

**SCHOOL ENVIRONMENT, TEACHER COMMITMENT AND
STUDENT ACHIEVEMENT IN CHEMISTRY AT
HIGHER SECONDARY LEVEL**

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By

J.S. ANGEL MARY JANE

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Under the Guidance and Supervision of

Dr. S. PRAVEEN KUMAR



CENTRE FOR RESEARCH AND DEVELOPMENT

N.V.K.S.D. College of Education, Attoor - 629 177

Kanyakumari District, Tamil Nadu, India.

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DECLARATION

I declare that the thesis entitled SCHOOL ENVIRONMENT, TEACHER COMMITMENT AND STUDENT ACHIEVEMENT IN CHEMISTRY AT HIGHER SECONDARY LEVEL submitted by me for the degree of Doctor of Philosophy (Ph. D) is the record of work carried out by me during the period from 2014 to 2018 under the guidance of Dr. S. PRAVEEN KUMAR, Assistant Professor in Mathematics, N.V.K.S.D. College of Education, Attoor, and has not formed the basis for the award of any Degree, Diploma, Associateship, Fellowship, Titles in this University or any other University or other similar institution of Higher Learning.

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I certify that the thesis entitled SCHOOL ENVIRONMENT, TEACHER COMMITMENT AND STUDENT ACHIEVEMENT IN CHEMISTRY AT HIGHER SECONDARY LEVEL submitted for the Degree of Doctor of Philosophy (Ph. D) by Mrs. J.S. ANGEL MARY JANE is the record of research work carried out by her during the period from 2014 to 2018 under my guidance and supervision, and that this work has not formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or other Titles in this University or any other University or institution of Higher Learning.

Signature of the Supervisor

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LIST OF CONTENTS

Declaration.....	ii
Certificate.....	iii
Acknowledgements.....	iv
List of Contents.....	vii
List of Tables.....	x
List of Figures.....	xiv
CHAPTER I – INTRODUCTION AND CONCEPTUAL FRAMEWORK	1-27
1.1 School Environment.....	2
1.2 Teacher Commitment.....	11
1.3 Student Achievement.....	19
1.4 Higher Secondary Education.....	21
1.5 Need and Significance of the Study.....	25
1.6 Organisation of the Report.....	26
CHAPTER II – REVIEW OF RELATED STUDIES.....	28-88
2.1 Studies related to School Environment.....	29
2.2 Studies related to Teacher Commitment.....	48
2.3 Studies related to Student Achievement.....	69
2.4 Synthesis of the Reviewed Studies.....	85
CHAPTER III – INSTRUMENTATION.....	89-110
3.1 PrAn’s School Environment Scale	89
3.2 PrAn’s Teacher Commitment Perception Scale.....	96
3.3 PrAn’s Achievement Test in Chemistry.....	103
CHAPTER IV - METHODOLOGY.....	111-123
4.1 Statement of the Problem.....	111

4.2 Definition of Key Terms.....	111
4.3 Operational Definitions of Key Terms.....	112
4.4 Objectives of the Study.....	113
4.5 Hypotheses Framed.....	115
4.6 Variables of the Study.....	119
4.7 Method adopted for the Study.....	120
4.8 Population and Sample.....	120
4.9 Tools used for the Study.....	121
4.10 Delimitations of the Study.....	121
4.11 Statistical Techniques Employed.....	122
CHAPTER V - ANALYSIS OF DATA.....	124-208
5.1 Differential Analysis.....	125
5.2 Correlation Analysis.....	197
5.3 Tenability of Hypotheses.....	203
CHAPTER VI - FINDINGS, CONCLUSION AND SUGGESTIONS.....	209-234
6.1 The Study in Retrospect.....	209
6.2 Restatement of the Problem.....	209
6.3 Objectives.....	210
6.4 Hypothesis Formulated.....	211
6.5 Major Findings.....	212
6.6 Interpretation and Discussion.....	221
6.7 Recommendations.....	230
6.8 Suggestions for Further Studies.....	233
REFERENCES.....	235-248
APPENDICES.....	i-lxvii
Appendix 1: Personal Data Sheet.....	i

Appendix 2 (a): PrAn's School Environment Scale – Preliminary Draft.....	ii
Appendix 2 (b): PrAn's School Environment Scale – Final Draft.....	xi
Appendix 3 (a): PrAn's Teacher Commitment Perception Scale – Preliminary Draft.....	xix
Appendix 3 (b): PrAn's Teacher Commitment Perception Scale – Final Draft.....	xxxii
Appendix 4 (a): Blue Print of PrAn's Achievement Test in Chemistry	xliii
Appendix 4 (b): PrAn's Achievement Test in Chemistry – Preliminary Draft.....	xliv
Appendix 4 (c): Scoring Key PrAn's Achievement Test in Chemistry – Preliminary Draft.....	lvi
Appendix 4 (d): PrAn's Achievement Test in Chemistry – Final Draft.....	lviii
Appendix 4 (e): Scoring Key PrAn's Achievement Test in Chemistry – Final Draft.....	lxvi
Appendix 5: Publications by the Investigator.....	

LIST OF TABLES

Table No.	Title	Page No.
3.1	Details of dimensions of PrAn's School Environment Scale.....	91
3.2	Scoring method of PrAn's School Environment Scale.....	91
3.3	Item Analysis of PrAn's School Environment Scale.....	92
3.4	Details of dimensions of PrAn's Teacher Commitment Perception Scale.....	97
3.5	Scoring method of PrAn's Teacher Commitment Perception Scale.....	98
3.6	Item Analysis of PrAn's Teacher Commitment Perception Scale.....	99
3.7	Item Analysis of PrAn's Achievement Test in Chemistry.....	107
4.1	List of schools selected for the study.....	121
5.1.1	Comparison of mean scores of School Environment based on gender...	125
5.1.2a	Comparison of mean scores of School Environment based on religion.	127
5.1.2b	Scheffe's post hoc test for comparison of mean scores of School Environment based on religion.....	128
5.1.3a	Comparison of mean scores of School Environment based on community.....	130
5.1.3b	Scheffe's post hoc test for comparison of mean scores of School Environment based on community.....	131
5.1.4	Comparison of mean scores of School Environment based on locality of the school.....	133
5.1.5a	Comparison of mean scores of School Environment based on type of the school.....	135
5.1.5b	Scheffe's post hoc test for comparison of mean scores of School Environment based on type of the school.....	136
5.1.6a	Comparison of mean scores of School Environment based on type of management.....	138
5.1.6b	Scheffe's post hoc test for comparison of mean scores of School Environment based on type of management.....	139

Table No.	Title	Page No.
5.1.7	Comparison of mean scores of School Environment based on type of family.....	141
5.1.8a	Comparison of mean scores of School Environment based on occupation of father.....	142
5.1.8b	Scheffe's post hoc test for comparison of mean scores of School Environment based on occupation of father.....	143
5.1.9	Comparison of mean scores of School Environment based on occupation of mother.....	145
5.1.10a	Comparison of mean scores of School Environment based on education of father.....	146
5.1.10b	Scheffe's post hoc test for comparison of mean scores of School Environment based on educational level of father.....	147
5.1.11a	Comparison of mean scores of School Environment based on educational level of mother.....	150
5.1.11b	Scheffe's post hoc test for comparison of mean scores of School Environment based on educational level of mother.....	151
5.1.12	Comparison of mean scores of Teacher Commitment Perception based on gender.....	152
5.1.13a	Comparison of mean scores of Teacher Commitment Perception based on religion.....	154
5.1.13b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on religion.....	155
5.1.14a	Comparison of mean scores of Teacher Commitment Perception based on community.....	157
5.1.14b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on community.....	158
5.1.15	Comparison of mean scores of Teacher Commitment Perception based on locality of the school.....	159
5.1.16a	Comparison of mean scores of Teacher Commitment Perception based on type of the school.....	161
5.1.16b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on type of the school.....	162

Table No.	Title	Page No.
5.1.17a	Comparison of mean scores of Teacher Commitment Perception based on type of management.....	164
5.1.17b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on type of management.....	165
5.1.18	Comparison of mean scores of Teacher Commitment Perception based on type of family.....	167
5.1.19a	Comparison of mean scores of Teacher Commitment Perception based on occupation of father.....	169
5.1.19b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on occupation of father.....	170
5.1.20a	Comparison of mean scores of Teacher Commitment Perception based on occupation of mother.....	172
5.1.20b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on occupation of mother.....	173
5.1.21a	Comparison of mean scores of Teacher Commitment based Perception on educational level of father.....	175
5.1.21b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on educational level of father.....	176
5.1.22a	Comparison of mean scores of Teacher Commitment Perception based on educational level of mother.....	179
5.1.22b	Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on educational level of mother.....	180
5.1.23	Comparison of mean scores of Student Achievement in Chemistry based on gender.....	182
5.1.24a	Comparison of mean scores of Student Achievement in Chemistry based on religion.....	183
5.1.24b	Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on religion.....	183
5.1.25	Comparison of mean scores of Student Achievement in Chemistry based on community.....	185
5.1.26	Comparison of mean scores of Student Achievement in Chemistry based on locality of the school.....	185

Table No.	Title	Page No.
5.1.27a	Comparison of mean scores of Student Achievement in Chemistry based on type of the school.....	186
5.1.27b	Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on type of the school.....	187
5.1.28a	Comparison of mean scores of Student Achievement in Chemistry based on type of management.....	188
5.1.28b	Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on type of management.....	188
5.1.29	Comparison of mean scores of Student Achievement in Chemistry based on type of family.....	190
5.1.30a	Comparison of mean scores of Student Achievement in Chemistry based on occupation of father.....	191
5.1.30b	Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on occupation of father.....	191
5.1.31	Comparison of mean scores of Student Achievement in Chemistry based on occupation of mother.....	192
5.1.32a	Comparison of mean scores of Student Achievement in Chemistry based on educational level of father.....	194
5.1.32b	Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on educational level of father.....	195
5.1.33	Comparison of mean scores of Student Achievement in Chemistry based on educational level of mother.....	196
5.2.1	Correlation between School Environment and Teacher Commitment Perception of higher secondary school students.....	197
5.2.2	Correlation between School Environment and Student Achievement in Chemistry of higher secondary school students.....	199
5.2.3	Correlation between Teacher Commitment Perception and Student Achievement in Chemistry of higher secondary school students.....	201

LIST OF FIGURES

Figure No.	Title	Page No.
5.1.1	Comparison of School Environment based on gender.....	126
5.1.2	Comparison of School Environment based on religion.....	129
5.1.3	Comparison of School Environment based on community.....	132
5.1.4	Comparison of School Environment based on locality of the school.....	134
5.1.5	Comparison of School Environment based on type of the school.....	137
5.1.6	Comparison of School Environment based on type of management.....	140
5.1.7	Comparison of School Environment based on occupation of father.....	144
5.1.8	Comparison of School Environment based on educational level of father.....	149
5.1.9	Comparison of Teacher Commitment Perception based on gender.....	153
5.1.10	Comparison of Teacher Commitment Perception based on religion.....	156
5.1.11	Comparison of Teacher Commitment Perception based on locality of the school.....	160
5.1.12	Comparison of Teacher Commitment Perception based on type of the school.....	163
5.1.13	Comparison of Teacher Commitment Perception based on type of management.....	166
5.1.14	Comparison of Teacher Commitment Perception based on type of family.....	168
5.1.15	Comparison of Teacher Commitment Perception based on occupation of father.....	171
5.1.16	Comparison of Teacher Commitment Perception based on occupation of mother.....	174
5.1.17	Comparison of Teacher Commitment Perception based on educational level of father.....	178
5.1.18	Comparison of Teacher Commitment Perception based on educational level of mother.....	181

Figure No.	Title	Page No.
5.1.19	Comparison of Student Achievement based on gender.....	182
5.1.20	Comparison of Student Achievement in Chemistry based on religion...	184
5.1.21	Comparison of Student Achievement in Chemistry based on locality of the school.....	186
5.1.22	Comparison of Student Achievement in Chemistry based on type of the school.....	187
5.1.23	Comparison of Student Achievement in Chemistry based on type of management.....	189
5.1.24	Comparison of Student Achievement in Chemistry based on type of family.....	190
5.1.25	Comparison of Student Achievement in Chemistry based on occupation of father.....	192
5.1.26	Comparison of Student Achievement in Chemistry based on occupation of mother.....	193
5.1.27	Comparison of Student Achievement in Chemistry based on educational level of father.....	196



Chapter I

Introduction and Conceptual Framework

CHAPTER I

INTRODUCTION AND CONCEPTUAL FRAME WORK

- 1.1 School Environment
 - 1.1.1 Meaning of School Environment
 - 1.1.2 Nature of School Environment
 - 1.1.3 Dimensions of School Environment
- 1.2 Teacher Commitment
 - 1.2.1 Meaning of Teacher Commitment
 - 1.2.2 Dimensions of Teacher Commitment
 - 1.2.3 Role of the Teacher in Classroom
 - 1.2.4 Barriers of the Teachers who are Committed
- 1.3 Student Achievement
 - 1.3.1 Meaning of Academic Achievement
 - 1.3.2 Significance of Achievement Test
 - 1.3.3 Characteristics of Achievement Test
- 1.4 Higher Secondary Education
 - 1.4.1 Meaning of Higher Secondary Education
 - 1.4.2 Need for Higher Secondary Education
 - 1.4.3 Aims of Higher Secondary Education
 - 1.4.4 Features for Higher Secondary Education
 - 1.4.5 Relationship between Higher Secondary Education and other stages of Education
- 1.5 Need and Significance of the Study
- 1.6 Organisation of the Report

CHAPTER I

INTRODUCTION AND CONCEPTUAL FRAMEWORK

Education is a powerful instrument that develops the desired and desirable values in the younger generation. The school is a special environment, where the quality of life and certain types of activities and occupations are provided with the object of securing the child's development along desirable lines. School environments vary greatly. Some schools are friendly, inviting, and supportive but some others are exclusionary, unwelcoming and even unsafe. However, it is important to note that the environment of a school is not necessarily experienced in the same way by all of its members. Rather, there is variability in individual perceptions of a school's environment. Moreover, individual characteristics may have an impact on these perceptions.

Teaching is a noble profession. It involves a great deal of sacrifice with commitment of teachers for the welfare of the students. A teacher should love and like teaching and learning equally. Just like a parent does anything and everything for his/her child, a teacher also should develop this type of commitment to students in learner-centered atmosphere. Teacher's efficiency is not ensured by practical skills only. One of the reasons of this phenomenon is that the actual performance of trained teachers in the classroom or school is dependent on their commitment to perform academic tasks.

Students who are involved in the classroom devote significant energy to academics, spend time on campus, participate actively in student organizations and activities and interact often with faculty. On the other hand, uninvolved students neglect their studies, spend little time on campus, abstain from extracurricular activities and rarely initiate contact with faculty or other students. Students' academic

achievement influences several educational outcomes including cognitive learning, satisfaction with entire school experience and increased rates of student retention. For students to be deeply involved in the learning process, they must utilise energy in the academic relationship and activities.

1.1 School Environment

The school has been regarded as a society in its miniature form which forms the place of learning. It is the most important formal educational agency where the new generation is shaped and transformed. Thus schools are the main setting where the children spend their maximum time away from home. The schools are to be specially developed to carry out the work in a systematic manner (Kaur, 2014).

According to John Dewey, the school is a special environment where a certain quality of life and certain types of activities and occupations are provided with the object of securing child's development along desired lines (Krishnamucharyulu, 2009).

1.1.1 Meaning of School Environment

“School environment” had been defined in numerous ways. Dave (1963) defined education environment as the conditions, processes and psychological stimuli which affect the educational achievement of the child. It refers to those forces in the environment of the learner which have the potentiality to contribute to academic development of the learner. These forces may be a part of the school or college environment, the home environment and of the environment of various other social organizations (Devi, 2004).

The term also encompasses the culture of a school or class — its presiding ethos and characteristics, including how individuals interact with at one another, as well as the ways in which teachers may organize an educational setting to facilitate learning —

by conducting classes in relevant natural ecosystems, grouping desks in specific ways, decorating the walls with learning materials, or utilizing audio, visual and digital technologies. The qualities and characteristics of a learning environment are determined by a wide variety of factors, school policies, governance structures and other features may also be considered as elements of a “learning environment” (<http://edglossary.org/learning-environment/>).

A learning environment is a combination of social and physical qualities that create the classroom experience. It includes classroom management procedures, as well as the way the space is organized, furnished and maintained (<http://study.com/academy/lesson/learning-environment>). Since students may learn in a wide variety of settings, such as outside-of-school locations and outdoor environments, the term is often used as a more accurate or preferred alternative to classroom, which has more limited and traditional connotations — a room with rows of desks and a chalkboard (<http://edglossary.org/learning-environment/>).

School environment refers to the equality and character of school life. It is based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices and organizational structures. A sustainable positive school environment fosters youth development and satisfies life in a democratic society. This environment includes norms, values and expectations that support people feeling socially, emotionally and physically safe. Here the students, parents, society and educators work together to develop the entire school system (Khatoon and Konwar, 2014).

1.1.2 Nature of School Environment

Better the school environment better will be the functioning of the school. In an unsuitable environment or opposing environment, the possibility of going in opposite direction becomes prominent. The quality of the school-good or bad is reflected by the environment of the school (Latha and Gomathi, 2014).

Learning environments have both a direct and indirect influence on student learning, including their engagement in what is being taught, their motivation to learn and their sense of well-being, belonging and personal safety. For example, learning environment filled with sunlight and stimulating educational materials would likely be considered more conducive to learning in spaces without windows or decoration, as would schools with fewer incidences of misbehaviour, disorder, bullying and illegal activity. How adults interact with students and how students interact with one another may also be considered aspects of a learning environment and phrases such as “positive learning environment” or “negative learning environment” are commonly used in reference to the social and emotional dimensions of a school or class (<http://edglossary.org/learning-environment/>).

School environment also encompasses a broad range of educational concepts which include the physical setting, the psychological environment created through social contexts and numerous instructional components related to teacher characteristics and behaviours.

Beyond the physical arrangement of a classroom, psychological environment is also created, based on the interaction of key players in the classroom, namely students and teachers. Research in this area has varied greatly and proliferated during the early twenty-first century. Studies have been particularly concentrated on student class

participation rates, teacher support and communication of learning goals. Many teachers equate student engagement and on-task behaviour with classroom participation, typically a top concern for teachers (<http://www.education.com/reference/article/classroom-environment>).

1.1.3 Dimensions of School Environment

1. Provision of basic facilities

The basic facilities in a school include physical facilities, equipments and instructional facilities.

Physical facilities constitute the facilities such as size of the building, structure of building, place of construction, playground available and architecture value of the building.

Equipments include furniture, lab equipments, computers, materials for games, co-curricular and extracurricular activities. *Instructional facilities* include qualified staff members who are available (Kishan and Saroja, 2015).

2. Provision of special services

The special services in a school include health services, employment opportunities, guidance and counselling services, values, developing a reading community and an innovative science curriculum.

Health services: The diseases both physical and mental are the negative ingredients of human resources. Hence, physical and mental health services include life saving drugs, telemedicine systems, first-aid systems as well as advanced medical aid, super specialty hospitals, welfare programs, yoga, exercise, recreation, games and sports are to be provided for the students.

Employment opportunities: The employment opportunities in organized and unorganized sector as well as self-employment opportunities will prompt and motivate the students.

Guidance and counselling: It provides professional guidance and counselling which are necessary for the students.

Values: The cultivation of values such as non-violence, honesty, love, peace, cooperation, sacrifice, friendliness and forgiveness are necessary for the students (Bolashetty, 2005).

Developing a reading community: This is important for the teachers, the school administrators and the public to be involved in promoting the public school reading curriculum. Developing a community of people interested in improving students' reading achievement is an ongoing trend in education (Ediger, 2002).

Innovative science curriculum: The school curriculum needs to provide pupils with a quality science curriculum, which provides the needed subject matter, skills, and attitudes necessary in democracy (Ediger, 2005).

3. Promotion of curricular (or) academic activities

Activities that are carried out inside the classroom, in the laboratory or in the workshop and reference to the prescribed courses are called 'curricular activities'. These activities are a part of the over-all instructional programme. The following are the various curricular activities in the school.

(a) Classroom activities:

These activities are those which relate to the instructional work in different subjects like instructional games, classroom experiments, scientific observations,

guidance programmes, examination, production of audio-visual materials like different charts and models.

(b) Activities in the library:

These activities are reading books and journals, taking additional notes pertaining to current lessons, making scrap books, making files of newspaper cuttings, and preparing articles for publication.

(c) Activities in the workshop:

These activities have reference to various types of ‘work-experience’ or socially useful productive work.

(d) Activities in the laboratory:

These activities are carried out in science laboratories, language laboratory (<http://www.preservearticles.com/201102244204/what-is-the-difference-between-curricular-and-co-curricular-activities.html>).

4. Promotion of Co-curricular Activities

Co-curricular activities are activities that an educational agency creates for school students. Education should be designed and planned in such a way that the students may get an opportunity to come in contact with the realities of life. Co-curricular activities are helpful in doing away with monotony of the classroom (Mohan, 2013).

Previously the co-curricular activities were regarded as extracurricular activities and hence not much emphasis was given on organizing such activities. But of late, attitude towards these activities have changed and all-round development of the child has become the goal of education. Besides these intellectual, physical, emotional, ethical, social, aesthetic and cultural development are to be aimed at and therefore

co-curricular need be organised in the schools as the media of self-expression and means of personality growth.

The following are the objectives of co-curricular activities.

- a. To ensure the physical development of the students
- b. To develop academic and literary interest
- c. To develop a sense of social service
- d. To develop moral training
- e. To maintain good mental health
- f. To develop self-discipline
- g. To provide opportunities for leadership
- h. To ensure the development of community (Dash, 2004).

5. Promotion of School Community Relations

The school is a miniature community within a larger community and that the attitudes, values and modes of behaviour good or bad which have currency in national life are bound to be reflected in the school.

The following are the measures to establish relation between school and community.

1. School as the center of social and non-formal education

The school should become a centre of adult education. Adult education may be started in the school during evening hours. Such programmes will bring community into close contact with the school.

2. School library

The school library and reading room should be thrown open to public after school hours and on holidays for having way for the benefit of community.

3. Film shows / Exhibitions

For the entertainment and information of people belonging to the community, school should organize film shows and various kinds of exhibitions. Such programmes will stimulate the interest of the people in the school activities and strengthen the relationship between the school and the community.

4. Games

School authorities should organize games in such a way that some community people are also involved. There can be matches of staff versus the community people or staff and students combined versus community folk, where combined group of grown-ups and adults may be formed. School alumnae can also take a lead in this regard.

5. Local advisory committee

Local advisory committee should be formed for the betterment and welfare of the school. The head of the institution should be the chairman and its members can be two or three from the teaching staff, one or two from the senior students and three or four persons from the community.

6. Parent Teachers Association

School and home relations are the foundation or school community relations. Hence parent teachers association should be formed. This association helps a lot in promoting mutual understanding between the home and school. In this association the co-operation of experts should also be sought to discuss curriculum, methods of teaching, ways of creating congenial environment for children to learn and ways of securing co-operation of various agencies.

7. Educational conferences

Educational meetings and conferences may be planned in which parents, teachers and representatives of the community should participate. Educational problems and future plans can be discussed in these conferences.

8. Inviting members of community to school function

The school should invite the parents of the pupils and other dignified members of the community to attend various school functions like celebration of Republic day, Independence Day, Human Rights Day, U.N.O day, School Day, Sports Day and other important days. These occasions prove useful for strengthening the relationship between the school and the community.

9. Lectures by experts

The noted leaders of the community such as social reformers, successful administrators and businessmen, and other experts should be invited by schools to deliver lectures on educational, vocational, health and social problems. These, visits of the community people and their speeches before the students and teachers will create healthy relations between the school and the community.

10. School as guidance bureau for community

The school should act as guidance bureau for the community. It should be a leading center for guidance purpose. Special time should be fixed up for this purpose. All this is bound to strengthen the relationship between the school and the community (Walia, 1984).

1.2 Teacher Commitment

Teachers play an important role in educating the future members of a society through their work in schools. Furthermore, teachers in institutions of higher education, in technical training colleges and in centers of lifelong learning and recurrent education play a critical part in advancing economic and technological development as well as sustaining the well-being of the societies they serve. Consequently, the factors influencing the levels of commitment of the teachers in schools and in the wider education systems must necessarily be the focus of an important field of research leading to the introduction of reform and changes within classrooms, lecture theatres, schools, institutions, learning centers and national systems of education (http://link.springer.com/chapter/10.1007/978-0-387-73317-3_22).

1.2.1 Meaning of Teacher Commitment

According to Tsui & Cheng, teacher commitment is closely connected to teachers' work performance and their ability to innovate and integrate new ideas into their own practice, as well as having an important influence on students' achievement and attitudes toward school (Ranu and Kaur, 2013).

1.2.2 Dimensions of Teacher Commitment

Dave (1998) conceptualized that well-trained and effective teachers are those who are both competent as well as committed professional practitioners. The author elaborated the following five commitment areas of a teacher:

- i) Commitment to the learner
- ii) Commitment to the society
- iii) Commitment to the profession

- iv) Commitment to achieve excellence
- v) Commitment to the basic human values (Sharma, 2008).

Professionalism in any sector is a consequence of the extent of commitment on the part of individuals constituting the same. Teaching, being a profession, assumes that every teacher needs to stand committed to it. Teacher's commitment cannot be taken for granted in the present day context. Hence important areas of commitment and expected teacher behaviour need to be explicitly covered in pre-service and in-service teacher education curriculum. The most crucial teacher commitment areas have been identified as five-fold, as detailed below.

1. Commitment to the learner

By taking up the profession of teaching, the teacher is pledged to the progress and development of the learners. This can happen only when the teacher evinces sincere concern and affection for the learners and is tolerant towards mistakes and mischief's committed by them. He/she, therefore, must be so oriented as well as motivated to fulfill this pledge (Rajput, 1998).

Skillful teachers are dedicated in making knowledge accessible to all students. They adjust their practice based on observation and knowledge of their students' interest, abilities, skill, family circumstances and peer relationships. Skillful teachers understand how students develop and learn. They develop students' cognitive capacity and their respect for learning. Equally important, they foster students' self-esteem, motivation, character, civic responsibility and their respect for individual, cultural, religious, and racial differences (Majid, 2014).

A teacher who is committed to the learner has the following qualities.

1. Recognizes each child by name.
2. Is aware of his/her parents, home situation and social economic background.
3. Enquires about the welfare of those who are/were unwell.
4. Provides useful information to children and parents in areas of their need.
5. Mobilizes resources for weaker/disadvantaged learners.
6. Conducts case studies for exceptional children.
7. Identifies learning disabilities and works out remedial measures.
8. Organizes field trips and excursions where students and teachers can interact closely.
9. Offers guidance and counselling (Rajput and Walia, 2002).

2. Commitment to the society

Essentially, the school and the community have a symbiotic relationship between them. Being knowledgeable persons, teachers can orient the community towards importance of education as a life-long process and also motivate them to take it in that perspective.

The teachers have a very special role to play in motivating the deprived sections of the community to learn. This can only be done if teachers understand the community thoroughly and use various ways to mobilize it. Mobilized community can provide various resources to school personnel as well as material to help the system. Therefore, as a pre-requisite, the teachers need to have deep concern and commitment towards the community which demands teacher's specific orientation (Rajput, 1998).

A teacher who is committed to the society has the following qualities.

1. Participates in the festivals, fairs, ceremonies of different cultures/ religions.
2. Willing to assist in difficult situations like fire, floods.
3. Concerned about their health hygiene and the conditions that could prevent the spread of disease.
4. Joins the community for the utility of learning in schools in future life.
5. Encourages the community to use school resources.
6. Helps the community in suggesting or solving their problems.
7. Actively participates in campaigns like those against illiteracy, child labour and dowry immunization and those for health, consumer awareness and plantation (Rajput and Walia, 2002).

