CHAPTER 3

DEVELOPMENT OF RESEARCH INSTRUMENTS

3.1 Introduction

As stated in the previous chapter, the main purpose of the present study is to study institutional climate of the affiliated colleges of the Gujarat University and to examine the possible relationship between teacher morale and student control ideology bear upon climate. This necessitates either selection of appropriate instruments to collect the data needed for the study or develop tools suitable for the purpose. This led the investigator to survey the instruments that have been already developed previously by the researchers and to see whether any of them would suit the purpose of the study. Some of the research instruments that the investigator came across will be briefly examined from the point of view of their suitability to yield adequate and useful data for the purpose. Some of such tools are as under :

1. The Organizational Climate Description Questionnaire (the OCDQ) by Halpin and Croft (1963).
2. The OCDQ - HE for Colleges developed by Borrevik (1972)
3. The College Characteristics Index (the CCI) by Stern and others. (1970)

4. The Organizational Climate Index (the OCI) by Stern and Steinhoff (1965).
5. The Purdue Teacher Opinionaire by Ralph Bentley and Averno Remple, 1961.

These tools were briefly reviewed with a view to examining their relevance for use for data collection in the present study. Later, the tools developed by the researcher herself and a PCI tool selected by her will be dealt with at length.

3.2 The Organizational Climate Description Questionnaire (the OCDQ)

A reference has already been made to the Halpin and Croft's OCDQ in Chapter I. It was developed to portray the organizational climate of elementary schools. It is composed of 64 Likert-type items which teachers and principals can use to describe the climate of their school. The OCDQ can be given in a group situation. It is not at all time consuming - it requires no more than 30 minutes for administration. The 64 items in the OCDQ were assigned to eight sub-tests which were, as already shown in Chapter I, delineated by factor-analytic methods. The eight sub-tests of the OCDQ have also been referred to earlier. The advantage of the tool is that it enables us to analyse the

profile for a given school and thereby facilitate evaluation of the quality of its climate.

Though the tool was originally used to describe and evaluate the organizational climate of elementary schools, it has been subsequently used to measure climate of other organizations. Just to illustrate, Feldvebel (1964), Blumberg and Amidson (1965), Cole (1965), Bushlinger (1966), Cooke (1966), Anderson and Brown (1966), Flanders (1967), Gentry and Kenny (1967), Sargent (1967), McLeod (1969), Hull (1971), Okada (1972), Finalyson (1973), Grassie and Carass (1973) and others have used the OCDQ in other countries for mostly studying organizational climate of secondary schools. Even in India, more than a dozen climate studies have used the OCDQ of Halpin and Croft. The Indian studies which used OCDQ with minor adoption are : Mehra (1968), Shama (1969, 1971, 1972a, 1972b, 1972c, 1972d, 1972e, 1973), Bayati (1970), Shama, Buch and Rai (1971), Kumar (1972), Patel (1973), Pillai (1973), Shelat (1975), Pandya (1975) and Darji (1975). Franklin (1975), Choksi (1976) and Gupta (1977) used the same tool to study organizational climate of teachers' colleges. They reached a conclusion that the tool needs to be revised to suit the structure of education, the role of the State government and private bodies and the climate of socio-political

and even teacher-student pressurisation that affect the creation of organizational climate. Even Mehraa (1968), Sharma (1973) and Patel (1975) who used the OCDQ of Halpin and Croft have suggested that the tool has limitations for use in Indian socio-political and educational conditions. The investigator, therefore, decided to look for another tool which would be more appropriate to study climate of colleges.

3.3 The OCDQ - HE by Borrevik (1972)

While scanning through the published research on climate, the investigator came across a reference to the OCDQ adapted by Borrevik in 1972. She made all possible attempts to get a copy of this tool. But researchers in India are often handicapped by the non-availability of all or most of the researches they would like to refer to. She had only to content herself with the scant information that she could collect on the tool and the study in which it was used.

The OCDQ - HE was constructed for academic departments in colleges and universities to measure their organizational climate. Borrevik's research showed that with modifications and adaptations the OCDQ can also be used to measure

organizational climate of institutions of higher learning. But the modifications effected by Borrevik's appear to be significant. Firstly, he reduced the OCDQ eight sub-tests to five sub-tests, and secondly he designated at least four of these tests differently. They were called 'Social Needs', 'Social Control', 'Esprit' and 'Student Involvement'. The fifth test he called 'Detachment'. In absence of detailed information about how 'Borrevik hit upon these five sub-tests, and in absence of the text of the modified items of the OCDQ - He, the investigator, naturally, could not proceed any further about the choice of the test.

3.4 The College Characteristic Index by Stern and Others

George Stern (1970) had initiated studies which he once called 'The Environmental Indexes'. These studies were restricted to the description of activities and events associated with different types of academic settings in colleges. They contained items such as curriculum, teaching and classroom settings, rules and regulations, student organizations, activities and interests, services and facilities available in colleges, relationships among students and faculty - in short to various aspects of environment in colleages, etc.

One such study in this series is the College Characteristics Index (the CCI) developed by Stern in

collaboration with C.Robert Pace and Others. The original version of the CCI appeared in April 1957. This original version subsequently underwent some changes.

The CCI has three major formal elements or components, viz., Academic, Administrative and Students. Each component carried four sub-tests. The tool has the following structure :

A. Academic :

1. Faculty Characteristics
2. Programme and course content
3. Classroom activities : teaching, examinations, outside preparation.
4. Extra-curricular activities : chapel, press and special programmes.

B. Administrative :

1. Organizational structure
2. Rules and regulations
3. Physical plant and facilities
4. Student personnel facilities and practices

C. Student :

1. Student characteristics
2. Community life
3. Extracurricular activities
4. Study patterns

The CCI tool, as it will be seen from above, has altogether different conceptual structure, framework and focal points which are not in consonance with those set forth by the investigator in Chapter I. Her primary interest in the study of institutional climate of colleges is to probe the sociological and psychological atmosphere being built up in colleges as a result of the delicate and intricate web of the texture that goes on being woven as a result of interaction among teachers, between the college principal and teachers and the after effects of the administrative behaviour. Her study underscores the social, psychological and administrative aspects much more than those that deal with issues like programme and content, classroom activities and students. The CCI was not found to be suitable for the present study.

3.5 Organizational Climate Index (the OCI)

The Organizational Climate Index (the OCI) was developed by George Stern in collaboration with Carl R. Steinhoff. It is rather a more general instrument applicable to the analysis of all formal administrative structure. It grew out of the experiences Stern gained with the development of the CCI, H.SCI (High School Characteristic Index) and Evening College Characteristics Index (ECCI). These experiences suggested to him the need for developing a more general form

of index which could be used in all school situations.

In the Factor Analysis of the OCI, it was found that the OCI is presumably associated with college environment. The factorial analysis of the OCI scores yielded eleven college environment factors. They are :

1. Aspirational level
2. Intellectual climate
3. Student dignity
4. Academic climate
5. Academic achievement
6. Self-expression
7. Group life
8. Academic organizations
9. Social forum
10. Play-work
11. Vocational climate.

The rotated OCI second order factors show that [illegible] the eleven OCI factors where together to define the overall dimensions of an intellectual climate and they include the more conventional aspects of the academic programme of colleges such as qualities of staff, availability of facilities, standards of achievement set by students as well as faculty and opportunities for the development of self

assurance. The highest loadings in non-intellectual climate are on three factors involving a high level of formal organization of student affairs, both academic and social. The other non-intellectual factors are associated with student play, an emphasis on technical and vocational courses and self expression factor.

3.6 Development of a Research Instrument to Study Institutional Climate of Gujarat Colleges

For reasons stated earlier, the investigator felt it more desirable and useful to develop her own research instrument to map out the domain of institutional climate of the affiliated colleges which she wanted to study. The Educational Structure, the relationship of a University with affiliated colleges, the preponderance of private colleges in the area of the Gujarat University, the financial crisis through which most of them are passing, the patterns of relationship between college management and college teachers, college principals and college teachers, the relative independence of colleges with regard to their parent university and the autonomous characters of universities create different chains of interactions which are not adequately reflected in some of the research instruments briefly touched upon in previous sections. Further, the Baroda

Seminar (1975), the Udwada Summer School (1975), and the Dabhoi Seminar (1976) on organizational climate have underscored the need of including dimensions with administrative orientation in research questionnaires which seek to measure organizational climate. For such and other similar reasons, the investigator tried to develop her own research instrument to map out the domain of institutional climate of affiliated colleges and to measure and evaluate them. She was emboldened in this venture because a similar trend for developing the OCDQ on different patterns was first set by Samrong Pengnu (1976) for Thai Secondary Schools and Kirit Gandhi (1977) for Gujarat State secondary schools.

