respectively in Teacher Talk. Similarly, the mean scores of effective college teachers (combined) (17.27) and (9.55) of effective teachers and (8.52) ineffective teachers is slightly better than the mean scores of ineffective college teachers (combined) showing significant difference at 0.01 level on 'pupil talk response', 'pupil talk initiation' and silence/confusion category respectively.

### Comparison of Effective and Ineffective Colleges Teachers on the basis of Flanders Fourteen Behavioural Ratios in General

**Table 5:** Showing mean difference of effective and ineffective Colleges Teachers on the basis of Flanders Fourteen Behavioural Ratios in General. (N=177 Each Group)

	Group	Mean	S.D.	t-value
Teacher talk (TT)	Effective	83.32	6.062	7.00**
	Ineffective	87.67	5.591	
Pupil talk (PT)	Effective	39.32	8.715	19.15**
	Ineffective	20.59	9.604	
Indirect teacher talk (ITT)	Effective	43.99	10.582	19.75**
	Ineffective	67.15	11.389	
Direct teacher talk (DTT)	Effective	15.34	6.263	17.08**
	Ineffective	4.77	5.300	
Silence/ confusion (S/C)	Effective	2.39	1.469	14.15**
	Ineffective	7.53	4.522	
Pupil initiative ratio (PIR)	Effective	99.06	45.971	16.61**
	Ineffective	34.28	23.737	
Teacher response ratio (TRR)	Effective	34.76	18.538	3.22**
	Ineffective	26.06	30.589	
Teacher question ratio (TQR)	Effective	37.40	10.315	16.20**
	Ineffective	19.93	9.905	
Content cross ratio (CCR)	Effective	18.10	8.158	16.83**

	Ineffective	5.73	5.329	
Indirect/ direct ratio (I/DR)	Effective	47.66	10.594	10.90**
	Ineffective	59.80	10.288	
Vicious circle ratio (VCR)	Effective	54.59	10.262	12.62**
	Ineffective	39.52	12.053	
Pupil steady state ratio (PSSR)	Effective	40.11	45.461	3.52**
	Ineffective	74.44	120.801	
Instantaneous teacher response ratio (ITRR)	Effective	51.64	15.434	15.92**
	Ineffective	29.49	10.101	
Instantaneous teacher question ratio (ITQR)	Effective	38.27	31.996	10.40**
	Ineffective	11.74	10.982	

\*\*Significant at 0.01 level

Table 5 shows the mean difference of the effective and ineffective college teachers on fourteen behavioural ratios (verbal behaviour). The result reveals that effective Degree college teachers significantly differ on teacher talk (TT), pupil talk (PT), indirect teacher talk (ITT), direct teacher talk (DTT) and silence confusion (S/C) indices of classroom teaching verbal behaviour. The table also reveals that effective and

ineffective college teachers differ significantly on Pupil initiative ratio (PIR), Teacher response ratio (TRR), Teacher question ratio (TQR), Content cross ratio (CCR), Indirect/ direct ratio (I/DR), Vicious circle ratio (VCR), Pupil steady state ratio (PSSR), Instantaneous teacher response ratio (ITRR) and Instantaneous teacher question ratio (ITQR) and are significant at 0.01 level.

### Comparison of the Effective and Ineffective Colleges Teachers on various dimensions of non-verbal teachers classroom behaviour General (N=177 Each Group)

**Table 6:** Shows the comparison of the effective and ineffective Colleges Teachers on various dimensions of non-verbal teachers classroom behaviour General (N=177 Each Group)

Item No.	Observations	Effective (%age)		Ineffective %age	
		Yes	No	Yes	No
1.	Blushes	21.59	78.41	70.45	29.55
2.	Changes voice during the run of lesson	35.23	64.77	13.64	86.36
3.	Drinks water during the run of lecture	0.00	100.00	4.55	95.45
4.	Encourages students initiative	53.23	46.77	26.70	73.30
5.	Expresses a jolly mood	33.33	66.67	21.02	78.98
6.	Frowns at students	9.66	90.34	28.98	71.02
7.	Gets irritated easily	26.70	73.30	54.55	45.45
8.	Makes eye contact	40.11	59.89	17.61	82.39
9.	Moves across the classroom to go to each individual child	67.05	32.95	25.00	75.00
10.	Nods Head	68.18	31.82	20.45	79.55
11.	Pats the students	59.14	40.86	26.14	73.86
12.	Pauses in speech pattern	68.75	31.25	23.86	76.14
13.	Proceeds towards windows in the classroom during the run of lesson	40.91	59.09	15.34	84.66
14.	Shakes head	66.48	33.52	15.91	84.09
15.	Stares at some students	14.37	85.63	26.70	73.30
16.	Stumbles while walking inside the classroom	9.09	90.91	34.09	65.91
17.	Turns pale	10.23	89.77	45.45	54.55
18.	Uses gestures for communication	75.57	24.43	19.89	80.11
19.	Yells at students	7.95	92.05	23.86	76.14
20.	Any other non-verbal behaviour indicator used by the teacher	12.50	87.50	10.23	89.77