3. Commitment to the profession

Teachers are entrusted by the community to shoulder the crucial responsibility of shaping the present generation for the future through the process of teaching and learning. The major implication of this should be to make learning a joyful experience. Taking cognizance of this, only committed professionals will adopt various innovative methods of teaching, taking into consideration how best to learn and bring about effective learning. This can happen only when teachers themselves evince commitment to the profession to improve both guided as well as self-directed learning (Rajput, 1998).

A teacher who is committed to the profession has the following qualities.

1. Joins professional organizations of teachers.
2. Utilizes various sources for discussions of academic matters.

3. Visits libraries, acquires learning from various sources, arranges and joins discussions aims at enhanced understanding.
4. Avails or make opportunities to interact with experts including those in related areas.
5. Shares experiences with teachers.
6. Participates in co-curricular activities.
7. Plays an active role in administrative matters.
8. Suggests measures for institutional effectiveness (Rajput and Walia, 2002).

4. Commitment to achieve excellence

A teacher who is committed to the profession should simultaneously be committed to excellence. Only knowledge of innovations and developments in one's subject is not enough; one must integrate it in the structure of the curriculum and communicate it to the students through suitable methods of teaching. To excel in one's own profession, it is very essential to be open to accept an innovation, after studying its pros and cons (Rajput, 1998).

A teacher who is committed to achieve excellence has the following qualities.

1. Keeps updating knowledge and skills.
2. Contributes frequently for journals and periodicals,
3. Takes up action research and innovations.
4. Utilizes time for creativity and critical thinking.
5. Establishes rapport with other institutions for collaborative ventures and innovative ideas (Rajput and Walia, 2002).

5. Commitment to basic human values

Human beings are what they are because basic values developed over generations guide their course of life. These values are inculcated in children by parents and elders at home and by teachers in schools. This inculcation becomes possible through guidance whenever necessary and more so by practicing them in day-to-day life. Teacher's own observance of basic values such as truth, beauty, goodness, honesty, love, punctuality, regularity, impartiality etc. will automatically help children accept and internalize them (Rajput, 1998).

A teacher who is committed to the basic human values has the following qualities.

1. Leads a value-based life.
2. Remains conscious of the fact that children treat teachers as role models.
3. Uses proper and appropriate language on each occasion and everywhere

(Rajput and Walia, 2002).

These dimensions were suggested by Dave (1998) in NCTE's publication 'Competency based and commitment oriented teacher education for Quality school Education' (Sharma, 2006).

1.2.3 Role of the Teacher in Classroom

The National policy of education, 1986 has said about the role of teacher, "The students of the teacher reflect the socio-cultural methods of a society; it is said that no people can rise above the level of teachers. Teachers should have the freedom to innovate to the needs and capabilities and the concerns of the community.

The generally recognized overall role of the teacher in the classroom is to teach or conduct the educative process. He performs this role by following a variety of

teaching maxims, teaching methods and techniques, specific subject methods, and techniques or organization and control (Jayanthimony, 2005).

The role of the teacher in the classroom is marked by the following qualities.

i) *Representative of society*: The teacher upholds the traditions and norms of the society and inculcates the attitudes and moral values cherished by the society.

ii) *Judge*: The teacher judges the academic and other performance, and achievement, and conduct of students and awards marks or grades, or certificates.

iii) *Resource person*: The teacher acts as a resource person who possesses knowledge of the subject matter and skills better than the learner.

iv) *Helper*: The teacher acts as a helper to students by way of providing them academic guidance and help in difficulties.

v) *Referee*: While settling dispute among students, the teacher acts as an objective and fair referee.

vi) *Detective*: He detects offences and violation of rules.

vii) *Ego-Supporter*: He helps children to build and maintain a healthy and strong 'ego' and self-concept, and feel wanted and important.

viii) *Group-Leader*: He acts as a leader in establishing suitable climate and cohesion in the class as a social group.

ix) *Parent surrogate (substitute)*: He acts like a parent to the students attends to their psycho-culture needs, treating them with affection and care.

x) *Friends and confidant*: The teacher plays the role of a friend, philosopher and guide to the students and wins and shares their confidant (Dash, 2011).

1.2.4 Barriers of the Teachers who are Committed

The following are barriers for the teachers to be committed.

- a. Doctorate holders, post-graduates (or) students seeking admission into higher education, irrespective of their aptitude, attitude towards teaching at school level join the B.Ed. course only because of the increased wages at school level education.
- b. Admission into teacher training course needs to follow a testing procedure.
- c. The present teacher education system is inadequate in its curriculum, approaches to teacher preparation, duration of the course, transactional strategies, the teaching-learning devices and research in teacher education.
- d. Inadequately trained teachers are not capable of developing desirable changes in their pupils.
- e. During practice teaching in school, supervisors have indifferent attitudes towards supervision of their student teachers. Even each institute differs from one another in providing teaching practice.
- f. There exists a gap between teacher preparation and requirement of school.
- g. Other than teaching, teachers attend certain other government tasks, allotted to them. As a result of this, the biggest challenge teachers face today is to complete the syllabus in time
- h. Due to rapid modernization, commitment is considered as multidirectional. For instance a teacher who is keen at developing his financial asset, would be committed in the direction only, by various means leaving alone his/her profession as a mere duty at times.

- i. The newly recruited teachers who are young and energetic with enthusiasm, learns by trial and error method by which the performance in the class room becomes staler and staler, with each year passing. Gradually it ends in apathy towards the profession (Kishan, 2007).

1.3 Student Achievement

Achievement is the amount of knowledge derived for learning. The child gains knowledge by the instruction he/she receives at the school. Classrooms are organized around a set of core activities in which a teacher assigns tasks to pupils and evaluates and compares the quality of their work. In the course of time, pupils differentiate themselves according to how well they perform a variety of tasks, most of which require the use of symbolic skills. The classroom activities force pupils to cope with various degree of success and failure both of which can be psychologically problematic. The school provides a wider variety of achievement experiences than does the family. As they proceed through successive school levels, the rigors of achievement increase for those who continue along the academic line (Pandey, 1997).

1.3.1 Meaning of Academic Achievement

According to the *Dictionary of Education* (Carter, 1959), academic achievement means “the knowledge attained or skills developed in the school subject, usually designated by test scores, or by marks assigned by teachers or both” (Pandey, 1997).

Academic achievement generally refers to a child’s performance in the academic areas (eg. Reading or Language, Art, Maths, Science and History). The definition could vary depending on a child’s circumstance or situation.

Academic achievement is the specified level of attainment or proficiency in academic work as evaluated by teachers or by standardized tests or combination of

both. Thus achievement refers to what a person has acquired after specific training or instruction has been imparted. Academic achievement can be assessed by tests, which are primarily designated to measure the effects of specific program of instruction or training (Subramanian, 2017).

1.3.2 Significance of Achievement Test

The following points indicate the significance of achievement test:

1. Achievement tests are used in selection of candidates in different fields and for admission of students in schools.
2. These tests are important from the standpoint of determination of class and promotion.
3. Achievement tests are helpful in measurement of minimum abilities of an individual.
4. Achievement tests are used widely for different types of classifications and for appointment.
5. These tests acquaint one with the all-round mental ability of students (Sharma, 2010).

1.3.3 Characteristics of Achievement Test

The following are the chief characteristics of a good standardized achievement test:

1. The contents of these tests are based on the students' level, abilities, interests and aptitudes.
2. The test items in these tests are objective, so there is no question of awarding partial marks.
3. These tests are discriminating besides being reliable and valid.

4. These tests are very economical from the standpoint of money, time and energy.
5. The purpose of these tests is predetermined.
6. These tests are useful from the practical viewpoint.
7. These tests have a wide content (Sharma, 2010).

1.4 Higher Secondary Education

It is a known fact that early adolescent stage is the period in which an individual starts thinking of claiming independent status, expressing the emotions in a balanced way, participating in social processes assimilating social and moral values and participating actively in sharing the problems of the family. Obviously the individuals at this stage are confronted with problems due to emerging self. Added to this, the students at this stage have additional problems of preparing themselves academically. There are many types of problems, some of them are as follows: physical aspects of an individual, mental aspects of a human being, emotional aspects of an individual, social, academic or educational aspects of an individual, economic aspects of an individual, family aspects or atmosphere of an individual and so on (Mummoorthy and Babu, 2012).

1.4.1 Meaning of Higher Secondary Education

Higher Secondary education is the kind of education which is given after primary and secondary education and before college education. It is a stage that comes after the stage of School Education of ten year general education. It is also known as the +2 stage of Education or the Stage of Intermediate Education. It is both preparatory and terminal. It is terminal for those who want to discontinue education and enter into the world of work. It is preparatory for those who want to seek admission either into the Universities or technical and professional institutions of higher learning (Murty, 1986).

Nowadays for the promotion of educational development in the country, a uniform pattern of education (10+2+3) is followed. In this pattern 10 years of general education followed by diversified higher secondary education of 2 years and then 3 years of college education is provided. In Tamil Nadu two years of higher secondary education is provided and it includes 11th and 12th standard. At the higher secondary stage, students are allowed to study subjects of their choice which are generally presented as a block consisting of three or four subjects. Higher secondary classes are generally handled by trained post-graduate teachers or professional experts. Higher secondary education gives more importance for practical work and in-depth study of subjects (Nagarajan, 2010).

1.4.2 Need for Higher Secondary Education

Higher Secondary education provides employment opportunities to many. Higher Secondary education becomes necessary for village development, community development and national integration. Higher Secondary education pattern is a complete system satisfying the vocational needs, national, emotional and integration needs.

The following are the advantages of higher secondary education:

- i. Two years higher secondary education is more useful than one year pre-university course.
- ii. It prepares students at an early age for life's various stages.
- iii. It develops self-confidence and dignity of labour among the students.
- iv. It removes unemployment problem by giving vocational training in higher secondary schools.
- v. Higher secondary education makes the students mentally mature to pursue higher education (Shyni, 2010).

1.4.3 Aims of Higher Secondary Education

The major aims of higher Secondary education according to Kothari Education Commission are:

- i. Preparation of higher education and professional education
- ii. Strengthening the vocational stream of education
- iii. Development of social and national integration and consolidation of democratic way of life
- iv. Striving to build character by cultivating social, moral and spiritual values
- v. Training in citizenship and rational thinking (Nagarajan, 2010).

1.4.4 Features for Higher Secondary Education

The following important features of education at the secondary stage have been pointed out in the booklet entitled “10+2+3 – A major change in school education” published by the Ministry of Education, Government of India (1975).

1. The goals of national integration for democratic living, co-operativeness, cultural and religious tolerance have been duly emphasized in the course of languages and social sciences and find ample scope in community service.
2. For intellectual development of students, provision has been made in social sciences. For fuller development of the physical, emotional and other aspects of the student’s personality, provision has been made for work experience, community service, health and physical education and other activities.
3. The contents which have been given in the syllabi of these subjects are forward looking. Important developments in the respective areas have been

incorporated. Stress has been laid on recent scientific, technological social and economic developments in sciences and social sciences (Sharma, 2002).

1.4.5 Relationship between Higher Secondary Education and other stages of Education

Education is a continuous process. Let us briefly consider the relationship of higher secondary education with other stages of education.

Higher Secondary Education and Pre-School Education

There is no direct relation between these two stages of education. The former is meant for the adolescent age-group while the latter is meant for the childhood group.

Higher Secondary Education and Primary Education

The same is the case with these two stages of education. They are quite unrelated. The former is meant for the adolescents while the latter is for the early childhood age-group.

Higher Secondary Education and Upper Primary Education

There is no relationship between these two stages because the former is for the adolescents while the latter is for the later childhood age-group.

Higher Secondary Education and Secondary Education

There is some relationship between these two stages of education. The former is for the adolescents, while the latter is for the pre-adolescent age group.

The secondary stage of education is the culmination of the ten year course of general education. As such at least 50 percent of the school-leavers of secondary school may seek admission in the higher secondary stage of education. The other 50 percent may stop their education or may seek admission in the vocational, technical and

industrial institutions before they enter the employment world. For them, the secondary course may be a preparatory course. For others it is a terminal course.

The higher secondary education stage may be deemed as a stepping stone for the seekers of admission into the colleges. It is evidently a stage of preparation. The knowledge, skills and attitudes will be carried over to the next stage. Hence these two stages are very closely related. The pre-adolescent stage of development will be followed by the adolescent stage. Hence from the developmental and psychological point of view also these two stages are closely linked.

Higher Secondary Education and University Education

Higher secondary education is also closely related to University Education for it serves as a preparatory stage for higher education. The bifurcation of course as the academic and vocational course begins at the stage of +2 leads to academic higher education studies on one hand, and to technical and professional courses on the other. It would tend to prepare the students, who are adolescents, to play their roles as adults in future lives, and to attain due statuses according to their innate potentialities and aptitudes, which would be realised through their efforts and endeavours. Hence the former course serves either as terminal course for many and as a preparatory course for others, who seek admission into higher educational institutions (Murty, 1986).

1.5 Need and Significance of the Study

The present expectation of education is to create a healthy relation between the individual and the environment where he/she lives. The school environment reflects the physical and psychological aspects of the school that are more susceptible to change and that provide the preconditions necessary for teaching and learning to take place.

Therefore school environment is a significant element in improving academic performance of students.

A teacher should play an ideal role with his/her professional efficiency and proper abilities with commitment. Only with commitment, the teachers can accomplish educational aim and they can properly guide their students in the learning process. Some teachers consider their commitment as part of their professional identity. Needs related to interest, ability, achievement and learning styles at different stages of learning must be identified by the teacher. Students must be introduced to learning experiences which are compatible with their individual learning style and to meet the challenges of educational needs.

Chemistry is a subject where a teacher can give a variety of learning experiences through scientific inquiry and experimentation. It is a felt need that the Chemistry teaching at higher secondary level should incorporate different methods, techniques and procedures which lead to good academic performance. Having interest in identifying the school environment, teacher commitment and the students' achievement in educational setting, this piece of research has been taken by the investigator. Moreover, the investigator being a student of Chemistry felt the need to study the students' achievement in Chemistry. Therefore, a study on school environment, teacher commitment and student achievement in Chemistry at higher secondary level is found to be significant.

1.6 Organisation of the Report

The organization of the research report is presented below.

Chapter I includes the conceptual framework of school environment, teacher commitment and student achievement and also the need and significance of the study.

Chapter II includes the studies related to school environment, teacher commitment and student achievement which are conducted in India as well as abroad and synthesis of the reviewed studies.

Chapter III deals with the procedure of development and standardization of the tool needed for the present study.

Chapter IV includes the objectives, hypotheses, methodology followed, tools used in the study and also the statistical techniques employed for the study.

Chapter V is on the statistical analysis of the data collected.

In the *Chapter VI*, the findings, interpretation, educational implications and suggestions for further researches are presented.

The following chapter deals with the reviewed studies related to the present study.



Chapter II

Review of Related Studies

CHAPTER II

REVIEW OF RELATED STUDIES

- 2.1 Studies related to School Environment
 - 2.1.1 Studies conducted in India
 - 2.1.2 Studies conducted abroad

- 2.2 Studies related to Teacher Commitment
 - 2.2.1 Studies conducted in India
 - 2.2.2 Studies conducted abroad

- 2.3 Studies related to Student Achievement
 - 2.3.1 Studies conducted in India
 - 2.3.2 Studies conducted abroad

- 2.4 Synthesis of the Reviewed Studies

CHAPTER II

REVIEW OF RELATED STUDIES

The review of related literature is one of the essential aspects of a research work. It plays a critical role in planning of the study. A researcher has to be up-to date in his/her information about the studies related to his/her problem. Once a topic has been decided upon, it is essential to review all the relevant materials which has a bearing on the topic. In fact, review of literature begins with a search for suitable topic and continues throughout the duration of the research work. It is necessary to know how the problem under investigation relates to previous research studies.

Review of the related literature allows the investigator to acquaint him/her with the current knowledge in the field, in which he/she is going to conduct research. It enables the investigator to define the limits of his/her field. It also helps the investigator to delimit and define the problem. The knowledge of related literature brings the investigator up-to-date on the work of which others have done, thus to state the objectives clearly and concisely. By reviewing the related literature, the investigator can avoid unintentional duplication of well-established findings.

The review of related literature thus gives the investigator an understanding of the research methodology which refers to the way the tools and instruments which proved to be useful and promising in the previous studies. The advantage of the related literature is to provide insight into the statistical methods through which the validity of result is to be established. Review of related literature also helps to know about the recommendations of previous investigators for further research which they have listed in their studies.

The aim of this chapter is to record briefly the findings of related research studies conducted abroad and in India that are related to the problem under study. Inferences from the review of related studies also find its place at the end of this chapter.

2.1 Studies Related to School Environment

2.1.1 Studies conducted in India

In this section, fifteen studies conducted in India, are presented.

Tripathi and Pandey (2017) conducted a research on study of perception of special needs children of high school level towards school climate with respect to their gender.

The objectives of the study were: i) To compare the perception of the student towards school climate with respect to their gender. ii) To study the perception of special needs children dimension wise on gender basis towards school climate. In this study, descriptive survey method was used. Government and private school of Bilaspur district of Chhattisgarh were selected by stratified random sampling technique. The tool used was School Environment Inventory (SEI). Arithmetic mean and standard deviation were the major statistical techniques used. The major finding of the study was that there was no significant difference in the perception of special needs children towards school climate as dimension wise with respect to gender.

Lizzie (2016) conducted a research on learning environment among higher secondary students in Tiruvallur district of Tamil Nadu.

The objectives of the study were: i) To find out the level of learning environment among higher secondary students. ii) To find out whether there was any significant difference in the learning environment of higher secondary students based on gender, medium of instruction and type of school board. Descriptive survey method

was adopted. The sample consisted of 300 higher secondary students selected randomly from Government, Government aided and Private schools of Tiruvallur city. The tool used to measure the learning environment among higher secondary school students was Learning Environment Scale standardized by Srinivasan (1991). Descriptive analysis (frequency and percentage) and different analysis (t test) were the major statistical techniques used. The major findings of the study were: i) The learning environment of higher secondary students was perceived as average as hypothesized. ii) There was no significant difference between male and female students of higher secondary students in their learning environment. iii) There was significant difference between Tamil and English medium students. iv) There was significant difference between state board and matric board school students in their learning environment.

Sharma (2016) conducted a study on school effectiveness in relation to learning environment in elementary schools of Punjab.

The objectives of the study were: i) To study school effectiveness and learning environment in rural and urban elementary schools. ii) To study school effectiveness and learning environment in government and private elementary schools. iii) To study relationship of school effectiveness with learning environment. Normative survey method was adopted. The sample consisted of 80 primary schools, their teachers and the head of the schools of Gurdaspur district. From each school 2 teachers, 320 students and 80 head of the schools were selected. Tools used were a self-constructed tool for school effectiveness and learning environment. Arithmetic mean, standard deviation, critical ratio (t test) were the major statistical techniques used. The major findings of the study were: i) There was significant difference between school effectiveness in urban and rural schools. ii) There was no significant difference in learning environment on the basis of urban and rural schools. iii) There was significant difference in school

effectiveness of Government and private schools. iv) There was no significant difference in learning environment of Government and private schools. v) There was significant relationship between school effectiveness and learning environment in rural elementary schools.

Selvi and Daniel (2015) conducted a study on relationship between classroom climate and academic achievement of higher secondary students.

The objectives of the study were: i) To find out the level of classroom climate of higher secondary students with respect to gender. ii) To find out the level of academic achievement of higher secondary students with respect to gender. iii) To find out the significant relationship between classroom climate and academic achievement of higher secondary students. Survey method was used for the study. The investigator randomly selected a sample of 350 higher secondary students from 10 higher secondary schools in Tenkasi educational district. The investigator has adopted the tool for classroom climate to measure the achievement score of the students. Their marks in all the subjects in the quarterly examinations conducted by the school as recorded in the school register were taken as the achievement score in all subjects. Statistical techniques used were mean, standard deviation, t test, differential analysis and percentage analysis. The major findings of the study were: i) There was significant difference between male and female higher secondary students in their classroom climate. ii) There was no significant difference between male and female higher secondary students in their academic achievement. iii) There was significant relationship between classroom climate and academic achievement of higher secondary students with respect to gender.

Kaur (2014) had done a research on academic stress of +1 students in relation to school environment.

The objectives of the study were: i) (a) To study the level of academic stress of students of +1 class of Government schools of Ferozepur. (b) To study the level of academic stress of students of +1 class of private Schools of Ferozepur. ii) To study the difference in the level of academic stress of Government and private school students of +1 class. iii) To study the level of academic stress of science and arts students of +1 class. iv) To study the difference in the level of academic stress of science and arts students of +1 class. v) To study the effect of school environment on academic stress of +1 students. Normative survey method was adopted. The sample consisted of students of +1 class of two Government and two private higher secondary schools. Scale of Academic Stress developed by Abha Rani Bisht and scale of School Environment developed by Karuna Shankar Mishra (1984) were given together to the students. Mean, standard deviation, t test and Pearson's product moment method of correlation were the statistical techniques used. The major findings of the study were: i) Majority of students were in average category as far as their level of academic stress was concerned. ii) Majority of science students were in average category as far as their level of academic stress was concerned. iii) Majority of arts students of +1 class were in average category as far as their level of academic stress was concerned.

Khatoon and Konwar (2014) made a study on school climate perceived by the pupils and its relation to their academic achievement.

The objectives of the study were: i) To find out the relationship between school climate and academic achievement of the pupils of secondary schools of Sivasagar subdivision. ii) To find out the relationship between the types of school managements and school climate. Normative survey method was adopted. A total of 319 students

from 16 different secondary schools constituted the sample for the study. The perception measuring tool used in this study was constructed and standardized by Konwar. It contained 18 items on three dimensions namely Individual Achievement Orientation (IAO), Group Achievement Orientation (GAO) and Overall Energy Strength (OES). Arithmetic mean, standard deviation, t test and Pearson's product moment method of correlation were the statistical techniques used. The major findings of the study were: i) There was no significant difference in respect of GAO and OES. ii) There was no significant difference in respect of OES. iii) There was significant difference between the students of Government schools in respect of their perceptions of school climate and academic achievements on the dimensions of IOA and GAO.

Sethi and Kaur (2014) conducted a study on interest in Science and school environment as correlated to achievement in Science of 10th class students.

The objectives of the study were: i) To measure the level of interest in science of 10th class students. ii) To study the achievement of 10th class students in science with respect to interest. iii) To study the achievement of 10th class students in science with respect to high and low level of interest. iv) To study the achievement of 10th class students in science with respect to school environment. v) To find out gender difference in achievement of 10th class students in science. vi) To find out the locale difference in achievement in science among 10th class students. vii) To find out the difference in achievement in science due to high and low level of interest in science of 10th class students. Descriptive survey method was employed in the present investigation. Survey was conducted on a sample of 200 tenth class students of rural and urban area with respect to interest in science, school environment and achievement in science. Tools used were Science Interest Test (SIT) developed by Dubey and Kum Archana Dubey, School environment inventory developed by Karuna Shanker Mishra and Science

achievement test developed by Singh. Arithmetic mean, standard deviation, Pearson's product moment correlation and t test were the major statistical techniques used. The major findings of the study were: i) Achievement in science was strongly effected by interest in science. ii) Achievement in science was strongly effected by school environment. iii) Gender difference did not have its effect on achievement in science. iv) Locale difference did have its effect on the achievement in science. v) High level and low level of interest did have its effect on achievement in science.

Bency and Prasad (2013) conducted a study on effect of school environment on academic achievement of secondary school students.

The objectives of the study were: i) To study the mean difference, if any, between male and female secondary school students on school environment and academic achievement. ii) To study the mean difference, if any, between urban and rural secondary school students on school environment and academic achievement. iii) To study the mean difference, if any among different religious groups of secondary school students on school environment and academic achievement. iv) To study the mean difference, if any, between the Government and Private secondary school students on school environment and academic achievement. v) To study the relationship between the school environment and academic achievement of secondary school students. Normative survey method was adopted. The sample consisted of 400 secondary school students. Personal information schedule and School Environment Inventory (SEI) were the tools used. Arithmetic mean, standard deviation, t test and coefficient of correlation were the major statistical techniques used. The major findings of the study were: i) The male and female, rural and urban, the Hindu, Christian and Muslim, and Government and Private school students significantly differ in their school environment. ii) The male and female, the Hindu and Christian, the Hindu and Muslim,

and the Government and Private school students significantly differ in their academic achievement. iii) The rural and urban and the Christian and Muslim students did not differ significantly in their academic achievement. iv) There was significant positive relationship between school environment and academic achievement of secondary school students.

Madankar (2013) conducted a study on effect of personality, home environment and school environment on academic achievement among secondary school students.

The objectives of the study were: i) To determine direct and indirect effects of personality, home environment and school environment on academic achievement of boys. ii) To determine direct and indirect effects of personality, home environment and school environment on academic achievement of girls. iii) To determine direct and indirect effects of personality, home environment and school environment on academic achievement of rural students. iv) To determine direct and indirect effects of personality, home environment and school environment on academic achievement of urban students. The normative survey method was used. The sample consisted of a total number of 200 secondary school students out of which 120 boys and 80 girls were selected using random sampling technique. Tools used were 1) Personality Inventory, 2) Family Climate Scale, 3) School Environment Inventory and 4) Achievement Test. Path analysis technique was adopted to see the direct and indirect effects of independent variables on dependent variable. The major findings of the study were: i) There was significant difference between direct and indirect effect of personality, home environment and school environment on academic achievement of boys. ii) There was significant difference between direct and indirect effect of personality, home environment and school environment on academic achievement of girls. iii) There was significant difference between direct and indirect effect of personality, home

environment and school environment on academic achievement of rural students. iv) There was significant difference between direct and indirect effect of personality, home environment and school environment on academic achievement of urban students.

Poonam (2013) researched on a relational study of environmental attitude and school environment of school teachers.

The aim of the study was to inquire about the relational impact of environmental attitude of school teachers on the school environment where they are serving. Normative survey method was adopted. A sample of 300 school teachers from Government and Private schools of Gurdaspur district were randomly selected. Taj Environmental Attitude Scale (TEAS) prepared by Haseen Taj and School Environment Inventory prepared by Mishra were employed on school teachers of Gurdaspur. Arithmetic mean, standard deviation, and Pearson's product moment method of correlation were the statistical techniques used. The major finding of the study was that there was no significant relationship between school teachers environmental attitude with their school environment.

Thakur and Mishra (2013) conducted a research on effect of constructivist classroom environment on achievement of students in science at secondary level.

The objectives of the study were: i) To study the effect of constructivist classroom environment on achievement of students in science. ii) To compare the effect of constructivist classroom environment on achievement of boys and girls in science. The study followed experimental method. The sample of the study consisted of 80 students of class IX of Holy Child English Academy, Malda. The tools used for the study were SPM (intelligence test) developed by Raven and achievement test (class IX) in science. Statistical techniques like mean, standard deviation and t test were used. The major findings of the study revealed that: i) The post-test scores of students

achievement in constructivist classroom environment of experimental group were more than control group. ii) There was no significant difference in mean achievement of boys and girls in experimental group of post-test.

Azmi and Ansari (2012) conducted a study on academic performance as a function of perceived school environment.

The objective of the study was to find out the influence of perceived school environment and its various dimensions on students' academic performance. The study followed survey method. The sample consisted of 400 students selected from public schools of Aligarh district. The students of 10th standard were taken for the study. The tools used for the study were school environment scale developed by Fatima (2002). Statistical techniques like F-test and t test were used. The results revealed that 'teacher caring attitude for students', 'home work', 'students' attitude towards school' and 'total school environment' had significant predictive influence on academic performance.

