C H A P T E R   SIX

SUMMARY AND CONCLUSIONS

The present investigation arose in the context
of the increasing realization of the need for a probe into
the classroom behaviour of teachers. Attempt has been made
to investigate some non-personality characteristics of the
teacher which might be influencing his indirect behaviour
in the classroom. The variables studied are age, recency
of training, experience, sex and marital status of the
teacher and the curricular subject taught. The variables
were related to two specific dimensions of teacher
indirect behaviour - namely, I/D and i/d. Attempt was also
made to highlight the prominent features of teacher
behaviour, through comparative study of matrices, based
on sex, marital status and subject taught.

A summary of major findings along with conclusions
and some suggestions follow in this chapter.

MAJOR FINDINGS

1. Major Findings Bearing on Hypotheses

1.1   The application of the technique of partial correlation revealed that there is no evidence indicating any significant relationship between teacher's age, recency of training and experience on the one hand and the I/D and i/d criteria of teacher behaviour on the other.

1.2   The Analysis of Variance - 2x2 Factorial Design applied to the I/D scores yields F-ratios which are not significant. The 'Main Effect' findings imply that male and female teachers, averaged over both married and unmarried conditions, do not differ significantly and also that married and unmarried teachers, averaged over sex differences, do not differ significantly. This also implies that males and females regardless of their marital status do not differ significantly in their indirect influence, as measured in terms of I/D. Similarly, the results of the test imply that married and unmarried teachers, regardless of their sex, do not differ significantly in their indirect influence, as measured in terms of I/D. The evidence, therefore, is not supportive of the two hypotheses set up with regard to sex and marital status that (1) women teachers are more indirect in their influence than men teachers and (2) unmarried teachers are more indirect in their influence than men teachers, when I/D is the index of indirectness.

1.3   Analysis of Variance - 2x2 Factorial Design
applied to i/d scores of the teachers, however, indicates
significant 'Main Effects'. Males and females, averaged
over both married and unmarried conditions, differ signi-
ficantly at .05 level. Examination of the means shows that
male teachers on an average are found to be more indirect
than female teachers.

The hypothesis that female teachers are more
indirect than male teachers is rejected and the finding is
to the contrary, as far as i/d is concerned.

The 'F' ratio, as regards marital status, which is
significant at .01 level indicates that married and un-
married teachers averaged over sex differences differ
significantly. Examination of the means shows that unmarried
teachers are on an average more indirect than married
teachers in their influence when i/d is the index of
indirectness. The 'F' ratio relating to 'Interaction
Effects' is not significant.

The hypothesis that unmarried teachers are more
indirect in their influence than married teachers is
sustained as far as i/d is concerned.

1.4   Analysis of Variance - Two Way classification
applied to the I/D scores has yielded significant 'F' ratios
for both 'Between Subjects' and 'Between Teachers' at .01
level. This means, for our purpose, that teachers differ

in their influence patterns (I/D) when the subject taught
by them is altered on the whole.

However, when 't' test was applied to the fifteen
subject pairs, only twelve pairs produce significant 't'
ratios.

Teachers are found to exhibit significantly differ-
ent I/D ratios when they move from one to the other subjects
in the following twelve pairs:

1. Tamil - English
2. Tamil - Mathematics
3. Tamil - History
4. English - History
5. English - Geography
6. English - Science
7. Mathematics - History
8. Mathematics - Geography
9. Mathematics - Science
10. History - Geography
11. History - Science
12. Geography - Science

Hence the hypothesis that teachers differ in their
influence patterns when the subject taught by them is
altered, is sustained on statistical scrutiny, as far as
I/D's are concerned, only in respect of the abovementioned
twelve subject pairs.

1.5   Analysis of Variance - Two Way classification applied to i/d scores yield 'F' ratios, significant at .01 level. For our purpose this means that teachers differ in their influence patterns (i/d) when the subject taught by them is altered, on the whole.

However, when 't' test applied to the fifteen possible pairs only seven pairs produce significant 't' ratios. The pairs where 't' is significant, are given below:

1. Tamil - Mathematics
2. English - Mathematics
3. English - Geography
4. Mathematics - History
5. Mathematics - Science
6. History - Geography
7. Geography - Science

Hence the hypothesis that teachers differ in their influence patterns when the subject taught by them is altered is sustained, on statistical scrutiny, as far as i/d's are concerned, only in respect of the above mentioned seven subject pairs.

2. Major Findings from Study of
   Matrices Based on Sex

2.1   Female teachers on the whole generate a decidedly greater extent of interaction than male teachers, in a
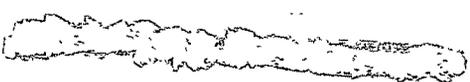
given time, as borne out by greater per hour/per x teacher interaction.

