

C H A P T E R - II

REVIEW OF PAST STUDIES

The earlier attempts to measure classroom behaviour date back to 1914, when Horn (45) devised a procedure to measure pupil participation in the classroom. Pucket (72) elaborated Horn's procedure and Wrightstone (107) developed a scheme similar to that of Horn.

In 1929 Barr (8) reported a study identifying the behaviour patterns of effective and ineffective teachers. This was followed by similar type of work of Jayne (48) and Morsh (66).

Anderson (3,4,5) identified "dominative" and "Integrative" patterns of teacher behaviour. Withall (105) in 1949 developed Social-Emotional Climate Index, which measured seven behaviour dimensions of a teacher. Since then a large number of observation techniques to record teacher's behaviour have come into existence. The total number of such sophisticated techniques is 79 which are described and discussed in Mirrors For Behaviour (86).

Once the classroom behaviour dimensions of teachers were obtained in their perfect form, researchers turned their attention to the study of relationship between teacher behaviour and personality measures. No exact date of the beginning of such types of researches is known but it is estimated that probably 15 to 20 years back they started appearing.

The present chapter reviews several researches, wherein attempts have been made to determine or explore relationships between teacher behaviour dimensions and attitudes, personality traits, values, beliefs etc. There are certain studies in which the authors have not only studied the relationships but also tried to predict teacher behaviour. The studies cited here can be classified into the following main categories : (1) studies relating to personality traits and teacher behaviour, (2) studies relating to attitudes and teacher behaviour, (3) studies relating to creativity and teacher behaviour, (4) studies relating to dogmatism and teacher behaviour, (5) studies relating to needs and teacher behaviour, (6) studies relating to anxiety and teacher behaviour, (7) studies relating to authoritarianism and teacher behaviour and (8) studies relating to values and beliefs and teacher behaviour.

While being reviewed, the studies have been presented in their chronological order in their respective categories.

No separate titles or headings as mentioned above are provided. The review of the studies begins with the work of Dr. David G. Ryans.

Ryans (79) using a "critical incident" technique identified a number of classroom behaviour patterns of elementary and secondary school teachers and factor analyzed those patterns which yielded three basic patterns of behaviour, namely (1) Pattern X_0 - understanding, friendly versus aloof, egocentric, restricted teacher behaviour (2) Pattern Y_0 - responsible, businesslike, systematic versus evading, unplanned, slipshod teacher behaviour and (3) Pattern Z_0 - stimulating, imaginative, surgent or enthusiastic versus dull, routine teacher behaviour.

These patterns of teacher behaviour were correlated with direct and indirect measures of personality and attitudes. The results showed that teaching behaviour (based upon principals' judgements) and teachers' attitude toward pupils and also toward administrators were significantly related.

Sympathetic, understanding teacher classroom behaviour (Pattern X_0) was positively, though slightly correlated with expression of more permissive, child-centered educational view points; businesslike, systematic classroom behaviour (Pattern Y_0) was slightly positively associated

with traditional view points; and stimulating teacher behaviour (Pattern Z_0) was slightly positively correlated with educational viewpoints toward liberal, permissive end of the scale.

Sympathetic, understanding teacher classroom behaviour (Pattern X_0) and stimulating teacher behaviour (Pattern Z_0) had low, but positive correlations with verbal understanding scores. Businesslike, systematic classroom behaviour (Pattern Y_0) was unrelated, or very slightly related to verbal intelligence.

There appeared to be a low positive relationship between emotional stability and Pattern X_0 (understanding, sympathetic classroom behaviour), the association being somewhat closer in the elementary school than in the secondary. The correlation with pattern Z_0 (stimulating teacher behaviour) also was consistently positive, but slight. Businesslike, systematic teacher classroom behaviour (pattern Y_0) was slightly negatively correlated with emotional stability scores.

No consistent significant relationships were found between teachers' validity-~~of~~-response scores on Inventory ISV and grade or subject taught, amount of teaching experience, age, sex, or teacher classroom behaviour.

Ryans (78) further studied the differences in the personal characteristics of the teachers of both the groups (elementary and secondary) who were consistently assessed high and low on the above three patterns of classroom behaviour. A significant difference was found between the personal characteristics of the teachers who were assessed high and low. The teachers who were assessed high on the three behaviour dimensions or patterns were extremely generous in appraisals of the behaviour and motives of others; possessed strong interests in reading and in literary affairs; were interested in music, painting and the arts in general; participated in social groups, enjoyed pupil relationships; preferred non-directive classroom procedures; manifested superior verbal intelligence; and were above average in emotional adjustment. Turning to the other side of the coin, "low" teachers tended generally to be restricted in their appraisals of other persons; preferred activities which did not involve close personal contacts; expressed less favourable opinions of pupils; maintained less high verbal intelligence; showed less satisfactory emotional adjustment and presented older age groups.

Davies (25) correlated teachers' personality traits with their classroom behaviour. She found only one or two

measures among 25 teacher traits to be significantly, related to patterns of teaching observed with the ten Fladders categories. For example teachers' scores on the sub-scales of "warmth" from the Cattell 16 PF Tests and the total Minnesota Teacher Attitude Inventory (MTAI) scores were associated with responsive teacher behaviour as indicated by statistically significant low positive correlations. However, the 51 junior, high school teachers consistuting her sample taught in many different subject matter areas, which might reduce such expected relationships. Ringness and others (76) compared similar observation scores of 27 first year teachers with measures of self-concept as teachers, measures of security, and measures of anxiety, Although there were significant relationships among self-perception scores, the measures were not significantly associated with observed overt behaviour while teaching.