Chouhan (2011) conducted a research on influence of some school climate factors on quality education.

The objectives of the study were: i) To analyse the influence of eight school climate factors on academic achievement of students. ii) To find out the interrelationship among these school climatic factors. iii) To investigate the relationship between school climate factor and quality education. The study followed survey method. Total schools in Fatehgarh district which had both private and Government secondary and senior secondary schools and for which the principal had served for at least three years were sampled through random sampling process. Thus a total of 611 students (330 male and 281 female) subjects were included for the study. A 65-item questionnaire was developed for the purpose of data collection. The statistical techniques used were two and one way analysis (ANOVA) and Pearson's product

moment correlation. The major findings of the study were: i) There was significant influence of all the eight school climate factors on students' academic achievement. ii) All the eight school climate factors were found to be related to each other in a very significant manner. iii) There was significant positive relationship between school climate factors and quality of education.

Nair and Minikutty (2011) conducted a research on leadership qualities of higher secondary students using constructivist learning environment as a reference.

The objectives of the study were: i) To classify higher secondary students on the basis of leadership qualities. ii) To find out the relationship between leadership qualities as well as constructivist learning environment. iii) To find out whether there exist any significant difference in the leadership qualities of higher secondary students on the basis of gender as well as locality. iv) To find out whether there exist any significant difference in the constructivist learning environment of higher secondary students on the basis of gender as well as locality. v) To find out whether there exist any significant difference in the leadership quality and constructivist learning environment of students from CBSE and Government schools. Normative survey method was used for this study. The sample consisted of 100 higher secondary school students. The leadership quality was measured by leadership questionnaire and learning environment by constructivist learning environment questionnaire. Statistical techniques like mean, standard deviation and t test were used. The major findings of the study were: i) There was significant difference in the mean scores of leadership qualities of male and female students. ii) There was significant difference in the mean scores of constructivist learning environment of male and female students. iii) There was significant difference in the mean scores of leadership qualities of urban and rural students. iv) There was significant difference in the mean scores of constructivist

learning environment of urban and rural students. v) There was no significant difference in the mean scores of leadership qualities of Government and CBSE school students. vi) There was no significant difference in the mean scores of constructivist learning environment of Government and CBSE school students.

Vasanthi (2010) made a study on learning environment and academic achievement of Higher Secondary Physics Students.

The objectives of the study were: i) To study the learning environment of higher secondary Physics students of Thoothukudi district, Tamil Nadu. ii) To study the relationship between learning environment and academic achievement of higher secondary Physics students. iii) To study the relationship between learning environment and socio economic status of higher secondary Physics students. iv) To study the learning environment of higher secondary Physics students with respect to teacher, school and home component. A random sample consisting of 223 students of which 112 were boys and 111 were girls was selected. The sample had representation from students of Mathematics and Science group. The tools used were Learning Environment Scale developed by the investigator and Aaron's Socioeconomic Status Scale. Arithmetic mean, standard deviation and Pearson's product moment method of correlation were the statistical techniques used. The major findings of the study were: i) The correlations between the learning environment and academic achievement of Hindu students, Non-BC student, and rural students varied significantly. ii) The correlations between the learning environment and socio economic status of Government-aided school students, science group students also varied significantly. iii) The correlations between the learning environment and academic achievement, and learning environment and socio economic status varied significantly.

2.1.2 Studies conducted abroad

In this section, fourteen studies conducted abroad are presented.

Ojukwu (2017) conducted a research on effect of insecurity of school environment on the academic performance of secondary school students in Imo State.

The objective of the study was to investigate the effect of insecurity of school environment on the academic performance of secondary school students in Imo state, Nigeria. A total of 1000 students, out of which 500 were male and 500 were female responded to a self-structured validated questionnaire designed for the study. Two research questions and two hypotheses were formulated to guide the study. Mean and standard deviations were calculated to answer the research questions and independent sample t tests were used for testing the hypotheses. Major findings revealed that insecurity of school environment significantly affected the academic performance of secondary school students while students' gangsterism, abusing other hard drugs, cult and related violent activities were some of the factors that constituted insecurity of the school environment which eventually caused boys to leave school and join trading while leading girls to drop out and settle for marriage.

Musa, Meshak and Sagir (2016) conducted a study on adolescents' perception of the psychological security of school environment, emotional development and academic performance in secondary schools in Gombe Metropolis.

The objective of the study was to determine adolescents' perceptions of the psychological security of their schools environments and their relationship with their emotional development and academic performance in secondary schools in Gombe Metropolis. A sample of 239 (107 male and 133 female) secondary school students selected via stratified random sampling from four public and private secondary schools in Gombe Metropolis participated in the study. A self-developed questionnaire titled

"Psychological Perspective of the Security of School Environment, Emotional Development Academic Performance of Adolescents Questionnaire" with a Cronbach Alpha reliability of (0.71) were used for the study. Simple Percentage and Multiple Regression were used to analyse the data. The findings revealed that adolescents perceived the psychological security of secondary schools environments as insecure; there were significant relationships between insecurity of school environment with emotional development and academic performance of adolescents.

John-Akinola and Gabhainn (2015) conducted a study on socio-ecological school environments and children's health and wellbeing outcomes.

The objective of the study was to investigate the associations between school socio-ecological environment and health and wellbeing outcomes. Data were collected from 231 pupils in nine primary schools: urban and rural; single and mixed gender; disadvantaged and non-disadvantaged; and health promoting schools (HPS) and non-HPS. Questionnaire items included perceptions of the school socio-ecological environment (school perception, class relationships, teacher relationships, school policy and parental participation) and health and wellbeing outcomes. The major finding of the study was that school perception, class relationships, relationship with teacher, perception of school policy and parents' participation in school life were all significantly associated with health and wellbeing outcomes for all groups of pupils. Very few differences emerged between different school types on the measures of either school socio-ecological environment or measures of health and wellbeing.

Al-Safran, Brown and Wiseman (2014) conducted a study on the effect of principal's leadership style on school environment and outcome.

The main objectives of the study were: i) To investigate the effect of principal's leadership style on school outcome. ii) To investigate the impact of culture on

leadership style as related to school environment and outcome. Data from the TIMSS 1995 on Kuwait and the USA were used in this empirical investigation. Descriptive statistics and ANOVA were used in the statistical analysis. The major findings of the study were: i) The relationship was found to be direct and indirect through the school environment. In the USA schools, the integrative principal leadership style was found to encourage and create a cooperative school environment for better school outcome than schools with authoritative principals. ii) The principal's leadership style was found to be very different between Kuwait and USA school. Kuwait school principals were authoritative in nature. Data indicated that a cooperative school environment showed higher school outcomes.

Gietz and McIntosh (2014) conducted an investigation on relation between student perceptions of their school environment and academic achievement.

The objective of the study was to examine student perceptions of their school environment (specifically, safety and inclusion in the school, experiences being bullied and clear expectations for behaviour) and their relation with academic achievement at the school level. Participants were students in 969 elementary schools and 73 middle schools who took part in a province wide achievement test and student satisfaction survey in Canada. Hierarchical multiple regression analyses were conducted to determine the amount of variance in student achievement explained by student perceptions of the school environment when controlling for school-level poverty and accounting for nesting. The major finding of the study revealed that perceptions of the school environment were significantly associated with academic success, above and beyond effects of school-level poverty and district.

Gowrie and Ramdass (2014) made a study on teachers' perceptions of the dimensions of the psychosocial school environment in primary schools in Trinidad and Tobago.

The objectives of the study were: i) To explore some of the important psychosocial factors in the primary school environment that impact on students' learning as perceived by teachers. ii) To identify, describe and develop conceptual categories as separate dimensions of the social and emotional environment. The sample consisted of 187 teachers and 53 schools selected from one educational district — St. George East. The data were analyzed using the statistical package for the social sciences (SPSS-SPG2). Statistical techniques like means, t tests, ANOVA and regression analysis were used. The findings revealed that teachers perceived student-related and school violence issues as the most important dimensions of the psychosocial environment. There was a significant positive correlation between the five dimensions of the psychosocial environment. Also, the psycho-social environment had negative influences on students' attitudes and emotional well-being as perceived by teachers in many of our primary schools in the sample, especially in the Government schools. The findings further indicated that teacher-related issues had the greatest influence on the overall psycho-social environment.

Elsaesser, Gorman-Smith and Henry (2013) conducted a study on the role of the school environment in relational aggression and victimization.

The objective of the study was to examine risk for involvement in relational aggression and victimization among middle school youth, evaluating both individual beliefs about violence, as well as aspects of the school environment, including interpersonal school climate and school responsiveness to violence. A sample of 5,625 middle school youth were selected who completed measures of relational aggression and victimization as well as indicators of individual beliefs about aggression, school

norms for aggression, student-teacher and student-student interpersonal climate, and school responsiveness to violence. The major finding of the study revealed not only that individual beliefs and perceptions of the school environment were important in understanding perpetration and victimization of relational aggression, but also that risk for involvement in relational aggression was distinct from that of physical aggression.

Johnson, Burke and Gielen (2012) made a research on urban students' perceptions of the school environment's influence on school violence.

The objective of the study was to provide information about aspects of the school environment perceived by students to influence the occurrence of school violence. Concept mapping, a mixed-methods methodology, were used with two groups of urban, primarily African American high school students (N = 27) to create conceptual frameworks of their understanding of the school social and physical environment's influence on school violence. Each group of students identified over 50 different ways who perceived that their school environment contributed to school violence. These ideas were categorized into six main topics: student behaviors, norms of behavior, relationships with school staff, learning environment, school safety, and neighborhood environment. Students' perceptions supported the current conceptualization of the role of the school environment in school violence. The major findings of the study were: i) This study supplemented the current literature by identifying school-level aspects of the social and physical environment that contribute to students perceptions of the safety of their school. ii) At this level, differences were noted between the two school environments, indicating a need for intervention tailoring.

Hamilton, Marshall, Rummens, Fenta and Simich (2011) conducted a research on immigrant parents' perceptions of school environment and children's mental health and behaviour.

This study examined the relationship between parents' perceptions of school environment and children's emotional and behavioural problems. Data were derived from the New Canadian Children and Youth Study, a study of the children (aged 4-6 and 11-13) of immigrant parents. Analyses focused on a subsample of Mainland Chinese, Hong Kong Chinese, and Filipino immigrants in a large metropolitan area. The major findings of the study were: i) Parental perception of school environment was negatively associated with physical aggression in children even after controlling for child age and gender, parental characteristics, family functioning, and aspects of acculturation. ii) In contrast, parental perception was not significantly related to symptoms of emotional distress in children. There were some ethnic differences in perception of school environment.

Kennard and Ruth (2010) conducted a research on perceptions of school from students in a rural school environment.

The objective of the study was to describe the perceptions of school from students of differing ages, gender, ethnic groups, and grade levels in a rural school environment. Interview protocols method were used. The ethnic groups in the school population were African, Americans, and Caucasians. The different grade levels were 7th through 12th. The results produced data that will enable teachers, administrators, parents, and policy makers to implement school reform effectively by better understanding the students' perceptions from a rural school environment.

Wang and Holcombe (2010) conducted a research on adolescents' perceptions of school environment, engagement, and academic achievement in middle school.

This short-term longitudinal research examined the relationships among middle school students' perceptions of school environment, school engagement, and academic achievement. Participants were from a representative, ethnically diverse, urban sample of 1,046 students. The major findings of the study were: i) Students' perceptions of school environment influenced their academic achievement directly and indirectly through the three types of school engagement. ii) Specifically, students' perceptions of school characteristics in seventh grade influenced their school participation, identification with school, and use of self-regulation strategies in eighth grade that occur therein and, in turn, influenced students' academic achievement in eighth grade.

Garcia and Samuel (2009) conducted a study on factors in the school and home environment that contribute toward migrant students graduating from high school in a selected South Texas community.

The objective of the study was to examine the impact of factors in the school and home environment that contributes toward migrant students graduating from high school in one South Texas community. The sample population consisted of 63 migrant student graduates of May 2007 and 30 migrant parents who had a son/daughter participating in the selected population. This study utilized several components as main data collection instruments. The first component quantitatively investigated the perceptions of both migrant high school students and parents through a self-reporting survey questionnaire. The second component qualitatively investigated the perceptions of both students and parents through an in-depth interview process. The major findings of the study revealed that a positive agreement existed between the students' and

parents' perceptions of factors in the school and home environment that contribute toward migrant students graduating from high school.

Huang and Fraser (2009) conducted a study on Science teachers' perceptions of the school environment.

The objective of the study was to assess differences between female and male Science Teachers' perceptions of their school environment and associations between these school environment perceptions and teachers' background characteristics. Data were collected from a large sample of 300 female and 518 male science teachers from secondary schools in Taiwan. The major findings of the study were: i) Gender differences were found in most aspects of the school environment, with female science teachers perceiving greater collegiality among teachers, higher gender equity among students, and stronger professional interest, and with male science teachers perceiving lower work pressure and better teacher-student relations. ii) Gender differences in science teachers' perceptions of collegiality, work pressure, and gender equity in the school environment persisted even after controlling for teachers' background and school characteristics.

Huang (2006) had done a research on Science teachers' perceptions of secondary school environments in Taiwan.

This study investigated the psychosocial environments of secondary schools from science teachers' perspectives, as well as associated variables. The study was conducted on a sample of 900 secondary science teachers from 52 schools in Taiwan. The tool used for the study was the Science Teacher School Environment Questionnaire. Also interview was conducted for 34 science teachers. For statistical analysis, descriptive statistics and multiple regression were used. The descriptive results showed that a majority of science teachers positively perceived their school

environments. The teachers reported high collegiality, good teacher-student relations, effective principal leadership, strong professional interest, and low work pressure, but also low staff freedom. Multiple regression results further indicated that policy-relevant variables like school level, school location, and teachers' intentions to stay in teaching were associated with science teachers' perceptions of their school environments. Qualitative data analysis based on interviews of 34 science teachers confirmed and enriched these findings.

2.2 Studies Related to Teacher Commitment

2.2.1 Studies conducted in India

In this section, fourteen studies conducted in India are presented.

Vasuki and Chiramel (2017) conducted a study on teacher commitment and family adjustment of married female teachers in Kerala's Palakkad District.

The objectives of the study were: i) To explore whether married female school teachers differ in their teacher commitment and family adjustment owing to variations with respect to some selected personal variables namely a) qualification, b) monthly salary, c) type of management and d) type of family. ii) To examine whether married female school teachers differ in their family adjustment with special reference to a) household management, b) economic management, c) relationship with society, d) relationship with law e) relationship with children and f) relationship with husband owing to differences in some selected personal variables. ii) To investigate the relationship between teacher commitment and family adjustment of female school teachers for the whole sample and sub-samples classified on the basis of the selected personal variables. Sample of the study selected by random sampling techniques constituted 410 female school teachers. The investigator used the teacher commitment scale developed and standardized by Usha and Kumar (2004) and family adjustment

inventory developed and standardized by Jeyan and Shari (2003). Statistical techniques used to test the hypotheses were mean standard deviation, two tailed t test, one way analysis of variance and Pearson's product moment correlation. The findings of the study were: i) There was no significant difference in teacher commitment and family adjustment with respect to the selected personal variables namely qualification and type of family. ii) A significant difference was noted in teachers' family adjustment with respect to monthly salary and type of management. iii) There was no significant difference in teachers' family adjustment with respect to selected personal variables namely age, qualification, period of service, monthly salary, type of management and family type. iv) There was no significant relation between teacher commitment and family adjustment with respect to the whole sample.

Mary and Annaraja (2016) conducted a study on professional commitment among matriculation school teachers.

The objectives of the study were: i) To find out the level of professional commitment of male and female matriculation school teachers. ii) To study the significant difference between male and female matriculation school teachers in their professional commitment and its dimensions. iii) To study the significant difference between rural and urban matriculation school teachers in their professional commitment and its dimensions. iv) To study the significant difference among primary, secondary and higher secondary matriculation school teachers in their professional commitment. v) To study the significant association between monthly income of the matriculation school teachers and their professional commitment and its dimensions. In order to achieve the objectives of the study the survey method was used. Stratified random sampling technique was used to collect the data. The sample consisted of 250 teachers of whom 120 are male and 130 are female matriculation school teachers in

Thiruvallur district. The investigator has used the professional commitment of teachers' inventory prepared and validated by the investigator. The statistical techniques used to test the hypotheses were 't test, 'F' and chi-square tests. The findings of the study were:

- i) The study revealed that male and female teachers had low, moderate and high levels of professional commitment respectively.
- ii) There was no significant difference between male and female teachers in their professional commitment and its dimensions.
- iii) There was no significant difference between rural and urban teachers in their professional commitment towards society, commitment towards profession, commitment to basic human values and professional commitment but there was significant difference between rural and urban teachers in their commitment to achieve excellence.
- iv) There was significant difference among primary, secondary and higher secondary teachers and their professional commitment.
- v) There was significant association between monthly income of the teachers and their commitment towards learner, commitment towards society and commitment towards profession but there was no significant association between monthly income of the teachers and their commitment to achieve excellence, commitment to basic human values and professional commitment.

Plasilda and Muthupandi (2015) conducted a study on professional commitment among higher secondary school teachers.

The objectives of the study were: i) To find out the level of professional commitment among higher secondary school teachers with reference to certain background variables. ii) To find out the significant difference in professional commitment of higher secondary teachers with reference to a) Gender, b) Marital Status, c) Subject, d) Educational Board, e) Location of the institution and f) Seminar participation. Descriptive survey method was adopted. The sample consisted of 665

high school teachers. Professional Commitment Scale developed by Punitha Mary and Amalraj were the tools used. Percentage analysis, arithmetic mean, standard deviation, and t test were the statistical techniques used. The major findings of the study were: i) More than 50 percent of the higher secondary school teachers have a moderate level of professional commitment. ii) There was no significant difference between male and female higher secondary school teachers with reference to their professional commitment and its dimensions. iii) There was no significant difference between married and unmarried higher secondary school teachers with reference to their professional commitment and its dimensions. iv) There was no significant difference between arts and science higher secondary school teachers with reference to their professional commitment and its dimensions. v) There was no significant difference between state board and CBSE higher secondary school teachers with reference to their professional commitment and its dimensions. vi) There was no significant difference between rural and urban higher secondary school teachers with reference to their professional commitment and its dimensions. vii) There was no significant difference between higher secondary school teachers who attended and did not attend seminars with reference to their professional commitment and its dimensions.

Regilet and Porgio (2015) conducted a study on professional commitment and school environment of high school teachers.

The objectives of the study were: i) To find out whether there was any significant difference between professional commitment of high school teachers with respect to gender. ii) To find out whether there was any significant difference among professional commitment of high school teachers with respect to their experience. Normative survey method was adopted. The sample consisted of 300 high school teachers. Professional commitment and school environment scales developed by Jose

Benita and Porgio (2013) were the tools used. Arithmetic mean, standard deviation, t test ANOVA, Post- ANOVA, Chi-square and Pearson's product moment correlation were used for data analysis. The major findings of the study were: i) There was significant difference in professional commitment of high school teachers with respect to their gender. ii) There was no significant difference among professional commitment of high school teachers with respect to their experience. iii) There was no significant relationship between professional commitment and school environment of high school teachers.

Rana (2014) conducted a study on role commitment of secondary school teachers in relation to some demographic variables.

The objectives of the study were: i) To study the role commitment among teachers. ii) To compare the role commitment among teachers with regard to type of schools. iii) To compare the role commitment among teachers with regard to their gender. iv) To compare the role commitment among teachers with regard to their teaching experience. v) To compare the role commitment among teachers with regard to their age. The survey method was adopted. The sample included 100 school teachers of Bahadurgarh were taken by random sampling technique. The tool used for the study was Teacher's role commitment scale developed by Meena Buddhisagar Rathod and Madhulika Verma. Statistical techniques like mean, standard deviation and t test of significance were used. The findings of the study were: i) There was no significant difference between role commitment of secondary school teachers with regard to type of school. ii) There was significant difference between role commitment of secondary school teachers with regard to gender. iii) There was no significant difference between role commitment of secondary school teachers with regard to their teaching experience.

iv) There was no significant difference between role commitment of secondary school teachers with regard to their age.

Priya and Porgio (2013) conducted a research on professional commitment of primary school teachers.

The objectives of the study were: i) To find out the level of professional commitment of primary school teachers. ii) To find out the significance of difference, if any, in the professional commitment of primary school teachers with respect to a) gender, b) nature of the post, and c) religious values. Normative survey method was used for this study. The investigator used stratified random sampling technique to draw a sample of 500 primary school teachers from the schools of four educational districts. The investigator developed a tool for professional commitment and validated it. The statistical techniques used were t test and ANOVA. The major findings of the study were: i) The level of professional commitment of primary school teachers was moderate. ii) There was significant difference in the professional commitment with respect to gender. iii) There was significant difference in professional commitment with respect to nature of the post. iv) There was significant difference in commitment to society and commitment to basic human values of primary school teachers with respect to religion.

Ranu and Kaur (2013) conducted a study on professional commitment of teachers in relation to organizational climate.

The objectives of the study were: i) To find out the relationship between professional commitment of teachers and organizational climate. ii) To ascertain the impact of organizational climate on professional commitment of secondary school teachers. Exploratory descriptive survey method has been employed in this study. The sample of the study comprised 600 secondary school teachers (247 male and 353

female teachers) drawn from secondary schools of four districts i.e. Noga, Ludhiana, Ferozepur and Hoshiarpur and Punjab state selected randomly. Professional commitment scale for teachers and organizational climate scale developed by Anjyot Pethe, Sushama Chaudhari and Tindar Dhar (2001). The statistical techniques used were product moment correlation and analysis of variance. The study found a significant positive correlation between professional commitment and organizational climate. Further, the present study revealed that teachers working in schools with highly favourable organizational climate were significantly more professionally committed than the teachers working in schools with favourable and unfavourable type of organizational climate.

Kaur, Ranu and Kaur (2012) conducted a study on professional commitment of teachers in relation to their life satisfaction.

The objectives of the study were: i) To find out the relationship between life satisfaction and professional commitment of teachers. ii) To ascertain the impact of life satisfaction on professional commitment of secondary school teachers. Exploratory descriptive survey method was adopted. The sample of the study comprised 600 secondary school teachers drawn from four districts in Punjab who were selected randomly. Tools used were Professional Commitment Scale for teachers constructed and standardized by investigator and Life Satisfaction Scale Singh and Joseph (2005). Statistical techniques like Product moment correlation and One-way Analysis of variance were used. The findings of the study were: i) There was significant relationship between life satisfaction and professional commitment of teachers. ii) There was significant difference in the professional commitment of teachers with high, average and low level of life satisfaction.

Mary and Amalraj (2010) conducted a study on professional commitment of college teachers.

The objectives of the study were: i) To find out the level of professional commitment and its dimensions of college teachers with respect to the background variables such as a) sex b) locality of the institution. ii) To find out the significant difference in the professional commitment and its dimensions of college teachers with respect to the background variables such as a) sex b) locality of the institution. iii) To find out the significant difference among college teachers of different age in their professional commitment and its dimensions. The investigator used the survey method and selected 711 college teachers working in Arts & Science colleges and colleges of Education affiliated to Manonmaniam Sundaranar University by using stratified random sampling technique. Tools used were professional commitment scale prepared and validated by the investigator. Arithmetic mean, standard deviation, percentage analysis, t test and ANOVA were the statistical techniques used. The major findings of the study were: i) The level of professional commitment and its dimensions of college teachers with respect to the background variables such as sex, locality of the institution was average. ii) No significant difference existed between male and female college teachers in their commitment to learner, profession, to achieve excellence, basic human values and professional commitment but significant difference existed between them in their commitment to society. iii) No significant difference existed between rural and urban college teachers in their commitment to learner, society, to achieve excellence, basic human values whereas significant difference existed between them in their commitment to profession and professional commitment. iv) No significant difference was found among college teachers of age below 30 years, 30 years to 45 years and above 45 years in their commitment to profession and its dimensions.

Chamundeswari and Vasanthi (2009) conducted a research study on job satisfaction and occupational commitment among teachers.

The objectives of the study were: i) To investigate if there was any significant difference in job satisfaction and occupational commitment among teachers in different categories of schools, namely, state, matriculation and central board schools. ii) To investigate if there was any significant relationship between the selected variables among teachers in different categories of schools. From the target population a sample of 588 teachers were selected. The research tools used for the study were the Manual for the Minnesota satisfaction questionnaire (Weiss and others, 1967) and occupational commitment scale (Blau, Paul and John, 1993). Statistical techniques used were mean, standard deviation and F-test. The finding of the study showed that there was significant difference in job satisfaction and occupational commitment between teachers in different categories of schools, namely, state, matriculation and central board schools.

Srivastava and Pratibha (2009) attempted a study on relationship of teaching competency with teaching aptitude and professional commitment.

This study attempted to study the relationship of teaching competency to teaching aptitude and professional commitment. The survey of three hundred primary school teachers of Pilibhit district of U.P were taken as a sample of the study. The random sampling technique was used for sample selection. For data collection, tools used were General Teaching Competency Scale (GTCS) developed by Passi and Lalitha, Teaching Aptitude Test developed by Prakash and Srivastava and Teacher's Role Commitment scale developed by Meena Buddhisagar Rathod and Madhulika Verma. The data were analysed by using F-test, t test and Pearson's product moment co-efficient of correlation. The findings of the study were: i) The middle teaching

aptitude teachers had shown better classroom presentation, evaluation and overall teaching competency than the low teaching aptitude group. ii) The high teaching aptitude teachers showed better classroom presentation, evaluation, managerial aspects and overall teaching competency than low teaching aptitude group. iii) The middle and high teaching aptitude teachers were found have almost similar mean scores on classroom presentation, evaluation, managerial aspects and overall teaching competency. iv) The teaching competency of primary school teachers of low professional commitment was high. v) Professional commitment of teachers had no significant effect on the overall teaching competency and aspects of teaching competency. vi) Teaching competency and professional commitment of teachers were related to each other.

Sharma (2008) conducted a research study on commitment among teachers with regard to some of their personal and academic variables.

The objective of the study was to compare the commitment among teachers with regard to their personal and academic variables such as age, gender, faculty, qualification and level of college. The survey method was adopted. The sample consisted of 100 teachers teaching in intercollege, degree colleges and university were selected by using stratified cluster sampling technique. The population was stratified in intercollege, degree colleges and university. "Teacher commitment scale" structured and standardized by the investigator was used for data collection. Statistical techniques like mean, standard deviation and t test of significance were used. The findings of the study were: i) There was no significant difference between the commitment among teachers with regard to their age. ii) There was no significant difference between the commitment among teachers with regard to their gender. iii) There was no significant difference between the commitment among teachers with regard to their faculty.

iv) There was a significant difference between the commitment among teachers with regard to their qualification. v) There was no significant difference between the commitment among teachers with regard to their level of college education.

Usha and Sasikumar (2007) conducted a research study on teacher commitment and teachers' self-concept as predictors of job satisfaction.

The objectives of the study were: i) To find out whether there was any significant relationship between teacher commitment and job satisfaction of secondary school teachers (total and sub-samples). ii) To find out whether there was any significant relationship between self-concept and job satisfaction of secondary school teachers (total and sub-samples). The study was conducted on a representative sample of 184 teachers from 25 secondary schools of Malappuram and Kozhikode districts of Kerala. The sample was selected by stratified random sampling technique giving due representation to sex, locale and type of management of schools. Standardized tools such as scale on teacher commitment Usha and Kumar (2004), self-concept scale for teachers Pillai (1989), and job satisfaction inventory for Secondary school teachers Pillai (1989) were used for the study. Statistical techniques used were correlation analysis and multiple regression analysis. The findings of the study were: i) There was no significant relationship between teacher commitment and job satisfaction for urban school teachers. ii) There was a significant relationship between teacher commitment and job satisfaction of male and female teachers and government and aided school teachers. iii) There was no significant relationship between self-concept and job satisfaction for male and female teachers, rural and urban teachers, government and aided school teachers.