2.2   Male teachers leave lesser number of vacant cells (two) than female teachers (six) indicating that the former are capable of involving in their classroom communication vaster number of possible sequences than is the case with the latter. Surprisingly, the sequences (1-3) and (7-1), have been elusive to both the groups of teachers.

2.3   Male teachers talk more (66 per cent) than female teachers (62 per cent).

2.4   Student talk is more (24 per cent) in classes under female teachers than in those under male teachers (20 per cent).

2.5   Total extent of silence/confusion under both situations is identical (14 per cent).

2.6   The T/S ratio is 3.34 for male teachers and 2.52 for female teachers which position corroborates the findings in (2.3).

2.7   Flexibility of communication has been slightly more in classes under male teachers (SSR = 60 per cent) than under female teachers (SSR = 62 per cent).

2.8   Classroom communication in classes under female teachers has been slightly more interrupted with spells

of silence/confusion (category ten occurs to 14.27 per cent) than in the case of male teachers (category ten occurs to 14.06 per cent).

2.9   Female teachers have shown greater I/D ratio (0.26) than male teachers (0.24). However, it may be incidentally mentioned that the results of the application of the Analysis of Variance - 2x2 Factorial Design to I/D's, paraphrased in (1.6) do not support this overall picture emanating from a scrutiny of the two respective Master Matrices.

2.10   Male teachers show a greater i/d ratio (0.61) than female teachers (0.57). Analysis of Variance - 2x2 Factorial Design as applied to i/d's, cited in (1.7) corroborates this revelation.

2.11   Male teachers have been responding more (TRR = 62 per cent) than female teachers (TRR = 57 per cent).

2.12   Female teachers have been using questions as lever of initiation more (TQR = 21 per cent) than male teachers (TQR = 18 per cent).

2.13   On the question of Instantaneous Teacher Response Ratio both the sexes score alike (TRR 89 = 76 per cent).

2.14   Female teachers used more instantaneous (at the cessation of pupil talk) questions (TQR 89 = 67 per cent) than male teachers (TQR 89 = 55 per cent).

2.15   As regards harnessing categories 1, 2 and 3 to
                          -ing
constructively integrat£ them with classroom communication
fabric male teachers score above (23.4 per cent) over
their female counterparts (20.7 per cent).

2.16   As regards invoking categories 6 and 7 to give
rise to vicious circle in classroom communication female
teachers are guilty to a greater extent (30.3 per cent)
than their male counterparts (20.3 per cent). This findings
is, it may be noted, in consonance with that in (2.15)
above.

2.17   Female teachers have had greater flexibility of
communication (lesser TSSR of 64.7 per cent) than male
. teachers (greater TSSR of 65.0 per cent). The significance
of this may be appreciated better with reference to the
finding in (2.7), which presents a contradictory picture.

2.18   Male teachers have placed more emphasis (56 per
cent) on content than their female counterparts (52 per
cent).

2.19   Male teachers betray emphasis on content through
information delivery in a greater measure (46 per cent)
than do female teachers (41 per cent).

2.20   Content emphasis buried in teacher talk has been
more (48 per cent) in the case of male teachers than in
the case of female teachers (44 per cent).

2.21   Female teachers have doled out praise/encourage-
ment more stringently (3.0 per cent) than their male
counterparts (3.4 per cent) on the whole.

2.22   Female teachers, however, have used praise/
encouragement in immediate reaction to pupil talk to a
greater extent (73.1 per cent) than in the case of male
teachers (59.4 per cent).

2.23   Male teachers have had to use the lever of
praise/encouragement for bringing communication onto a
state of active interchange from spells of benumbing
silence/confusion, to a greater extent (4.4 per cent) than
has been the need on the part of female teachers (2.7 per
cent).

2.24   Female teachers have used praise/encouragement as
bait for pupil talk to a greater extent (41 per cent) than
in the case of male teachers (27.2 per cent).

2.25   Mutual transitions between categories two and
eight (8-2 and 2-8) have occurred more in the case of female
teachers (67.5 per cent and 36.9 per cent respectively)
than in the case of male teachers (52.7 per cent and 23.4
per cent respectively) indicating a higher tempo of
students' responsive talk kept up deliberately by female
teachers through praise/encouragement.

2.26   Male teachers have switched onto information
delivery from a position of offering praise to pupils, in

a greater measure (16.9 per cent) than their female counterparts (10.1 per cent) which betrays the former's clear preoccupation with content delivery, as has also been borne out by the finding in (2.18).

2.27   A larger segment of teacher talk (16.0 per cent) has been by way of total immediate reaction to student talk from female teachers than has been the case from male teachers (13.2 per cent).

2.28   Females have been using questions in the context of students' responsive talk to a greater extent (4.8 per cent) than is the case with males (2.8 per cent). This is in consonance with the total picture projected in finding (2.12).