Lantz's(53) explored certain relationships between classroom emotional climate, measured by OScAR and concept of self, self-other and self-ideal of elementary student teachers, measured by Interpersonal Check List (ICL) with a view to predict social emotional climate. Three multiple regression equations were developed, using the three separate independent variables (self, self-other and

self-ideal) as predictors. None of the equations investigated was capable of predicting Classroom Emotional Climate scores beyond chance expectations. On the basis of three equations, an initial preliminary composite equation was developed to predict classroom emotional climate. The variables used in this equation had beta weights with t-values equal to 1.00 or higher in the first three equations. These were selected with the likelihood that they would account for a significant portion of the criterion variance. There were no self concept variables that had beta above 1.00. A composite equation with four variables resulted and used in predicting Classroom Emotional Climate Scores. This equation used self-other discrepancy scores for Skeptical Distrustful scale and self-ideal discrepancy scores for Competitive-Explosive, Docile-Dependent, and Cooperative-Overconventional scores. This four variable equation used to predict Classroom Emotional Climate scores resulted in an R equal to .530 which was significant at the .05 level.

The only variable that contributed significantly to the prediction of Classroom Emotional scores was the self-other discrepancy score for Skeptical-Distrustful scale, which was weighted positively in the equation. This positive weight means that individuals who perceived themselves as more skeptical and distrustful than other elementary teachers received higher Classroom Emotional Climate Scores.

It is suggested that the student teachers who perceived themselves as being more skeptical and distrustful on the ICL than other elementary teachers made higher Classroom Emotional Climate scores because they felt free to be themselves in teaching. It is further suggested that these student teachers did not feel that it was necessary to conduct their classes the way that others did and hence perceived themselves as being able to act more independently than other elementary teachers.

Ravitz (74) found support for his hypothesis that teachers' verbal behaviour reflected their concern for self or for students, as identified by a semantic differentiation inventory.

Simon (85) tested the relationship between a teacher's preference for a class and verbal behaviour using Flanders' system. More praise statements appeared in the preferred classes, but the vast majority of communication in the two types of classes was similar.

Storlie (94) did not find strong relationships between change in behaviour after the inservice training and 25 personality variables measured before training began.

Medley (63) in a study in which he used the MMPI found that teachers who had positive pupil-teacher rapport as indicated by high Minnesota Teacher Attitude Inventory

(MTAI) scores tended to score high on the hysteria (Hy) and psychopathic deviate (Pd) scales, while low MTAI scores were highest most frequently on the hypochondriasis (Hs) and depression (D) scales.

Bowers and Soar (15) correlated three dimensions of observed teacher behaviour (Emotional Climate; Verbal Emphasis; and Social Organization or Structure) as measured by OScAR with Minnesota Multiphasic Personality Inventory (MMPI) and Minnesota Teacher Attitude Inventory (MTAI). Emotional Climate showed a low positive correlation (.29) with scores on the MTAI. Verbal Emphasis correlated .33 with the Psychopathic Deviate (Pd) and .26 with the Schizophrenia (Sc) scales, and showed significant curvilinear relationships (etas of .49 and .41 respectively) with the Psychasthania (Pt) and Hypomania (Ma) scales of MMPI. Social Organization correlated -.51 with the Psychopathic Deviate (Pd) scale and -.36 with the Schizophrenia (Sc) Scale, and had an eta of .56 with the Psychasthania (Pt) scale. The results with Verbal Emphasis were interpreted by Bowers and Soar as Follows :

"Teachers at either extreme on Pt (Psychasthania) tend to encourage more pupil interaction in their classrooms. Although generally the higher the score on Ma (Hypomania) the higher the Verbal emphasis score, teachers having the very highest Ma scores tend to rely less on Verbal Emphasis....

Teachers who might be characterized as impulsive and irresponsible, or withdrawn and lacking in self-confidence tended to rely on written Verbal Methods Teachers who were just above the mean on Pt had the fewest subgroups in their classes..... Relatively few sub-groups were found in classrooms of teachers characterized either as immature, irresponsible and asocial (Pd), or insecure and lacking in self-confidence (Sc).".

Rowan (77) correlated two dimensions of behaviour (interactions) as measured by the Teacher Pupil Problem Situation Inventory (PSI) with F-Scale, interview ratings on rigid attitudes of right and wrong, acceptance of self and others, and feelings of comfortableness with oneself and others. The two dimensions measured by the PSI were Control, defined as the teacher's need to determine the student's movement to moment behaviour, and communication defined as the teacher's inclination to allow decision making information into the situation from sources outside himself, and to respond sympathetically and accurately to the stimulus item. The correlations between PSI scores and the predictors (F-Scale etc). revealed an expected correspondence between the two sets of measures. The PSI was found to be capable of predicting Imposition behaviour of the teacher in the classroom more than other categories of behaviour ($r = .36$ for PSI Control in predicting and $-.45$ for PSI Communication). More comprehensive predictive

relationships were hypothesized but correlations were not high enough to be significant, although trends were in the hypothesized directions.

A review of the literature in the area of teacher classroom behaviour reveals two important shortcomings. First, most of the category systems for observation of teacher classroom behaviour are not developed in an inductive manner; and second most of the researchers have studied only verbal behaviours of teachers and tried to correlate them with personality factors, neglecting the fact that teachers communicate both verbally and non-verbally.

Thomas P. Evans (29) gave attention to these facts. He developed an observation system (later named as Biology Teacher Behaviour Inventory - BTBI) in an inductive manner and correlated verbal and non-verbal behaviours of Biology teachers ($N = 8$) with selected personality traits. The inventory contained seven behaviour dimension :

- (1) Management, (2) Control, (3) Release, (4) Goal Setting
- (5) Content, (6) Affectivity and (7) Undecided.

Management category had three sub-categories namely (i) Routine Management (ii) Laboratory Management and (iii) Study Management. Content Development was divided into (i) Teacher-Centered and (ii) Student-Centered. Teacher-Centered and Student-

Centered Content was sub-divided into (a) Procedures, (b) Knowledge, (c) Scientific Process, (d) Tentativeness of Knowledge, (e) Generalizations, (f) Articulation of Content and (g) Facilitates Communication. Affectivity had two sub-categories viz. (i) Positive Affectivity and (ii) Negative Affectivity. These behaviours were also classified into one of the four expressional forms, namely (1) verbal, (2) non-verbal (3) congruent and (4) contradictory while making observations.