Jani and Jani (2005) had conducted a study on effect of teacher's commitment and ability on student's achievement for learning centred education.

The objectives of the study were: i) To construct a scale of teacher's commitment and ability. ii) To standardize a scale of teacher's commitment and ability. iii) To measure the teacher's commitment and ability of language teachers and science teachers. iv) To investigate the effect of language teachers' and science teachers' abilities and commitment on student's achievement. The investigator adopted the random survey method. This study included 100 teachers and students of the Gujarati medium high schools of Jamnagar district as an extensive area. Tools of the study were Self-created scale to measure the teacher's commitment and ability and result of annual examination to measure the student's achievement. Statistical techniques like mean, standard deviation and t test of significance were used. The major findings of the study were: i) The commitment and ability of language teachers was higher than science teachers. ii) Students got higher achievement in language in comparison to science. iii) The commitment and ability of language teachers was higher and their student's achievement was also higher. iv) The commitment and ability of science teachers was lower and their student's achievement was also lower. v) The commitment and ability of teachers positively influenced the achievement of students.

2.2.2 Studies conducted abroad

In this section, sixteen studies conducted abroad are presented.

Bibiso, Olango and Bibiso (2017) conducted a study on the relationship between teachers commitment and female students academic achievements in some selected secondary school in Wolaita Zone, Southern Ethiopia.

The objective of this study was to investigate the relationship between teacher's commitment and female students academic achievement in selected secondary school

of Wolaita zone, Southern Ethiopia. The research method employed was survey study and the sampling techniques were purposive, simple random and stratified random sampling. Questionnaire was distributed to 76 teachers and 162 female students. Interview and document analysis were also conducted. The data obtained were analyzed using suitable statistical tools such as percentage analysis, mean, standard deviation, weighted mean and correlation. Accordingly, the findings of the study showed that teacher's commitment and female students' academic achievement had a positive relationship.

Sayadi (2016) conducted a study on the effect of dimensions of transformational, transactional, and non-leadership on the job satisfaction and organizational commitment of teachers in Iran.

The objective of this study was to examine the effect of transformational, transactional, and non-leadership on job satisfaction and organizational commitment. The population consisted of teachers of all three levels of schooling (elementary, intermediate, and high school) in the province of Kermanshah, Iran in 2012-2013. The sample consisted of 387 teachers who were randomly selected from among 42 schools. The results seem to indicate that teachers experienced more value commitment than commitment to stay and job satisfaction. The findings of the study revealed that charismatic leadership was a strong predictor of job satisfaction and value commitment, and laissez-faire leadership was a strong (negative) predictor of intent to stay.

Liu (2015) conducted a study on motivating teachers' commitment to change through transformational school leadership in Chinese urban upper secondary schools.

The objective of the study was to examine the effects of transformational school leadership on teachers' commitment to change and the effects of organizational and teachers' factors on teachers' perception of transformational school leadership in the

Chinese urban upper secondary school context. The study mainly used quantitative methods to explore the relationships between different constructs. Multiple regression analysis was the statistical technique used. The major findings of the study were: i) The effect of transformational school leadership was moderate when transformational school leadership and teachers' commitment to change were treated as single variables. ii) Four dimensions of transformational leadership practice together explained the moderate effects on four dimensions of teachers' commitment to change, among which the effect of managing the instructional program was the most prominent.

Sun (2015) conducted a study on conceptualizing the critical path linked by teacher commitment.

The objective of the study was to propose a critical path through which school leadership travels to students by highlighting the importance of teacher commitment. Using both meta-analytic and narrative review methods, the study systematically reviewed the evidence in the past 20 years about the conceptualizations and measurements of teacher commitment and its relationships with principal leadership and student learning. The major finding of the study revealed that teacher commitment was significantly related to student learning; the extent to which school leadership influenced teacher commitment was high and was aligned with the value systems of both leaders and teachers.

Thien and Razak (2014) conducted a study on teacher commitment as a comparative study of Malaysian Ethnic Groups in three types of primary schools.

This study attempted to compare the teacher commitment levels and the four dimensions of teacher commitment across Malay, Chinese and Indian teachers who were the dominant ethnicities in three different types of Malaysian primary schools. Questionnaires were administered to 1,154 primary school teachers in Penang, and the

obtained data were analysed using AMOS 20.0 and SPSS 20.0. The findings revealed no significant differences for commitment to school, commitment to students, commitment to teaching and commitment to profession for any pair of ethnic groups.

Walker (2013) conducted a study on factors related to teachers' organizational commitment in rural high schools.

The objective of the study was to investigate the relationship between teachers' organizational commitment and student achievement, between teachers' perception of principal's leadership style and student achievement, and between teachers' organizational commitment and teachers' perception of principal's leadership style in rural high schools. In addition, the study was conducted to determine if a specific leadership style is significantly related to teachers' organizational commitment in rural high schools. This quantitative study used a correlational research design to determine the strength of the linear relationship among teachers' organizational commitment, teachers' perception of principal's leadership style, and student achievement. Multiple regressions were calculated to examine the combined relationships of the two independent variables and the dependent variable. Data collection methods included administering the Organizational Commitment Questionnaire, the Multifactor Leadership Questionnaire, and a demographic questionnaire to 77 teachers working in five public rural remote high schools in a southern state in the United States. Achievement data were also gathered from the schools selected for study. The findings indicated that student achievement was not correlated to teachers' organizational commitment or teachers' perception of principal's leadership style. Since student achievement was important with regard to schools and school districts making AYP as outlined in the NCLB Act, conducting a qualitative study to capture the factors related to student achievement was reasonable for future research purposes.

Nayir (2012) conducted a study on the relationship between perceived organizational support and teachers' organizational commitment.

The objective of the study was to determine the relationship between perceptions of organizational support and level of organizational commitment of teachers working in primary schools in Turkey. The study was a correlational survey and tried to uncover the relationship between perception of organizational support and of organizational commitment of teachers working in primary schools in Turkey. In this context, a total of 23 cities, two cities with the greatest number of teachers in each region, were included in the research. A total of 887 teachers working in primary schools in Turkey participated in the study. The major findings of the study were: i) There was a negative relationship between teachers' commitment to compliance and organization justice and supervisor support. Organizational awards and working conditions were not a significant predictor of organizational commitment or compliance. ii) There was a moderate and a significant relationship between teachers' identification and internalization of organizational commitment and sub dimensions of organizational support. While identical commitment was affected mostly by the organizational awards and working conditions, internalization commitment was affected mostly by the supervisor support.

Collie, Shapka and Perry (2011) conducted a study on the impact of school climate and social-emotional learning in predicting teacher commitment.

The objective of the study was to investigate whether school climate and social-emotional learning impact influenced teacher commitment. The sample included 664 public school teachers from British Columbia and Ontario in Canada. Participants completed an online questionnaire about teacher commitment, school climate, and social-emotional learning. Binary logistic regression analyses were used. The major

findings of the study were: i) The study showed that positive school climates significantly predicted three forms of teacher commitment: greater general professional commitment, future professional commitment, and organizational commitment. ii) Of the school climate variables, student relations and collaboration among staff predicted commitment. iii) In addition, stronger beliefs and integration of social-emotional learning predicted two types of teacher commitment: greater general professional commitment and organizational commitment. iv) Of the social-emotional learning variables, the support and promotion of a social-emotional learning culture across the school and comfort with and regular implementation of social-emotional learning in the classroom predicted greater teacher commitment.

AbdRazak, Darmawan and Keeves (2010) conducted a study on the influence of culture on teacher commitment.

This study examined the similarities and differences in the influence of culture on teacher commitment in three types of Malaysian primary schools. An investigation was undertaken of the similarities and differences between the three major cultural groups in Malaysia namely Malay, Chinese and Indian cultures with respect to cultural orientation with school leadership, in-school working conditions and teacher commitment as the criteria. The statistical analysis, conducted at the teacher level, was path analysis with latent variables using partial least squares regression to estimate the direct and indirect effects for the different ethnic groups of the main variables on teacher commitment. The major finding of the study revealed that the differences reported between groups were found to have sufficient strength to argue that analysis with pooled data were largely inappropriate and consideration needs to be given to separate analysis for the various cultural subgroups both within a country and between countries where the effects of culture were largely different.

Harless (2010) conducted a study on the effects of the working on the work framework, an action plan for teachers, on student engagement, teacher commitment, and academics.

This study addressed the implementation of the Working on the Work (WOW) framework in an elementary school in Northwest Georgia. The researcher examined the effectiveness of the WOW framework on teacher commitment, teacher training, student engagement, and student achievement. The researcher used quantitative and qualitative research methods to determine if significant differences existed between the control and experimental groups of teachers and students. This study's findings showed various areas of significance in teacher commitment, student engagement, and student achievement between the experimental and control groups. The researcher concluded that WOW framework gave more direction and purpose to student learning and had an overall positive impact on administrators, teachers, and students within an elementary school located in northwest Georgia.

Henkin and Holliman (2009) conducted a study on urban teacher commitment: exploring associations with organizational conflict support for innovation, and participation.

This study explored relationships between teachers' organizational commitment and interpersonal conflict, participation activities beyond the classroom, and innovation in schools. Potential relationships among study variables were suggested in research that views affective commitment as a proxy measure for decisions to leave the school. Increments in experience in the profession were negatively associated with organizational commitment. The major findings of the study were: i) Higher levels of interpersonal conflict were linked to lower levels of organizational commitment. ii) Participation in activities beyond the classroom was marginally related to

commitment, whereas support for innovation had a strong positive effect on teachers' commitment.

Solomon (2008) undertook a study on the relationships among middle level leadership, teacher commitment, teacher collective efficacy, and student achievement.

The objectives of the study were: i) To analyse the relationships, if any, among teachers' perceptions of middle level principals' transformational leadership behaviours, teacher commitment, teacher collective efficacy, and student achievement in communication arts and mathematics. ii) To determine if there were differences in teachers' perceptions of principals' transformational leadership, teacher commitment, and teacher collective efficacy when sorting Missouri's middle level school by achievement quartiles. The sample consisted of 138 middle level schools in the state Missouri. Quantitative data were collected using the Principal Leadership Questionnaire, the Organisational Description Questionnaire, and Collective Efficacy Scale. Coefficient of correlation was the major statistical technique used. The major finding of the study was finally, schools in the lowest achievement quartiles had significantly lower levels of teacher commitment and teacher collective efficacy than those in the highest quartiles.

Yu and Zeyuan (2007) conducted a case study on the impact of school curriculum leadership on teachers' commitment to new curriculum reform of a primary school in Mainland China.

The purpose of the present research was to explore the impact of school curriculum leadership on teacher commitment to new curriculum reform (NCR). Qualitative case study methods were adopted. A primary school which started to carry out the reform in September 2001 had been chosen as the case. Research methods included conducting participant observation, document collection and in-depth

interviews. Triangulation and participants checks were used to clarify the validity issue. The major findings of the study were: i) The present research showed that primary teachers' commitment to NCR is a strategic selection process with a deep-seated psychological mechanism of identity work. ii) There was a conflict between the school curriculum leadership aimed at impression management and teachers' commitment with a deeply psychological mechanism of identity work. iii) The school leadership made very little positive impact on teachers' commitment to NCR as showing in the case study. On the contrary, some negative impacts had been identified.

Cherkowski and Lynn (2006) undertook a study on teacher commitment towards a wholeness view.

The purpose of this narrative case study research was to uncover the nature of teacher commitment from the perspective of a small group of teachers, and the ways in which this commitment was fostered and supported with in a learning community-based on the Mitchell and Sackney learning community model (2000) - as a way of exploring the connection between the professional group and teacher commitment. The investigator purposively selected three teachers from one elementary school. Three long interviews, observation, and journals throughout a three- month period provided the data which the investigator, interpreted, and presented as a narrative. The major findings of the study revealed that: i) two different views of commitment that also tended to result in different commitment towards contributing to the development of a school-wide learning community; ii) the importance of meaningful relationship, collegiality, and collaboration for the teachers' sense of commitment. iii) fun and fashion was essential elements in the teachers' commitment; iv) the critical role of the principal in creating an environment in which teacher commitment could flourish.'

Park (2005) conducted a study on teacher commitment and its effects on student achievement in American high schools.

This study explored the effects of teacher commitment on student achievement. Three teacher commitment dimensions of organizational, professional and student commitment were derived. The three-dimensional teacher commitment measurement model was tested by a confirmatory factor analysis. Then, the relationships among individual and organizational variables, teacher commitment, and student achievement were analyzed by a 2-level hierarchical linear modeling method. As the results, the greater portions of teacher commitment and student achievement variances were within schools. The individual and organizational variables had differential impacts on each teacher commitment dimension. Finally, while teacher commitment effects on student achievement were differentially found depending on teacher commitment dimensions at the individual level, there was no evidence to support significant impacts of teacher commitment on student achievement at the organizational level.

Washburn and Lee (2004) undertook a study on teacher commitment to place-based education in rural south-eastern Ohio Appalachian high schools.

This study examined the possible link between teacher personal commitment to place and their choice of pedagogy. This quantitative study was based on one specific rural environment, Appalachian Ohio. While narrow in scope, this study involved secondary teachers in one district rural region as a measure of potential factors related to the diminishing rural community. Quantitative survey method was adopted. The study was conducted on sample of 407 teachers. The survey instrument was comprised of three components: The Community Scale, Classroom Practices Scale, and Teaching Practices Scale. Regression analysis was the statistical technique used. The major finding of the study was the majority of teachers appear to value personal

commitment to place (70.77% of respondents agreed and strongly agreed with personal commitment items of The Community Scale). Teachers (93.35%) reported frequent use of place-based pedagogical practices in the classroom. Regression analysis revealed one's personal commitment accounted for 16% of the variance in type of instruction utilized in the classroom. Both of the resulting models were statistically significant.

2.3 Studies Related to Student Achievement

2.3.1 Studies conducted in India

In this section, thirteen studies conducted in India are presented.

Chowdhury (2017) conducted a study on study habits and achievement of students in Mathematics of secondary schools.

The main objectives of the study were: i) To find out the level of study habits and achievement of secondary schools students. ii) To find out difference in study habits of secondary schools students with respect to gender, class of study, type of management of school and locality of school. iii) To find out the relationship between study habits and academic achievement in mathematics of secondary students. Simple survey method was used in this study. A sample of 300 students was randomly taken from 20 secondary schools in Tinsukia District of Assam. The tools used for the collection of data were Study Habits Inventory developed by Palsane Pune and Anuradha Sharma Agra and Mathematics Achievement Test developed by Ali Imam and Tahira Katoon. Statistical techniques like mean, standard deviation and t test and Pearson's product moment correlation were used. The major findings of the study were: i) There was a significant difference between male and female students in their study habits. ii) There was no significant difference between IX and X students with regard to their study habits. iii) There was a significant difference between private and Government aided school students with regard to their study habits. iv) There was a

significant difference between rural and urban students with respect to their study habits. v) There was a significant relationship between study habits and academic achievement in mathematics of secondary students.

Kumari and Gouri (2016) conducted a study on reasoning ability and achievement in Physics of higher secondary students.

The main objectives of the study were: i) To find out the level of reasoning ability of higher secondary students. ii) To find out whether there is any significant difference in reasoning ability of higher secondary students with respect to the background variables namely sex, locality and type of school. iii) To find out the relationship between reasoning ability and achievement in Physics of higher secondary students. Normative survey method was adopted. The sample consisted of 300 students of standard XI studying in different schools of Kanyakumari district. The tool used for the collection of data was “Reasoning ability Test” prepared by Arsha and Mini Kumari (2012). The mark obtained in the quarterly examination was taken as a measure of achievement in Physics. Statistical techniques like mean, standard deviation and t test and Pearson’s product moment correlation were used. The major findings of the study were: i) Higher secondary students had low reasoning ability. ii) The reasoning ability of girls was higher than that of boys. iii) Gender, locality and type of school had influence on reasoning ability. iv) Reasoning ability and achievement in Physics were positively and significantly correlated with each other.

Verma (2015) conducted a study on study habits and achievement of higher secondary school students.

The main objective of the study was to find the relationship between study habits and academic achievement of higher secondary school students. The sample consisted of 160 students studying in eleventh class, drawn randomly from various

government higher secondary schools of Durg district in Chhattisgarh state. The tool used was the Study Habit Inventory developed by Mukhopadhyay and Sansanwal (2005). Statistical technique used was Pearson's product moment correlation. The major finding of the study indicated a strong impact of study habits on the academic achievement of higher secondary school students.

Yadav (2015) conducted a study on self-concept, study habits and academic achievement of high school students studying in Government and public schools.

The main objectives of the study were: i) To compare the self-concept of the students of Government and public schools. ii) To compare the study habits of the students of Government and public schools. iii) To compare the academic achievements of students of Government and public schools. Descriptive survey method was applied. The sample consisted of 150 students of which 80 were of government and 70 of public schools from Mohindergarh district of Haryana state. The tools used were Self-Concept Questionnaire developed by Raj Kumar Sarawat (1981) Study Habit Inventory developed by Palsana and Sharma (1989) and academic achievement was measured by the marks achieved by students in their previous exams. The major findings of the study were: i) The students of Government schools had higher self-concept as compared to public school students. ii) The students of Government schools had better study habits than the public school students. iii) The students of public school had higher academic achievement than the students of Government schools.

Zaidi (2014) conducted a research on study habits and achievement in Mathematics of students at secondary level.

The main objectives of the study were: i) To study the difference in the mathematics achievement of secondary school students having good, moderate and

poor study habits. ii) To study the gender-based difference in the mathematics achievement of secondary school students having good, moderate and poor study habits. Experimental survey method was applied. The sample consisted of 200 students selected from 4 secondary schools of Aligarh district. The tools used was Study Habits Inventory constructed by Patel. The mathematics marks of the final examination of class IX were taken as an index of mathematics achievement. Statistical techniques like mean, standard deviation and t test were used. The major findings of the study were: i) There was no significant difference in the mathematics achievement of secondary school students having good study habits and satisfactory study habits. ii) There was no significant difference in the mathematics achievement of secondary school students having good study habits and poor study habits. iii) There was no significant difference in the mathematics achievement of secondary school students having satisfactory study habits and poor study habits. iv) There was no significant difference in the mathematics achievement of secondary school boys and girls having good study habits. v) There was no significant difference in the mathematics achievement of secondary school boys and girls having satisfactory study habits. vi) There was no significant difference in the mathematics achievement of secondary school boys and girls having poor study habits.

Jeyanthi and Subbiah (2013) conducted a study on proficiency in social skills and academic achievement among primary school children under Activity Based Learning (ABL) approach.

The main objectives of the study were: i) To study the level of social skills of primary school children. ii) To compare the social skills scores of boys and girls. iii) To compare the social skills scores of Government and aided school children. iv) To find out the relationship between proficiency in social skill and academic achievement. The survey method was adopted. The sample consisted of 180 students of III and IV

standard primary school students in the rural area of Dindigul district by using the stratified random sampling technique. The tools used were social skill rating scale developed and standardised by the investigator and sources for academic achievement each from school records. Statistical techniques like mean, standard deviation, t test and correlation were used. The major findings of the study were: i) Boys, girls, government, aided and whole sample had high level of proficiency in social skill. ii) There was no significant difference between boys and girls in their social skills. Gender has no influence on the level of their social skills. iii) There was no significant difference between Government and aided school children in their social skills. Type of school management had no influence on the level of their social skills. iv) Proficiency in social skills of both boys and government school children had high positive relationship with academic achievement.

Joseph (2013) conducted a research study on achievement motivation and academic achievement of higher secondary students in Tirupur District, Tamil Nadu.

The study was undertaken with the following primary and secondary objectives in view: the primary objectives: i) To find out the level of achievement motivation of higher secondary students. ii) To find out the level of academic achievement of higher secondary students. iii) To find out the relationship between achievement motivation and academic achievement by higher secondary students. The survey method was adopted. The sample consisted of 380 higher secondary students from 8 higher secondary students in Tirupur district. Stratified random sampling technique was used for this purpose. The tools used were achievement motivation questionnaire developed by Bishwanath Mukherji (1994) which consisted of 50 incomplete sentences. Academic achievement was measured by the scores taken from half yearly examination conducted by the respective school. Statistical techniques like mean, standard deviation t test,

descriptive analysis, differential analysis and correlational analysis were used. The major findings of the study were: i) There was low positive relation between achievement motivation and academic achievement among higher secondary students. ii) The scores of achievement motivation of girls were found to be superior to those of boys. iii) It was observed that the scores of achievement motivation of private school students were better compared to those of government school students. iv) Achievement motivation was found to be better among arts group students than among science group students. v) Girls were found to be superior to boys but there was not much difference in their academic achievement. vi) Academic achievement among government school students had been fairly better than that among private school students. vii) The academic achievement of arts group students was superior to that of science group students.

Sivakumar, Amalraj and Arunachalam (2013) conducted a study on influence of study habits on the academic achievement of higher secondary Biology school students.

The objectives of the study were: i) To find out the significant difference, if any, on study habit of Biology students with reference to background variables such as gender, nativity of the student. ii) To find out the significant difference, if any, in the academic achievement of higher secondary Biology students with reference to background variables such as gender, nativity of the student. iii) To find out the significant relationship, if any, between study habit and academic achievement of Biology students at higher secondary level with reference to background variables such as gender, nativity of the student. The population of this study is the higher secondary school students studying in Kanyakumari, Tirunelveli and Thoothukudi district in Tamilnadu. The investigator has used stratified random sampling technique to select a sample of 925 students. The tool used was Study Habit Inventory (SHI) scale prepared

and validated by Sivakumar and Amalraj. Statistical techniques used were percentage analysis, mean, standard deviation, t test and Pearson product moment correlation. The findings of the study were: i) There was significant difference between boys and girls students in their habit of concentration of general habit of attitudes. In habit of concentration, girls are better than boys. ii) There was significant difference between rural and urban students in their preparation for examination and general habits and attitudes. iii) There was significant difference in academic achievement of higher secondary students in Biology with reference to background variables. iv) There was significant relationship between study habits and academic achievement with reference to background variables.

Paul (2012) conducted a research study on effectiveness of challenge based learning of the achievement of Commerce students at higher secondary level.

The objectives of the study were: i) To find out the effectiveness of challenge based learning on the achievement of commerce students at higher secondary level. ii) To compare the effectiveness of challenge based learning over present activity oriented modes on the achievement of commerce students at higher secondary school level with regard to skill of problem solving, skill of creative thinking and skill of decision making. Experimental method was used in the present study. The investigator adopted pre-test post-test parallel group design for experimentation of the study. The sample consisted of 72 higher secondary commerce students. An achievement test was also administered to estimate the terminal behaviour of the sample. The same achievement test was used to measure their entry behaviour. The achievement test was developed based on the objectives of assessing skill of problem solving, skill of creative thinking, skill of decision making. Statistical techniques used were percentage analysis, mean, standard deviation and t test. The major findings of the study were:

- i) Pupil's performance in experimental group was better than that of control group.
- ii) Significant difference was found between post-test scores of experimental and control group with regard to skill of problem solving.
- iii) Significant difference was found between post-test scores of experimental and control group with regard to skill of creative thinking.
- iv) Significant difference was found between post-test scores of experimental and control group with regard to skill of decision making.

Sood (2012) conducted a study on need for achievement, academic achievement and socio-demographic variables of high school students of Kullu & Mandi District (India).

The objective of the study was to investigate the need for achievement (n-achievement) among high school students in relation to their academic achievement and certain socio-demographic factors like gender, family type and residential background. The descriptive method was adopted. The sample consisted of 300 high school students was selected from 15 high/senior secondary schools of Kullu and Mandi districts of Himachal Pradesh by using random sampling technique. The tool used was achievement motivation inventory developed by Prayag Mehta (1969). Statistical techniques used were mean, standard deviation and two-way ANOVA. The result revealed that n-achievement positively and significantly affected academic achievement of high school students. However, no significant differences in n-achievement were found among rural and urban students as well as students belonging to nuclear and joint type of families.

Barnabas and Benjamin (2011) conducted a research on study involvement and academic achievement in learning Chemistry at higher secondary level.

The objectives of the study were: i) To find out the study involvement of the students at higher secondary level. ii) To find out the academic achievement of the students in Chemistry in relation to study involvement at higher secondary level.

The sample consisted of 300 students of class XI selected from higher secondary schools in Salem district. The sample was selected on the basis of quota sampling technique. The study adopted normative survey method. Statistical techniques used were mean, standard deviation, t test, F-test, differential analysis and one way analysis. The major findings of the study were: i) There was significant difference in study involvement of male and female higher secondary students. ii) There was significant difference in study involvement of Tamil and English medium higher secondary students. iii) There was no significant difference in study involvement of higher secondary students with respect type of school. iv) There was significant difference in academic achievement of male and female higher secondary students. v) There was significant difference in academic achievement among Tamil and English medium higher secondary students. vi) There was no significant difference in the academic achievement of higher secondary students belonging to different type of schools.

Sarsani and Maddini (2010) conducted a research study on achievement in Mathematics of secondary school students in selected variables.

The main objective of the study was to find out the difference in Mathematics scholastic achievement test (M-SAT) in relation to sex, caste, type of school, nativity and medium of instruction at secondary school level. The investigator had selected survey method. Simple random sampling technique was employed in the selection of 480 students consisting of both boys and girls of English and Telugu medium in Warangal city. Mathematics scholastic achievement test (M-SAT) for secondary school students had been constructed by the investigators for the study. Statistical techniques used were mean, standard deviation, t test and F-test. The findings of the study were: i) There was significant difference between girls and boys in Mathematics scholastic achievement. ii) There was no significant difference between students of different

castes in Mathematics scholastic achievement. iii) There was significant difference among students of different types of school in Mathematics scholastic achievement. iv) There was significant difference among students of different localities in Mathematics scholastic achievement. v) There was significant difference in Mathematics scholastic achievement of students with regard to medium of school.

Nalini and Bhatta (2009) made a study on study habits and students achievement in relation to some influencing factors.

The objectives of the study were i) To find out the relationship between socioeconomic status and study habits of X standard students. ii) To find out the relationship between learning environment and study habits of X standard students. iii) To find out the relationship between intelligence and study habits of X standard students. iv) To find out the relationship between learning environment and achievement of X standard students. v) To find out the relationship between intelligence and achievement of X standard students. vi) To find out the relationship between school adjustment attitude and achievement of X standard students. The researcher had employed stratified purposive random sampling technique. The sample consisted of 1000 high school students from Bangalore north district. The tools used were 1) Nonverbal Test of Intelligence developed by Premalatha, 2) Study Habit Inventory developed by Mukhopadhyaya, 3) Socioeconomic Status Scale developed by Puranik, 4) The School Adjustment Inventory developed by Bhagai and 5) Learning Environment in the Family Scale developed by Parthasarathy. Statistical techniques used were ANOVA, percentage analysis and Pearson's product moment correlation. The major findings of the study were: i) There was significant relationship between study habits and the influencing factors socioeconomic status, learning environment, and intelligence. ii) There was significant relationship between achievement and the

influencing factors learning environment and intelligence. iii) There was no significant relationship between school adjustment attitude and achievement of X standard students.

2.3.2 Studies conducted abroad

In this section, twelve studies conducted abroad are presented.

Corcoran (2017) conducted a study on preparing principals to improve student achievement.