2.29   Content delivery following students' self-initiated talk has been more (1.2 per cent) in the case of male teachers and it has been to a lesser extent (0.9 per cent) in the case of female teachers. This may be appreciated in the light of/the male teachers' consistent concern for content as reported in (2.18).

2.30   Female teachers retorted with orders and criticism to students' self-initiated talk to a greater extent (0.5 per cent) than has been the case with male teachers (0.4 per cent). Female teachers' impatience, manifested in the increased vicious use of categories six and seven, has earlier been noted in the finding (2.16).

2.31   Pupils have been initiating more (18 per cent) in classes under male teachers than in those under female teachers (13 per cent). This is in conformity with the TRR position reported in (2.11) wherein it was noted that male teachers have been responding more than female teachers.

2.32   Pupils under female teachers have been using more steady and sustained talk (PSSR = 53 per cent) than is the case with pupils under male teachers (47 per cent).

2.33   More of pupil talk has been occurring (45 per cent) in the context of teacher talk under male teachers than under female teachers (40 per cent).

2.34   Self-initiated talk of pupils' in the context of teacher talk has been more (9 per cent) in the case of male teachers than (6 per cent) in the case of female teachers.

2.35   Pupils' responsive talk has been thriving more (87.3 per cent) in the case of female teachers than (81.8 per cent) in the case of male teachers.

2.36   Pupils' self-initiated teacher talk has been flourishing more (18.2 per cent) under male teachers than (12.7 per cent) under female teachers.

2.37   Responsive talk of pupils has been more (4.8 per cent) in the context of teacher directions in the case of

male teachers while it has been to a lesser extent (3.6 per cent) under female teachers.

2.38   Questions from male teachers have produced pupils' self-initiated talk to the extent of 4.2 per cent while the female teachers could do so only to the extent of 3.3 per cent.

2.39   Pupils' initiated talk following silence/confusion has been more (1.8 per cent) under male teachers than under female teachers (1.0 per cent).

2.40   Pupils' responsive talk followed by silence/confusion has been more (5.2 per cent) under male teachers than (3.7 per cent) in the case of female teachers.

2.41   Pupils' self-initiated talk followed by silence/confusion also has been more (1.5 per cent) under male teachers than (1.0 per cent) under female teachers.

2.42   More of silence (33.6 per cent) has been occurring following teacher talk under male teachers than (28.1 per cent) under female teachers.

2.43   Sustained silence has occurred more (63 per cent) in classes under female teachers than (57 per cent) in those under male teachers.

2.44   Silence/confusion as context for teacher talk has been more (34.11 per cent) with male teachers than (27.64 per cent) with female teachers.

3. Major Findings from Study of Matrices Based on Marital Status

3.1   Communication has been marginally faster in the classes of married teachers than in those under unmarried teachers as borne out by the index of per/hour interaction.

3.2   Married teachers have harnessed more fully the possible sequences of communication than unmarried teachers, as borne out by the number of vacant cells in each case.

3.3   Sequences (1-3) and (7-1) have been consistently elusive for both the groups of teachers.

3.4   Unmarried teachers have talked slightly more (65.0 per cent) than their married counterparts (64.1 per cent).

3.5   Incidence of silence/confusion has been more (14.3 per cent) in classes of married teachers than (13.3 per cent) in those of unmarried teachers.

3.6   Unmarried teachers' talk in relation to pupil talk (T/S ratio) has been more (2.99) than it has been in the case of married teachers (2.96).

3.7   Flexibility of communication has been more (SSR = 59.0 per cent) in the classes of unmarried teachers than (SSR = 61.4 per cent) in those of married teachers.

3.8   Flow of communication has been more uninterrupted (category ten has occurred to the extent of 13.29 per cent) in classes of unmarried teachers than (14.29 per cent) in those of married teachers.

3.9   Taking into account the concern for content, the unmarried teachers have shown more indirect influence (I/D = 0.27) than their married counterparts (I/D = 0.24).

3.10   Even purely on social-emotional plane, excluding the emphasis on content, the unmarried teachers have put up more indirect influence (i/d = 0.66) than their married counterparts (i/d = 0.58).

3.11   Unmarried teachers have been responding more (66.8 per cent) than married teachers (58.1 per cent).

3.12   Also it is the unmarried teachers, quite surprisingly, who score over (20.8 per cent) than their married counterparts (18.7 per cent) as regards the use of questions.

3.13   The relative lead maintained by the unmarried teachers over their married rivals in regard to total 'response' and 'initiation', as highlighted in (3.11) and (3.12) is kept up and exhibited by them as regards the instantaneous use of these verbal manoeuvres. Unmarried teachers have been instantaneously responding more (TRR 89 = 80.4 per cent) than married teachers (TRR 89 = 74.9 per cent).