The personality data of all the teacher was obtained by administering the Guilford-Zimmerman Temperament Survey (GZTS). The traits measured by this survey were (1) General Activity, (2) Restraint, (3) Ascendence, (4) Sociability, (5) Emotional Stability, (6) Objectivity, (7) Friendliness, (8) Thought-fulness, (9) Personal Relations, and (10) Masculinity.

Analysis of the results revealed that of the total behaviour 60.97 percent was verbal, 39.03 percent non-verbal and .09 percent unclassifiable.

The positive correlation between teacher classroom behaviour and personality traits ranged from .02 to .52. None of these positive correlations were significant.

However Emotional Stability correlated $-.64$ and $-.79$ respectively with Release and Goal Setting. Ascendence correlated $-.74$ with Control. All three correlations were significant at .05 level.

Correlations between personality traits and major sub-categories of teacher classroom behaviour were found to be as such : Emotional Stability correlated .69 with Study Management, and Objectivity correlated .67 with Positive Affectivity. Both were significant at .05 level. Between personality traits and sub-categories of Management ten correlations were found to be significant. General Activity, Restraint, Sociability, Thoughtfulness, and Masculinity correlated .69, $-.76$, .90, $-.67$ and .64 respectively with Verbal Routine Management. Friendliness correlated $-.69$ and $-.81$ with Congruent Routine and Laboratory Management. Emotional Stability and Masculinity correlated .88 and .83 respectively with Verbal Laboratory Management. Emotional Stability correlated .74 with Non-Verbal Study Management.

Correlations between personality traits and sub-categories of Control, Release, and Goal-setting revealed that Ascendence correlated $-.93$ with Verbal Control; Personal Relations correlated $-.86$ with Non-Verbal Release; and Emotional Stability correlated $-.83$ with Congruent Goal

setting. These correlations were significant at .01 level . At .05 level of significance Restraint correlated .64 with Non-verbal Release. Ascendence correlated $-.67$ with Non-verbal Control and Objectivity correlated $-.71$ with Verbal Control.

Correlations between personality traits and sub-categories of Affectivity showed that Objectivity, Friendliness, and Thoughtfulness correlated $-.81$, $-.67$ and $-.74$ respectively with Congruent Negative Affectivity; and Maculinty correlated $-.76$ with Congruent Negative Affectivity. All of these correlations were significant at .05 level.

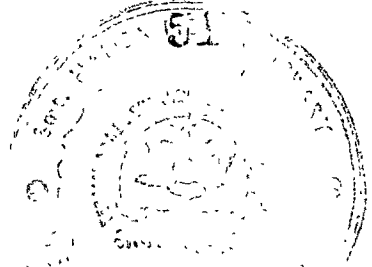
At the end Evans (28) wrote, "The inductive approach to category system development, coupled with the assistance of a video tape recorder, demands that non-verbal behaviours be included since they are readily observable. It questions the assumption made by Withall, Flanders and other proponents of verbal behaviour, that verbal behaviour is an adequate sample of teacher classroom behaviour. It supports the premise that either taken separately is incomplete. The inductive approach further reveals that teaching methods such as demonstrations, are not one but a combination of teacher behaviours, and it prohibits the classification of silence as a lack of behaviour."

Seibel (82) in his investigation tried to predict teacher behaviour on the basis of twelve independent variables. He selected eight teacher behaviour dimensions which according to him reflected emotional warmth or ease of interaction between teachers and pupils. The eight behaviour patterns he selected for the study were :

1. Giving Pupil Praise, Compliments or Material Rewards (Rewards).
2. Giving Pupils Encouragement, Support, and Assurance(Support).
3. Providing Pupils With Affectionate Physical Contacts (Contact)
4. Moving Around the Classroom (Movement).
5. Providing Non-Instructional Service to Pupils (Service).
6. Complying With Unsolicited Pupil Suggestions (Compliance).
7. Soliciting Suggestions from Pupils (Suggestions).
8. Using Humour in the Classroom (Humour).

The independent variables selected on the basis of hypothesized relationships with the criterion behaviours were as follows :

1. Miller Analogies Test Score (MAT).
2. Minnesota Teacher Attitude Inventory Score(MTAI),

- 
3. F-Scale Score (F).
 4. Minnesota Multiphasic Personality Inventory :
Paronia Scale Score (PA).
 5. Minnesota Multiphasic Personality Inventory :
Psychasthania Scale Score (PT).
 6. Minnesota Multiphasic Personality Inventory :
Social Introversion- Extroversion Scale Score(SI).
 7. Wickman Schedule : Number of "no consequences"
Pupil Misbehaviours (WNC) - a measure of the
extent to which a person feels that specified
misbehaviours are of no consequence.
 8. Wickman Schedule : Number of "Extremely grave
consequence" Pupil Misbehaviours (WEGC) - a
measure of the extent to which a person feels that
specified pupil misbehaviours are of extremely
grave consequence.
 9. Previous Teaching, Leadership Activities
with Children (TLA).
 10. Practice Teaching Grade (PTG).
 11. Change in Minnesota Teacher Attitude Inventory
Score ($MTAT_2 - MTAT_1$) - the difference between
MTAI score obtained at the beginning of the
teacher training programme and in the MTAI score
obtained from a second administration near the
end of the programme.

12. Change in F-scale Score ($F_2 - F_1$) - the difference between the F-scale score obtained at the beginning of the teacher training programme and the F-Scale score obtained from a second administration near the end of the programme.

A sample of 100 graduate students enrolled in the Harvard Graduate School of Education served as subjects. While the subjects were engaged in practice teaching they were observed by regular classroom teachers and supervisors from the Graduate School of Education. Toward the end of the teaching practicum each of the 100 subjects was rated on a seven point scale for each of the eight behaviour dimensions by the supervisors and the teachers.