The objective of the present study was to examine the impact of the National Institute for School Leadership's Executive Development Program (NISL-EDP) on student achievement in a large school district in the Midwestern United States. The sample included elementary and middle school students whose principals participated in the NISL-EDP compared with students in schools with non-EDP trained principals. Using propensity score matching, findings are reported from the analysis of standardized student achievement scores on the state test, the Wisconsin Knowledge and Concepts Examination. The finding of the study revealed that in terms of reading and mathematics achievement tests, the control group students scored higher compared to their NISL counterparts.

Early, Berg, Alicea, Si, Aber, Ryan and Deci (2016) conducted a study on the impact of Every Classroom, Every Day on high school student achievement.

The purpose of the study was to investigate the impact of ECED (Every Classroom, Every Day) which is a set of instructional improvement interventions designed to increase student achievement in Maths and English/language arts (ELA). The study is a two-year trial, conducted by independent researchers, which employed a school-randomized design and included 20 high schools (10 treatment; 10

control) in five districts in four states. The findings of the study revealed that ECED improved scores on standardized tests of math achievement, but not standardized tests of ELA achievement.

Akani (2015) conducted a study on: implication of laboratory teaching on students' achievement in Chemistry in secondary schools in Ebonyi State of Nigeria”.

This study aimed at investigation of the role of laboratory in students' academic achievement in chemistry in secondary schools in Ebonyi State of Nigeria. Four research questions and two hypotheses guided the study. A sample of 240 students selected through simple random sampling technique from ten secondary schools in the 3 Education Zones in Ebonyi State was used for the study. A questionnaire developed by the researcher was used for data collection. The data collected were analyzed using mean, standard deviation and t test. The results of the study showed that the use of the laboratory helped to develop scientific attitudes in the students towards the learning of chemistry, especially practicals and develop scientific skills for problem solving in students.

Williams (2015) made a study on middle level best practice and student achievement in Texas.

The purpose of this study was to determine the implementation level of best practice strategies for middle level education in the state of Texas and to determine the relationship of those practices with the schools' academic achievement in math and reading. A survey was distributed to principals of all intermediate, middle schools, and junior highs in the state of Texas to determine what middle school practices are actually implemented. Additionally an OLS regression was utilized to determine the relationship of middle level best practice to student achievement in math and reading.

The finding of the study reported varied rates of implementation. It was found that the number of students living in poverty were determined to have the most significant relationship, a negative one, with student achievement. Parental involvement was shown to have a moderate positive relationship with student achievement in both reading and math.

McNea (2014) conducted a study on parent involvement, academic achievement and the role of student attitudes and behaviors as mediators.

The objective of the study was to test the effect of parental involvement on student attitudinal, behavioural and academic outcomes. Using a national survey conducted on students in the United States. The research estimates a series of hierarchical models to test the direct and indirect effects of parent involvement on student attitudinal, behavioral and academic outcomes. The findings of the study confirm that parent-child and parent-school involvement practices differentially influenced student attitudes and behaviours, thereby indirectly affecting student achievement to varying degrees.

Bryan, Moore-Thomas, Gaenzle, Kim, Lin and Na (2012) researched on the effects of school bonding on high school seniors' academic achievement.

The objective of the study was to examine the effects of school bonding on academic achievement which is measured by math achievement scores. The sample consisted of 12th graders from the Educational Longitudinal Study of 2002 (Ingels, Pratt, Rogers, Siegel, & Stutts, 2005). The findings of the study revealed that components of school bonding had proximal and distal effects on academic achievement. It was also found that attachment to school and school involvement had direct effects on achievement. Attachment to teachers and school commitment

behaviours also had indirect effects on achievement through school-related delinquency and prior achievement.

Nwosu (2011) conducted a research on associations among teacher collaborative activities and student achievement.

The study was focused on searching for associations among two identified variables such as (a) teacher collaborative activities and (b) student achievement. Through purposive sampling, an elementary school was selected for a study with two successive years, the first year in which the school had not implemented a collaboration program and the second year in which the school had officially implemented a collaboration program for its teachers. The quantitative data of student achievement were test scores published by the department of public instruction in the state of North Carolina. The results of the study showed that teacher collaboration which targets student achievement was associated with higher test scores.

Sanchoz (2011) conducted a research on raising student achievement by a closer look into magnet schools.

The purpose of this study was to determine whether the added support and practical external experiences provided by two theme based magnet schools would increase academic performance of 9th grade students after one year exposure in a magnet program as compared to 9th grade students enrolled in a nonmagnet program as measured by the pre Scholastic Aptitude Test Scores, the Texas Assessment of Knowledge and skill test, district bench mark assessment in the areas on reading and math and attendance rates of 9th grade students. The scores of 120 9th grade students in two themed magnet schools programs were compared to the scores of 120 9th grade students in two nonmagnet school programs within the same Texas school district. Data

analysis was done using t test. The findings of the study revealed no significant difference in the test scores between magnet and nonmagnet school students.

Smith (2009) conducted a study on the relationship between learning organizations and student achievement in middle schools.

The purpose of this study was to compare principals' perceptions and examine the significant differences between principals of high-performing middle schools and low-performing middle schools regarding the degree to which their school had developed a learning organization. Research methodologies used in this study to describe and compare the perceptions of middle schools principals were descriptive and ex post facto research. The Learning Organization Survey was sent to 150 middle school principals. The principals were randomly selected based on their school's ranking. Seventy-five schools were chosen with ranking of 1 or 2, while seventy-five schools were selected based on their ranking as 9 or 10. Review of the descriptive data for research questions 1 and 2 showed frequency responses for individual survey items relating to none or more of Peter Senge's five disciplines for learning community. The data also showed the total mean response for each of the five rankings for high-performing and low-performing schools for each of this disciplines.

Fritz (2008) conducted a study on the effect of a new school facility on student achievement.

The purpose of the study was to determine the effect of a new school building on achievement as measured by student performance on Ohio 6th grade proficiency subtests. For the purpose of answering the research question, this study followed a causal-comparative research design. The change in learning environment from the old school building to a newly constructed school building was the independent variable. The percentage of students who passed each subtest of the Ohio 6th grade proficiency

tests, reported on the individuals' school building Local Report Card (LRC), was the dependent variable. From the LRCs the percentage of students who passed the Ohio 6th grade proficiency subtests of math, science, reading, writing and citizenship were collected. Descriptive statistics and paired t tests were used to determine the difference between means for each subtest prior to moving into the new building and after moving into the new building. The finding of the study revealed that there was a significant increase in student achievement in reading and science. Conversely, there was not a significant increase in writing, citizenship and math.

Smith (2006) conducted a study on the effect of an integrated high school science curriculum on student achievement, knowledge retention and science attitudes.

The research study investigated the effectiveness of an integrated high school science curriculum on student achievement, knowledge retention, and science attitudes using quantitative and qualitative research. Data was collected from tenth grade students, in a small urban high school in Kansas City, Missouri, who were enrolled in a traditional Biology course or an integrated Environmental science course. Quantitative data was collected in phase 1 of the study. Data collected for academic achievement included pretest and posttest scores on the CTBS MATN exam. Data collected for knowledge retention include post- posttest scores on the CTBS MATN exam. Data collected for science attitudes were scores on a pretest and posttest. SPSS was used to analyze the data using independent samples t test, one-way ANCOVA and paired sample statistics. Qualitative data was collected in phase 2 of the study. Data included responses to open-ended interview questions using three focus groups. Data was analysed for common themes. The finding of the study revealed that the integrated Environmental science course had a statistically significant impact on academic achievement, knowledge retention, and positive science attitudes. Gender and

socioeconomic status did not influence results. The study also determined that the CTBS MATN exam was not an accurate predictor of scores on state testing as was previously thought.

Britton (2005) conducted a study on elementary school grade-level team collaboration and student achievement.

The objectives of the study were: (i) To describe eight factors of team collaboration as were perceived to exist in ten elementary school grade-level teams within five low-socioeconomic schools in San Diego County, California, and (ii) To determine the relationship between the overall presence of the collaborative factors and teacher perception of the level of student achievement. The researcher used descriptive and correlational research. The population consisted of ten elementary school grade-level teams located in San Diego County, California. The teams were composed of three to seven members. The qualitative data for this study were collected during face-to-face group interviews. Qualitative analysis was used to identify, classify, and summarize the collaborative activities of grade level teams. The quantitative data were collected through individual surveys. Quantitative data analysis was used to create mean scores, frequencies, and standard deviation. The findings indicated that of the eight factors studied, two were present in at least 80 percent of the teams. Those two factors were (1) Discussing instructional strategies to increase student achievement and (2) Producing specific products and/or notes of team discussion and planning.

2.4 Synthesis of the Reviewed Studies

The investigator has reviewed *eighty four* studies in total, out of which *twenty nine* studies were related to school environment, *thirty* studies were related to teacher commitment and *twenty five* studies were related to student achievement.

The studies of Ojukwu (2017); Tripathi and Pandey (2017); Lizzie (2016); Musa, Meshak and Sagir (2016); Sharma (2016); John-Akinola and Gabhainn (2015); Selvi and Daniel (2015); Al-Safran, Brown and Wiseman (2014); Gietz and McIntosh (2014); Gowrie and Ramdass (2014); Kaur (2014); Khatoon and Konwar (2014); Sethi and Kaur (2014); Bency and Prasad (2013); Madankar (2013); Poonam (2013); Thakur and Mishra (2013); Elsaesser, Gorman-Smith and Henry (2013); Johnson, Burke and Gielen (2012); Azmi and Ansari (2012) Chouhan (2011); Hamilton, Marshall, Rummens, Fenta and Simich (2011); Nair and Minikutty (2011); Vasanthi (2010); Wang and Holcombe (2010); Kennard and Ruth (2010); Garcia and Samuel (2009); Huang and Fraser (2009) and Huang (2006) were done on school environment. The methods followed for these studies were descriptive survey and normative survey. Random sampling, stratified random sampling, cluster sampling and multi stage sampling were used in these studies. Data were collected through questionnaire, test and interview method. Statistical techniques used in the studies were arithmetic mean, standard deviation, descriptive analysis (frequency and percentage), t test, ANOVA, correlation analysis, partial regression coefficient, multiple regression analyses, and linear regression.

The studies of Bibiso, Olango and Bibiso (2017); Vasuki and Chiramel (2017); Mary and Annaraja (2016); Sayadi (2016); Liu (2015); Plasilda and Muthupandi (2015); Regilet and Porgio (2015); Sun (2015); Rana (2014); Thien and Razak (2014); Priya and Porgio (2013); Ranu and Kaur (2013); Walker (2013); Kaur, Ranu and Kaur (2012); Nayir (2012); Collie, Shapka and Perry (2011); AbdRazak, Darmawan and Keeves (2010); Harless (2010); Mary and Amalraj (2010); Chamundeswari and Vasanthi (2009); Henkin and Holliman (2009); Srivastava and Pratibha (2009); Sharma (2008); Solomon and Bernard (2008); Usha and Sasikumar (2007); Yu and

Zeyuan (2007); Cherkowski and Lynn (2006); Jani and Jani (2005); Park (2005); and Washburn and Lee (2004) were done on teacher commitment. The methods followed for these studies were survey, descriptive survey, normative survey, exploratory descriptive survey, self-administered website survey, quantitative and qualitative research methods, qualitative case study methods and qualitative interview study. The sampling techniques used were mostly random sampling, stratified cluster sampling, stratified random sampling, experience sampling method and a time sampling method. Data were collected through questionnaire, test, group discussions, online questionnaire, case study, observation, document collection and in-depth interviews. The statistical techniques commonly used in the studies were arithmetic mean, standard deviation, descriptive statistics, t test, ANOVA, Post-ANOVA, Chi-square correlation analysis and multiple regression analysis.

The studies of Chowdhury (2017); Corcoran (2017); Deci (2016); Kumari and Gouri (2016); Early, Berg, Alicea, Si, Aber, Ryan and Akani (2015); Verma (2015); Williams (2015); Yadav (2015); McNea (2014); Zaidi (2014); Jeyanthi and Subbiah (2013); Joseph (2013); Sivakumar, Amalraj and Arunachalam (2013); Bryan, Moore-Thomas, Gaenzle, Kim, Lin and Na (2012); Sood (2012); Paul (2012); Barnabas and Benjamin (2011); Nwosu (2011); Sanchoz (2011); Sarsani and Maddini (2010); Nalini and Bhatta (2009); Smith (2009); Fritz (2008); Smith (2006); and Britton (2005) were done on student achievement. The method followed for these studies were descriptive survey method, experimental method and normative survey method. Data were collected through questionnaire, interview, test, observations, document analysis, open-ended interview and face-to-face group interviews. Statistical techniques used in the studies were mean, standard deviation, t test, chi-square, Pearson's product moment correlation, regression, descriptive analysis, differential analysis and correlational

analysis, percentage analysis, two-way ANOVA, quasi-experimental design, pre-test and post-test scores, independent samples t test, one-way ANCOVA and paired samples.

The present study differs from the above studies in several ways. From the reviewed studies, the investigator comes to understand that twenty nine studies are related to school environment, thirty one studies are related to teacher commitment, and twenty five studies are related to student achievement. As far as the studies reviewed by the researcher are concerned, it is sure that there is no study which has combined the three variables of school environment, teacher commitment and student achievement. So the investigator's an attempt to investigate the relationship between school environment, teacher commitment and student achievement in chemistry at higher secondary level has got a high relevance and hence this study is undertaken.

The following chapter deals with the procedure for tool construction.



Chapter III

Instrumentation

CHAPTER III

INSTRUMENTATION

- 3.1 PrAn's School Environment Scale
 - 3.1.1 Scoring Procedure of PrAn's School Environment Scale
 - 3.1.2 Item Analysis of PrAn's School Environment Scale
 - 3.1.3 Validity of PrAn's School Environment Scale
 - 3.1.4 Reliability of PrAn's School Environment Scale

- 3.2 PrAn's Teacher Commitment perception Scale
 - 3.2.1 Scoring Procedure of PrAn's Teacher Commitment Perception Scale
 - 3.2.2 Item Analysis of PrAn's Teacher Commitment Perception Scale
 - 3.2.3 Validity of PrAn's Teacher Commitment Perception Scale
 - 3.2.4 Reliability of PrAn's Teacher Commitment Perception Scale

- 3.3 PrAn's Achievement Test in Chemistry
 - 3.3.1 Scoring Procedure of PrAn's Achievement Test in Chemistry
 - 3.3.2 Item Analysis of PrAn's Achievement Test in Chemistry
 - 3.3.3 Validity of PrAn's Achievement Test in Chemistry
 - 3.3.4 Reliability of PrAn's Achievement Test in Chemistry

CHAPTER III

INSTRUMENTATION

Test development is an independent and highly technical area of research and is always based on well-developed theory of psychometrics. The theory and procedures are being continuously subjected to research, criticism and improvement. Developing the theory or test development is one form of research. The approach of the researcher will depend on whether the test is designed for general purposes or some specific purpose. Since selection of instruments in most cases provides the operational definition of constructs, this is a crucial step in research (Dey, 2013).

The investigator used three pertinent tools to collect the data for the present study. The tools used for the study were the following.

- i) PrAn's School Environment Scale (2015)
- ii) PrAn's Teacher Commitment Perception Scale (2015)
- iii) PrAn's Achievement Test in Chemistry (2015)

The description of these tools namely PrAn's School Environment Scale, PrAn's Teacher Commitment Perception Scale and PrAn's Achievement Test in Chemistry are described below.

3.1 PrAn'S School Environment Scale

The tool entitled "PrAn's School Environment Scale" was prepared and validated by the present investigator and the guide. The investigator prepared this tool on the basis of the literature collected.

A total of 77 items, given in Appendix 2(a), were prepared by the investigator to test the school environment at the higher secondary level. This scale consists of 77 items under five dimensions namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations. These dimensions have 18, 15, 15, 15, 14 items respectively (72 positive, 5 negative) with a five-point scale.

Conceptualization of the tool

For the present study, the investigator needed three different tools to test the relationship between school environment, teacher commitment and students' achievement in chemistry at higher secondary level. For this purpose of identifying a tool on school environment, the investigator went through the selected literature, theses, dissertations, research abstracts and books on test construction. The investigator was unable to locate any suitable tool to fulfill the objectives of the present study. So the investigator decided to construct the relevant tool to suit the local needs of the subjects who were tested.

Construction of PrAn's School Environment Scale

The investigator collected and wrote many statements for constructing the tool. PrAn's scale on school environment contains five dimensions. The dimensions of this tool were decided on the basis of detailed review of literature related to the problem. The investigator prepared statements from magazines, journals, education reports, text books etc. in consultation and discussion with experts in the field of education. In addition to these, the tools used in the previous studies were also referred. Thus 77 items with 72 positive and 5 negative items were prepared for the preliminary draft

form of school environment. The details of the number of items in each dimension are given in table 3.1.

Table 3.1. Details of dimensions of PrAn's School Environment Scale

No.	Dimension	No. of items
1	Provision of basic facilities	18
2	Provision of special services	15
3	Promotion of curricular (or) academic activities	15
4	Promotion of co-curricular activities	15
5	Promotion of school community relations	14
Total		77

3.1.1 Scoring Procedure of PrAn's School Environment Scale

School environment scale constructed by investigator consisted of 77 items in the form of statements. Each statement has five points namely strongly agree, agree, neutral, disagree and strongly disagree. The investigator prepared response column on the right side corresponding to each statement. The scoring procedure is given in the following table.

Table 3.2. Scoring method of PrAn's School Environment Scale

Response	Positive Statements	Negative Statements
Strongly Agree	5	1
Agree	4	2
Neutral	3	3
Disagree	2	4
Strongly Disagree	1	5

Higher scores on the scale indicate a higher level of school environment in terms of presence of more positive characteristics and feelings about various aspects of the variables. Lower scores on the scale indicated a lower level of school environment in terms of presence of more positive characteristics and feelings about various aspects of the variables.

3.1.2 Item Analysis of PrAn's School Environment Scale

For establishing the item validity of PrAn's School Environment Scale, it was administered among 400 students of standard XI in five different higher secondary schools. The students were given proper instructions by the investigator. After the tryout score, item analysis was done for each of the items. After the final analysis, 72 items were retained as valid.

The investigator calculated the phi value and p-value by using Item-total correlation. The phi value of 0.25 and are above were retained.

Table 3.3. Item Analysis of PrAn's School Environment Scale

Item	Lower Score	Upper Score	Phi-value	P-value	Selected Items
1	59	100	0.51	80	Y
2	48	100	0.59	74	Y
3	29	97	0.70	63	Y
4	41	99	0.63	70	Y
5	44	99	0.61	72	Y
6	35	95	0.63	65	Y
7	54	58	0.04	56	N
8	40	99	0.64	70	Y
9	30	100	0.73	65	Y
10	63	48	-0.15	56	N
11	50	57	0.07	54	N
12	47	97	0.56	72	Y
13	37	96	0.63	67	Y
14	22	78	0.56	50	Y

Item Analysis of PrAn's School Environment Scale

Item	Lower Score	Upper Score	Phi-value	P-value	Selected Items
15	47	98	0.57	73	Y
16	43	99	0.62	71	Y
17	52	100	0.56	76	Y
18	36	100	0.69	68	Y
19	36	100	0.69	68	Y
20	39	93	0.57	66	Y
21	34	100	0.70	67	Y
22	39	100	0.66	70	Y
23	62	51	-0.11	57	N
24	39	100	0.66	70	Y
25	42	98	0.61	70	Y
26	50	100	0.58	75	Y
27	47	99	0.59	73	Y
28	37	98	0.65	68	Y
29	40	96	0.60	68	Y
30	42	99	0.63	71	Y
31	41	98	0.62	70	Y
32	32	98	0.69	65	Y
33	30	93	0.65	62	Y
34	41	98	0.62	70	Y
35	37	98	0.65	68	Y
36	40	98	0.63	69	Y
37	31	98	0.70	65	Y
38	47	100	0.60	74	Y
39	50	97	0.53	74	Y
40	46	100	0.61	73	Y
41	34	84	0.51	59	Y
42	26	84	0.58	55	Y
43	52	100	0.56	76	Y
44	36	100	0.69	68	Y
45	49	96	0.53	73	Y
46	64	50	-0.14	57	N
47	43	99	0.62	71	Y
48	51	100	0.57	76	Y
49	46	99	0.59	73	Y
50	36	90	0.56	63	Y
51	38	99	0.66	69	Y
52	37	99	0.67	68	Y
53	42	99	0.63	71	Y
54	42	100	0.64	71	Y

Item Analysis of PrAn's School Environment Scale

Item	Lower Score	Upper Score	Phi-value	P-value	Selected Items
55	36	99	0.67	68	Y
56	48	100	0.59	74	Y
57	41	95	0.58	68	Y
58	36	100	0.69	68	Y
59	28	96	0.70	62	Y
60	34	100	0.70	67	Y
61	32	100	0.72	66	Y
62	38	100	0.67	69	Y
63	42	98	0.61	70	Y
64	40	87	0.49	64	Y
65	34	99	0.69	67	Y
66	38	100	0.67	69	Y
67	39	98	0.64	69	Y
68	35	98	0.67	67	Y
69	32	99	0.71	66	Y
70	48	99	0.58	74	Y
71	45	92	0.51	69	Y
72	36	93	0.60	65	Y
73	36	96	0.63	66	Y
74	30	97	0.70	64	Y
75	38	100	0.67	69	Y
76	43	92	0.52	68	Y
77	39	99	0.65	69	Y

Y (Yes) denotes selected items; N (No) denotes Not Selected items.

3.1.3 Validity of PrAn's School Environment Scale

Kaplan and Saccuzzo (2011) described validity as “The agreement between a test scores or measures and the quality it is believed to measure (Dey, 2013). Validity is that quality of data-gathering instrument or procedure that enables it to measure what it is supposed to measure (Best and Kahn, 2007). Being PrAn's School Environment Scale is a tool to measure the school environment at higher secondary level, the content validity was established.

In order to establish the content validity of a measuring instrument, the content that will accurately represent the information in all areas. By using this method the researcher should obtain a group of items which is representative of the content of trait or properly to be measured (Dey, 2013). For establishing the content validity of PrAn's School Environment Scale, it was given to four experienced teacher educators. With the help of them, the coverage of the content was checked.

For validation it was essential that the criticism, suggestions and approval of the experts in the field of education and research were sought before the final form of school environment scale. The items are in the form of statements and approval of the experts in the field of education and research were sought before the final form of school environment scale. A copy of the tool was submitted to the experts. They were requested to go through the statements and asked to give their valuable suggestions and corrections regarding the tool. Based on the suggestions given by the experts, corrections were done in the following aspects such as use of simple and clear language, relevance of each component and correction of errors in the statements. Based on the suggestions of experts, addition, deletion, alternation and refinement of few items were done and thus the content validity of the tool was established.

3.1.4 Reliability of PrAn's School Environment Scale

According to J.P. Guilford, "Reliability is the proportion of the true variance in obtained scores" (Dey, 2013). Reliability is the degree of consistency that the instrument or procedure demonstrates: whatever it is measuring, it does so consistency (Best and Kahn, 2000).

The reliability of PrAn's School Environment Scale was established by test re-test method. The value of 'r' was found to be 0.925 which indicates that the tool is highly reliable (Best and Kahn, 2007).

3.2 PrAn's Teacher Commitment Perception Scale

The tool entitled "PrAn's Teacher Commitment Perception Scale" was prepared and validated by the investigator. The investigator prepared this tool on the basis of the literature collected.

A total of 115 items given in Appendix 3(a) were prepared by the investigator to test the teacher commitment perception at the higher secondary level. The items were included under five dimensions namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and commitment to the basic human values. Each dimension has 28, 22, 25, 19, 21 items (97 positive, 18 negative) with total of 115 items respectively, in a five point scale.

Conceptualization of the tool

For this purpose of identifying a tool on teacher commitment perception, the investigator went through the selected literature, theses, dissertations and research abstracts. The investigator was unable to locate any tool to fulfill the objectives of the present study. So the investigator decided to construct a tool for the present investigation.

Construction of PrAn's Teacher Commitment Perception Scale

To develop preliminary test items, the investigator had collected and written many statements from magazines, journals, education reports and textbooks. The dimensions were selected on the basis of review of related literature. PrAn's Teacher Commitment Perception Scale included five different dimensions and the researcher took all of these which can be assessed easily for preparing the tool. Consultation and discussion were made with experts in the field of education. In addition to these, the tools used in the

previous studies were also referred. Thus, large numbers of statements were prepared for the draft form of teacher commitment perception scale. The detail of the number of items in each dimension is given in the table 3.4.

Table 3.4. Details of the dimensions of PrAn's Teacher Commitment Perception Scale

No	Dimensions	No. of items
1	Commitment to the learner	28
2	Commitment to the society	22
3	Commitment to the profession	25
4	Commitment to achieve excellence	19
5	Commitment to the basic human values	21
Total		115

Selecting the Test Format

For the present study the investigator formulated 115 items. These items measure the teacher commitment perception of higher secondary students. These items contain both positive (97) and negative (18) statements.

3.2.1 Scoring Procedure of PrAn's Teacher Commitment Perception Scale

Teacher commitment perception scale constructed by investigator consisted of 115 items in the form of statements. Each statement has five points namely strongly agree, agree, neutral, disagree and strongly disagree. They were scored as follows. For positive items a score of '5' for strongly agree, '4' for agree, '3' for neutral, '2' for disagree and '1' for strongly disagree were allotted. For the negative items the scores were reversed. A high score revealed the presence of high teacher commitment perception.

Table 3.5. Scoring method of PrAn's Teacher Commitment Perception Scale

Response	Positive Statements	Negative Statements
Strongly Agree	5	1
Agree	4	2
Neutral	3	3
Disagree	2	4
Strongly Disagree	1	5

Higher scores on the scale indicate a higher level of teacher commitment perception in terms of presence of more positive characteristics and feelings about various aspects of the variables. Lower scores on the scale indicate a lower level of teacher commitment perception in terms of presence of more positive characteristics and feelings about various aspects of the variables.

3.2.2 Item Analysis of PrAn's Teacher Commitment Perception Scale

For establishing the item validity of PrAn's Teacher Commitment Perception Scale, it was administered among 400 students of standard XI in five different higher secondary schools. The investigator had given proper instructions to the students about the way of answering the items. The answers of these students helped the investigator to modify the choices in the preliminary draft of PrAn's Teacher Commitment Perception Scale.

After the tryout score, item analysis for each of the items was done through Item— total correlation. All those items that had a phi value of 0.25 and above were retained. After the final analysis 98 items were retained for the final tool. The phi-value and p-value of each of the items are shown in Table 3.6.