In order to develop the research instrument, she held a series of conferences with some of the research workers in the area of organizational climate. They included : Professor D.M. Desai (her research guide), Dr.(Smt.) Neela Shelat, Dr.P.K. Dongre, Dr.(then Mr.) Samrong Pengnu, Dr.D.G.Pandya, Dr.(then) Mahendra Chokshi, Dr.(then Mr.) S.C.Tikmani (Research Officer, Gujarat Secondary Education Board).Her purpose in these preliminary rounds of conferences was to clarify her own concept of institutional climate and the components which go to make -

build up institutional climate. She visited Arts, Science and Commerce Colleges situated at her own place and at Dabhoi, observed the work that was going on in these colleges, keeping in mind the conceptual framework of climate and climate dimensions which she had conceived in an exploratory way. She also visited some Education, Law, Arts and Science Colleges at Borsad, Patan and Ahmedabad and made detailed notes of her observation of principal behaviour, teacher behaviour and administrative behavioral orientations of the colleges. This yielded fairly good situational materials to construct items that would permit the investigator to portray the institutional climate of colleges. As a result of seminars of research workers in the Department of Educational Administration, M.S. University of Baroda, the following five decisions came to be taken :

(1) To retain the nomenclature and conceptual framework of the eight sub-tests (dimensions) of the original OCDQ by Halpin and Croft, viz. Disengagement, Hindrance, Esprit and Intimacy (Characteristics of the college teachers), and Aloofness, Production Emphasis, Thrust and Consideration (behaviour of College principal).

(2) To add four more dimensions to the OCDQ dealing with institutional general administrative behaviour, viz. Organizational Structure, Communication, Human Relations and Democratic Decentralization - Freedom.

It may be noted here that as reported by Finlayson (1973), the trends in the U.K., in contrast to trends in the U.S.A., Canada, Australia and some Asian countries like Korea, Philippines and India are to develop scales to measure teacher behaviour and administrative behaviour indicative of organizational climate of educational institutions. In scales ' Communication ' component has figures prominently. Samrong Pengnu's (1976) research on Thai secondary schools has shown that ' Consideration ' and ' Human Relations ' having low correlation between them seem to map out two different behaviours of organizational climate of schools. Ivy Franklin (1975) and recently Kirit Gandhi (1977) have emphasised the fact that in countries which were once the colonies of alien power the two tendencies continue to linger even in post-independence period, viz., 'Bureaucracy' and 'Hierarchical relationship'. This has led the investigator to include the dimension of 'organizational structure' as one of the sub-tests of the tool she proposed to develop.

'Democratic decentralization-freedom' is another important factor which determines the climate of colleges and universities. The National Education Commission (1964-66) (p.327) has pointedly drawn attention to the fact that in university departments and colleges, decision-making is centralized, the communication tends to flow from the top to the bottom, little opportunities are available to junior lecturers to provide feedback to heads of departments or principals of colleges - actually nobody bothers to get their feedback. The Commission has quoted Sir Eric Ashby as observing :

> 'The principle of upward flow is vital to the efficient administration of a university and for the survival of autonomy and self-government...Not all professors consult their lecturers before decisions are taken as scrupuliously as they themselves expect to be consulted by the lay governors in similar circumstances... There is a temptation for an oligarchy of senior professors to take over the responsibilities of governance on behalf of more junior colleagues.'

It is such facts of college life which prompted the investigator to include a sub-test on 'democratic decentralization-freedom' in her proposed new tool to measure and evaluate institutional climate.

(3) To write Likert-type statements for each of the sub-test. In this way 150 items were written. She requested a group of researchers on climate *

---

*They included : Professor D.M.Desai, Professor D.B.Desai, Dr.P.K.Dongre, Dr.(Mrs.) Neela Shelat, Dr.D.R.Darji, Dr.Ivy Franklin and Dr.S.C.Tikmani and Dr.S.P.Gupta.

to assign each of the individual items to each of the 12 dimensions or sub-tests decided upon empirically to include in her Institutional Climate Description Questionnaire (which hereafter will be called the ICDQ).

In this process 30 items out of the first draft of 150 items had to be discarded because either there was lack of agreement on their inclusion under a particular sub-test or dimension or they were found to lack precision and were adjudged vague.

The items were then cyclostyled and were administered to 100 college teacher respondents including some college principals of 12 colleges from Gujarat University Area which would be largely representative of the sample which is to be subsequently used. The scales against which the respondents were requested to indicate the extent to which each statement - item characterised their college were defined by five categories :

(i)	Never true	1
(ii)	Rarely true	2
(iii)	Sometimes true	3
(iv)	Often true	4
(v)	Very frequently true	5

The items were then subjected to the Pearson Product Moment Coefficient of Correlation between each individual item and its sub-test total. The results are presented in subsequent pages.

Experimental Draft of the Institutional Climate Description Questionnaire (The ICDQ - Baroda Version) For Item Selection for the Final Form

Time of Try-out : April 1974
Researcher : Prof.Anjani Mehta
Respondents : 100
Institutions : 12 Colleges

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
	(1) Disengagement	
9	College teachers go on leave just when they desire.	.05
11	The staff remains unconcerned when students agitate on some issue.	.19
18	The non-conformists among teachers are hard pushing and pressurising to toe their line.	.34
20	Teachers equate their work with their pay.	.59
27	Teachers just teach, not bothering whether students learn or not.	.56
28	Teachers' attitude towards students is detached and of least concern.	.66
45	Most of the staff has not developed real identification with the college.	.69
50	Teachers of this college work by themselves and not as a group.	.45
80	Teachers digress and talk irrelevant things in staff discussion.	.62
95	Classes go often without teachers in the beginning of most college periods.	.23

(Continued)

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
99	Teachers avoid close and direct contact with students.	.27
105	Teachers seem to be interested much more in safeguarding their interest than that of the institution or students.	.43
106	Teachers readily follow the call of strike or mass casual leave given by their central leadership.	.49
112	Teachers say they cannot do anything when student attendance is small and indifferent	.55
113	Teachers first enjoy casual leave and then put their report for C.L.	.58
	(2) Hindrance	
3	Teachers of this college have to spend long hours in periodical staff seminars.	.29
34	Staff regards the examination work of college tests a heavy load.	.66
56	Teachers feel that a lot of their time is wasted in doing routine work.	.61
71	The old members of the staff of the college block innovations and changes.	.50
79	Excess of extra curricular activities disturbs the academic programme of this college.	.48
	(3) Esprit	
23	Teachers of this college work under tension.	.54
36	Teachers resent favouritism shown by the principal to some among them.	.11
40	The teachers would not like their principal to be replaced by another person.	.18
48	Teachers have a sense of achievement in their work.	.46

(continued)

Item No. in the Exp. Draft	Statement	Product Moment Coefficient Correlation
64	Teachers of this college have a few intellectual and cultural interests to pursue in their leisure hours.	.007
73	Teachers of this college take leadership in many academic and cultural activities of students.	.37
77	Teachers resent if their colleague is unjustly pulled up by the authorities.	.32
82	Hard working, sincere teachers in this college get recognition.	.24
83	The sword of insecurity of service hangs on the head of the staff.	.49
85	Teachers will change this job if they get a higher salary elsewhere.	.18
92	An accepted common goal binds the staff of this college together.	.43
102	There is warmth and love for teachers in the college.	.63
104	This college has good working conditions.	.73
	(4) Intimacy	
2	The staff is not one and united.	.36
5	There is warmth of family relation among the staff members.	.52
7	The staff is so intimate that members are addressed by their first names.	.30
14	In the recess, teachers mix freely and enjoy their social meet.	.62

(continued...)