Seibel hypothesized following direction of the relationship between predictor variables and criterion variables :

Predictor variables	Criterion variables.
MAT	Negative
MTAI ₁	Positive
F ₁	Negative
PA	Negative
PT	Negative
SI	Negative
WNC	Positive
WEGC	Negative
TLA	Positive
PTG	Positive
MTAI ₂ - MTAI ₁	Positive
F ₂ - F ₁	Negative

Analysis of the data revealed that $MTAI_1$ correlated .29 with "Contact". PA correlated -.23, -.25, and -.23 with "Support", "Compliance", and "Suggestions" respectively. PT and SI Correlated -.21 and -.23 with "Rewards". WNC had a correlation of .19 with "Humour". WEGC correlated .24 with "Support". TLA correlated .21, .28, .27, .26 with "Support", "Contact", "Compliance", and "Suggestions" PTG correlated .18, .25, .29, .19 and .22 with "Rewards", "Support", "Movement", "Service", and "Humour" respectively. $MTAI_2 - MTAI_1$ correlated .19 with "Movement". All these correlations were significant at .05 level, of which 17 were in hypothesized direction. The correlation matrix depending correlation coefficients is provided in appendix Y.

To examine the relationship between criterion behaviours and the combination of predictor variables multiple R's were computed. All the multiple R's were substantial and the one associated with "Supporting Behaviour" was significant. For this behaviour, four of the predictors ($MTAI_1$, PT, WNC, and $MTAI_2 - MTAI_1$) contributed very little to the relationship. Six of the remaining eight predictors contributed in the hypothesized direction and two (MAT and WEGC) contributed in the direction opposite to the hypotheses.

Quraishi (73) conducted a research in which he tried to relate teacher behaviour in terms of I/D ratio (proportion of indirect talk to direct talk) measured by Flanders technique with Active, Vigorous, Impulsive, Dominant, Emotionally Stable, Sociable, and Reflective traits of personality measured by Thurstone Temperament Schedule. The data was obtained from a sample of 40 primary school teachers. He did not find any significant relation between I/D ratio and the personality traits. A multiple regression equation was carried out to study the combined effect of the traits on I/D ratio. The Multiple R was found to be .498, which too was not significant from zero. These results show that personality does not have any effect on teacher behaviour obtained in the form of I/D ratio.

Research that is designed to investigate whether there are identifiable teachers' attitude that help to explain and predict desirable teachers' behaviour may have implications for teacher training programmes. A study, reported by Sprinthall, Whiteley, and Mosher (91), is illustrative. The findings of this research support the hypothesis that cognitive flexibility (an attitude) and effective teaching (behaviour) are related. No specific generalizations can be made on these findings since which attitudes are related to effective components of teacher

behaviour are not mentioned . On the other hand findings by Giebink (39) contradict the findings of Sprinthall et.al who also related teachers' classroom behaviour with their attitudes.

Giebink's study stemmed largely from the basic assumption underlying the MTAI, that the teachers, who score high on this scale are more supportive, permissive and student centered. While those who score low are more likely to maintain control in the classroom by directions and criticisms, and would be more direct in their approach. On these assumptions he hypothesized that high score on the MTAI would be positively related to (a) indirect teacher talk, (b) continued use of acceptance and praise by teacher, (c) student talk; and negatively related to (d) direct teacher talk, (e) continued use of directions and criticism by teacher, and (f) silence or confusion. A sample of 27 female elementary school teachers were observed for a two 20 minutes intervals and their behaviour was recorded in Flanders categories. The MTAI was administered twice, once at the beginning of the second semester and second time after five weeks. Correlations were computed between the MTAI scores and the observed teacher behaviour categories which are shown in the table, below :

TABLE - 1

Analysis Category	First Observation	Second Observation
A	.16	.17
B	-.25	.00
C	-.01	-.20
D	.08	.07
E	-.18	-.01
F	-.33	-.16

Since none of the correlations between MTAI scores and the teacher behaviour categories were found to be significant Giebink concluded, "..... the main conclusion that could be drawn was that there was no relationship between the attitude measured by the MTAI and observed teacher behaviour."

Morgan (65) studied the relationship between personality and teacher behaviour alongwith creativity factor also. The purpose of his study was to determine if selected personality traits and creativity factors correlate significantly with certain categorized behaviours occurring in classrooms of secondary social studies student teachers. In addition, he tried to determine if categorized behaviour

of secondary social studies student-teachers change during the student teaching period. His study was directed toward investigation of the following basic research questions :

(1) In what way, if any, is initial behaviour of secondary social studies student teachers in interaction with pupils related to personality and/or creativity factors?

(2) In what way, if any, is terminal behaviour of secondary social studies teachers, in interaction related to personality and /or creativity factors?

(3) Are changes, if any, in behaviour of secondary social studies teachers in interaction with pupils related to personality and/or creativity factors?

(4) What is the direction and amount of change if any, in student teachers behaviour in interaction with pupils during student teaching.

The sample consisted of thirty-four Purdue University secondary social studies teaching majors who did student teaching during the Spring 1966 semester. The Guilford-Zimmerman Temperament Survey (GZTS) and the Creative Self-Rating scale were administered to subjects prior to student teaching. Personality traits measured by GZTS included of General Activity, Restraint, Ascendance, Sociability,

Emotional Stability, Objectivity, Friendliness, Thoughtfulness, Personal Relations, and Masculinity. Creativity factors measured by the Creativity Self-Rating Scale included Gross Creativity, Ideational Fluency, and Flexibility.

Purdue University Supervisors of secondary social studies student teachers categorized classroom behaviours during the first and last two weeks of the six week student teaching period. Categorization was done by measure of the Interaction Analysis Record, a modification of the Flanders Interaction Analysis Technique. Behavioural categories of the Interaction Analysis Record were as follows : Accepts Feelings, Praises or *Encourages*, Accepts or Uses Ideas of Students, Asks Questions, Lecturing, Giving Directions, Criticizing or Justifying Authority, Student Talk-Response, Student-Talk Initiation and Confusion.