Table 3.6. Item Analysis of PrAn's Teacher Commitment Perception Scale

Item	Lower score	Upper Score	Phi-value	P-value	Selected Items
1	50	83	0.35	67	Y
2	40	97	0.61	69	Y
3	36	100	0.69	68	Y
4	64	68	0.04	66	N
5	41	90	0.52	66	Y
6	60	76	0.17	68	N
7	60	98	0.47	79	Y
8	43	98	0.60	71	Y
9	58	98	0.48	78	Y
10	62	70	0.08	66	N
11	51	97	0.52	74	Y
12	50	96	0.52	73	Y
13	33	82	0.50	58	Y
14	36	97	0.65	67	Y
15	37	96	0.63	67	Y
16	40	78	0.39	59	Y
17	36	93	0.60	65	Y
18	47	95	0.53	71	Y
19	52	66	0.14	59	N
20	45	95	0.55	70	Y
21	41	92	0.54	67	Y
22	38	98	0.64	68	Y
23	47	100	0.60	74	Y
24	45	100	0.62	73	Y
25	59	96	0.44	78	Y
26	52	100	0.56	76	Y
27	42	97	0.60	70	Y
28	35	97	0.65	66	Y
29	40	98	0.63	69	Y
30	57	54	-0.03	56	N
31	51	99	0.55	75	Y
32	52	100	0.56	76	Y
33	50	98	0.55	74	Y
34	49	67	0.18	58	Y
35	43	91	0.51	67	Y
36	43	69	0.26	56	Y
37	43	97	0.59	70	Y
38	54	99	0.53	77	Y

Item Analysis of PrAn's Teacher Commitment Perception Scale

Item	Lower score	Upper Score	Phi-value	P-value	Selected Items
39	56	64	0.08	60	N
40	48	96	0.54	72	Y
41	40	98	0.63	69	Y
42	43	97	0.59	70	Y
43	44	98	0.60	71	Y
44	60	60	0.00	60	N
45	48	99	0.58	74	Y
46	46	97	0.57	72	Y
47	49	97	0.54	73	Y
48	42	98	0.61	70	Y
49	38	100	0.67	69	Y
50	39	99	0.65	69	Y
51	39	100	0.66	70	Y
52	49	80	0.32	65	Y
53	49	99	0.57	74	Y
54	52	62	0.10	57	N
55	32	98	0.69	65	Y
56	44	96	0.57	70	Y
57	34	96	0.65	65	Y
58	47	94	0.52	71	Y
59	47	55	0.08	51	N
60	47	34	-0.13	41	N
61	53	95	0.48	74	Y
62	41	94	0.57	68	Y
63	37	95	0.61	66	Y
64	59	51	-0.08	55	N
65	41	94	0.57	68	Y
66	46	88	0.45	67	Y
67	47	63	0.16	55	N
68	52	98	0.53	75	Y
69	52	93	0.46	73	Y
70	41	85	0.46	63	Y
71	35	100	0.69	68	Y
72	39	94	0.58	67	Y
73	42	100	0.64	71	Y
74	36	94	0.61	65	Y
75	45	98	0.59	72	Y
76	46	98	0.58	72	Y
77	47	95	0.53	71	Y

Item Analysis of PrAn's Teacher Commitment Perception Scale

Item	Lower score	Upper Score	Phi-value	P-value	Selected Items
78	38	97	0.63	68	Y
79	40	90	0.52	65	Y
80	42	97	0.60	70	Y
81	59	97	0.46	78	Y
82	55	96	0.48	76	Y
83	45	96	0.56	71	Y
84	54	56	0.02	55	N
85	36	95	0.62	66	Y
86	47	97	0.56	72	Y
87	42	97	0.60	70	Y
88	47	93	0.50	70	Y
89	43	93	0.54	68	Y
90	48	56	0.08	52	N
91	46	97	0.57	72	Y
92	41	99	0.63	70	Y
93	46	97	0.57	72	Y
94	34	95	0.64	65	Y
95	44	98	0.60	71	Y
96	57	58	0.01	58	N
97	48	97	0.55	73	Y
98	42	98	0.61	70	Y
99	35	100	0.69	68	Y
100	42	96	0.58	69	Y
101	35	98	0.67	67	Y
102	50	62	0.12	56	N
103	43	97	0.59	70	Y
104	41	98	0.62	70	Y
105	40	95	0.59	68	Y
106	51	98	0.54	75	Y
107	47	100	0.60	74	Y
108	43	99	0.62	71	Y
109	59	60	0.01	60	N
110	47	99	0.59	73	Y
111	44	96	0.57	70	Y
112	47	99	0.59	73	Y
113	42	98	0.61	70	Y
114	36	97	0.65	67	Y
115	37	97	0.64	67	Y

Y (Yes) denotes selected items; N (No) denotes Not Selected items.

3.2.3 Validity of PrAn's Teacher Commitment Perception Scale

Validity of the instrumentation must show that it fairly and comprehensively covers to domain or items that it purports to cover (Louis, Lawrence and Keith, 2013). PrAn's Teacher Commitment Perception Scale is a tool to measure the teacher commitment perception as perceived by students at higher secondary level. The content validity was established for this tool.

A tool has content validity if it sufficiently covers the area that is intended to cover. In order to establish the content validity of a measuring instrument, the researcher must identify the overall content to be represented. Items must then be randomly chosen from that will accurately represent the information in all areas. By using this method the researcher should obtain a group of items which is representative of the content of trait or properly to be measured (Dey, 2013). For establishing the content validity of PrAn's Teacher Commitment Perception Scale, it was given to four experienced teachers educators. With the help of them, the coverage of the content was checked.

For validation, it was essential that the criticism, suggestions and approval of the experts in the field of education and research were sought before the final form of teacher commitment perception scale. They were requested to go through the statements and asked to give their valuable suggestions and corrections regarding the tool. The suggestions and corrections given by the experts covers the following aspects such as clarifying the statements, use of simple and clear language, appropriateness of the statements in testing the components specified and relevance of each component. Based on the suggestions, deletion, addition, alternation and refinement in few items were made. Thus the content validity was established.

3.2.4 Reliability of PrAn's Teacher Commitment Perception Scale

According to Cronbach L.J. "Reliability always refers to consistency through a series of measurements" (Sharma, 2009). Reliability is the degree of consistency that the instrument or procedure demonstrates: whatever it is measuring, it does so consistency (Best and Kahn, 2007).

The reliability of PrAn's Teacher Commitment Perception Scale was established by test re-test method. The researcher seeking to demonstrate this type of reliability will have to choose an appropriate time scale between the test and re-test (Cohen, Manion and Morrison, 2013). The value of 'r' was found to be 0.933 which indicates that the tool is highly reliable (Best and Kahn, 2007).

3.3 PrAn's Achievement Test in Chemistry

Achievement test is another important tool used by the investigator to collect data for the study. Achievement test is a tool to measure the attainment of pupils at the end of teaching a particular unit or after completion of a certain course of instruction in a given subject. These tests help us to evaluate the learners on the basis of their performance and thereby, one can plan remedial teaching in order to make the learners overcome the difficulties in their learning. When a person constructs a house or a building, he prepares a detailed plan or the blue print of the construction beforehand and then takes up the construction. So is the case with constructing a achievement test for the students. Hence, the construction of a test to measure the achievement of the pupils, should take every care in the preparation of a challenging and balanced question paper with questions spread over the entire syllabus. Further, the teachers should also see that the level of difficulty of the test items should be in tune with the learning

abilities of the pupils. Considering all these, the investigator paid great attention while constructing the achievement test.

Principles involved in the construction of the Educational Achievement Test

i) Selection of material

The material for the test was so selected that the questions should not go beyond the subject matter taught to the pupils.

ii) Coverage of objectives

The objectives of the test should be the same as the objectives of teaching and learning. The investigator had taken much care in planning to give due weightage to different objectives.

iii) Coverage of content area

The investigator planned the questions based on the content. Due weightage was given to elements of the subject like chemical bonding, and also for the subject matter taught.

iv) Variety in question

The investigator used objective type questions only. While selecting the number of questions under each category, the investigator considered the time taken for answering the test.

v) Difficulty level

The investigator was careful of ensuring that no student should get a score like '0' or '100'. So the test items of different difficulty levels like easy, average and difficult were included in the question paper/test.

vi) Objectivity in scoring

Scoring key and marking scheme along with the question paper showing the distribution of marks to each point were provided to maintain objectivity. This helps to avoid subjectivity in scoring.

vii) Distribution of marks

Marks for each area, viz., content, objectives, form of questions and difficulty levels were distributed. Weightage to those areas were fixed at the beginning of the test and has been provided in separate tables. Finally, a consolidated weightage table known as Blue print was evolved before writing the actual test items. The Blue print for the test is given in Appendix 4(a).

viii) Originality of the learners

The test item prepared should aim at testing the originality of the learners. For this purpose, the investigator framed parallel test items on the content taught from the unit.

The tool entitled “PrAn’s Achievement Test in Chemistry” was prepared and validated by the investigator. The investigator prepared this tool on the basis of the state board text book prescribed for XI standard. A total of 60 multiple choice questions, given in Appendix 4(b) were prepared by the investigator to test the achievement in Chemistry at the higher secondary level.

3.3.1 Scoring Procedure of PrAn’s Achievement Test in Chemistry

The scoring was done in the following way. The respondents had to choose any one of the four multiple choices in the items. A score of 1 was given for the right response and a score of 0 was given for the wrong response. If unanswered, the score was given as 0.

Thus the score of PrAn's Achievement Test in Chemistry is the total of the scores obtained for all the items.

3.3.2 Item Analysis of PrAn's Achievement Test in Chemistry

For establishing the item validity of PrAn's Achievement Test in Chemistry, it was administered among 400 students of standard XI in five different higher secondary schools. The students were given proper instructions by the investigator about how to respond. After the tryout score, item analysis was done for each of the items. The item analysis was done through Item – total correlation. All those items having a phi value of 0.25 and above were retained. After the final analysis 60 items were retained as valid. The answer sheets of all the 400 students were then evaluated.

The procedure of validating the items of PrAn's Achievement Test in Chemistry is given below.

- i) A score of 1 for the right response and a score of 0 for the wrong response were given.
- ii) The sum of the scores obtained by all the respondents was calculated for each individual.
- iii) The scores of the respondents were arranged in the descending order (Stanley, 1978)

Table 3.7. Item Analysis of PrAn's Achievement test in Chemistry

Item	Lower score	Upper Score	Phi-value	P-value	Selected Items
1	65	97	0.41	81	Y
2	49	83	0.36	66	Y
3	38	71	0.33	55	Y
4	35	79	0.44	57	Y
5	36	71	0.35	54	Y
6	24	80	0.56	52	Y
7	21	33	0.14	27	N
8	42	59	0.17	51	N
9	13	54	0.43	34	Y
10	13	16	0.04	15	N
11	20	42	0.24	31	Y
12	15	20	0.07	18	N
13	11	23	0.16	17	N
14	15	26	0.14	21	N
15	25	40	0.16	33	N
16	10	31	0.26	21	Y
17	8	33	0.31	21	Y
18	38	88	0.52	63	Y
19	29	50	0.22	40	Y
20	19	82	0.63	51	Y
21	21	76	0.55	49	Y
22	47	63	0.16	55	N
23	44	90	0.49	67	Y
24	16	23	0.09	20	N
25	28	52	0.25	40	Y
26	10	74	0.65	42	Y
27	14	36	0.25	25	Y
28	13	22	0.12	18	N
29	25	61	0.36	43	Y
30	9	39	0.35	24	Y
31	39	71	0.32	55	Y
32	31	40	0.09	36	N
33	35	57	0.22	46	Y
34	21	30	0.10	26	N
35	15	43	0.31	29	Y
36	5	26	0.29	16	Y

Item Analysis of PrAn's Achievement test in Chemistry

Item	Lower score	Upper Score	Phi-value	P-value	Selected Items
37	19	40	0.23	30	Y
38	36	54	0.18	45	Y
39	9	64	0.57	37	Y
40	12	28	0.20	20	Y
41	8	39	0.37	24	Y
42	16	40	0.27	28	Y
43	28	63	0.35	46	Y
44	14	32	0.21	23	Y
45	18	48	0.32	33	Y
46	14	53	0.41	34	Y
47	44	57	0.13	51	N
48	11	18	0.10	15	N
49	21	77	0.56	49	Y
50	52	97	0.52	75	Y
51	47	44	-0.03	46	N
52	26	45	0.20	36	Y
53	15	24	0.11	20	N
54	30	41	0.12	36	N
55	30	85	0.56	58	Y
56	9	46	0.41	28	Y
57	28	79	0.51	54	Y
58	24	70	0.46	47	Y
59	15	48	0.36	32	Y
60	3	31	0.37	17	Y

Y (Yes) denotes selected items; N (No) denotes Not Selected items.

3.3.3 Validity of PrAn's Achievement Test in Chemistry

According to Guliksen "It is the correlation of test with some criterion" (Sharma, 2009). Being PrAn's Achievement Test in Chemistry is a tool to measure the achievement test in Chemistry of the standard XI at higher secondary level, the content validity was established.

A test has content validity if it is sufficient to cover the area that is intended to cover. By using this method the researcher should obtain a group of items which is representative of the content of trait or properly to be measured (Dey, 2013). For establishing the content validity of PrAn's Achievement Test in Chemistry, it was given to three experienced college teachers and four school teachers at the higher secondary level. With the help of them, the coverage of the content was checked.

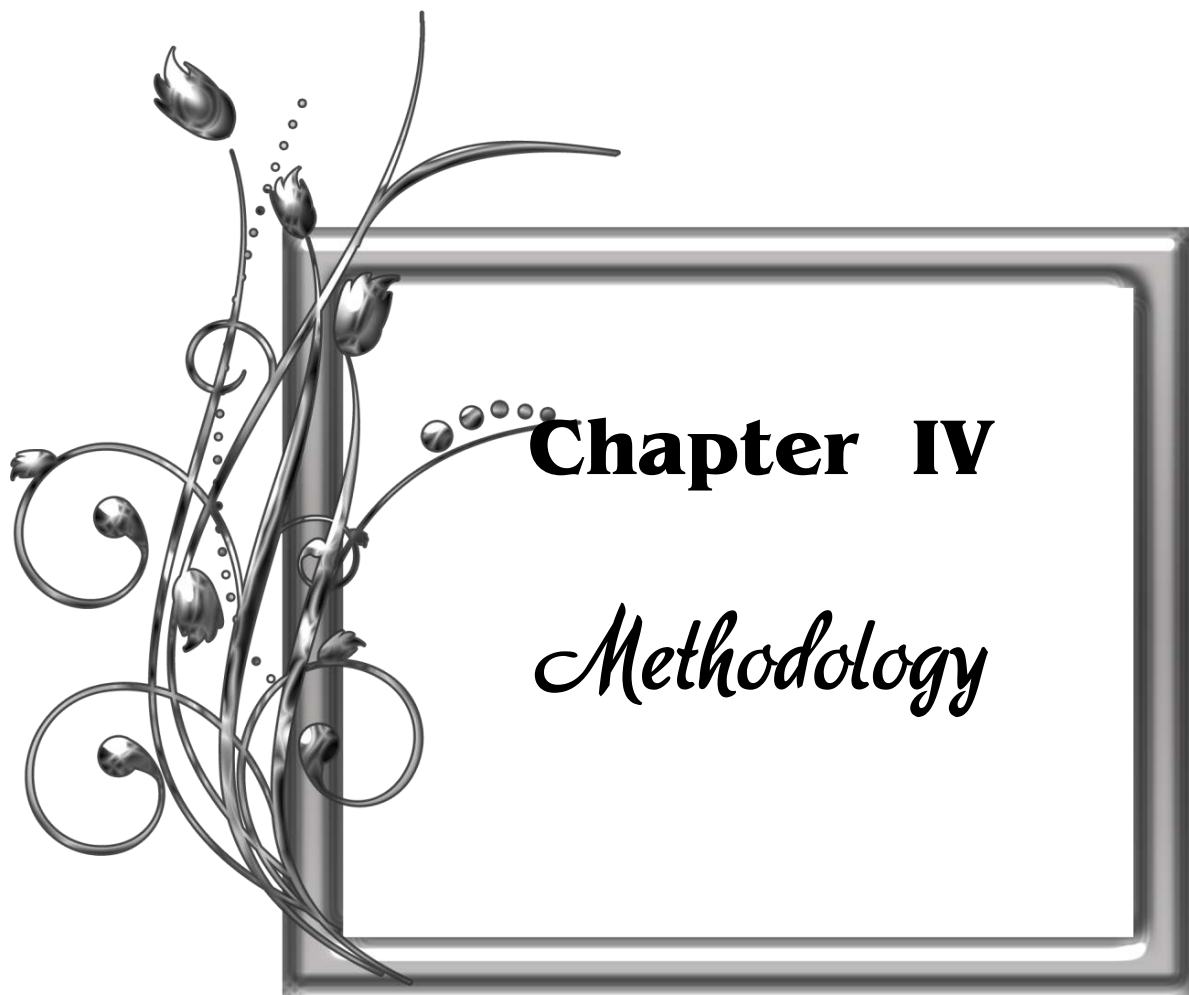
For validation, it was essential that criticism, suggestions and approval of the experts in the field of education and chemistry were sought before the final form of achievement test in Chemistry. A copy of the tool along with the blue print was submitted to the experts. They were requested to go through the statements and asked to give their valuable suggestions and corrections regarding the tool. The suggestions and corrections given by the experts covers the following aspects such as use of simple and clear language, appropriateness of the questions in testing the specific subject and relevance in relation to the objectives. Based on the suggestions given by the experts, deletion, addition, alternation and refinement of few items in the tool were done. Thus the content validity of the tool was established.

3.3.4 Reliability of PrAn's Achievement Test in Chemistry

Reliability means dependability or trust worthiness. It is the degree to which a test consistently measures whatever it is measuring. The more reliable a test is, the more confidence we can have that the scores obtained from the test are essentially the same scores that would be obtained if the test were readministered to the same test takers at another time or by a different person.

The reliability of PrAn's Achievement Test in Chemistry was established by test-retest method. The researcher seeking to demonstrate this type of reliability will have to choose an appropriate time scale between the tests and retest (Cohen, Manion and Morrison, 2013). The value of 'r' was found to be 0.938 which indicates that the tool is highly reliable (Best and Kahn, 2007).

The following chapter deals with the Methodology.



Chapter IV

Methodology

CHAPTER IV

METHODOLOGY

- 4.1 Statement of the Problem
- 4.2 Definition of Key Terms
- 4.3 Operational Definitions of Key Terms
- 4.4 Objectives of the Study
- 4.5 Hypotheses Framed
- 4.6 Variables of the Study
- 4.7 Method adopted for the Study
- 4.8 Population and Sample
- 4.9 Tools used for the study
- 4.10 Delimitations of the Study
- 4.11 Statistical Techniques Employed

CHAPTER IV

METHODOLOGY

Research in education comprises all methods of gathering knowledge about the process and conditions of education. Research methods are almost important in research process. They describe the various steps of the plan of attack to be adopted in solving a research problem. Educational research includes studies of many kinds, historical, logical, descriptive survey, case and cross-functional.

This chapter deals with the methodology employed in order to achieve different objectives and verify the hypotheses of the study. It deals with the general designs of the study population and sample and sampling procedure, tools used and the manner in which relevant data were collected through different techniques and other details.

4.1 Statement of the Problem

It is the duty of the teacher to give multiple learning experiences to the students so that they may realize and involve in learning which leads to their academic achievement. To identify the school environment, perceived teacher commitment and students' achievement in Chemistry, this study has been undertaken by the investigator. The present study is entitled as SCHOOL ENVIRONMENT, TEACHER COMMITMENT AND STUDENT ACHIEVEMENT IN CHEMISTRY AT HIGHER SECONDARY LEVEL.

4.2 Definition of Key Terms

a) School Environment

Dave (1963) defined educational environment as “the conditions, processes and psychological stimuli which affect the educational achievement of the child” (Devi, 2004).

b) Teacher Commitment

Free Dictionary by Farlex defines commitment as the trait of sincere and steadfast fixity of purpose of the act of binding oneself intellectually or emotionally to a course of action (Vasanth, Angelina, Chamundeswari., and Malathi, 2005).

c) Student Achievement

In the dictionary of Psychology, Chaplin (1901) defines Educational or Academic Achievement as specified level of attainment or proficiency in academic work as evaluated by the teachers, by standardized tests by a combination of both (Pandey, 1997).

d) Chemistry

Chemistry is an aspect of physical science, and it is the study of the properties of and interactions between matter and energy. In other words, chemistry is a way to study the properties, characteristics, and physical and chemical changes of matter (<http://study.com/academy/lesson/what-is-chemistry-definition-history-branches.html>).

e) Higher Secondary Level

Higher secondary level refers to the last stage of school education of the student studying in standards XI and XII. It is considered as an entry qualification to the degree and various other higher or professional courses.

4.3 Operational Definitions of Key Terms**a) School Environment**

School environment, in this study, indicates the environmental condition that is prevailing in schools as perceived by the higher secondary school students. Here the scores obtained by the higher secondary students in school environment scale prepared by the investigators is taken as the indicator of school environment.

b) Teacher Commitment

Teacher Commitment, in this study, refers to degree of internal motivation, enthusiasm, and job satisfaction that teachers derive from teaching and the degree of effectiveness they achieve in their jobs. Here teacher commitment is measured through the perception of the students about their teacher commitment as experienced by them. This is also converted into score form and it is based purely on the basis of the felt experiences of teacher commitment.

c) Student Achievement in Chemistry

It refers to the marks/scores obtained by the higher secondary school students in the achievement test in chemistry constructed and validated by the investigator.

d) Higher Secondary Level

Higher secondary level refers to the students who are studying in class XI and XII in various higher secondary schools of Kanyakumari district following state board syllabus. Here the study has considered only the XI standard school students who are in State Board System of Education.

4.4 Objectives of the Study

1. To study the significant difference, if any, in the school environment of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of school, type of management, type of family, parents' occupation and educational level of parents.
2. To study the significant difference, if any, in the dimensions of school environment namely provision of basic facilities, provision of special services,

promotion of curricular (or) academic activities, promotion of co-curricular activities and promotion of school community relations with regard to the background variables namely gender, religion, community, locality of the school, type of school, type of management, type of family, parents' occupation and educational level of parents of school students at higher secondary level.

3. To study the significant difference, if any, in the teacher commitment perception of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of school, type of management, type of family, parents' occupation and educational level of parents.
4. To study the significant difference, if any, in the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values with regard to the background variables namely gender, religion, community, locality of the school, type of school, type of management, type of family, parents' occupation and educational level of parents of school students at higher secondary level.
5. To study the significant difference, if any, in the student achievement in Chemistry of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of school, type of management, type of family, parents' occupation and educational level of parents.
6. To study the correlation between school environment and teacher commitment perception of school students at higher secondary level.

7. To study the correlation between school environment and student achievement in Chemistry of school students at higher secondary level.
8. To study the correlation between teacher commitment perception and student achievement in chemistry of school students at higher secondary level.

4.5 Hypotheses Framed

The following are the major hypotheses framed for the present investigation.

1. There is no significant difference in the mean scores of school environment in total and its dimensions of male and female higher secondary school students.
2. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Hindu, Christian and Muslim religions.
3. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities.
4. There is no significant difference in the mean scores of school environment in total and its dimensions of rural and urban higher secondary school students.
5. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary students studying in boys' school, girls' school and co-education school.
6. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school.

7. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of nuclear family and joint family.
8. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father's occupation.
9. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother's occupation.
10. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father's level of education.
11. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother's level of education.
12. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of male and female higher secondary school students.
13. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of Hindu, Christian and Muslim religions.
14. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities.

15. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of rural and urban higher secondary school students.
16. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary students studying in boys' school, girls' school, and co-education school.
17. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school.
18. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of nuclear family and joint family.
19. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father's occupation.
20. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother's occupation.
21. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father's level of education.
22. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother's level of education.

23. There is no significant difference in the mean scores of student achievement in Chemistry of male and female higher secondary school students.
24. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different religions.
25. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different communities.
26. There is no significant difference in the mean scores of student achievement in Chemistry of rural and urban higher secondary school students.
27. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different types of schools.
28. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different management system.
29. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students of nuclear family and joint family.
30. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to father's occupation.
31. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother's occupation.

32. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to father's level of education.
33. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother's level of education.
34. There is no significant correlation between school environment and teacher commitment perception of higher secondary school students with regard to various sub samples.
35. There is no significant correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to various sub samples.
36. There is no significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to various sub samples.

4.6 Variables of the Study

The factors or characteristics which undergo a change are termed as variables. The researcher selects, observes, measures and manipulates these for the purpose of conducting research.

Based on the functional aspects, the variables are divided into different types such as independent variable, dependent variable, controlled variable and intervening or extraneous variable. For the present study, school environment, teacher commitment and student achievement in Chemistry are the outcome variables or major variables. Here school environment and teacher commitment are the independent variables. Student achievement in Chemistry is the dependent variable in the study.

Gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents are the background variables.

4.7 Method employed in the Study

The investigator has selected the normative survey method for conducting the present study.

4.8 Population and Sample

The accessible population for the study includes all higher secondary school students in Kanyakumari district. The total size of the population is 19822. The investigator has used random sampling technique for the selection of sample. Nine higher secondary schools were selected randomly from the population. The sample consisted of 1000 higher secondary school students from various higher secondary schools of Kanyakumari district in Tamil Nadu. The schools selected for data collection are listed below in table 4.1.

Table 4.1. List of schools selected for the study

Sl. No.	Name of the school	No. of Students
1.	LMS Boys Higher Secondary School, Marthandam	92
2.	Government Higher Secondary School, Munchirai	268
3.	SLB Boys Higher Secondary School, Nagercoil	553
4.	Arunachalam Higher Secondary School, Thiruvattar	134
5.	St. Joseph's Higher Secondary School, Asaripallam	62
6.	Ruben Matriculation Higher Secondary School, Thadikkarakonam	22
7.	Government Higher Secondary School, Thittuvilai	65
8.	MPA Matriculation Higher Secondary School, Puthukkada	15
9.	Carmel Girls Higher Secondary School, Manalickarai	149
Total		1,000

4.9 Tools Used for the Study

The investigator used the following three tools to collect the data for the present study.

These three tools were constructed and validated by the investigator and the guide.

1. PrAn's School Environment Scale (2015)
2. PrAn's Teacher Commitment Perception Scale (2015)
3. PrAn's Achievement Test in Chemistry (2015)

4.10 Delimitations of the Study

The scope of the present study was limited in the following manner.

1. The geographical area of the study was delimited to Kanyakumari district only.
2. The sample size was delimited to 1000 higher secondary school students.

3. Only standard XI students were included for the study.
4. Only selected topics of Chemistry were included for the achievement test in Chemistry.

4.11 Statistical Techniques Employed

The main statistical techniques used for analysis were arithmetic mean, standard deviation, t test, F-test [Analysis of variance], Scheffe's post hoc test and Pearson's Product Moment Correlation. The details of statistical techniques used for the present study are:

i) Arithmetic Mean

The mean of a distribution is commonly understood as the arithmetic average (Best and Kahn, 2002).

ii) Standard Deviation

It is the square root of the squares of the deviations calculated for each item (Sharma, 2013).

iii) t test

The t test or test of significance for difference between means for large independent samples (Garrett, 2005) is used to compare the differences obtained by any two groups of subjects on any of the variables.

iv) F-test [analysis of variance]

We use F-test to determine whether there is any significant difference between the means of more than two random samples (Best and Kahn, 2007).

v) Scheffe's post hoc test

A significant F does not point out which of the three means differ among themselves. In such cases, the comparison of the differences between means for any two groups is done using a rigorous method called Scheffe procedure (Scheffe, 1957). However if the F test does not refute the null hypothesis, there is no justification for further analysis, as differences between pairs of means will not differ significantly. Unless there are a large number of groups in which case one or two might by chance equal or approach significance.

If one way ANOVA proves the mean difference to be significant, the analysis is proceeded further to find out which of the means differ significantly using the Scheffe procedure. Scheffe's post hoc test is one of the well own multiple group comparison tests.

vi) Pearson's Product Moment Correlation

The coefficient of correlation is computed between the two variables by using Pearson's Product Moment Correlation. It is used to find out the degree of relationship between two variables (Best and Kahn, 2002).

The following chapter deals with the Analysis of Data.



Chapter V

Analysis of Data

CHAPTER V
ANALYSIS OF DATA

- 5.1 Differential Analysis
- 5.2 Correlation Analysis
- 5.3 Tenability of Hypotheses

CHAPTER V

ANALYSIS OF DATA

The analysis of data represents the application of inductive and deductive logic to the research process. It is a very important step in the total procedure of any research. The data are studied from as many angles as possible to explore the new facts. The usefulness and utility of research findings lie in the proper interpretation of results.