Table 6 shows the ratings on various non-verbal behaviour of effective and ineffective college teachers in general. The results indicate that there is not a single case of 'drinking water during the run of lecture' dimension of non-verbal teacher behaviour in case of effective college teachers. The table reveals that there is a significant mean difference of effective and ineffective college teachers on non-verbal behaviour dimensions on blushes, changes voice during the run of lecture, encourages students initiative, expresses a jolly

mood, frowns at students, gets irritated easily, makes eye contact, moves across the classroom to go to each individual child, nods head, pats the students, pauses in speech pattern, proceeds towards windows in the classroom during the run of lecture, shakes head, Stumbles while walking inside the classroom use of gestures, yells at students and are significant at 0.01 level. While as, stares at some student, any other non-verbal behaviour indicator used by the teacher is also significant at 0.05 level.

**Table 7:** Master Matrix (10x10) showing classroom interaction of Effective College Teachers in General (N=177)

	1	2	3	4	5	6	7	8	9	10	Total	%age
1	399	355	163	167	344	164	41	349	89	28	2099	7.11
2	352	686	635	359	824	128	57	441	399	32	3913	13.25
3	195	531	502	463	583	93	67	486	295	78	3293	11.15
4	292	446	363	234	232	90	51	511	169	60	2448	8.29
5	227	1018	522	546	7692	230	72	544	341	59	11251	38.08
6	85	176	190	103	215	75	29	62	29	53	1017	3.44
7	55	36	37	39	46	89	8	18	28	39	395	1.34
8	297	345	475	202	868	50	35	483	248	33	3036	10.28
9	182	288	376	304	341	23	2	103	57	5	1681	5.69
10	15	32	30	31	106	75	33	39	26	17	404	1.37
Total	2099	3913	3293	2448	11251	1017	395	3036	1681	404	29537	100.00

**Table 8:** Master Matrix (10x10) showing classroom interaction of Ineffective College Teachers in General (N=177)

	1	2	3	4	5	6	7	8	9	10	Total	%age
1	181	95	53	75	149	59	65	203	15	83	978	3.31
2	128	118	137	126	122	61	82	172	90	240	1276	4.32
3	84	70	69	30	151	88	174	183	71	347	1267	4.29
4	142	114	33	28	39	24	31	31	65	173	680	2.30
5	184	500	567	164	8359	319	357	56	30	467	11003	70.03
6	18	135	186	94	357	82	43	24	21	83	1043	3.53
7	18	19	17	37	442	291	132	18	23	39	1036	3.51
8	138	133	21	60	262	20	25	28	8	27	722	2.44
9	50	68	64	35	55	59	2	7	0	9	349	1.18
10	35	24	120	31	1067	40	125	0	26	34	1502	5.09
Total	978	1276	1267	680	11003	1043	1036	722	349	1502	19856	100.00

## Discussion

The study revealed that the effective and ineffective college teachers do not differ on 'accepts feelings', 'lecturing', and 'giving directions' in Teacher Talk. While as the mean scores of effective college teachers (11.93), (22.23), (18.71), (13.91) and (2.24) is better than the mean scores of ineffective college teachers (combined) showing significant difference at 0.01 level on 'accepts feelings' 'Praises or encourages', 'accepts or uses ideas of pupils' 'asks questions' and 'criticizing or justifying authority' respectively in Teacher Talk. Similarly, the mean scores of effective college teachers (17.27), (9.55) and (2.30) is slightly better than the mean scores of ineffective college teachers showing significant difference at 0.01 level on 'pupil talk response', 'pupil talk initiation' and silence/confusion category respectively. The analysis revealed that teacher-pupil interaction is on the higher side in case of effective college teachers; as compared to ineffective college teachers who are low on interaction in the classroom on dimensions Pupil talk (PT). The calculated results are in tune with the findings of the studies conducted earlier by Suhag (2001) [74] who found that the effective teachers were found to criticize the student less than the ineffective teachers. The tendency of asking questions on the part of the effective teachers was high. It was very less in case of ineffective teachers. Suhag (2001) [74] found that the effective teachers were found to encourage and appreciate more of 'pupil talk interaction' and 'pupil talk response' as compared to ineffective teachers. Indirect teacher talk was found to be significantly high in case of effective teachers. Suhag (2001) [74] found that the effective teachers were found to exhibit greater tendency of encouraging the pupil initiation as compared to ineffective teachers. Suhag (2001) [74] found

that the teacher pupil interaction was found to be on higher side in case of class conducted by the effective teachers. Whereas ineffective teachers seemed to restrict the student participation in the classroom.