The first three questions were investigated by use of multiple regression analysis. Predictor variables were the ten personality traits and three creativity factors. For the first two research questions, the twenty mean percentages of class time for each behavioural category were used as criteria. For the third research question, the ten changes in the mean percentage of class time for each behavioural category, based on the two administrations were employed as criteria. Analysis of variance was used to

examine the fourth research question. This question was investigated by a two-way factorial design with the two administrations of the Interaction Analysis Record and the ten behavioural categories as the factors. Significant findings of this research were as follows : (1) Sociability, Gross Creativity (self-reteing) and Masculanity were the most frequently appearing correlates in reduced sets for the various criteria. (2) Significant R's for reduced sets occurred for both administrations of the category, Praises or Encourages; the second administration of the categories, Accepts Feelings, Giving Directions, and Student-Talk-Responses; and the change in the proportions of class time used for both administrations of the categories, Accepts Feelings, Giving Directions, and Student-Talk-Response. (3) No significant interaction was found between the two administrations and the ten behavioural categories. It was concluded that no significant change occurred in the proportion of class time allotted to each of the ten behavioural categories during the student teaching period.

Hanny (43) investigated the effect of selected personality characteristics i.e. dogmatism and those factors measured by the Teaching Situation Reaction Test (TSRT) on the verbal behaviour of subjects who were taught the Flanders system of interaction analysis and on the verbal behaviour of subjects who were not taught this system.

He involved pre-service teachers in a required course in secondary education at the Ohio State University who taught a lesson under simulated conditions. Seventeen significant hypotheses were tested six times each by testing the significance of the difference between the means of high and low scoring samples on the Dogmatism Scales and TSRT. For the Dogmatism scale there were four samples, the top and bottom 14 per cent, while the TSRT samples were composed of the top and bottom 27 per cent. N for 27 per cent samples was 40, for the 14 per cent samples N equalled 20.

Differences were tested by a t-test for the difference between means. There were 25 significant differences found between the high and low scoring samples beyond the .10 level of confidence out of 102 differences that were tested. It was found that subjects who scored high and subjects who scored low on the personality measures and who were not trained in interaction analysis generally differed in their use of indirect influence and the amount of extended student talk that occurred in their simulated classes.

It was concluded that pre-service teachers who are highly dogmatic as measured by the Dogmatic scale and who receive a less desirable score on the TSRT can be taught interaction analysis and are able to use this system to control their behaviour and use desirable verbal behaviours that affect classroom climate when they teach under simulated conditions.

Ober (68) extended Hanny's study and tried to correlate teachers' dogmatic tendency and ability to react effectively to selected classroom situation with their behaviour in the classroom. Of the 312 personality behaviour relationships tested, he found 41 to be significant at or beyond .05 level of confidence. In the light of his findings he concluded that (1) there is evidence to indicate a relationship between the dogmatism factor and observed verbal behaviour of student teachers during their student teaching; (2) there is evidence to indicate a relationship between the ability to react effectively to classroom situations and the observed verbal behaviour of student teachers; (3) training and non-training in interaction analysis has an effect on the personality behaviour relationships of the dogmatism factor and ability to react effectively to classroom situations.

Wallen, Travers, Reid, and Wodtke (98) studied the relationship between teacher behaviour and teacher needs. They selected the following four dimensions of teacher behaviour : (1) Achievement - degree of emphasis on academic activities and the importance of excellence, (2) Affiliation-degree of interaction with students and emphasis on warm personal relationships, (3) Control-degree to which the moment to moment behaviour of students is controlled by the teacher and (4) Recognition-degree to which the teacher is the center of attention.

Two samples of teachers were used by them. The first sample consisted of 77 teachers of Grade K to 6 representing five schools in Salt Lake City. The second sample consisted of 41 teachers representing two schools in a suburban, semi-rural community. The teachers varied across the entire range of age and experience.

Two means were employed to measure the behaviour of the teachers. First included the recording of teachers' verbal behaviour in Withall's observation categories and second included observers' ratings of these behaviours. Teacher Preference Schedule (TPS) developed by Stern and Masling was administered to both the samples to obtain scores on (1) Need for Achievement (2) Need for affiliation, (3) Need for Control and (4) Need for Recognition. A linear correlation was computed between these four needs and four teacher behaviours measured by Withall's method (teacher statements) and ratings by the supervisors.

It was found that Achievement need was significantly related to Affiliating behaviour measured by teacher statements (coded in Withall's categories) and ratings of the observers. The same need also related significantly with Achieving behaviour as measured by observers' ratings. Affiliation need correlated at .05 level with Achieving, Affiliating, and Controlling behaviour and at .01 level

with Recognizing behaviour as measured by observers' ratings. Need for Recognition was significantly related to Achieving and Managing* behaviour as expressed in teacher statements, and Affiliating behaviour as rated by the observers. Need for Control related significantly with Controlling Behaviour of the teachers as revealed in their verbal statements as well as with Affiliating and Controlling behaviour as rated by the observers. The Results of this study are shown in Appendix Z.

and Edson

A study reported by Wilk₁(102,103) is somewhat similar to that of Wallen et al., wherein the authors have studied teacher behaviour in terms of teacher needs and tried to predict it on the basis of certain independent variables. Wilk and Edson believed that people entering teaching profession and motivated primarily either by need to work with people or a desire for the security that the teaching profession could bring. The need to work with others might stem either from a need to dominate them (need Dominance) or a need to be a socially integrative factor in their growth and development (need Integration).

The classroom behaviours associated with need Dominance (n Dom) and need Integration (n Integ) are presumed to be

* While teachers were under observation, "Recognition" behaviour was not exhibited, instead Managing Behaviour" was much more frequent and therefore the later was substituted for the former in this case only.

similar to behaviours that H.H. Anderson has described and that Flanders has specified as "direct influence" and "indirect influence". Wilk and Edson tried to predict this direct and indirect influence or the n Dominance and n Integration as they call, on the basis of certain predictor variables such as MTAI (Minnesota Teacher Aptitude Inventory), MMPI and Miller Analogies Test and Counselors' judgements based on the interviews with 30 prospective elementary education students. They found high relationships between high (MTAI) scores and integrative (indirect) teaching behaviour as measured by the Flanders system and the OScAR. They did not find a high relationship between low MTAI scores and Dominative (direct) teacher influence. They also found that counselors were not able to identify students who later exhibited integrative student teaching behaviour on the basis of an interview and admissions data.