3.14   Unmarried teachers again have been resorting
instantaneously to questions more (TQR 89 = 64.3 per cent)
than married teachers (TQR 89 = 59.4 per cent).

3.15   Married teachers have been harnessing a greater
segment (22.22 per cent) of the combined use of categories
1, 2 and 3 for constructive integration than is the case
of unmarried teachers (22.12 per cent).

3.16   Married teachers have failed to utilize only one
possible transition in the constructive integration area
whereas the loss in the form of vacant cells in this area
on the part of unmarried teachers has been four. This
revelation may be appreciated better in the context of
the finding in (3.15).

3.17   Married teachers again have resorted to more
(25.44 per cent) vicious circle component, with reference
to total use of categories six and seven, than in the
case of unmarried teachers (19.63 per cent).

3.18   Flexibility, particularly in teacher talk, on
the part of unmarried teachers has been more (TSSR = 63.9
per cent) than in the case of married teachers (TSSR =
66.1 per cent).

3.19   On the steady state teacher talk, the marked
contrast lies in respect of the relative incidence of
vicious circle component. While 2.26 per cent of steady
state talk of married teachers has been from the vicious

circle area only 1.38 per cent of steady state teacher talk of unmarried teachers has been occurring in a similar manner.

3.20   Emphasis on content has been more (55.27 per cent) on the part of unmarried teachers than (54.44 per cent) by married teachers.

3.21   Towards content emphasis, questions have subscribed more (11.47 per cent) in the case of unmarried teachers than (10.19 per cent) in the case of married teachers. This is to be viewed in the context of the finding in (3.20).

3.22   However, the part played by information delivery, on the content emphasis recorded, is more (44.24 per cent) in the case of married teachers than (43.79 per cent) in the case of unmarried teachers.

3.23   On the whole, unmarried teachers have used praise/encouragement slightly more (3.32 per cent) than married teachers (3.25 per cent).

3.24   Although using a lesser extent of praise/ encouragement, the married teachers have used it striking-ly more (33.17 per cent) in the context of their own talk, than their unmarried counterparts (25.32 per cent).

3.25   However, it is the unmarried teachers who not only used more praise on the whole (finding 3.23) but also

quite strategically used it more (71.60 per cent) in direct reaction to student talk than (62.85 per cent) has been the case with married teachers.

3.26   Unmarried teachers have used more (63.97 per cent) praise in the context of pupils' responsive talk than (56.93 per cent) in the case of married teachers.

3.27   Again it is the unmarried teachers who have used more (7.62 per cent) praise in direct reaction to students' self-initiated talk than is the case with married teachers (5.92 per cent).

3.28   Unmarried teachers have used praise to serve as context for pupils' self-initiated talk, in a greater measure (4.90 per cent) than in the case of married teachers (3.60 per cent).

3.29   Following praise, questions have been put more (19.28 per cent) by unmarried teachers than (15.64 per cent) in the case of married teachers. This is better appreciated in the context of the findings in (3.12) and (3.14).

3.30   Unmarried teachers have immediately reacted to student talk more (15.61 per cent) than is the case with married teachers (14.01 per cent).

3.31   Unmarried teachers have reacted constructively in immediate reaction to students' responsive talk in a greater measure (5.61 per cent) than married teachers

(4.68 per cent).

3.32   Using questions in the context of pupils'
responsive talk, a strategy of drill, has been occurring
more (4.13 per cent) on the part of unmarried teachers
than (3.43 per cent) on the part of married teachers.

3.33   Married teachers have used more (1.38 per cent)
orders and criticism in immediate sequence to students'
responsive talk than (1.12 per cent) is the case of
unmarried teachers.

3.34   Again, it is married teachers who retorted
immediately with orders and criticism to pupils' self-
initiated talk, to a greater extent (0.41 per cent) than
unmarried teachers (0.26 per cent).

3.35   Initiation from pupils has been more, though
slightly so, (15.8 per cent) in the case of married
teachers than (15.4 per cent) in the case of unmarried
teachers. This finding is to be appreciated in the context
of those in (3.11) and (3.13).

3.36   Flexibility of communication in pupil talk has
been more (PSSR = 45.4 per cent) in the case of pupils of
unmarried teachers than (PSSR = 50.6 per cent) in the case
of those of married teachers. This can be appreciated
better in the context of the finding in (3.18).

3.37.   A decisively greater percentage (45.7) of pupil

talk has occurred in the context of teacher talk, in the
case of unmarried teachers while it has been lesser (41.9
per cent) in the case of married teachers.

3.38   Responsive talk of the pupils following teacher
questions has occurred more (27.7 per cent) in the case of
unmarried teachers than (24.2 per cent) in the case of
married teachers. This may be appreciated in the context
of the finding in (3.12).