Item No. in the Exp. Draft	Statement	Product Moment Coefficient Correlation
25	Hardly any group work is done by teachers.	.38
53	Teachers hardly confide in their colleagues.	.34
58	Staff visit their colleague's home frequently.	.59
63	Teachers of this college rarely go on staff picnic.	.12
65	Closest friends of teachers of this college are their colleagues.	.27
86	Teachers feel that their family does not have social relationship and satisfaction in this place.	.31
110	Teachers rejoice in the achievement and progress of their colleagues.	.27
	(5) Aloofness	
6	The principal is firm in enforcing all college rules.	.36
10	The principal is frank and objective.	.14
12	The principal is suspicious of those who do not hold ideas similar to his own.	.42
17	The leadership of this college is dictatorial, blunt and obstinate.	.49
24	The principal is hardly available when a teacher wants to meet him.	.16
33	The principal is cool and reserved.	.32
42	Fear rather than love characterizes, teachers' relationship with the principal	.30

(Continued)

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
55	The staff is not frank and free with the principal.	.21
59	The principal is very talkative	.53
	(6) Production Emphasis	
44	The principal is a ruthless task-master.	.26
68	The principal uses different strategies to keep the staff under control.	.25
76	The principal gives a hard time to shirkers among the teachers.	.42
84	The principal uses internal checks to reduce personal factors in examination of periodical tests.	.51
91	There are frequent inservice programmes for staff development.	.62
93	In the college building one or the other activity goes on from morning till late in evening.	.50
120	The impact of the leadership of the principal can clearly be seen in the effectiveness of the college.	.70
	(7) Thrust	
16	The principal is enthusiastic about the development of his college.	.84
26	The principal is first to arrive in the college and last to leave.	.77
54	The principal enjoys pushing the staff to do things as he wants.	.03

(Continued)

Item No. in the Exp. Draft	Statement	Product Moment Coefficient Correlation
81	The principal emphasizes professional reading to staff members.	.72
89	With the arrival of the principal in the college building, the college buzes with work.	.72
94	The principal in this college is a human dynamo.	.62
107	The principal sets an example to his staff by himself working hard.	.77
	(8) Consideration	
1	The principal of this college is always ready to help his colleagues in an hour of need.	.85
51	The principal never hesitates even for a moment to help a needy colleague.	.23
66	The principal takes interest in the gossips circulated about staff members.	.57
96	Teachers are helped in their personal problems by the principal.	.77
114	The principal always explains his stand when he differs with one or more staff members.	.68
	(9) Organizational Structure	
9	Every teacher is assigned some general duty in regard to yearly college activities	.33
13	Senior teachers carry more power than that of junior teachers.	.35

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
19	The staff of this college is not recruited on merit.	.61
21	The payment of monthly salary to the teaching staff is irregular.	.21
22	The principal's decision-making is influenced by the college management.	.19
30	The college has well organized departments or units.	.55
31	Leadership responsibilities in different programmes of the college are distributed among most of individual teachers.	.66
35	The workload in this college is not judiciously distributed among the members of the staff.	.30
38	The principal uses his college position for his personal advancement in the local community or in the university.	.12
39	The principal believes that the staff should support him when a dispute is raised by students or the community.	.01
41	Only principal or some senior teachers talk in staff meeting.	.45
46	As another college shares the building in shift, this college has not been able to develop its image.	.57
61	Staff meetings are an exception rather than a rule in this college.	.14
67	The principal relishes his status leadership	.19
111	The authority in this college is hierarchical	.36

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
	(10) Human Relations	
60	There is a good rapport between the staff and the principal.	.81
69	This college is really interested in the welfare of the staff.	.59
74	The principal is present in most of the extra curricular activities of the college.	.57
75	The principal visits staff cabins and has friendly informal talks.	.69
87	The principal is a jovial good fellow.	.73
100	Teachers do not know what really the principal does or feels for them.	.22
108	This college has humane climate.	.71
109	The principal has double standards and cross dealings with the staff.	.57
116	Teachers are encouraged to indulge in backbiting their colleagues.	.56
117	Teacher-leaders have frequent clashes with the principal.	.44
118	The principal likes to take tea with the staff during the recess.	.52
119	The staff of this college is respected by the local community.	.43
	(11) Communication	
15	The principal is in the habit of freely sharing the new ideas or his experiences with the staff members.	.57
32	There is hardly any direct communication between the college management and the staff.	.54

(Continued)

Item No. in the Exp. Draft	Statement	Product Moment Coefficient Correlation
43	Co-ordination among different departments, units or sections is rather lacking.	.52
52	Communication in this college flows from above to below and not from bottom to top.	.10
57	The staff feels that all important information is not circulated among them through a notice.	.69
62	The size of this college impairs inter-communication among teachers and the principal	.41
97	The college calender specifies all major events datewise.	.61
98	The principal consults his colleagues on problems of student unrest.	.76
	(12) Decentralized Democratization-Freedom	
4	The motto of this college is internal freedom for all.	.76
29	Academic decisions in this college are taken in staff meetings.	.76
37	The staff members have no real participation in the academic decision-making of the college	.47
47	The college functions on the principle of decentralized administration.	.59
49	Internal autonomy characterizes the working of this college.	.03
70	The principal manipulates staff decisions to go in his support.	.35

(Continued)

Item No. in the Exp.Draft	Statement	Product Moment Coefficient Correlation
72	Teachers have perfect freedom to adopt the teaching method they feel to be the best.	.41
78	The staff believes that unreasonable demands of students detrimental to academic standards should be resisted by the principal at all cost.	.43
88	The instructional planning work of the college is based on formation of teachers' work group.	.65
90	The college has a climate for experimentation and innovation.	.59
101	Teachers of this college have freedom to be members of professional association.	.51
103	The individuality of teachers is respected in this college.	.70
115	The instructional planning done in this college is on co-operative basis.	.62

When the items of the Experimental Draft consisting of 120 items were tested for their internal consistency, the following was the result. Items which manifested coefficients of correlation of .3 or above were retained and those that did not satisfy this criterion were dropped

from the final form. The final draft was left with 91 items.

Table :3.1: Sub-Testwise Distribution of Items in the Experimental Draft and the Final Form of the ICDQ

Sr.No.	Sub-test (Dimensions)	No.of Items in the Exp. Draft	No.of Items in the Final ICDQ Form
1.	Disengagement	15	11
2.	Hindrance	5	5
3.	Esprit	13	9
4.	Intimacy	11	7
5.	Aloofness	9	5
6.	Production Emphasis	7	5
7.	Thrust	7	6
8.	Consideration	5	5
9.	Organizational Structure	15	8
10.	Human Relations	12	11
11.	Communication	8	7
12.	Democratic Decentralization-Freedom	13	12
	Total	120	91

The final form of the ICDQ (Baroda Form II) carried 91 items. It is given in Apprndix IIIA. The coefficients of correlations of these items ranged from .32 to .85. The investigator contented herself with selecting the items of her final ICDQ Form on the basis of internal consistency

of items. The dimension-wise distribution of the selected 91 items is given in Table 3.2 below.

Table :3.2: Dimension-wise Distribution of the Items of the I.C.D.Q. (Baroda Form II)

	Dimension	No. of Items		Total
1.	Disengagement	14, 16, 20, 21, 31*, 35, 56, 77, 78, 83, 84	=	11
2.	Hindrance	3, 27, 38, 47, 55	=	5
3.	Esprit	17*, 34, 49, 53, 58, 59*, 67, 74, 76	=	9
4.	Intimacy	2, 5, 10, 18, 37, 40, 61	=	7
5.	Aloofness	6, 8, 13, 26, 41	=	5
6.	Production Emphasis	52, 60, 66, 68, 91	=	5
7.	Thrust	12, 19, 57, 64, 69, 79	=	6
8.	Consideration	1, 36, 44*, 70, 85	=	5
9.	Organizational Structure	7, 9, 15, 23, 24, 29*, 32*, 82*	=	8
10.	Human Relations	42, 45, 50, 51, 62, 80, 81*, 87*, 88*, 89, 90	=	11
11.	Communication	11, 25, 30, 39*, 43*, 71, 72	=	7
12.	Decentralized Democratization-Freedom	4, 22, 28, 33, 46*, 48, 54, 63, 65, 73, 75, 86	=	12
		Total	=	91

* Negative

Validity : At this stage, the investigator made no further attempt to determine the validity of her tool. This she chose to do on the basis of the following observation of Halpin (1966:195) himself on the question of validating his own OCDQ :

> 'Indeed, we are not quite sure against what criteria we should seek to check the climate scores. We cannot rule out the possibility that the climate-profiles may actually constitute a better criterion of a school's effectiveness than many measures that already have entered the field of educational administration and now masquerade as criteria.'