Two studies, one by Sorber (89) and the other by Goody and Hinely (22-A) shed light on the need structure of direct and indirect, and dominating and submissive types of teachers.

Sorber studied the need structure of direct and indirect teachers with the help of Edwards Personal Preference Schedule (EPPS). He did not find any significant difference in the needs of direct and indirect teachers. However he found a negative correlation (-0.337) between

indirect behaviour and Nurturance need and between direct behaviour and Deference need ($-.389$).

Goody and Hinely started with two basic hypotheses, that (1) Dominating student teachers will have significantly higher mean scores on the Edwards Personal Preference Schedule (EPPS) sub-scales of Aggression, Autonomy, and Dominance than the submissive student teachers and (2) submissive student teachers will have significantly higher mean scores on the EPPS sub-scales of Abasement, Deference, and Succorance than the dominating student teachers.

From a population of 138 subjects the 12 most dominating and the 12 most submissive student teachers as judged by their college coordinators were administered the EPPS. Scores for the two groups on each sub-scales were computed. To determine the significance of difference between the means of the two groups on each sub-scale t-test was applied.

Hypothesis one was accepted in that Dominating student teachers scored significantly higher than the Submissive student teachers on Aggression, Autonomy, and Dominance. Hypothesis two was accepted for the sub-scales of Abasement and Succorance, with the Submissive student teachers having significantly higher scores. Their scores were also higher on Deference but not at the prescribed level of significance. A Q-technique factor analysis substantiated these differences and also indicated some common characteristics in both groups

which can be stated descriptively as avoidance of routine, avoiding positions of leadership and responsibility and lack of endurance. This study points out that Dominative and Submissive teachers significantly differ from each other on some needs but on some needs they do not differ.

On the assumption that anxiety is an important motivator of human behaviour Petrusich (71) devised an 8 week study to delineate some of the relationships between anxiety and teachers' behaviour.

The sample (N=42) of the study comprised of a senior class of elementary education at the University of Vermont. A control group (N=159) was also selected in proportion to the population of the other colleges of the University.

The instrument used by Petrusich to measure free, manifest anxiety was the IPAT Anxiety Scale, which also yields covert and overt anxiety indices as well as part scores that may suggest anxiety sources. The IPAT 8- Parallel-Form Anxiety Battery was used to measure anxiety experienced as a state; this instrument consists of eight comparable forms and is suitable to retesting at frequent intervals. The Observation Schedule and Record (OSCAR) was selected for collecting behavioural data; the three factors of OSCAR are Emotional Climate; Verbal Emphasis; and Social Structure.

The IPAT Anxiety scale was administered to the subjects before and after the student-teaching period and once to

control group; separate form of the IPAT 8-Parrellel-Form-Anxiety Battery were administered to the student teachers once a week; thirty-minute observations using the OScAR were made weekly in their classrooms.

Analysis of the data consisted of four steps :

(1) t-tests between weekly state anxiety scores (2) t-tests between the two sets of trait anxiety scores (3) product moment correlations between weekly questionnaire data and weekly observation data and (4) t-tests between the anxiety tests administered to the experiment group and control group.

Significant relationships were found between state anxiety and Emotional Climate but not Verbal Emphasis or Social Structure. Trait and overt anxiety related significantly to all three OScAR factors, whereas covert anxiety related significantly to Emotional Climate and Verbal Emphasis but not to Social Structure. The significant relationships found were predominantly in the area of verbal and non-verbal communication. Analysis of the control data indicated that the student teacher population differed from the control population in only one respect : they had significantly more ego strength before student teaching but did not differ significantly from the control group afterward.

Subjects whose trait anxiety was low, tended to be more sarcastic to their pupils, tended to yell at them more, but concurrently were more positive of them. Those operating on high levels of trait anxiety tended to call their pupils by affectionate names, rarely raised their voices, rarely were hostile or sarcastic, but were not supportive of them. Interestingly enough, increased incidences of disorderly pupil behaviour related significantly to this latter picture, not to the former.

The findings of this study suggest that classroom organization, types of pupils grouping, use of traditional subject matters of elementary school were all less a function of anxiety than the verbal and emotional interchange of the student teacher vis-avis his/her pupils. The possibility that student teaching may involve personal trauma to the extent of a significant lowering of ego strength may ^{be} an important area for further study.

Lewis' (58) study too deals with anxiety and teacher behaviour. He investigated the effect of anxiety on student teacher behaviour. More specifically his study was mainly focused on observable strengths and weaknesses of highly anxious student teachers.

From the population of 295 student teachers, 21 highly anxious teachers, identified by the structured objective

Research Test (SORT) were selected by Lewis. Another instrument known as the Counseling Guide for Student Teachers (CGST) was used to identify some of the skills and qualities considered basic to effective teaching as well as the strengths and weaknesses of the student teachers. The instrument was built around ten major areas of developing learning and experiences and the student teacher's influence on student behaviour.

The student teachers' supervisors completed the CGST for each student assigned to them. From the ten statements on the guide, these college coordinators indicated the statement that described the greatest strength, the second greatest strength, and the third greatest strength. The same procedure was followed to identify weaknesses. In order to derive a mean assessment for each statement, these designations were assigned a numerical value of three points two points, and one point.

The greatest strength of the highly anxious student teachers was the demonstrations of requisite knowledge of subject matter, and the second greatest, the exhibition of desirable personal qualities.

The greatest weakness of the highly anxious student teachers was the lack of effective democratic procedures in influencing desirable pupil attitudes, and the second greatest, the lack of ability to evaluate and diagnose desirable learning effectively.