3.39   Pupil self-initiated talk following teacher
questions also has been markedly more (4.5 per cent) in the
case of unmarried teachers than (3.6 per cent) in the case
of married teachers. This is also to be appreciated better
in the context of the finding in (3.12).

3.40   Directions from married teachers brought in
compliance in terms of pupils' responsive talk to a greater
extent (4.5 per cent) in the case of married teachers than
(3.4 per cent) in the case of unmarried teachers.

3.41   Pupils' responsive talk following silence/confu-
sion has been more (5.0 per cent) in the case of unmarried
teachers than (4.1 per cent) in the case of married
teachers.

3.42   Responsive talk of pupils followed by silence/
confusion has, however, been more (4.6 per cent) in the
case of married teachers than (4.1 per cent) in the case
of unmarried teachers.

3.43   Silence/confusion following teacher talk has been more (33.9 per cent) in the case of unmarried teachers than (30.4 per cent) in the case of married teachers. This may be appreciated better in the context of the finding in (3.41).

3.44   Silence/confusion serving as the context for teacher talk has been of a higher order (32.23 per cent) in the case of unmarried teachers than (30.90 per cent) in the case of married teachers.

4.   **Major Findings from Study of Matrices Based on Subject Taught**

4.1   Recorded interaction has been most plentiful and hence most rapid in English while it has been least plentiful and least rapid in Mathematics.

4.2   Most extensive utilization of the possible sequences (seven vacant cells) has been in Science while the least utilization (thirteen vacant cells) is recorded in Tamil and English alike.

4.3   Event sequences designated as (1-3), (3-1), (4-1) and (7-1) have been conspicuous by their absence in all the six subjects while the sequences involving category one which are present in all the subjects are those designated as (1-6) and (9-1).

4.4   Teachers have been talking most (66.6 per cent)

in History and least (58.6 per cent) in English.

4.5   Pupil talk has been highest (27.8 per cent) in English and lowest (19.7 per cent) in Mathematics.

4.6   Incidence of silence/confusion is at its peak (15.7 per cent) in Mathematics and at its lowest (10.5 per cent) in History.

4.7   Teacher talk in relation to student talk (T/S ratio), however, is highest (3.28) in Mathematics and lowest (2.10) in English.

4.8   Flexibility in communication has been most (lowest SSR = 31.1 per cent) in Mathematics and least (highest SSR = 51.1 per cent) in History.

4.9   Flow of communication has been most uninterrupted (least incidence of category ten = 10.5 per cent) in History and least so (highest incidence of category ten = 15.7 per cent) in Mathematics.

4.10   Teachers have been most indirect, when emphasis on content is included, (0.35) in Mathematics and least indirect (0.24) in History.

4.11   Emphasis on content excluded, English has bagged the highest (0.62) indirect behaviour and Mathematics the lowest (0.51).

4.12   Teachers have been responding most (62.2 per cent)

in English and least (51.8 per cent) in Mathematics.

4.13   Teacher questioning behaviour has been most (29.3 per cent) in Mathematics and least (15.4 per cent) in History.

4.14   The credit of most frequent instantaneous teacher response (79.7 per cent) goes to English and the least one (73.5 per cent) to Geography. This may be appreciated better in the context of the finding in (4.12).

4.15   Teachers' instantaneous questioning behaviour has been most (47.3 per cent) in Mathematics and least (33.2 per cent) in English. This is to be considered in the light of the finding in (4.13).

4.16   Teachers used the greatest portion (19.38 per cent) of the total use of categories 1, 2 and 3 as constructive integration in History and the lowest portion (9.37 per cent) in English.

4.17   Event sequences designated as (1-3) and (3-1) are conspicuously absent in all the subjects.

4.18   The heaviest loss to constructive integration area of the matrix (five vacant cells) has befallen English and the slighest loss (three vacant cells) has occurred alike in Mathematics, History and Geography.

4.19   Teachers have used categories six and seven most (24.51 per cent) in a vicious manner in Mathematics and

least (14.59 per cent) in English.

4.20   Teacher talk has been most flexible (TSSR = 39.31 per cent) in Mathematics while it has been least flexible (TSSR = 58.72 per cent) in History. This may be appreciated in the context of the finding in (4.8).

4.21   Constructive integration component of the steady state teacher talk has occurred highest (3.81 per cent) in Science and lowest (1.90 per cent) in Geography.

4.22   Vicious circle component of the steady state teacher talk has occurred most (5.86 per cent) in Mathematics and least (1.56 per cent) in History.

4.23   Sustained information delivery has been highest (93.65 per cent) in History and lowest (84.27 per cent) in Mathematics.

4.24   Sustained questioning has occurred highest (6.30 per cent) in Mathematics and lowest (2.17 per cent) in Tamil. This may be appreciated better in the context of the finding in (4.23).