Later, when the ICDQ will be used to identify institutional climates, the investigator will select teachers from some colleges whose climate type has already been identified with the help of this ICDQ and will seek to determine to what extent their rating of the various dimensions in the context of their college (after they carefully read the description of each dimension) and the resultant climate of their college as they perceived and how it actually emerged from the administration of the present tool correlate. This was done by Neela Shelat(1975) and Ivy Franklin (1975).Later on, when the tool was administered in the sampled colleges, the investigator traced the loadings on Esprit through the climate types. Halpin (1966:170) observes, 'we note that these loadings(on Esprit) become

increasingly smaller as we move from the Open to the more Closed climate.' Esprit, according to Halpin (p.170) is the key sub-test for describing a school's Organizational Climate.' The investigator will subsequently have an occasion to examine the performance of the dimension of 'Esprit' in her test with regard to its loadings from more Open to the more Closed climate. Earlier studies by Patel (1973), Pillai (1973), Shelat (1975), Franklin (1975) and other Indian researchers have also found high and significant correlation between climate and morale. This would, in a way, provide a criterion to validate the present ICDQ.

Reliability : A Test-Retest reliability was calculated using an interval of 15 days. The number of cases used was 50. The Test-Retest Method yielded a reliability coefficient of .717 which is sufficiently high to provide, to use the words of Garrett and Woodworth (1971:338), 'a close estimate of the stability of the test scores.' Thus, the stability coefficient of the ICDQ is sufficiently high to make it a satisfactory instrument of measuring institutional climate.

The investigator tried to apply the above three standards to her newly developed ICDQ tool by working out internal consistency coefficient of correlation and by resorting to factor analytic approach.

Halpin (1966:156) has set three standards for constructing a battery of tests. First he says that each test should measure a relatively different 'thing' or type of behaviour. This condition is satisfied by the fact that only items showing satisfactory internal consistency are retained in the final form of the ICDQ. This could further be seen from the Inter-correlation Matrix given on the next page in Table 3.3. Secondly, he maintains, that the battery, as a whole, taps enough common behaviour to permit the investigator to describe the pattern in terms of a few, more 'general' factors (that is, fewer, certainly, than the number of sub-tests); and lastly (c) that the general factors which he extracts for a particular domain of inquiry are not discordant with those which previously have been reported in the literature. The lasttwo standards set forth by Halpin are taken care of the factor analysis at the sub-test or dimension level presented in the following pages.

Factor Analysis

As per the norms laid down by Halpin, the investigator felt it necessary to ascertain the factorial composition and to analysing the criterion to determine the nature and the weights of the factors which enter into it. This makes

Table 3.3 : Intercorrelation Matrix (20 X 20)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1		.30	-.52	.08	-.06	.01	.02	-.01	.26	.18	.10	-.11	-.12	.11	.26	-.28	-.14	-.16	.02	-.08
2		.00	-.06	-.02	-.06	-.10	.12	.32	.29	-.30	-.22	.22	.19	.18	-.30	-.18	-.19	.33	.45	-.02
3			-.06	.01	-.01	0.02	.06	.07	.10	-.02	-.04	.12	-.10	-.11	.19	.32	.45	-.56	.18	-.19
4				-.44	-.12	.16	-.11	-.19	.47	.14	.11	-.10	.12	.25	-.12	-.10	-.24	.38	-.14	-.19
5					-.18	-.13	-.22	.32	.12	.18	-.06	.11	-.11	.16	-.10	.39	.14	.10	-.11	.26
6						-.11	-.02	-.02	-.01	-.11	-.06	-.18	-.21	.12	.18	-.01	-.06	.11	.01	.18
7							.01	-.04	-.01	.32	.56	.06	-.22	-.18	-.07	-.12	-.11	-.08	-.22	-.13
8								.12	.08	.04	-.02	-.04	-.09	.06	-.01	-.01	.02	.09	.06	.20
9									.14	.22	-.18	-.01	-.06	-.08	-.02	.11	.14	.30	.32	.18
10										-.02	-.01	.34	-.18	.22	-.16	-.06	-.08	-.11	-.08	.22
11											.12	-.32	.16	-.24	.06	-.01	-.02	-.14	.32	.25
12												-.06	.12	.22	-.28	-.19	-.30	-.04	-.11	-.29
13													.40	-.04	-.20	-.13	.22	.32	.15	-.04
14														.13	.32	-.20	-.12	-.06	.20	-.09
15															-.09	.11	.23	-.22	.34	.18
16																.08	-.18	.32	.28	-.06
17																	.22	.06	-.02	.31
18																		.11	.39	.12
19																			-.32	-.15
20																				.46

one of the purposes of the present analysis was to explain the factors implicit in the institutional climate. The investigator, therefore, decided to compile the coefficient of correlation relating to the various components of the ICDQ at the first instance. It is necessary to mention again that all the components of ICDQ have been described in the Chapter I. Based on these components, the factor analysis was done by Principal Axes Method.

The Correlation Matrix (vide Table 3.3) was followed for factor analysing. The correlation matrix is condensed into the smallest number of orthogonal factors. The five principal components of the ICDQ were extracted out by the Principal Axes Method. The details of extraction of factors based on the original principal factors is presented in the various tables as under.

The Table 3.4 includes Original Principal Component Factor Matrix, which contains factor loadings of five factors of ICDQ. The 'Eigen values' of each of these five factors of the ICDQ are 24.60, 12.50, 8.30, 7.56 and 5.35 respectively. A factor was considered to be of lesser importance if its 'Eigen value' was less than 1.00. The rotation of factors was done on the lines of Kaiser's (1959) computer programme of Varimax Rotation. The Retated Varimax Factors Matrix is presented in Tables 3.5 and 3.6 and 3.10 with factor loadings of the five factors of ICDQ.

Table :3.4: Original Principal Component Factor Matrix (12 X 5)

No.	ICDQ(Dimensions)	Factors I	II	III	IV	V	h^2
1.	Disengagement	45	57	-15	-20	04	.57
2.	Hindrance	60	-28	12	23	-71	.78
3.	Esprit	-22	75	-46	39	56	.72
4.	Intimacy	30	-18	-07	62	09	.87
5.	Aloofness	-70	10	47	25	25	.56
6.	Production Emphasis	15	26	48	13	05	.65
7.	Thrust	-25	28	-04	-20	-29	.82
8.	Consideration	28	-44	56	39	-34	.76
9.	Organizational Structure	-55	29	27	-25	22	.63
10.	Human Relations	49	60	70	-09	29	.74
11.	Communication	14	16	-25	22	19	.60
12.	Decentralized Democratization-Freedom	-22	-19	-09	-02	06	.71
	Percent Variation	24.60	12.50	8.30	7.56	5.35	
	Cum. " "	24.60	35.20	47.40	62.80		70.05

Note : All decimal points have been omitted in factor loadings. Loading beyond ± .30 are considered significant.

Table 3.4 indicates Original Principal Component Factor Matrix (12 X 5). The values in columns III to VII are referred to as factor loadings of the five factors that are extracted out. The 'Eigen Values' of each of these five factors are 24.60, 12.50, 8.30, 7.56 and 5.35 respectively. From the

Original Principal component Factor Matrix, all the extracted five factors were considered for Varimax Rotation. It was done on the basis of Kaiser's (1959) Computer Programme of Varimax Rotation. It is given in the following Table

Table 3.5: Rotated Varimax Factor Matrix of the ICDQ (15 X 5)

Dimensions	Factors				
	I	II	III	IV	V
Disengagement	22	45	49	-25	68
Hindrance	08	32	.62	-06	-45
Esprit	06	-19	25	69	28
Intimacy	54	29	-08	29	-05
Aloofness	40	75	19	32	-09
Production Emphasis	15	-08	24	35	06
Thrust	-06	18	-06	29	32
Consideration	25	08	09	-07	09
Organizational structure	-07	25	28	-06	14
Human Relations	59	35	-26	09	20
Communication	10	28	25	56	-22
Democratized Decentralization Freedom	40	19	-07	22	18
Percent Common Variation	18.00	12.25	9.40	10.75	7.85
Total Variation	24.40	17.50	13.45	15.23	11.54

Note : All decimals have been omitted in factor loadings.

The above table indicates the Rotated Varimax Factor Matrix (12 X 5). After the varimax rotation of the original principal components matrix, 5 factors were extracted out. Loadings less than .30 value are not considered in varimax factor.

The next step is to identify the general factors which Halpin earlier set forth as one of the three standards. Five new factors were derived from the rotated factors. The naming and interpretation of the varimax factors are as under.

Discussion of Results : The discussion of the results is based on the Varimax Rotation Factor Matrix.