In earlier study (by the same author) the greatest strength of all the student teachers was (found to be) the demonstration of a desirable attitude toward teaching and supervision. The greatest weakness found in the earlier study was the lack of ability to evaluate and diagnose learning effectively. When the result of this study are compared with those of the earlier study, it appears that highly anxious student teachers exhibit patterns of behaviour in the classroom that are different from those exhibited by the non-anxious student teachers.

The findings of the study support the conclusion that student teacher behaviour is affected by high levels of anxiety. It would also follow that anxiety can be significant in demonstrated strength and weaknesses in the classroom.

McGee (61) studied the relationships between F-scale score and teacher behaviour. He hypothesized that "Verbal responses of teachers to statements on an opinion-attitude scale for measuring authoritarianism and teachers' overt behaviour (overt authoritarian behaviour) toward pupils in the classroom are positively correlated".

He used F-Scale to measure underlying authoritarian trends of teachers' personality and Classroom Observation Record to estimate (to record) Authoritarian behaviour.

The trends in authoritarian character structure thought of as forming the F syndrome were : Conventionalism, Authoritarian Submission, Authoritarian Aggression, Anti-Intrapersonality, Supersitition and Stereotype, Power and "Toughness", Destructiveness and Cynicism, Projectivity, and Exaggerated Concern with Sex. The selection of behaviour categories for observation was based on hypotheses as to how specific behaviours in the classroom might be connected with these generalized authoritarian trends. For example, when it was observed that a teacher was severe; the teacher grabbed, shook, or otherwise 'manhandled' a child, the teacher was abusive; the teacher was 'personal' in praise and criticism of the work of each pupil; or the teacher ridiculed a pupil or depreciated a pupils efforts, one interpretation was that this individual had a particularly strong concern with anti-weakness.

Classroom observations and F-scale scores were obtained for 150 relatively young (not over 32 years of age) and relatively inexperienced men and women teachers (not more than three years experience) in public elementary and secondary schools in Oakland, California. Analysis of the data yielded the following results.

(1) The overall correlations of .58 between the independent variable (the F-Scale score) and the dependent variable (the assigned behaviour score) is highly signi-

ficant (.005 level), thus confirming the major hypothesis of the study, i.e. a positive relationship between a measure of anti-democratic potential and a measure of teachers overt authoritarian behaviour in the classroom.

(2) The overall mean F-scale score per item of 2.89 is almost one point lower than the mean score of 3.81 for the normative sample of middle-class adults, supporting the hypothesis that teachers as group are less authoritarian than other adults of similar status.

(3) No significant differences in means or correlations were obtained for any subgroupings of teachers except that men were found to be significantly lower than women on both the F-scale and Classroom Observation measures of authoritarianism.

In concluding his study the author suggested that, "teachers' classroom behaviour on an Authoritarian-Equalitarian dimension can be predicted with fair accuracy from scores on the F-scale".

Levin, Hilton, and Leiderman (56) reported a study by Stuart in which the F-scale was related to teacher behaviour in the classroom.

Sheldon, Coale, and Copple (84) in a study found a significant relation between scores on the so called "Warn teacher scales" and scores on the F-Scale, subjects scoring

high on the "warm teacher scales" being lower in "authoritarianism".

A study reported by Harvov and his associates (44) points to relationship between teachers' beliefs and (1) the behaviour of the teacher in the classroom and (2) the behaviour of students in the classroom. Teachers were classified as abstract or concrete on the basis of written statements expressing beliefs about 'religion' 'friendship', the 'American way of life', 'sin', 'education' 'the family' and 'sex'. Concrete teachers were found to be less resourceful, more dictatorial, and more punitive in the classroom than were abstract teachers. The student of abstract teachers were found to be more involved, more active, higher in achievement, and less concrete than were the students of concrete teachers.

Bowie and Morgan (16) tested relationships between teachers' values and their verbal behaviours. After confirming some of the relationships but not others, the authors cautioned that common-sense assumptions about the relationships between teacher values and personality factor need to be tested empirically.

Lantz (54) studied the relationship between independent observations of student teachers' behaviour in the classroom and supervisors' ratings of student teachers' behaviour.

He collected data on thirty-six female elementary education student teachers who had common background of professional preparation and who were student teaching for two successive quarters in a metropolitan area. Each subject was assigned a lower grade (1-3) during one quarter and an upper grade (4-6) during the other quarter.

Five observers, with backgrounds in psychology spent a month of intensive training in the use of the two observation instruments prior to the actual observation of student teachers so that sufficient reliability could be established.

The instruments used to assess student teacher behaviour was the classroom Emotional Climate Scale from the OSCAR, and Flanders Interaction Analysis, which is a system of categorizing teachers' verbal behaviour. The Inter-personal Check-List (ICL) was used by the (University) supervisors in rating student teachers' interpersonal behaviour.

Each observer visited each student-teacher once during each academic quarter. During each visit the observer categorized the individual teacher behaviour for six five-minute sampling periods.

A set of multiple regression equations was developed to predict the criterion variables (1) direct influence (2) indirect influence and (3) classroom emotional climate from supervisors' perceptions of student teachers' interpersonal behaviour as classified by ICL.

Each of the three equations that made use of university supervisors' perceptions of student teachers was capable of predicting the criterion scores beyond chance expectations.

(1) Indirect influence scores were predicted at the .01 level with a multiple R of .595. Students who were perceived as manifesting a high degree of dependency, used little indirect influence in the classroom. Students who were perceived as friendly used more indirect influence in the classroom.

(2) Direct influence scores were predicted at the .05 level with a multiple R of .481. Psychological observers recorded less direct influence by student teachers who were perceived by university supervisors as being supportive and generous.

(3) Classroom-emotional climate scores were predicted at .01 level with a multiple R of .463. Student teachers who were perceived as punitive and critical received low scores for classroom emotional climate.

None of the equations utilizing supervising teachers' (independent observers) perceptions was able to significantly to predict the three criterion scores.