4.25   Emphasis on content has been heaviest (53.27 per cent) in History and slighest (41.07 per cent) in English.

4.26   The segment of content emphasis buried in teacher talk has been highest (45.07 per cent) in History and lowest (30.43 per cent) in English.

4.27   Content emphasis segment occurring in the context of student talk has been highest (6.86 per cent) in Mathematics and lowest (3.89 per cent) in History.

4.28   Use of praise has been highest (9.96 per cent) k in English and lowest (5.92 per cent) in History.

4.29   Praise buried in teacher talk is highest (19.74 per cent) in Tamil and lowest (12.49 per cent) in Geography.

4.30   Teachers have been using praise in immediate reaction to pupil talk most (82.00 per cent) in Geography and least (74.72 per cent) in Science.

4.31   The need to use praise/encouragement following spells of silence has been felt most (6.03 per cent) in English and least (4.86 per cent) in Tamil.

4.32   Use of praise following pupils' responsive talk has been highest (77.06 per cent) in English and lowest (65.01 per cent) in Science.

4.33   Praise serving as the immediate context for pupils' responsive talk has been highest (56.61 per cent) in English and lowest (24.43 per cent) in Mathematics. This may be appreciated better in the context of the finding in (4.32).

4.34   Use of praise following pupils' self-initiated talk has been heaviest (9.70 per cent) in Science and lowest (4.16 per cent) in English.

4.35   Praise serving as the immediate context for
pupils' self-initiated talk has been highest (5.16 per cent)
in Science and lowest (2.11 per cent) in English. This makes
meaningful information when understood in the context of
the finding in (4.34).

4.36   Praise served as the context for teacher talk
highest (60.79 per cent) in Mathematics and lowest (32.14
per cent) in English.

4.37   Praise served as the launching pad for pupil talk
highest (58.72 per cent) in English and lowest (27.41 per
cent) in Mathematics. This relative position may be
understood better in the light of the finding in (4.36).

4.38   Teachers reacted to pupil talk most (78.36 per
cent) in Mathematics and least (47.14 per cent) in History.

4.39   Teachers' constructive reaction to pupils' self-
initiated talk has been most (5.01 per cent) in Science
and least (1.99 per cent) in English.

4.40   Teachers put questions immediately after pupils'
responsive talk, most (14.03 per cent) in Mathematics and
least (4.42 per cent) in Science.

4.41   Orders and criticism following pupils' responsive
talk have been occurring highest (6.22 per cent) in
English and lowest (4.42 per cent) in History.

4.42   Orders and criticism following pupils' self-

initiated talk have been resorted to most (4.35 per cent) in Mathematics and least (1.50 per cent) in English. This may be better appreciated in the context of the finding in (4.41).

4.43   Pupils' initiation has been occurring most (23.01 per cent) in Mathematics and least (9.26 per cent) in English. This may be appreciated better in the context of the finding in (4.12).

4.44   Pupil steady state ratio has been occurring heaviest (42.66 per cent) in History and lowest (7.31 per cent) in Mathematics. This may be appreciated better in the context of the finding in (4.8) and (4.20).

4.45   The largest extent of pupil talk to occur in the context of teacher talk (82.60 per cent) comes from Mathematics and the smallest extent (47.72 per cent) from History.

4.46   Mathematics is the subject that goes with the credit of having given rise to the highest (16.32 per cent) extent of pupils' self-initiated talk in the context of teacher talk while English is at the other extreme (6.35 per cent). This position of Mathematics may be better appreciated in the context of the finding in (4.45).

4.47   The largest extent of occurrence of pupils' responsive talk is recorded (90.73 per cent) in English and the smallest extent of (76.98 per cent) in Mathematics.

4.48　The largest extent of occurrence of pupils' self-initiated talk is recprded (23.01 per cent) in Mathematics while the smallest extent (9.26 per cent) is recorded in English. This revelation may be appreciated better in the context of the finding in (4.47).

4.49　Pupils' responsive talk following teachers' questions has occurred most (42.49 per cent) in Mathematics and least (14.78 per cent) in English. This may be appreciated better in the light of the information contained in (4.40).

4.50　Sustained occurrence of silence/confusion has been highest (27.22 per cent) in Mathematics and lowest (21.10 per cent) in Tamil. This may be appreciated better in the context of the finding in (4.6).

MAJOR CONCLUSIONS

Within the frame of reference of the investigation and based on the evidence gathered from statistical verification of hypotheses and comparative examination of the respective Master Matrices, the following major conclusions are reached.

1. Verification of Hypotheses

1.1　Age, recency of training and experience of the teacher do not seem to affect teacher influence.

1.2　Male teachers on an average are indirect than

female teachers on the criterion of i/d.