The results of the data analysis have been organized in three sections as follows,

Section I: It contains the differential analysis of the scores of school environment, teacher commitment perception and student achievement in Chemistry of higher secondary students.

Section II: It contains the analysis of significance of correlation between the scores of school environment, teacher commitment perception and student achievement in Chemistry of higher secondary students.

Section III: The tenability of hypotheses is presented in this section.

5.1 Differential Analysis

5.1.1 Significance of Difference in School Environment

Null Hypothesis - 1

There is no significant difference in the mean scores of school environment in total and its dimensions of male and female higher secondary school students.

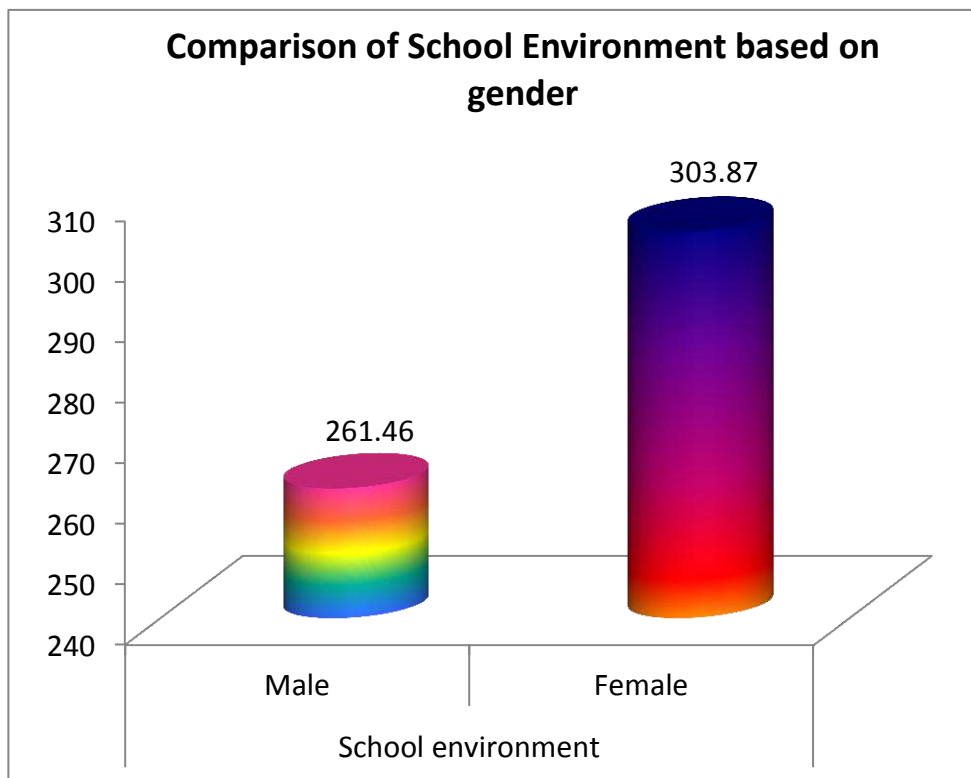
Table 5.1.1. Comparison of mean scores of School Environment based on gender

School Environment and its Dimensions	Gender	Mean	SD	N	t	p	Remark
School environment	Male	261.46	61.47	517	12.633	0.000	Significant at 0.01 level
	Female	303.87	43.74	483			
Provision of basic facilities	Male	54.11	14.20	517	12.106	0.000	Significant at 0.01 level
	Female	63.52	10.17	483			
Provision of special services	Male	51.59	12.91	517	12.014	0.000	Significant at 0.01 level
	Female	60.02	9.06	483			
Promotion of curricular or Academic activities	Male	51.16	13.28	517	11.834	0.000	Significant at 0.01 level
	Female	59.54	8.80	483			
Promotion of co-curricular activities	Male	54.76	14.37	517	11.414	0.000	Significant at 0.01 level
	Female	63.75	10.33	483			
Promotion of school community relations	Male	49.84	13.82	517	9.175	0.000	Significant at 0.01 level
	Female	57.03	10.87	483			

From table 5.1.1, it is found that the calculated 't' values are significant at 0.01 level. Hence the null hypothesis-1 is rejected at 0.01 level. Male and female students differ significantly with respect to their school environment in total and on all its dimensions. However from the mean values it is clear that female students possessed better school environment compared to male students.

The comparison of scores is graphically presented in figure 5.1.1

Figure 5.1.1. Comparison of School Environment based on gender



Null Hypothesis - 2

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Hindu, Christian and Muslim religions.

Table 5.1.2a. Comparison of mean scores of School Environment based on religion

School Environment and its Dimensions	Religion	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Hindu	Between Group	90225.92	45112.96	2			Sig. at 0.01 level
	Christian	Within Group	3230627.83	3240.35	997	13.922	0.000	
	Muslim	Total	3320853.75		999			
Provision of basic facilities	Hindu	Between Group	3863.12	1931.56	2			Sig. at 0.01 level
	Christian	Within Group	139443.65	139.86	997	13.810	0.000	
	Muslim	Total	143306.78		999			
Provision of special services	Hindu	Between Group	3863.12	1931.56	2			Sig. at 0.01 level
	Christian	Within Group	139443.65	139.86	997	13.810	0.000	
	Muslim	Total	143306.78		999			
Promotion of curricular or Academic activities	Hindu	Between Group	4150.40	2075.20	2			Sig. at 0.01 level
	Christian	Within Group	141721.75	142.15	997	14.599	0.000	
	Muslim	Total	145872.15		999			
Promotion of co-curricular activities	Hindu	Between Group	3573.25	1786.63	2			Sig. at 0.01 level
	Christian	Within Group	174497.93	175.02	997	10.208	0.000	
	Muslim	Total	178071.18		999			
Promotion of school community relations	Hindu	Between Group	2372.37	1186.18	2			Sig. at 0.01 level
	Christian	Within Group	165998.66	166.50	997	7.124	0.001	
	Muslim	Total	168371.03		999			

From table 5.1.2a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-2 is rejected at 0.01 level. Results show that there exists a significant difference among students of Hindu, Christian and Muslim religion with respect to their school environment in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.2b. Scheffe's post hoc test for comparison of mean scores of School Environment based on religion

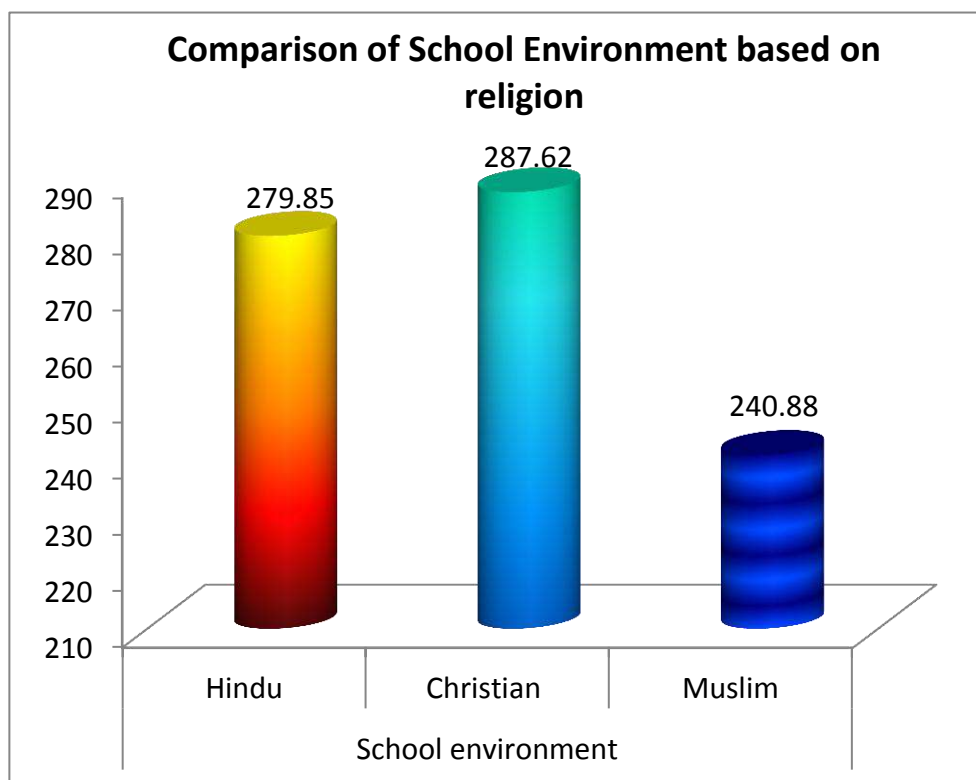
School Environment and its Dimensions	Religion	Mean	SD	N	Pair	P (Scheffe)	Remark
School environment	Hindu (A)	279.85	56.01	472	A Vs B	0.108	NS
	Christian (B)	287.62	55.53	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	240.88	78.77	43	A Vs C	0.000	Sig. at 0.01 level
Provision of basic facilities	Hindu (A)	55.08	11.8	472	A Vs B	0.049	Sig. at 0.05 level
	Christian (B)	56.96	11.38	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	47.47	16.31	43	A Vs C	0.000	Sig. at 0.01 level
Provision of special services	Hindu (A)	55.08	11.8	472	A Vs B	0.049	Sig. at 0.05 level
	Christian (B)	56.96	11.38	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	47.47	16.31	43	A Vs C	0.000	Sig. at 0.01 level
Promotion of curricular or Academic activities	Hindu (A)	54.79	11.87	472	A Vs B	0.113	NS
	Christian (B)	56.4	11.49	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	46.35	16.51	43	A Vs C	0.000	Sig. at 0.01 level
Promotion of co-curricular activities	Hindu (A)	58.71	12.87	472	A Vs B	0.215	NS
	Christian (B)	60.21	13.2	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	50.88	17.08	43	A Vs C	0.001	Sig. at 0.01 level
Promotion of school community relations	Hindu (A)	52.93	12.68	472	A Vs B	0.276	NS
	Christian (B)	54.27	12.89	485	B Vs C	0.001	Sig. at 0.01 level
	Muslim (C)	46.74	15.35	43	A Vs C	0.011	Sig. at 0.05 level

The results of Scheffe's post hoc test show that there exists a significant difference between Christian and Muslim, and Hindu and Muslim students with respect to their school environment in total and on all its dimensions. But significant difference is noted between Hindu and Christian students in their dimensions namely provision of

basic facilities and provision of special services. But no significant difference is noted between Hindu and Christian students with respect to their school environment in total and on its dimensions namely promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations. Mean values show that Christian students possessed better school environment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.2.

Figure 5.1.2. Comparison of School Environment based on religion



Null Hypothesis - 3

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities.

Table 5.1.3a. Comparison of mean scores of School Environment based on community

School Environment and its Dimensions	Community	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	SC/ST	Between Group	34315.78		3			
	MBC	Within Group	3286537.97		996	3.467	0.016	Sig. at 0.05 level
	BC	Total	3320853.75		999			
	OC							
Provision of basic facilities	SC/ST	Between Group	605.97	201.99	3			
	MBC	Within Group	175416.31	176.12	996	1.147	0.329	NS
	BC	Total	176022.28		999			
	OC							
Provision of special services	SC/ST	Between Group	1113.13	371.04	3			
	MBC	Within Group	142193.64	142.76	996	2.599	0.051	NS
	BC	Total	143306.78		999			
	OC							
Promotion of curricular or Academic activities	SC/ST	Between Group	1171.85	390.62	3			
	MBC	Within Group	144700.30	145.28	996	2.689	0.045	Sig. at 0.05 level
	BC	Total	145872.15		999			
	OC							
Promotion of co-curricular activities	SC/ST	Between Group	2491.66	830.55	3			
	MBC	Within Group	175579.52	176.28	996	4.711	0.003	Sig. at 0.01 level
	BC	Total	178071.18		999			
	OC							
Promotion of school community relations	SC/ST	Between Group	2225.19	741.73	3			
	MBC	Within Group	166145.84	166.81	996	4.446	0.004	Sig. at 0.01 level
	BC	Total	168371.03		999			
	OC							

From table 5.1.3a, it is found that the calculated F values are significant for total school environment and on its dimensions namely promotion of curricular or academic

activities, promotion of co-curricular activities and promotion of school community relations. Hence the null hypothesis-3 is rejected. Results show that there exists a significant difference among students of SC/ST, MBC, BC and OC community. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

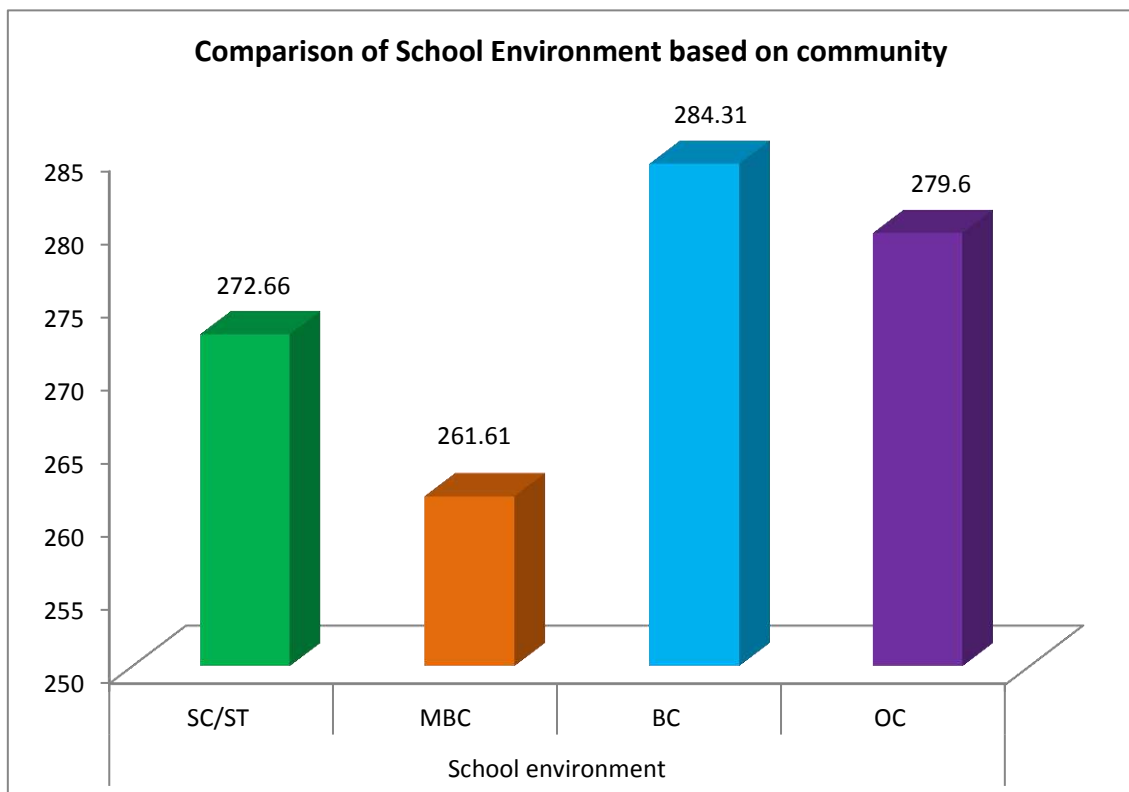
Table 5.1.3b. Scheffe's post hoc test for comparison of mean scores of School Environment based on community

School Environment and its Dimensions	Community	Mean	SD	N	Pair	P (Scheffe)	Remark
School environment	SC/ST (A)	272.66	43.91	68	A Vs B	0.766	NS
	MBC (B)	261.61	62.93	57	B Vs C	0.040	Sig. at 0.05 level
	BC (C)	284.31	57.88	815	A Vs C	0.461	NS
	OC (D)	279.6	59.47	60	A Vs D	0.926	NS
					B Vs D	0.413	NS
				C Vs D	0.945	NS	
Promotion of curricular or Academic activities	SC/ST (A)	53.69	9.98	68	A Vs B	0.818	NS
	MBC (B)	51.60	13	57	B Vs C	0.107	NS
	BC (C)	55.68	12.16	815	A Vs C	0.635	NS
	OC (D)	53.97	11.82	60	A Vs D	0.999	NS
					B Vs D	0.770	NS
				C Vs D	0.771	NS	
Promotion of co-curricular activities	SC/ST (A)	55.94	11.54	68	A Vs B	0.876	NS
	MBC (B)	53.96	14.5	57	B Vs C	0.021	Sig. at 0.05 level
	BC (C)	59.65	13.31	815	A Vs C	0.180	NS
	OC (D)	60.1	13.43	60	A Vs D	0.373	NS
					B Vs D	0.101	NS
				C Vs D	0.996	NS	
Promotion of school community relations	SC/ST (A)	50.62	11.28	68	A Vs B	0.807	NS
	MBC (B)	48.33	14.88	57	B Vs C	0.019	Sig. at 0.05 level
	BC (C)	53.92	12.85	815	A Vs C	0.252	NS
	OC (D)	52.82	13.56	60	A Vs D	0.819	NS
					B Vs D	0.317	NS
				C Vs D	0.939	NS	

The results of Scheffe's post hoc test show that MBC and BC students differ significantly with respect to their school environment in total and on its dimensions namely promotion of co-curricular activities and promotion of school community relations. The other five pairs namely SC/ST vs MBC, SC/ST vs BC, SC/ST vs OC, MBC vs OC and BC vs OC do not differ significantly with respect to their school environment in total and on its dimensions namely promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations.

The comparison of scores is graphically presented in figure 5.1.3

Figure 5.1.3. Comparison of School Environment based on community



Null Hypothesis - 4

There is no significant difference in the mean scores of school environment in total and its dimensions of rural and urban higher secondary school students.

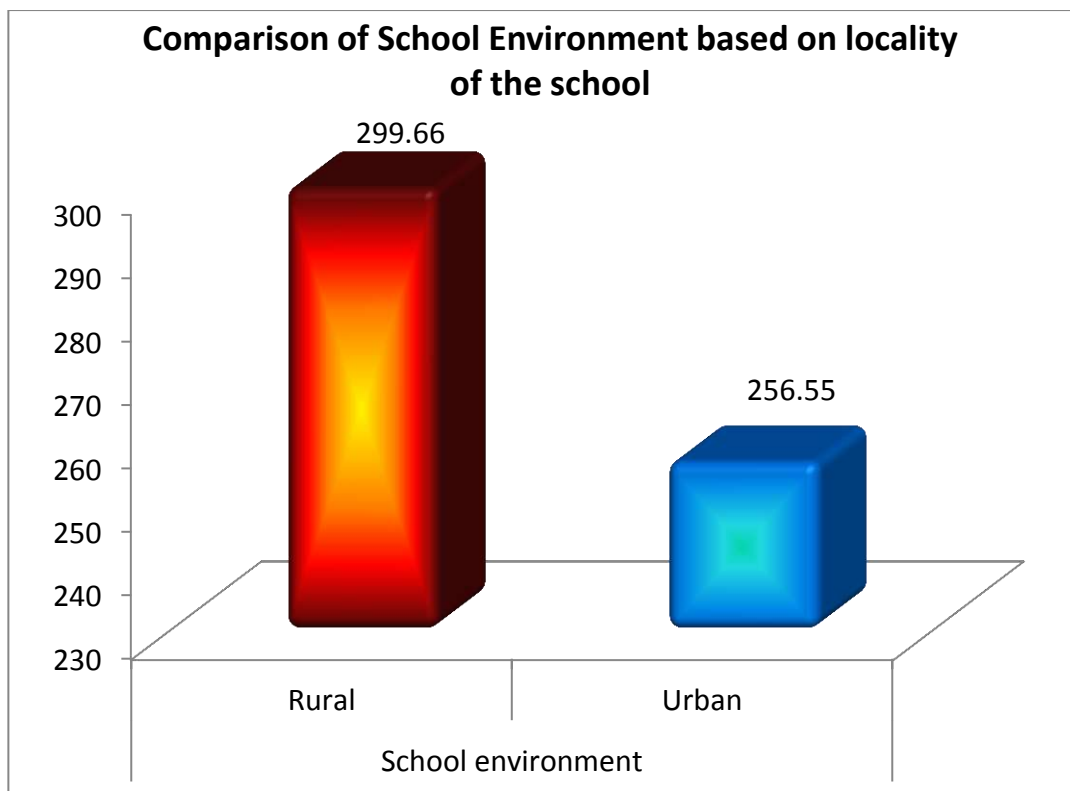
Table 5.1.4. Comparison of mean scores of School Environment based on locality of the school

School Environment and its Dimensions	Locality	Mean	SD	N	t	p	Remark
School environment	Rural	299.66	50.48	589	12.207	0.000	Sig. at 0.01 level
	Urban	256.55	57.86	411			
Provision of basic facilities	Rural	62.45	11.83	589	11.284	0.000	Sig. at 0.01 level
	Urban	53.21	13.34	411			
Provision of special services	Rural	59.06	10.26	589	11.001	0.000	Sig. at 0.01 level
	Urban	50.80	12.58	411			
Promotion of curricular or Academic activities	Rural	58.84	10.21	589	11.727	0.000	Sig. at 0.01 level
	Urban	50.01	12.66	411			
Promotion of co-curricular activities	Rural	62.87	11.36	589	10.922	0.000	Sig. at 0.01 level
	Urban	53.70	14.13	411			
Promotion of school community relations	Rural	56.44	11.90	589	9.350	0.000	Sig. at 0.01 level
	Urban	48.83	13.17	411			

From table 5.1.4, it is found that the calculated 't' values are significant at 0.01 level. Hence the null hypothesis-4 is rejected at 0.01 level. Rural and urban students differ significantly with respect to their school environment in total and on all its dimensions. However from the mean values it is clear that rural students possessed better school environment compared to urban students.

The comparison of scores is graphically presented in figure 5.1.4

Figure 5.1.4. Comparison of School Environment based on locality of the school



Null Hypothesis - 5

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary students studying in boys' school, girls' school and co-education school.

Table 5.1.5a. Comparison of mean scores of School Environment based on type of the school

School Environment and its Dimensions	Type of school	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Boys	Between Group	630902.0	315451.00	2	116.918	0.000	Sig. at 0.01 level
	Girls	Within Group	2689951.8	2698.05	997			
	Co-education	Total	3320853.8		999			
Provision of basic facilities	Boys	Between Group	27112.26	13556.13	2	90.763	0.000	Sig. at 0.01 level
	Girls	Within Group	148910.02	149.36	997			
	Co-education	Total	176022.28		999			
Provision of special services	Boys	Between Group	23388.3	11694.15	2	97.225	0.000	Sig. at 0.01 level
	Girls	Within Group	119918.5	120.28	997			
	Co-education	Total	143306.8		999			
Promotion of curricular or Academic activities	Boys	Between Group	25976.80	12988.40	2	108.006	0.000	Sig. at 0.01 level
	Girls	Within Group	119895.35	120.26	997			
	Co-education	Total	145872.15		999			
Promotion of co-curricular activities	Boys	Between Group	32023.8	16011.91	2	109.306	0.000	Sig. at 0.01 level
	Girls	Within Group	146047.4	146.49	997			
	Co-education	Total	178071.2		999			
Promotion of school community relations	Boys	Between Group	18940.20	9470.10	2	63.184	0.000	Sig. at 0.01 level
	Girls	Within Group	149430.83	149.88	997			
	Co-education	Total	168371.03		999			

From table 5.1.5a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-5 is rejected at 0.01 level. Results show that there exists a significant difference among students of boys' school, girls' school and co-education school with respect to their school environment in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.5b. Scheffe's post hoc test for comparison of mean scores of School

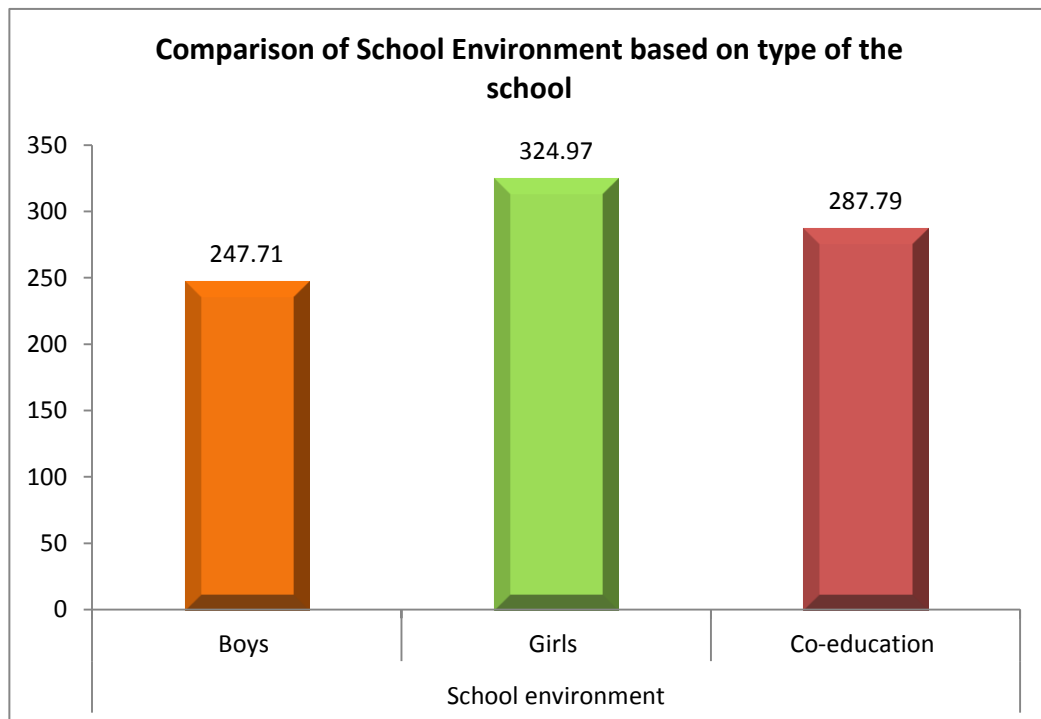
Environment based on type of the school

School Environment and its Dimensions	Type of school	Mean	SD	N	Pair	P (Scheffe)	Remark
School environment	Boys (A)	247.71	58.21	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	324.97	35.42	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	287.79	52.26	565	A Vs C	0.000	Sig. at 0.01 level
Provision of basic facilities	Boys (A)	51.63	13.23	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	67.71	8.45	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	59.79	12.53	565	A Vs C	0.000	Sig. at 0.01 level
Provision of special services	Boys (A)	49.03	12.82	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	63.86	6.93	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	56.84	10.83	565	A Vs C	0.000	Sig. at 0.01 level
Promotion of curricular or Academic activities	Boys (A)	48.09	12.98	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	63.56	7.04	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	56.58	10.71	565	A Vs C	0.000	Sig. at 0.01 level
Promotion of co-curricular activities	Boys (A)	51.79	14.50	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	69.53	7.49	150	B Vs C	0.000	Sig. at 0.01 level
	Co- education (C)	60.03	11.76	565	A Vs C	0.000	Sig. at 0.01 level
Promotion of school community relations	Boys (A)	47.18	13.24	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	60.31	10.65	150	B Vs C	0.000	Sig. at 0.01 level
	Co- education (C)	54.55	12.11	565	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between students of Boys' school and Girls' school, Girls' school and Co-education school and Boys' school and Co-education school with respect to their school environment in total and on all its dimensions. Mean values show that Girls' school students possessed better school environment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.5.

Figure 5.1.5. Comparison of School Environment based on type of the school



Null Hypothesis - 6

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school.