University supervisors and supervising teachers' perceptions on a given interpersonal variable may be quite different. The best example here is the variable docile-

dependent, which was positively related in predicting indirect influence when rated by supervising teachers and negatively related when rated by university supervisors.

Medley and Mitzel (62) conducted a research in the area of teacher effectiveness. Their research differed significantly with the traditional researches on teacher effectiveness. The traditional researches on teacher effectiveness have mainly used some sort of ratings-ratings by principals, peers, and students- which have failed to give any substantial understanding of the variables involved in teacher effectiveness. Medley and Mitzel selected certain classroom behaviour patterns of teachers and studied the extent of their usefulness in predicting teacher effectiveness. They used five measures of teacher effectiveness to be predicted on three dimensions of classroom behaviour, plus three control variables. Thus in all there were five dependent variables and six independent variables.

The measures of teacher effectiveness they used were (1) Adjusted Reading Growth - measured by the California Reading Test (Elementary), (2) Growth in Problem Solving Skill- measured by Russell Sage Social Relations Test, (3) Pupil-Teacher Rapport - measured by "my Class Inventory" (4) Teachers' self-rating-ratings by the teachers themselves on three different roles and (5) Principals' Ratings - ratings by the principals on the same three roles mentioned above.

Teachers' classroom behaviour patterns were measured by the OScAR. Six observers each visited all 49 teachers twice at different times over a three month period and made an objective record of behaviours for half an hour on each visit. The patterns of behaviour identified were (1) Emotional Climate-refers to the amount of hostility observable in a classroom; a score indicates a room in which external manifestations of warmth and friendliness are common and hostile reactions are rare, (2) Verbal Emphasis - refers to the degree to which verbal activities predominate and (3) Social Organization - refers to the autonomy in a class. The three control variables were (1) Average Mental Maturity, (2) Grade Level and , (3) Initial Group Problem Solving Skill.

In order to answer the main question - the relationship between classroom behaviour and teacher effectiveness the multiple regression technique was used. Six independent variables - three dimensions of teacher behaviour and three measures of control variables were employed. Each of the five measures of effectiveness was used in turn as a dependent variable.

It was found that measured growth of pupils in reading ability showed very little relationship to any of the three dimensions of teacher behaviour but seemed to depend on grade level.

Growth of pupils in group problem solving skill as measured by Russell Sage Social Relations Test seemed not to be related to any appreciable degree either to recorded classroom behaviour or to control variables.

Pupil teacher rapport seemed most closely related to Emotional Climate, rapport being highest where Emotional Climate was warmest. There is a suggestion that rapport is likely to be better when the emphasis on verbal activities is above average, and a hint that it is lower at the upper elementary grade levels.

Supervisors' or Principals' ratings were related appreciably only to Emotional Climate among the behaviour dimensions. Apparently principal or supervisor think that the teacher whose class is friendly and orderly is an effective teacher.

Teachers who rated themselves as highly effective in teaching fundamentals tended to allow their pupils less opportunity to work in small independent groups than those who rated themselves as less effective. Their classes seemed likely to be higher in average mental ability.

An analytical observation of these studies make it clear that a large number of variables have been correlated with various teacher behaviour dimensions. The nature of variables reveals that about 80 per cent of them are

personality traits and 20 percent are of attitudinal and miscellaneous nature. The various personality traits spread over a large continuum are emotional stability, warmth, self-concept, anxiety, hysteria, psychopathic deviancy, hypochondriasis, depression, schizophrenia, psychasthenia, hypomania, authoritarianism, general activity, restraint, ascendance, sociability, objectivity, friendliness, thoughtfulness, personal relations, masculinity, paranoia, social introversion-extroversion, dogmatism, needs for achievement control, affiliation, dominance, integration, aggression, autonomy, absement, deference, and succorance. The attitudes that are correlated in various studies are mainly measured by Minnesota Teacher Attitude Inventory which gives a measure of how well the teacher will get along with the pupils. Moreover in one case attitudes towards pupils and administrators are also correlated. The miscellaneous category of variables includes beliefs and values of the teachers. With regard to the methods adopted in these studies we find that in general correlation techniques (r and ρ) and multiple regression analysis have been used. In one or two studies wherever necessary "t" test is also used.

What generalizations can we make on the basis of these studies? Where do they lead us? Do they enable us to develop or construct any theory for better teaching or effective teaching? Are there any consistencies in the findings of various researches which enhance our understanding about the teacher behaviour and its relation to various factors?

These are some of the prominent questions that arise after the review of these researches. The answer ~~on~~ answers are difficult and not easy as they appear to be. Nevertheless some basic conclusions can be drawn on the basis of the present review of the studies.

First of all it can be said that there are inconsistencies in the results or findings of various researches. Not only the results are inconsistent but sometimes contradictory and conflicting. The main reason for this seems to be lack of clearcut definitions of teacher behaviours, and their basic components. For example the term "Social Emotional Climate". Withall's and Medley and Mitzel's categories are meant to measure Social Emotional Climate of the class, however the behaviour dimensions covered by these two techniques are not the same and therefore Social Emotional Climate as measured by Withall's technique may be related to some personality measure the same may not be related if it is measured by OScAR. A clear example where there is likelihood of conflicting results. The author feels that to avoid such difficulties researchers should specify or define the behaviour under use. It would still be better that no two investigators should use the same term for the particular dimension of teacher behaviour if their basic components are different. For example a direct teacher as identified by Flanders technique can not be called dominative

teacher if the concept of dominative teacher is derived on the basis of F-Scale, because what F-Scale measures is quite different from what Flanders technique measures.

The second conclusion that can be drawn on the basis of these studies is that at least some variables either positively or negatively related to teacher behaviour. By taking such variables together the old studies must be replicated and new relationships with additional variables must be explored.

Third conclusion is that some aspects of teacher behaviour can be predicted satisfactorily.

Lastly, it is felt that still more and more researches should be undertaken to explore the relationship between teacher behaviour and other variables till some definite relationships are found, which may be consistent and permanent. If we achieve this goal the possibility of developing an effective theory of teaching will be all the more in sight.

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