1.3   Unmarried teachers on an average are more indirect than married teachers on the criterion of i/d.

1.4   (a) Teachers differ significantly in their influence patterns (in terms of both I/D and i/d) when the subject taught by them is altered, in respect of the following subject pairs. In other words, within each subject pair, the teachers' influence patterns change significantly when they move from one subject to the other.

    (i)   Tamil - Mathematics

    (ii)   English - Geography

    (iii) Mathematics - History

    (iv)   Mathematics - Science

    (v)   History - Geography

    (vi)   Geography - Science

    (b) Teachers differ significantly in their influence patterns (in terms of only I/D) when the subject taught by them is altered, in respect of the following subject pairs.

    (i)   Tamil - English

    (ii)   Tamil - History

    (iii) English - History

    (iv)   English - Science

    (v)   Mathematics - Geography

    (vi)   History - Science

(c) Teachers differ significantly in their influence patterns (in terms of only i/d) when the subject taught by them is altered, in respect of the following subject pair.

English - Mathematics

2. Study of Matrices Based on Sex

2.1 Male teachers when compared with their female counterparts, have talked more with the resultant decline in pupil talk; shown more indirect influence on the social-emotional plane; laid emphasis on content; manifested the emphasis in the form of greater information delivery; responded more to pupils enabling them to initiate more; decisively scored higher in constructive integration; used praise more, especially as a thaw in the frozen communication (that is, to break spells of silence); had their talk as the context for pupil talk in a greater measure, especially for nursing pupils' self-initiated talk and encouraged and established more of it by various devices including (a) putting such broad-based questions as would call for self-initiated talk of pupils and (b) allowing such meaningful pauses as would breed such pupil talk.

2.2 Female teachers, in comparison with male teachers, have recorded more rapid and hence more extensive verbal interchange in their classroom; talked lesser; allowed pupils to talk more; exhibited slightly more indirect

influence pattern when concern for content is included in
the concept of indirectness; initiated more through
questions both in general as also instantaneously at the
moment the pupils stopped talking; done so in a markedly
greater extent following pupils' responsive talk; had more
of problems of classroom management and control as evidenc-
ed through greater extent of vicious circle; retorted more
with orders and criticism to pupils' self-initiated talk;
used more praise/encouragement, albeit limited on the whole,
strategically, both in reaction to and as prompt for pupil
talk, especially of the responsive type; fostered more
flexibility of communication on the part of their pupils;
encouraged, on the whole, more responsive talk of pupils and
put up a more uninterrupted flow of their talk.

3. Study of Matrices Based on Marital Status

3.1   Married teachers, when compared with unmarried
teachers, have had a faster rapidity of communication;
involved a fuller coverage of the possible sequential
transitions; talked lesser and had pupil talk occurring in
a greater measure; had their pupils initiating more;
churned out a greater extent of constructive integration
from the use of categories one, two and three; but borne
a heavier incidence of vicious circle from categories six
and seven; retorted more with orders and criticism to pupil
talk; paid more attention to information delivery; used
praise in the context of their own teacher talk in a
greater measure; and ordered pupil responsive talk to a

greater extent.

3.2   Unmarried teachers, when compared with married teachers, have talked more losing on the x front of pupil talk slightly; held a generally more flexible communication in their classes; had their own talk as also that of their pupils more flexible; established a generally more uninterrupted flow of communication although silence/confusion preceded and also followed their talk in a clearly greater measure; struck a heavier I/D and i/d ratios although losing the game to their rivals through being more talkative; initiated more through questions, both in general and instantaneously following pupil talk, quite intriguingly responded too in a decisively greater measure, both in general and instantaneously following pupil talk; exhibited more concern for content especially through more questions and used them more even following their praise as also in the context of pupils' responsive talk; and also used such questions and brought in pupils' self-initiated talk; used more praise and also deployed it more strategically in immediate sequence to pupil talk and got more dividends when their 2's hooked up more 9's; reacted immediately more, especially on the constructive aspect following pupils' responsive talk; and had their talk serving as the context for pupil talk in a clearly greater measure.

4. Study of Matrices Based on Subject Taught

4.1   Tamil remains, like Geography and Science, a non-controversial and non-eventful subject. Sharing with English the dubious distinction of missing the largest possible sequences, it is the subject in which sustained questioning by the teachers has been lowest. It has harboured heaviest occurrence of praise in the context of teacher talk.

4.2   Geography, considered at this point for purposes of expediency, is equally innocuous in that it has not bagged many momentous decisions. Here, teachers have been instantaneously responding in the least degree; using praise in the context of their own talk in the least degree but claiming the credit of using praise/encouragement in immediate reaction to pupil talk in the largest degree.

4.3   Science, again a relatively non-eventful subject, goes with the credit of missing the least number of possible sequences; has use of praise in immediate reaction to and as a prompt for pupils' self-initiated talk at its highest and shows the largest extent of constructive integration in response to pupils' self-initiated talk.