Varimax Factor I : The Varimax Factor I is summarised in Table 3.6.

Table :3.6: Varimax Factor I

Name of the Variables (Dimensions)	Loadings
Human Relations	.59
Intimacy	.54
Aloofness	.40
Decentralized Democratization-Freedom	.40

The Varimax Factor I is characterised by significant loadings for four variables. All the factor loadings are found to be positive. The percent common variance covered by this factor is 18.00. The significant loadings were shared by variables (dimensions) 'Human Relations (.59)', Intimacy(.54)',Aloofness(.40)', and Decentralized

Freedom
Democratization'(.40). Since this factor is mostly dominated by 'Human Relations' and 'Intimacy', this factor can be named as 'Closeness in the Group'.

Varimax Factor II : The significant loadings on varimax factor II are summarised in Table 3.7.

Table 3.7 : Varimax Factor II

Name of the Variables (Dimensions)	Loadings
Aloofness	.75
Disengagement	.45
Human Relations	.35
Hindrance	.32

All the factor loadings are found to be positive. This varimax factor is characterised by significant loadings for four variables. The percent common variance covered by this factor is 12.25. The significant loadings were shared by variables 'Aloofness' (.75), 'Disengagement'(.45), 'Human Relations' (.35) and 'Hindrance' (.32). Since this factor is highly dominated by high significant loadings on Aloofness, this factor can be named as 'Aloofness'.

Varimax Factor III : The significant loadings on varimax factor III are summarised in Table 3.8.

Table 3.8 : Varimax Factor III

Name of the Variables (Dimensions)	Loadings
Hindrance	.62
Disengagement	.49

This factor is characterised by significant loadings on the two variables. Both the factor loadings are found to be positive. The percent common variance covered by this factor is 9.40. The significant loadings were shared by variables 'Hindrance' (.62) and 'Disengagement' (.49). Since this factor is highly dominated by Hindrance, this factor can be named as 'Hindrance'.

Varimax Factor IV : Ths significant loadings on varimax factor IV are summarised in Table 3.9.

Table 3.9 : Varimax Factor IV

Name of the Variables (Dimensions)	Loadings
Esprit	.69
Communication	.56
Production Emphasis	.35
Aloofness	.32

This varimax factor is characterised by significant loadings for four variables. All variables are positively loaded. The percent common variance covered by this factor was 10.75. This factor is characterised by significant loadings on variables 'Esprit' and 'Communication', the varimax factor IV can be named as 'Mutual Exchange'.

Varimax Factor V : The significant loadings of Varimax Factor V arranged in descending order are given in Table 3.10.

Table 3.10 : Varimax Factor V

Name of the Variables (Dimensions)	Loadings
Disengagement	.68
Thrust	.32
Hindrance	-.45

This factor is characterised by significant loadings for three variables, out of which one variable is negatively loaded and the other two variables have positive loadings. The percent common variance covered by this factor is 7.85. The significant loadings were shared by variables 'Disengagement' (.68), 'Thrust' (.32) and 'Hindrance' (-.45). Since this factor is mostly dominated by 'Disengagement', this factor can be named as 'Disengagement'.

The factor matrix comprising five principal axes components explains the correlation matrix. The five factors explain percent common variance. After the rotation of the original principal components matrix, five factors were extracted out and the naming and the interpretation of the varimax factors have been discussed above. The general factors are :

(1) Closeness in the group
(2) Aloofness
(3) Hindrance
(4) Mutual Exchange
(5) Disengagement

Out of these five factors, 'closeness in the group' has covered 18.00 percent common variance and it is the most dominating factor. The percent common variance covered by the factor 'Disengagement' is only 7.85 and it is the least dominating factor. According to the Related Varimax Factor and according to the Rotated Varimax Factor and according to the percent common variance, the following was the order of importance to the five named factors :

(1) Closeness in the group
(2) Aloofness
(3) Mutual Exchange
(4) Hindrance
(5) Disengagement

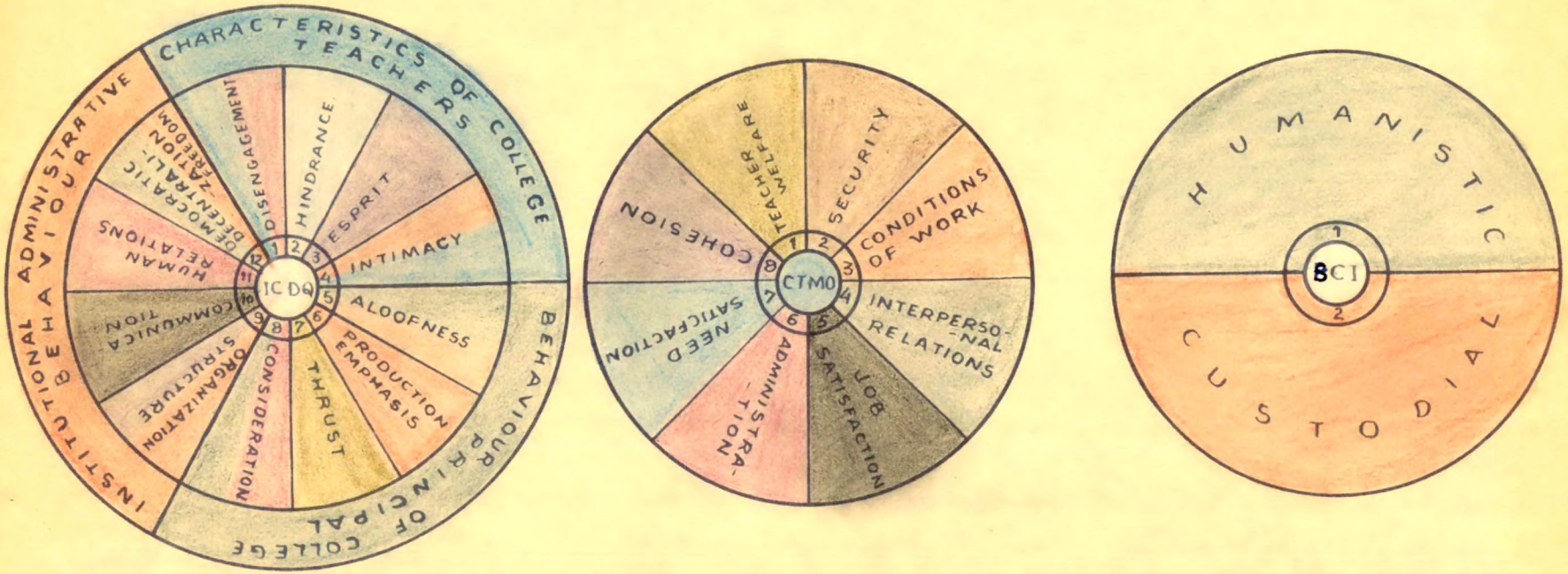

FIG. 3

CHART SHOWING THE DIMENSIONS OF ICDQ, CTMO & BCI

3.7 The Purdue Teacher Opinionaire (the PTO)

The measurement and evaluation of the institutional climate of affiliated colleges of the Gujarat University are the major concerns of the present study. But its context, the study of college teacher morale is also envisaged to be studied. A tool to measure teacher morale acquires its singular importance. While surveying published literature on instruments to measure teacher morale, the investigator came to know about the Purdue Teacher Opinionaire (the PTO) tool developed by Bentley and Remple in 1970. The ten components of the PTO have been already earlier referred to. Ivy Franklin (1975) had used this tool to study teacher morale in colleges of education of the Gujarat State. The tool yields a total score indicating the general level of the teachers' morale and also provides ten sub-test scores which break down morale into component-wise sub-morale scores.

The two general factors of the tool as reported by Ivy Franklin (1975:171) are : (a) task achievements which refer to perceived productivity and progress toward the achievement of the tasks of the organizations and (b) need-satisfaction which refers to the perceived job satisfaction of individual needs through the interaction of the participant in his role within the work group and total organization.