In the light of the results discussed the first hypotheses which states "Effective and ineffective college teachers differ on Flanders 10 Categories" stands accepted.

The effective teachers in comparison to ineffective teachers were found to be significantly higher on classroom interaction behavioural ratios viz; Suhag (2001) [74] found that Teacher Response Ratio (TRR), Teacher Question Ratio (TQR), Pupil Steady State Ratio (PSSR), Instantaneous Teacher Response Ratio (ITRR), Indirect/Direct Ratio(I/DR) and Instantaneous Teacher Question Ratio (ITQR). However, they were found significantly lower on vicious circle than ineffective teachers. Suhag (2001) [74] found that effective teachers in comparison to ineffective teachers accept; clarify; praise and encourage and develop the ideas expressed by the pupils inside the classroom. Gorard (2000) found that the tendency of asking questions on the part of the effective teachers was high. It was very less in case of ineffective teachers. The effective teachers were found to encourage and appreciate more of 'pupil talk initiation' and 'pupil talk response' as compared to ineffective teachers. 'Indirect teacher talk' (ITT) was found to be significantly high in case of effective teachers. The effective teachers were found to exhibit greater tendency of encouraging the pupil initiation as compared to ineffective teachers.

In the light of the results discussed the second hypotheses which states "Effective and ineffective college teachers differ on Flanders Fourteen Behavioural Ratios" stands accepted.

The effective Professional college and College of Education

teachers were found not to experience blushing during the run of the classroom lecture. As compared to ineffective teachers, effective teachers change voice during the run of lecture, encourage students initiatives, express jolly mood, makes eye contact, moves across the classroom, and nods head. The effective and ineffective Professional college and College of education teachers were neither frowning on students nor getting easily irritated. The effective and ineffective Professional college teachers were negative on stares at some students, turn pale, and stumble with benches and desks during the conduct of their class. The effective and ineffective College of education teachers were not exercising yelling at students inside the classroom during the run of lecture. The effective college teachers as compared to ineffective college teachers were found to be smiling, expressing a jolly mood, patting the students, move to each student inside the classroom for paying individual attention during the conduct of their class.

The ineffective teachers in comparison to effective teachers were found to move outside the classroom and proceeds towards windows during the conduct of the class.

In the light of the results discussed the third hypotheses which states "Effective and ineffective college teachers differ on non-verbal classroom behaviour" stands accepted.

### Findings

1. The proportion of teacher talk' in case of effective college teachers was significantly higher than that of ineffective college teachers.
2. The extent of pupil talk' was found to be higher in the classroom managed by effective college teachers than that of ineffective college teachers.
3. The periods of silence' or confusion' were found to be comparatively more in the classes of ineffective college teachers than in case of effective college teachers.
4. The findings of the research shows that effective college teachers in comparison to ineffective college teachers accept feelings of the pupils; clarify; praise and encourage make lessons interesting, and give positive reinforcement inside the classroom.
5. The study reveals that effective college teachers in comparison to ineffective college teachers accept and develop the ideas expressed by the pupils inside the classroom.
6. The findings of the study reveal that effective college teachers in comparison to ineffective college teachers ask questions about the content, involves thinking and reasoning inside the classroom.
7. The study reveals that effective college teachers in comparison to ineffective college teachers ask questions about the content, involves thinking and reasoning inside the classroom.
8. The study shows that ineffective college teachers in comparison to effective college teachers are more on giving opinions or facts about content, lectures coherently and presents explanations inside the classroom.
9. The study shows that ineffective college teachers in comparison to effective college teachers give directions, commands and orders inside the classroom.

10. Pupil talk in response to teacher talk and students giving answers to questions asked by the teacher is more in case of effective college teachers as compared to ineffective college teachers.
11. Talk by pupils, expressing own ideas of pupils, initiating new topics and asking thoughtful questions is more in case of effective college teachers as compared to ineffective college teachers.
12. Pauses, periods of confusion and lack of understanding is less in case of effective college teachers as compared to ineffective college teachers.
13. The study reveals that effective and ineffective college teachers in general on verbal teacher behaviour of Flanders 10 categories were found significant on indirect teacher talk and criticising or justifying authority category in direct teacher talk. The effective and ineffective college teachers in general on verbal teacher behaviour of Flanders 10 categories were found significant on pupil talk and silence/confusion.
14. Effective and ineffective college teachers in general were insignificant on two categories of direct teacher talk (lecturing, give proper directions).
15. As compared to ineffective teachers, effective teachers change voice during the run of lecture, encourage students initiatives, express jolly mood, makes eye contact, moves across the classroom, and nods head.
16. The effective college teachers as compared to ineffective college teachers were found to be smiling, expressing a jolly mood, patting the students, move to each student inside the classroom for paying individual attention during the conduct of their class.
17. The ineffective teachers in comparison to effective teachers were found to move outside the classroom and proceeds towards windows during the conduct of the class.

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