4.4   English sustains the most plentiful and most rapid interaction. Teachers while teaching English have been talking least giving room for largest extent of pupil talk; remaining most indirect on the social-

emotional plane; responding most both on the whole and also in immediate sequence to pupil talk; keeping the pupils initiating least; creating least vicious circle; but using praise most, especially as a thaw during spells of frozen communication, as a prompt for and as a reaction to pupils' responsive talk; but losing a the game to Science as regards using it in similar relations with pupils' self-initiated talk; affording possibility for the largest quantum of pupils' responsive talk to occur and having to remain content with only the smallest measure of pupils' self-initiated talk.

4.5   Mathematics has witnessed the least copious and hence the slowest pace of interaction; had the pupil talk at its lowest and silence/confusion at its highest; had communication/general and teacher talk in particular remaining most flexible but most interrupted too; bagged the highest indirect teacher behaviour ratio when content emphasis is included and the lowest indirect teacher behaviour ratio when the emphasis is excluded; had teacher response at its lowest and teacher initiation through questions both on the whole as also instantaneously after pupil talk, at the highest; harboured the heaviest occurrence of vicious circle; had praise serve as context mostly for teacher talk and least for pupil talk; had total teacher reaction to pupil talk at its highest and pupil initiation at its highest; enabled pupil talk to occur in

the context of teacher talk to the greatest extent; had the
largest occurrence of pupils' self-initiated talk; had the
largest extent of short question-answer spells and the
largest occurrence of sustained silence.

4.6   History has harboured the largest extent of teacher
talk and the smallest incidence of silence/confusion; had
communication remaining least flexible in general as also
on the part of both teacher talk and student talk; bagged
the credit of bearing only the smallest extent of vicious
circle; placed the heaviest emphasis on content and with the
heaviest build-up in the (5-5) cell; had such content
emphasis occurringmost in the context of teacher talk and
least in the context of pupil talk; had the dubious distin-
ction of carrying the least extent of use of praise and had
teacher reaction to pupil talk, at its lowest.

SUGGESTIONS

Born out of a realization of the profound signi-
ficance of research in this area and taking into considera-
tion the fact that such research in India is in its nascent
stage being largely explorative a few suggestions are given
below which, it is felt, could be taken up, if necessary,
on a priority basis.

1. While Flanders' system of classroom observation
is used with relative facility and fecundity in India, the
need to develop a tool with established validity and

reliability in Indian conditions cannot be overlooked for long. Sooner or later, the surging research interest in this area would inject an element of poignancy to the lacuna and the need would then be felt all the more irresistable.

2. As a meaningful expedient, however, until a tool is developed, more extensive use of Falnders' could be profitably directed towards evolving norms, of course, in terms of the same tool categories, for different aspects of classroom communication. These norms would later help any evaluative venture in this regard since they would serve as the referential framework.

3. Yet another useful extension of the use of Falnders' tool is to develop suitable subscripts, as suggested by Flanders himself (1970), depending upon the objectives of investigation.

4. While suitable suggestions for revision or reorientation of teacher training and inservice programmes based on the findings of the present study could be and in fact, are offerred replication of the study covering other areas is felt essential for further verification.

5. Pursuit of the inquiry with all other plausible variables is a sine quo non for the ultimate development of a conceptual framework which, thus based on empirical foundations, would lend guidelines for experimental and reconstructive ventures.

6. Studies involving the concepts of initiation and response to refer both to teacher talk as also to that of pupil talk should be undertaken increasingly (as in fact done in this study itself) in keeping with the trend (Flanders, 1970).

7. While the matrix technique as provided for in the Flanders' method, is of tremendous value it still runs the risk of making tabulation tedious and reconstruction limited. To obviate the disadvantages newer tools of observation like Time-Line Display (Flanders, 1970) may be tried on an experimental basis with suitable modifications.

8. Attention should be paid to 'pupils' as the possible parallel source of influence in the classroom in view of the startling claim of Turner (1967) and studies therefore should be taken up to probe the validity of the claim.

9. Alongside the efforts at probing the verbal interchange in the classroom, attention should be paid to study the non-verbal occurrences and reestablish their consistency with the verbal phenomena on a more extensive empirical basis.

10. Studies should be undertaken to develop strategies of better teacher classroom behaviour on the basis of the extensive data decoded from matrices since it is these 'strategies' that our teachers and teacher

trainees need for enriching their repertoire of behaviour
and improving their classroom teaching. In this context,
it may be pointed out, concepts of indirect behaviour
should not be the sole areas of emphasis but in addition,
such traits as general flexibility in communication and
capacity for manoeuvring critical verbal patterns should
be taken note of.

11. Finally, we in India are not committed to
Flanders' tool only. Once it is felt that we can afford
the luxuty of other costlier systems a trial could be made
with other tools too.