The investigator could have used the PTO to serve her purpose. But unfortunately, Franklin who used the tool to study teacher morale of teacher educators made no attempt to find out its validity and reliability coefficients in the context of the teachers' colleges in Gujarat. While going through the research report of Franklin, the investigator was not very much sure whether the three components of the PTO, viz. Curriculum Issues, Community Support of Education and Community Pressures have items that would be quite relevant to affiliated colleges of different disciplines which she intended to study. These doubts were supported by some teacher educators who had participated in Franklin's study and had been respondents to the PTO. She, therefore, thought it more advisable to develop her own tool which could be more relevant and appropriate to affiliated colleges belonging to different disciplines of the Gujarat University. This is not to suggest that when Franklin could use the PTO for colleges of education of Gujarat, she could not use it after preliminary testing in Gujarat colleges. But when she felt that the validity and reliability of the PTO, an American test, had to be examined in Indian conditions before deciding to use it, she can as well develop a tool of her own with some more labour. How the investigator developed The College Teacher Morale Opinionaire (the CTMO : Baroda Form I) would be

described and discussed in the next section.

3.8 The College Teacher Morale Opinionaire (The CTMO : Baroda Version)

As stated in the previous section, the investigator desired to construct her own tool that can appropriately measure morale of teachers of colleges, she wanted to study. As a preliminary step she studied the definitions of morale given by a number of social scientists. These definitions studied , included those by Stanely Hall (1949), Burns (1952), Atkins and Lasswell (1954), Keith (1957), Vance (1958), Yoder, Heneman, Turnbull and Stone (1958), Guion (1958), Burtt (1959), Yodder (1959), Halpin (1966), Porter and Lawler (1968), Herzberg (1968), Monroe (1969), Clough (1971), Wick and Beggs (1971), Bhikhu Patel (1973), Quraishi (1973), Kothai Pillai (1973) and others. The scrutiny of these definitions helped the investigator to identify some components of morale. This list of components the investigator discussed with some members of the Department of Psychology, Department of Education and Department of Educational Administration. She further discussed the appropriateness of the components of the morale with some of her college principal colleagues on the campus of colleges of Dabhoi, Borsad and Baroda. Ultimately this process yielded the following components of teacher morale :

1. Teacher Welfare
2. Security
3. Conditions of Work
4. Interpersonal Relations
5. Job Satisfaction
6. Administration
7. Need Satisfaction
8. Cohesion

Once the components of college teacher morale were finally identified, the next task was to construct items. Here, too, she used Likert-type statements. In preparing the statements, the investigator particularly bore in mind that morale refers to the professional interest and enthusiasm that a person displays towards the achievement of individual as well as group goals in a given situation; it underscores satisfaction of needs of both the group and its individual members and their effective harmonisation; and it is a function of specific job satisfaction and not a generalised trait in the individual and it can be interpreted in terms of human needs and the environment sources of satisfaction of these needs.

In constructing items, scrutinizing them and getting them reviewed by research workers in the area of morale and selected staff members of the Departments of Psychology, Education and Educational Administration, the investigator

followed the procedures earlier adopted by her in developing the ICDQ (Baroda Form). She constructed 110 items as shown below.

The Experimental Draft was prepared with 125 items. On the closer scrutiny of items in terms of precision of language and the consistency of item with the component, 15 of these items were dropped. This left the investigator with 110 items. They are shown component-wise below :

Table :3.11: Factors of College Teacher Morale Tool and the Number of Items under Each Factor (Experimental Draft)

Sr. No.	Factor	No.of Items
1	Teacher Welfare	12
2	Security	10
3	Conditions of work	27
4	Inter-personal relations	9
5	Job-satisfaction	16
6	Administration	17
7	Need-satisfaction	14
8	Cohesion	5
	Total	110

The Experimental Draft of the CTMO (Baroda Form) : was tried out to 100 college teacher respondents including some principals of 12 Colleges of Gujarat University

belonging to different disciplines. The items and their Product Moment Coefficient of Correlations are shown below.

Experimental Draft of the College Teacher Morale Opinionaire (the CTMO) Baroda Version for Item Selection for the Final Form

Time of Tryout : April 1974

Sample of Try-out : 100 College teachers from 12 colleges belonging to different disciplines

Researcher : Smt. Anjani Mehta

Item No.	Item	Pearson Product Moment Coefficient of Correlation
	(1) Teacher Welfare	
17.	There is no scope for further studies for teachers in this college.	.56
20.	The college management should take initiative in establishing cooperative housing society for its teachers.	.51
36.	Teachers in this college are deputed to summer institutes, seminars and conferences at college expense.	.52
37.	I have felt the need of a guidance and counselling centre in this college.	.26
73.	Our childrens' higher education is a heavy load on our meagre salary.	.34
74.	I wish there are recreational facilities in the campus.	.28

(Continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
75.	I wish my family has a better house to live in.	.29
79.	Teachers feel the strain of subsidies on medical expenses or provision of health centre services.	.12
81.	We have little scope for professional advancement in this college.	.49
103.	My children should have free education in my college.	.25
104.	The management does not look with favour upon teachers asking for study leave.	.39
105.	If permanent teachers get disabled, they should get financial help from the management.	.35
	(2) Security	
3.	Our amount of salary increment is paid regularly.	.62
13.	The college cannot advance loans to teachers because its own funds are small.	.47
15.	I wish the college subsidises teachers in the purchase of textbooks and reference materials needed by them.	.31
19.	I am satisfied with the pay I get in this college.	.39
21.	Teachers get regular and full salary.	.53
43.	The principal gets loans from the college management for a needy colleague.	.63
80.	We face frequently difficulties from the delayed payment of monthly salary.	.70

(continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
84.	I would not like to change this college for better position or grade.	.48
95.	Affiliated college teachers should have the same pay scales as university teachers of the same category.	.28
102.	The house rent allowances paid to college teachers are inadequate.	.28
	(3) Conditions of Work	
4.	Our college has adequate building facilities.	.54
7.	This college does not have a staff club.	.72
9.	My teaching load in this college is reasonable	.32
14.	The staff and students have special bus transport service.	.25
16.	Teachers do not easily get casual leave.	.51
24.	This college needs some seminar rooms.	.14
27.	Long distance residence is a hindrance for many teachers of this college.	.74
28.	The typing and duplicating services for the teachers are far from being satisfactory.	.36
29.	Teachers have no sick leave facilities in this college.	.23
46.	The college library has large utilization by teachers.	.25
49.	College hours of work cause inconvenience to many teachers.	.71
50.	In the hot season, class teaching becomes a tiring experience.	.22

(continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
53.	The college provides me with adequate classroom facilities and teaching aids.	.55
54.	The environment in the college is dull.	.70
55.	In furniture and equipment, this college is no better than a big school.	.78
59.	Teachers need separate staff cabins to work quietly, enjoying privacy.	.25
60.	The clerical correction and examination load of the teachers ino our college is unreasonable	.58
61.	My teaching load permits me participation in my non-professional activities.	.24
63.	We have hardly audio-visual materials and aids in the college to use in the classroom.	.45
64.	Conditions of work in this college are satisfactory.	.62
82.	The student-teacher ratio is high in this college.	.17
97.	The college time-table hinders our doing the best.	.57
107.	I feel, it is rather too much to expect me to teach to a large class.	.37
108.	A teacher cannot help but lecture when he has too many students to teach at a time.	.27
109.	Senior and experienced teachers do not need any professional training.	.73
110.	Research is a food which only teachers working in university department can eat.	.12

(Continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
	(4) Interpersonal Relations	
2.	Our principal is an amicable personality.	.67
5.	Our principal is friendly and helpful.	.51
6.	Teachers resent the dictatorial attitude and behaviour of the principal.	.24
8.	Teachers invite other staff members to visit them at home.	.38
23.	In hours of need, teachers stand by their colleagues.	.44
45.	Staff members participate in the college recreation club.	.78
51.	Teachers open out their hearts to their colleagues.	.51
58.	The best friends of the teachers of this college are other staff members.	.47
78.	There are internal bickerings and jealousy among the staff of this college.	.16
	(5) Job Satisfaction	
30.	Teachers have scope for experimentation and innovations in this college.	.68
31.	We have full freedom of expression in our college.	.73
33.	Security of job is the major need of affiliated colleges.	.23
39.	In a private college internal autonomy for teachers is a myth.	.25
62.	Teachers enjoy security of service.	.55

(continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
67.	I prefer to teach a mixed group of boys and girls to a single group of either sex.	.02
71.	If I could plan my career again, I would choose college teaching.	.58
76.	This college has a challenging curriculum.	.38
83.	I teach in this college the subject I like most.	.39
85.	I feel that I am an important part of my college.	.41
86.	I have to teach students who are least motivated and ready to learn.	.11
87.	I really enjoy working with my colleagues in the college.	.61
89.	Students' mounting pressure is annoying.	.00
94.	This college is a dumping ground for problem students.	.25
99.	I think my teaching work keeps me healthy	.30
106.	College teachers should have professional orientation in understanding adolescents and in instructional methods.	.38
	(6) Administration	
10.	The staff has little involvement in decision making.	.34
11.	Junior teachers count little in this college	.58
18.	There is co-operative determination of college policy.	.49

(continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
26.	The staff has a few occasions to meet and discuss matters of concern with the management.	.18
32.	Academic proposals seldom intiate from teachers.	.29
40.	The principal is the carrier of management decisions to the staff and students.	.28
44.	There is a faith in this college that even junior most teachers have some ideas to contribute.	.56
48.	Teachers feel free to criticize administrative policy at staff meeting.	.35
56.	The staff feels that their views on academic reforms are listened to with respect by administrators.	.65
65.	Administratively the climate of this college is controlled.	.37
66.	Senior teachers associate junior teachers in academic planning.	.49
88.	Teachers and the principal have different views on major problems of the college.	.48
91.	Teachers have hardly any involvement in curriculum improvement.	.58
92.	Teachers are seldom consulted on college developmental needs and problems.	.54
96.	Teachers clearly understand financial position of the management.	.07
100.	The principal's attitude as an administrator irritates me.	.56

(Continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
101.	The administrators believe in 'taking' or 'receiving' rather than 'giving' or 'sharing'.	.46
	(7) Need Satisfaction	
35.	Teachers socialize together in unsettled groups.	.31
38.	Staff seminars satisfy intellectual needs of teachers.	.36
41.	Teaching gives one maximum intellectual and emotional satisfaction.	.45
42.	The atmosphere of this college is cosy and warm.	.50
52.	Our college staff has many joint picnics and parties.	.51
57.	Teachers of this college have little recreation and enjoyment.	.37
68.	Teachers are loved and respected by students	.51
69.	College teachers in this community are no more respected than school teachers.	.24
70.	College teaching at this place is prestigious	.63
72.	I find contact with students in the class and outside satisfying and rewarding.	.70
77.	Staff members celebrate events of rejoicing together.	.51
90.	My work in the college enables me to make my contribution to the local community.	.63
93.	Teaching gives me inner satisfaction.	.16
98.	My merits and abilities are recognized and appreciated in this college.	.72

(Continued)

Item No.	Item	Pearson Product Moment Coefficient of Correlation
	(8) Cohesion	
1.	We are a family in this college	.62
22.	Teachers take tea together during the recess	.40
25.	Teachers of this college work in groups on many college programmes.	.67
34.	There is a fellow feeling among the staff.	.60
47.	There are cliques and groupism among the staff.	.71

The dimension-wise distribution of the final form of the College Teacher Morale Opinionaire (the CTMO) is given in Table 3.12 below.

Table 3.12 : Dimension-wise Distribution of the Final Form of College Teacher Morale Opinionaire (The CTMO)

No.	Dimensions	Item Nos. in the Final Form	Total Items
1.	Teacher Welfare	12, 14, 17*, 27, 55*, 59, 60, 73, 74	= 9
2.	Security	3, 16, 18, 31, 46, 58, 62	= 7
3.	Conditions of work	4, 6, 8, 11, 13, 22*, 23, 36, 39, 40, 41, 45, 47, 48, 69, 76*77*	= 17
4.	Interpersonal Relations	2, 5, 7, 20, 33, 37, 44	= 7

(Continued)

(Table 3.12 continued)

No.	Dimensions	Item Nos. in the Final Form	Total Items
5.	Job Satisfaction	24, 25, 53, 56, 61, 63, 64, 75	= 8
6.	Administration	9, 10, 15, 32, 35, 42, 49, 50, 65, 67, 68, 71*, 72*	= 13
7.	Need Satisfaction	28, 29, 30, 38, 43, 51, 52, 54, 57, 66, 70	= 11
8.	Cohesion	1, 19, 21, 26, 34*	= 5

*Negatively scored

As in the case of the finalisation of the ICDQ, only those items, the coefficient of correlations of which was .32 or above were retained in the final form. The final form contains 77 items. It is given in Appendix III B.

The Validity : This was limited to item-component total correlation or internal consistency.

Reliability : The reliability coefficient through Test-Retest Method was found to be .873. This retesting was done at an interval of 15 days to the same 50 lecturers who had earlier taken the experimental draft of the CTMO (Baroda Form).

The Factor Analysis

As it was done in the case of institutional climate, the investigator thought it fruitful to subject the sub-test of her college Teacher Morale Opinionaire. In this regard, the Table 3.13 giving the Inter-correlation Matrix would be useful as it includes not only twelve dimensions of the ICDQ but also eight dimensions of the CTNO. This Matrix would again be followed for factor analysing. Attempts will be made to extract the smallest possible number of orthogonal factors. The method that will be used in extracting the general factors will be the Principal Axis Method. The details of extraction of factors based on the Original Principal Component Factor Matrix is presented in the Table 3.13 given below :

Table 3.13 : Original Principal Component Factor Matrix (8 X 4)

No.	Factors Teacher Morale	I	II	III	IV	h^2
1.	Teacher Welfare	-.70	.22	-.24	-.16	.74
2.	Security	-.09	-.06	.26	.39	.54
3.	Conditions of work	.37	.65	.19	.32	.83
4.	Interpersonal Relations	-.23	-.04	.45	-.31	.93
5.	Job Satisfaction	.53	.46	-.24	.89	.65
6.	Administration	.76	.41	.09	-.15	.72
7.	Need Satisfaction	.23	-.01	.39	-.72	.57
8.	Cohesion	.78	-.22	-.10	.25	.70
	Percent Variation	39.36	22.80	16.70	12.30	
Cumulative Percent Variation		39.36	46.50	52.32	61.90	

From the above table, it can be seen that four principal components of College Teacher Morale Opinionaire were extracted on the basis of their dominant loadings. The eight values of each of these four factors are 39.36, 22.80, 16.70, and 12.30 respectively. As stated earlier, the factor was considered to be of lesser importance if its 'Eigen' value was found to be less than 1.00.

The next point in factor analysis is to subject the components to analysis by the method of Rotated Factor Matrix. This is done and results are presented in the Table 3.14 below.

Table 3.14 : Rotated Factor Matrix (8 X 4)

No.	Components of the CTMO	Factors			
		I	II	III	IV
1.	Teacher welfare	-.05	-.72	.28	-.67
2.	Security	-.58	.29	.18	-.27
3.	Conditions of work	.10	.19	-.40	.26
4.	Interpersonal Relations	.22	-.26	.64	.29
5.	Job satisfaction	.29	.45	-.18	.70
6.	Administration	-.24	.60	-.27	.18
7.	Need satisfaction	.62	-.28	.22	.16
8.	Cohesion	.43	.29	.32	-.20
	Percent Common Variation	24.18	16.12	14.45	11.70
	Percent Total Variation	30.01	20.32	16.25	13.50

The Table 3.14 indicates the Rotated Factor Matrix (8 X 4), after the Varimax Rotation of the original Principle Components Matrix. As shown earlier four general factors for the CTMO were extracted. Here it must be noted that these factors that had loadings less than .30 were not considered in the varimax factors. This gives us the directions of interpreting varimax factors in some details.

Discussion of Varimax Factors of CTMO

Varimax Factor I : The significant loadings of varimax Factor I in the case of the CTMO arranged in decending order are given in Table 3.15 for the sake of convenience.

Table 3.15 : Varimax Factor I

Name of the Variables (Components)	Loadings
1. Need satisfaction	.62
2. Cohesion	.43
3. Security	-.58

The Varimax Factor I is characterised by significant loadings on three variables. Two variables of the factor loadings are positive whereas one is negative. The percent common variance covered by this factor is 24.18. The significant loadings are shown by the variables 'Need Satisfaction' (.62), and 'Cohesion' (.43), and 'Security'(-.58).

Since this factor is mostly dominated by 'Need Satisfaction' and 'Security', this factor can be named as 'Personal Fulfilment.'

Varimax Factor II : The significant loadings of the Varimax Factor II are being summarised in Table 3.16.

Table 3.16 : The Varimax Factor II

Name of the Variables (Components)	Loadings
1. Administration	.60
2. Job Satisfaction	.45
3. Teacher Welfare	-.72

This factor is characterised by significant loadings for three variables. Though two variables have positive loadings, one variable is negatively loaded. The percent common variance covered by this factor is 16.12. The significant loadings are shared by variables 'Administration' (.60), 'Job Satisfaction' (.45) and 'Teacher Welfare' (-.72). Since this factor is mostly dominated by high significant loadings on 'Teacher Welfare', this factor can be named as 'Teacher welfare.'

Varimax Factor III : The significant loadings on Varimax Factor III are summarised in Table 3.17.

Table 3.17: The Varimax Factor III

Name of the Variables (Components)	Loadings
1. Interpersonal Relations	.64
2. Cohesion	.32
3. Conditions of work	-.40

This factor is characterised by significant loadings on any three variables. While two variables have positive loadings, the remaining one variable is negatively loaded. The percent common variance convened by this factor is 14.45. The significant loadings are shared by variable Interpersonal Relations (.64), 'Cohesion'(.32) and 'Conditions of work'(-.40). This factor is highly dominated by 'Interpersonal Relations', it can be named as 'Interpersonal Relations.'

Varimax Factor IV : The significant loadings of Varimax Factor IV are summarised in the following table.

Table 3.18: The Varimax Factor IV

Name of the Variable (Components)	Loadings
1. Job satisfaction	.70
2. Teacher Welfare	-.67

This factor is characterised by significant loadings on only two variables, while one variable has positive

loadings, the remaining one is negatively loaded. The percent common variance convened by this factor is 11.70. The significant loadings are shared by variables 'Job Satisfaction' (.70) and 'Teacher Welfare'(-.67). This factor is highly dominated by high significant loadings on 'Job Satisfaction' as well as on 'Teacher Welfare'. It can be named as 'Job Welbeing.'

The Factor Matrix comprising four Principal Axes Components, explains the correlational matrix. The four factors explain the percent of the total variance. The general factors named were :

1. Personal Fulfilment
2. Teacher Welfare
3. Interpersonal Relations
4. Job Welbeing.

'Personal Fulfilment' has covered by the factor 'Job Well-being' is only 11.70 and it is least dominating factor.

Conclusion

After having completed the construction and standardization of tools for Organizational Climate as well as Teacher Morale, important factors were extracted out by applying the factorial analysis approach. Therefore, the scheme of factor analysis throws important light on the

composition of principal factors, implicit in the twenty variables (12 of ICDQ and 8 of CTMO) which constitute the one of the objectives of the pretest study.

3.9 Student Control Ideology (the SCI)

Like the teacher morale, another independent variable used was 'Pupil Control Ideology.' This tool was originally developed at the Pennsylvania State University by Donald J. Willower, Terry L. Eidell and Wayne K. Hoy in 1967. The authors have called the instrument 'Pupil Control Ideology' (the PCI) as their study related to schools. As the present study relates to colleges where 'student' is a more appropriate word than 'pupil', the tool is named 'Student Control Ideology' (the SCI).

The form, as devised by the original authors, is used here with a few verbal minor and insignificant changes to suit the higher educational scene in Gujarat. It consists of 20 items. They are given in Appendix IIIc. The preliminary draft consisted of 57 items concerning student control (Willower et al., 1967), but the terms were purified and 'reduced' to the final twenty after subjecting them to modifications many times : To quote the original authors,

'The statements were modified many times, and a number of them were omitted as we administered this initial form of the instrument to fifty-eight subjects over a period of several weeks. Modifications in the instruments were based on the subjects comments, which had been elicited, and upon some very rough item analyses of responses. Throughout, every effort was made to maintain congruence between the revised statements and the underlying control ideology conceptualization.'

The items denote either custodial ideology or humanistic ideology. The concepts of these two terms were clarified in Chapter I.

The item analysis to determine the discriminating power of each item (statement) was completed by using biserial correlation techniques. The biserial coefficient of correlation for each of the 20 items retained in the final form was greater than .325. The correlation for each of these items in the context of Gujarat Colleges is shown below.

Table 3.19 : Biserial Correlations for Items of the SCI Form

Item No.	Correlation Coefficient	Item No.	Correlation Coefficient
1	.39	11	.43
2	.69	12	.58
3	.43	13*	.34
4	.60	14	.59
5	.35	15	.60
6	.65	16	.60
7	.38	17	.48
8	.39	18	.44
9	.38	19	.45
10	.43	20	.63

*Indicates statement positive to the humanistic viewpoint

A split-half reliability coefficient is reported to have been calculated by correlating even item sub-scores with odd-item sub-scores (N = 170). The resulting Pearson Product Moment Coefficient is reported to be .85; application of the Spearman-Brown formula is reported to have yielded a corrected coefficient of .91. The split-half reliability coefficient through the use of Pearson Product Moment Coefficient was .77.

The instrument was validated at by using principals' judgements concerning the student control ideology of their teachers who were known for their custodial and humanistic ideology. A t-test of the difference - the means of two independent samples was applied by the present investigator to test the prediction that teachers judged to hold a custodial ideology would differ in mean PCI Form Scores from teachers judged to have a humanistic ideology. Using one-tailed test, the calculated + value was reported by the original authors to be 2.639 indicating a difference in the expected direction. In the investigator's tryout of the items, using 20 teachers with known custodial ideology and the equal number with humanistic ideology, the results found were + 2.92 significant at the .01 level.

Thus, the three tools used in the present investigation carry items that were properly screened, their internal consistency or their prediction validity (in the case of

the SCI) were determined and their reliability was ascertained.

concluded

This section can be ended with brief observation on the scoring procedures adopted in the case of each tool.

Each item of the ICDQ carries 5 possible responses which will be scored on a 5-point scale defined by the following categories viz.,

1. Institutional Climate Description Questionnaire (the ICDQ)

i.	Never true	1
ii.	Rarely true	2
iii.	Sometimes true	3
iv.	Often true	4
v.	Very frequently true	5

These five categories of responses will be scored by simply assigning to the respective categories the five successive integers viz., 1, 2, 3, 4, and 5 respectively. Negative items will be scored using a reverse scale.

2. College Teacher Morale Opinionaire (the CTMO)

In this tool, the response categories are as under :

i.	Agree	A
ii.	Probably Agree	PA
iii.	Probably Disagree	PD
iv.	Disagree	D

Scoring for these four categories will be done by assigning weights of 1, 2, 3, and 4 to 'disagree (D)', 'Probably disagree (PD)', 'Probably agree (PA)', and 'Agree(A)' respectively. The scoring will be reversed for negative items.

3. Student Control Ideology (the SCI)

In this tool, the response categories are as under :

i.	Strongly Agree	SA
ii.	Agree	A
iii.	Undecided	U
iv.	Disagree	D
v.	Strongly Disagree	SD

The above response categories will be scored 5, 4, 3, 2 and 1 for 'Strongly Agree (SA)', 'Agree (A)', 'Undecided (U)', 'Disagree (D)', and 'Strongly disagree (SD)' respectively with scoring reversed for the nine items positive to humanistic view point. These items score will be summed up to provide a single test score.

Such is, in brief, the scoring schemes of the tools 'ICDQ', 'CTMO' and 'SCI' that will be used in the present study to collect the data pertinent to its objectives.

3.10 Conclusion

This chapter describes and discusses at length the procedures adopted by the present investigator in developing and standardizing two new research instruments, viz. 'the Institutional Climate Description Questionnaire', (the ICDQ) and the College Teacher Morale Opinionaire' (the CTMO). The former is designated as Baroda Form II, as earlier an OCDQ based on these twelve dimensions but items more relevant to secondary schools of Gujarat was developed by Kirit Gandhi. In the M.S. University of Baroda, morale measurement tools have been constructed and standardized by Quraishi (1965) for industries, Patel (1973) and Dekhtawala (1977) for secondary schools, each based on differently structured morale factors, and the present CTMO is the first attempt to measure teacher morale of college teachers. Therefore, it was designated as The CTMO (Baroda Form I). The investigator has also attempted factor analysis at sub-test level in case of ICDQ and Five Varimax Factors were found out on the basis of dominant loading on the dimensions of the ICDQ. Similarly, the CTMO was also factor analysed. Here, too four-factor rotation was worked out. Four Varimax Factors were computed. The tool on Student Control Ideology was the PCI tool originally developed and standardized by Willowemor et al. of the Pennsylvania State University, U.S.A. Here, it is adapted with minor verbal changes to make

the items better understand by respondents from colleges of the Gujarat University.

With the three research tools available to the present investigator, the next step for her will be taken to administer the same to the sample described in Chapter II. The succeeding chapter would be devoted to the analysis and interpretation of the data yielded by the three research tools described in the present chapter.