Table 5.1.6a. Comparison of mean scores of School Environment based on type of management

School Environment and its Dimensions	Type of Management	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Government	Between Group	399897.2	199948.6	2	68.248	0.00	Sig. at 0.01 level
	Aided	Within Group	2920956.5	2929.75	997			
	Self-financing	Total	3320853.8		999			
Provision of basic facilities	Government	Between Group	23525.43	11762.72	2	76.903	0.000	Sig. at 0.01 level
	Aided	Within Group	152496.8528	152.96	997			
	Self-financing	Total	176022.284		999			
Provision of special services	Government	Between Group	13704.4	6852.201	2	52.712	0.00	Sig. at 0.01 level
	Aided	Within Group	129602.37	129.99	997			
	Self-financing	Total	143306.78		999			
Promotion of curricular or Academic activities	Government	Between Group	14658.35	7329.18	2	55.689	0.00	Sig. at 0.01 level
	Aided	Within Group	131213.798	131.61	997			
	Self-financing	Total	145872.151		999			
Promotion of co-curricular activities	Government	Between Group	20544.8	10272.41	2	65.015	0.000	Sig. at 0.01 level
	Aided	Within Group	157526.36	158.00	997			
	Self-financing	Total	178071.18		999			
Promotion of school community relations	Government	Between Group	9970.53	4985.26	2	31.378	0.00	Sig. at 0.01 level
	Aided	Within Group	158400.505	158.88	997			
	Self-financing	Total	168371.031		999			

From table 5.1.6a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-6 is rejected at 0.01 level. Results show that there

exists a significant difference among students of Government school, aided school and self-financing schools with respect to their school environment in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.6b. Scheffe's post hoc test for comparison of mean scores of School Environment based on type of management

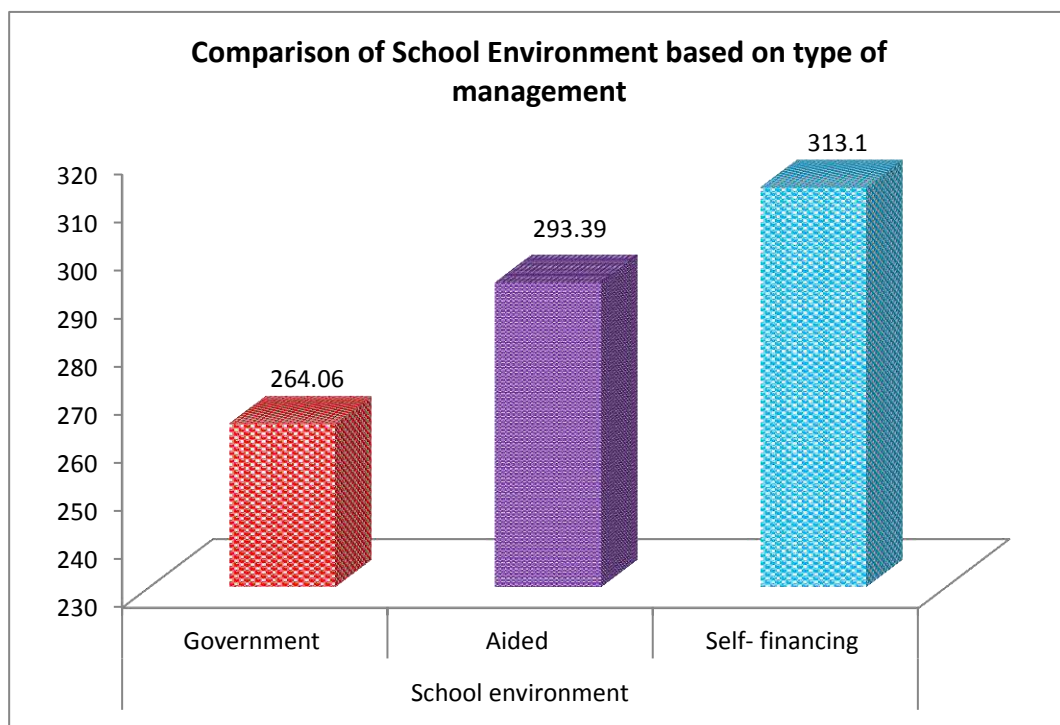
School Environment and its Dimensions	Type of Management	Mean	SD	N	Pair	P (Scheffe)	Remark
School environment	Government (A)	264.06	57.55	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	293.39	54.75	272	B Vs C	0.000	Sig. at 0.01 level
	Self- financing (C)	313.10	42.9	202	A Vs C	0.000	Sig. at 0.01 level
Provision of basic facilities	Government (A)	54.16	13.27	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	62.31	12.25	272	B Vs C	0.025	Sig. at 0.05 level
	Self- financing (C)	65.43	9.82	202	A Vs C	0.000	Sig. at 0.01 level
Provision of special services	Government (A)	52.45	12.52	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	57.38	11.09	272	B Vs C	0.000	Sig. at 0.01 level
	Self- financing (C)	61.74	8.33	202	A Vs C	0.000	Sig. at 0.01 level
Promotion of curricular or Academic activities	Government (A)	51.79	12.25	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	57.35	11.61	272	B Vs C	0.001	Sig. at 0.01 level
	Self- financing (C)	61.21	8.88	202	A Vs C	0.000	Sig. at 0.01 level
Promotion of co-curricular activities	Government (A)	55.22	13.55	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	60.97	12.5	272	B Vs C	0.000	Sig. at 0.01 level
	Self- financing (C)	66.70	9.67	202	A Vs C	0.000	Sig. at 0.01 level
Promotion of school community relations	Government (A)	50.44	13.08	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	55.38	12.27	272	B Vs C	0.081	NS
	Self- financing (C)	58.01	11.77	202	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between Government school and aided school students, aided school and self-financing school students and Government school and self-financing school students with respect to their school environment in total and on its dimensions namely provision of basic facilities, provision of special services, promotion of curricular or

academic activities and promotion of co-curricular activities. But no significant difference is noted between aided school and self-financing school students on the dimension namely promotion of school community relations. Mean values show that self-financing school students possessed better school environment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.6

Figure 5.1.6. Comparison of School Environment based on type of management



Null Hypothesis - 7

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of nuclear family and joint family.

Table 5.1.7. Comparison of mean scores of School Environment based on type of family

School Environment and its Dimensions	Type of Family	Mean	SD	N	t	p	Remark
School environment	Nuclear	282.38	57.31	863	0.577	0.564	NS
	Joint	279.22	59.94	137			
Provision of basic facilities	Nuclear	58.54	13.40	863	0.699	0.48	NS
	Joint	59.35	12.46	137			
Provision of special services	Nuclear	55.79	11.92	863	0.814	0.416	NS
	Joint	54.87	12.35	137			
Promotion of curricular or Academic activities	Nuclear	55.25	12.05	863	0.274	0.78	NS
	Joint	54.94	12.36	137			
Promotion of co-curricular activities	Nuclear	59.28	13.33	863	1.048	0.295	NS
	Joint	57.98	13.51	137			
Promotion of school community relations	Nuclear	53.51	12.79	863	1.114	0.27	NS
	Joint	52.08	14.14	137			

From table 5.1.7, it is found that the calculated 't' values are not significant. Hence the null hypothesis-7 is accepted. Nuclear family and joint family students do not differ significantly with respect to their school environment in total and on all its dimensions.

Null Hypothesis - 8

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father's occupation.

Table 5.1.8a. Comparison of mean scores of School Environment based on occupation of father

School Environment and its Dimensions	Occupation of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Government	Between Group	58442.0	29221.02	2	8.930	0.00	Sig. at 0.01 level
	Private	Within Group	3262411.7	3272.228	997			
	Daily wagers	Total	3320853.8		999			
Provision of basic facilities	Government	Between Group	2293.44	1146.72	2	6.581	0.001	Sig. at 0.01 level
	Private	Within Group	173728.84	174.25	997			
	Daily wagers	Total	176022.284		999			
Provision of special services	Government	Between Group	2744.8	1372.422	2	9.735	0.00	Sig. at 0.01 level
	Private	Within Group	140561.93	140.9849	997			
	Daily wagers	Total	143306.78		999			
Promotion of curricular or Academic activities	Government	Between Group	2468.48	1234.24	2	8.581	0	Sig. at 0.01 level
	Private	Within Group	143403.67	143.84	997			
	Daily wagers	Total	145872.151		999			
Promotion of co-curricular activities	Government	Between Group	2135.3	1067.653	2	6.050	0.002	Sig. at 0.01 level
	Private	Within Group	175935.88	176.4653	997			
	Daily wagers	Total	178071.18		999			
Promotion of school community relations	Government	Between Group	2220.98	1110.49	2	6.664	0.001	Sig. at 0.01 level
	Private	Within Group	166150.05	166.65	997			
	Daily wagers	Total	168371.031		999			

From table 5.1.8a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-8 is rejected at 0.01 level. Results show that there exists a significant difference among students with father's occupation as Government employee, Private employee and Daily wagers with respect to their school environment

in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.8b. Scheffe's post hoc test for comparison of mean scores of School Environment based on occupation of father

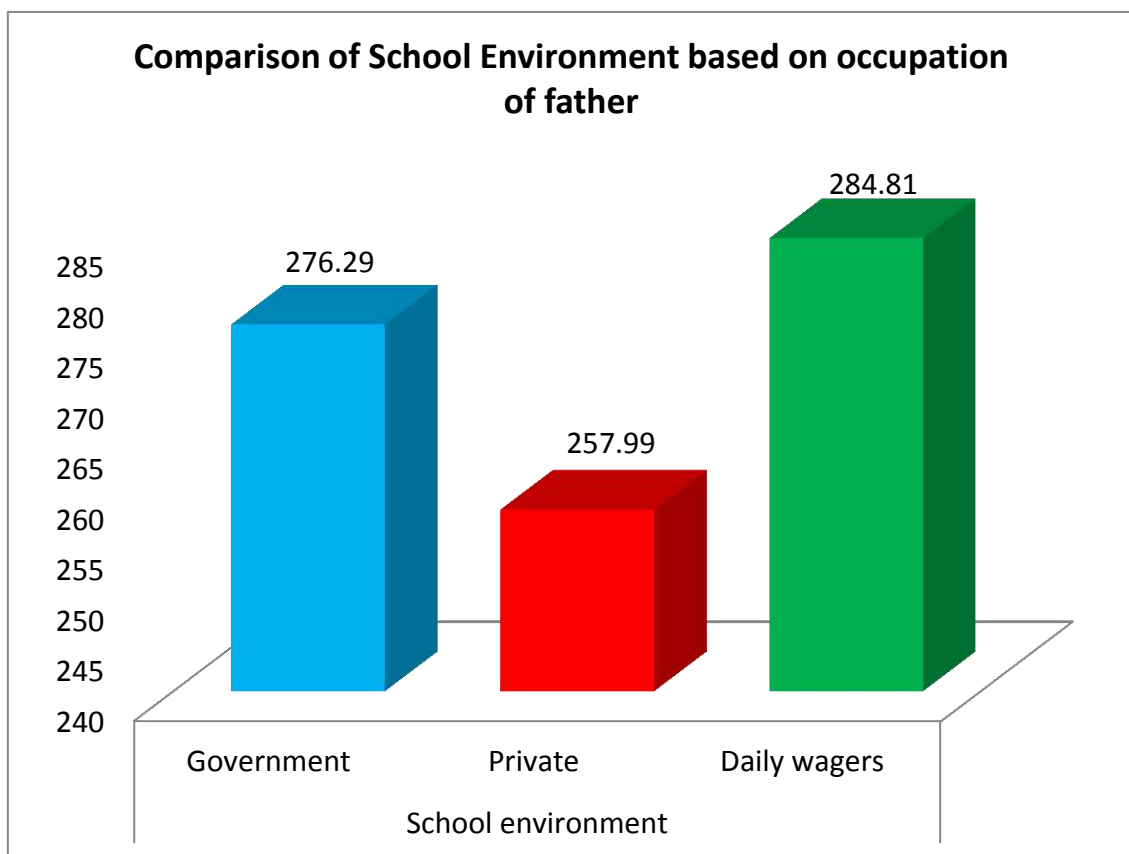
School Environment and its Dimensions	Occupation of father	Mean	SD	N	Pair	P (Scheffe)	Remark
School environment	Government (A)	276.29	55.74	66	A Vs B	0.148	NS
	Private (B)	257.99	66.29	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	284.81	56.32	848	A Vs C	0.507	NS
Provision of basic facilities	Government (A)	57.2	12.59	66	A Vs B	0.334	NS
	Private (B)	54.00	14.76	86	B Vs C	0.002	Sig. at 0.01 level
	Daily wagers (C)	59.24	13.08	848	A Vs C	0.482	NS
Provision of special services	Government (A)	53.97	12.08	66	A Vs B	0.223	NS
	Private (B)	50.6	14.27	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	56.31	11.59	848	A Vs C	0.305	NS
Promotion of curricular or Academic activities	Government (A)	54.52	11.16	66	A Vs B	0.088	NS
	Private (B)	50.19	13.76	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	55.77	11.86	848	A Vs C	0.717	NS
Promotion of co-curricular activities	Government (A)	59.05	12.93	66	A Vs B	0.098	NS
	Private (B)	54.36	15.73	86	B Vs C	0.002	Sig. at 0.01 level
	Daily wagers (C)	59.59	13.04	848	A Vs C	0.951	NS
Promotion of school community relations	Government (A)	51.56	13.08	66	A Vs B	0.437	NS
	Private (B)	48.84	13.84	86	B Vs C	0.003	Sig. at 0.01 level
	Daily wagers (C)	53.90	12.8	848	A Vs C	0.366	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's occupation as Private employee and Daily wagers with respect to their school environment in total and on all its dimensions. But no significant difference is noted between students with father's occupation as

Government employee and Private employee and Government employee and Daily wagers with respect to their school environment in total and on all its dimensions. Mean values show that father's occupation as Daily wagers possessed better school environment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.7

Figure 5.1.7. Comparison of School Environment based on occupation of father



Null Hypothesis - 9

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother's occupation.

Table 5.1.9. Comparison of mean scores of School Environment based on occupation of mother

School Environment and its Dimensions	Occupation of mother	Mean	SD	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Government	275.64	58.82	Between Group	12675.0	6337.501	2	1.910	0.149	NS
	Private	276.31	59.58	Within Group	3308178.7	3318.13	997			
	Daily wagers	284.14	56.89	Total	3320853.8		999			
Provision of basic facilities	Government	57.4	13.04	Between Group	625.41	312.71	2	1.777	0.17	NS
	Private	57.37	13.85	Within Group	175396.8735	175.92	997			
	Daily wagers	59.14	13.1	Total	176022.284		999			
Provision of special services	Government	54.57	12.46	Between Group	687.2	343.5886	2	2.402	0.091	NS
	Private	54.27	12.57	Within Group	142619.6	143.05	997			
	Daily wagers	56.18	11.73	Total	143306.78		999			
Promotion of curricular or Academic activities	Government	53.89	11.91	Between Group	711.91	355.95	2	2.445	0.087	NS
	Private	53.83	12.81	Within Group	145160.242	145.60	997			
	Daily wagers	55.73	11.84	Total	145872.151		999			
Promotion of co-curricular activities	Government	59.19	13.42	Between Group	464.0	231.9972	2	1.302	0.272	NS
	Private	57.84	13.81	Within Group	177607.19	178.14	997			
	Daily wagers	59.49	13.2	Total	178071.18		999			
Promotion of school community relations	Government	50.6	13.76	Between Group	472.55	236.27	2	1.403	0.246	NS
	Private	53	12.84	Within Group	167898.486	168.40	997			
	Daily wagers	53.61	12.96	Total	168371.031		999			

From table 5.1.9, it is found that the calculated F values are not significant. Hence the null hypothesis-9 is accepted. Students with mother's occupation as Government employee, Private employee and Daily wagers do not differ significantly with respect to their school environment in total and on all its dimensions.

Null Hypothesis - 10

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father's level of education.

Table 5.1.10a. Comparison of mean scores of School Environment based on educational level of father

School Environment and its Dimensions	Education of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Illiterate	Between Group	70319.335	23439.78	3	7.182	0.00	Sig. at 0.01 level
	Primary Education	Within Group	3250534.4	3263.589	996			
	Higher Secondary Education	Total	3320853.8		999			
	College Education							
Provision of basic facilities	Illiterate	Between Group	3691.5	1230.50	3	7.112	0.00	Sig. at 0.01 level
	Primary Education	Within Group	172330.7944	173.02	996			
	Higher Secondary Education	Total	176022.284		999			
	College Education							
Provision of special services	Illiterate	Between Group	2744.2133	914.7378	3	6.482	0.00	Sig. at 0.01 level
	Primary Education	Within Group	140562.56	141.1271	996			
	Higher Secondary Education	Total	143306.78		999			
	College Education							
Promotion of curricular or Academic activities	Illiterate	Between Group	3134.1	1044.69	3	7.290	0.00	Sig. at 0.01 level
	Primary Education	Within Group	142738.072	143.31	996			
	Higher Secondary Education	Total	145872.151		999			
	College Education							
Promotion of co-curricular activities	Illiterate	Between Group	3092.2264	1030.742	3	5.867	0.001	Sig. at 0.01 level
	Primary Education	Within Group	174978.96	175.6817	996			
	Higher Secondary Education	Total	178071.18		999			
	College Education							
Promotion of school community relations	Illiterate	Between Group	1929.9	643.31	3	3.850	0.009	Sig. at 0.01 level
	Primary Education	Within Group	166441.095	167.11	996			
	Higher Secondary Education	Total	168371.031		999			
	College Education							

From table 5.1.10a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-10 is rejected at 0.01 level. Results show that there

exists a significant difference among students with father's education as illiterate, primary education, higher secondary education and college education with respect to their school environment in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.10b. Scheffe's post hoc test for comparison of mean scores of School Environment based on educational level of father

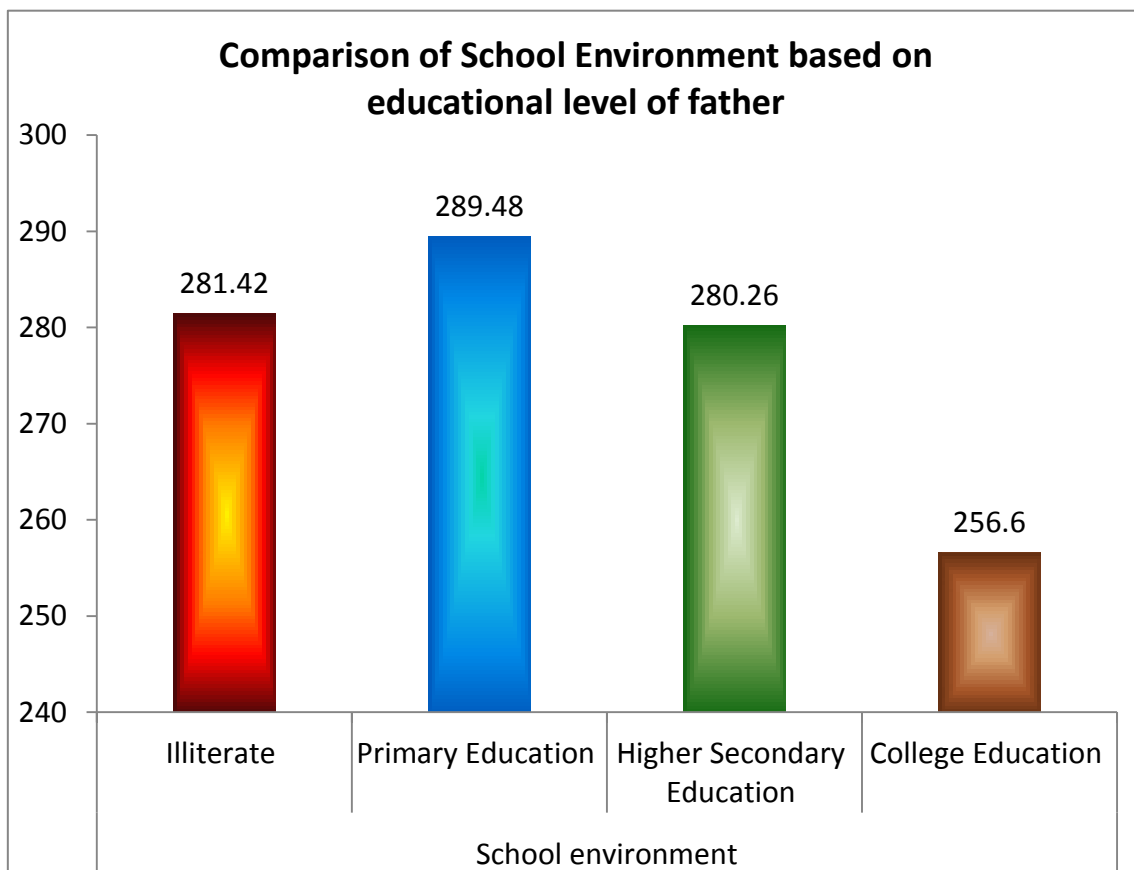
School Environment and its Dimensions	Education of father	Mean	SD	N	Pair	P (Scheffe)	Remark	
School environment	Illiterate (A)	281.42	59.54	79	A Vs B	0.731	NS	
	Primary Education (B)	289.48	55.93	365	B Vs C	0.145	NS	
	Higher Secondary Education (C)	280.26	56.47	481	A Vs C	0.999	NS	
	College Education (D)	A Vs D	256.60	64.2	75	A Vs D	0.065	NS
		B Vs D				B Vs D	0.000	Sig. at 0.01 level
		C Vs D				C Vs D	0.011	Sig. at 0.05 level
Provision of basic facilities	Illiterate (A)	59.62	12.89	79	A Vs B	0.990	NS	
	Primary Education (B)	60.18	13.34	365	B Vs C	0.224	NS	
	Higher Secondary Education (C)	58.27	12.88	481	A Vs C	0.870	NS	
	College Education (D)	A Vs D	52.65	14.23	75	A Vs D	0.013	Sig. at 0.05 level
		B Vs D				B Vs D	0.000	Sig. at 0.01 level
		C Vs D				C Vs D	0.008	Sig. at 0.01 level
Provision of special services	Illiterate (A)	56.42	11.59	79	A Vs B	0.991	NS	
	Primary Education (B)	56.90	11.71	365	B Vs C	0.372	NS	
	Higher Secondary Education (C)	55.44	11.85	481	A Vs C	0.927	NS	
	College Education (D)	A Vs D	50.35	13.11	75	A Vs D	0.019	Sig. at 0.05 level
		B Vs D				B Vs D	0.000	Sig. at 0.01 level
		C Vs D				C Vs D	0.008	Sig. at 0.01 level
Promotion of curricular or Academic activities	Illiterate (A)	54.77	13.1	79	A Vs B	0.537	NS	
	Primary Education (B)	56.96	11.45	365	B Vs C	0.066	NS	
	Higher Secondary Education (C)	54.73	11.88	481	A Vs C	1.000	NS	
	College Education (D)	A Vs D	50.19	13.72	75	A Vs D	0.132	NS
		B Vs D				B Vs D	0.000	Sig. at 0.01 level
		C Vs D				C Vs D	0.026	Sig. at 0.05 level
Promotion of co-curricular activities	Illiterate (A)	58.39	14.29	79	A Vs B	0.543	NS	
	Primary Education (B)	60.80	12.56	365	B Vs C	0.168	NS	
	Higher Secondary Education (C)	58.73	13.17	481	A Vs C	0.998	NS	
	College Education (D)	A Vs D	54.03	15.73	75	A Vs D	0.245	NS
		B Vs D				B Vs D	0.001	Sig. at 0.01 level
		C Vs D				C Vs D	0.043	Sig. at 0.05 level
Promotion of school community relations	Illiterate (A)	52.22	14.51	79	A Vs B	0.514	NS	
	Primary Education (B)	54.65	12.42	365	B Vs C	0.389	NS	
	Higher Secondary Education (C)	53.09	12.79	481	A Vs C	0.959	NS	
	College Education (D)	A Vs D	49.39	14.39	75	A Vs D	0.606	NS
		B Vs D				B Vs D	0.017	Sig. at 0.05 level
		C Vs D				C Vs D	0.151	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's education as primary education and college education with respect to their school environment in total and on all its dimensions. Also significant difference is noted between students with father's education as higher secondary education and college education with respect to their school environment in total and on its dimensions namely provision of basic facilities, provision of special services, promotion of curricular or academic activities and promotion of co-curricular activities.

The other pairs namely illiterate vs primary education, primary education vs higher secondary education and illiterate vs higher secondary education do not differ significantly with respect to their school environment in total and on all its dimensions. Also the pairs namely illiterate vs college education do not differ significantly with respect to their school environment in total and on its dimensions namely promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations. Also the pairs namely higher secondary education vs college education do not differ significantly with respect to the dimension namely promotion of school community relations. Mean values show that students with father's education as primary education possessed better school environment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.8.

Figure 5.1.8. Comparison of School Environment based on educational level of father



Null Hypothesis - 11

There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother's level of education.

Table 5.1.11a. Comparison of mean scores of School Environment based on educational level of mother

School Environment and its Dimensions	Education of mother	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
School environment	Illiterate	Between Group	23348.684	7782.895	3	2.351	0.071	NS
	Primary Education	Within Group	3297505.1	3310.748	996			
	Higher Secondary Education	Total	3320853.8		999			
	College Education							
Provision of basic facilities	Illiterate	Between Group	427.0019541	142.334	3	0.807	0.490	NS
	Primary Education	Within Group	175595.282	176.3	996			
	Higher Secondary Education	Total	176022.284		999			
	College Education							
Provision of special services	Illiterate	Between Group	902.1313	300.7104	3	2.103	0.098	NS
	Primary Education	Within Group	142404.64	142.9765	996			
	Higher Secondary Education	Total	143306.78		999			
	College Education							
Promotion of curricular or Academic activities	Illiterate	Between Group	1162.0035	387.335	3	2.666	0.047	Sig. at 0.05 level
	Primary Education	Within Group	144710.147	145.291	996			
	Higher Secondary Education	Total	145872.151		999			
	College Education							
Promotion of co-curricular activities	Illiterate	Between Group	1192.2713	397.4238	3	2.238	0.082	NS
	Primary Education	Within Group	176878.91	177.5893	996			
	Higher Secondary Education	Total	178071.18		999			
	College Education							
Promotion of school community relations	Illiterate	Between Group	1628.68122	542.894	3	3.243	0.021	Sig. at 0.05 level
	Primary Education	Within Group	166742.35	167.412	996			
	Higher Secondary Education	Total	168371.031		999			
	College Education							

From table 5.1.11a, it is found that the calculated F values are significant for dimensions namely promotion of curricular or academic activities and promotion of school community relations. Hence the null hypothesis-11 is rejected. Results show that there exists a significant difference among students with mother's education as illiterate, primary education, higher secondary education and college education. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.11b. Scheffe's post hoc test for comparison of mean scores of School Environment based on educational level of mother

School Environment and its Dimensions	Education of mother	Mean	SD	N	Pair	P (Scheffe)	Remark
Promotion of curricular or Academic activities	Illiterate (A)	58.34	10.09	76	A Vs B	0.332	NS
	Primary Education (B)	55.50	11.99	325	B Vs C	0.908	NS
	Higher Secondary Education (C)	54.87	12.17	521	A Vs C	0.140	NS
	College Education (D)	53.15	13.2	78	A Vs D	0.068	NS
					B Vs D	0.496	NS
					C Vs D	0.710	NS
	Promotion of school community relations	Illiterate (A)	57.55	11.23	76	A Vs B	0.028
Primary Education (B)		52.56	13.08	325	B Vs C	0.880	NS
Higher Secondary Education (C)		53.31	12.92	521	A Vs C	0.069	NS
College Education (D)		52.32	13.96	78	A Vs D	0.099	NS
					B Vs D	0.999	NS
					C Vs D	0.941	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with mothers education as illiterate and primary education in the dimension of school environment namely promotion of school community relations. The other five pairs namely primary education vs higher secondary education, illiterate vs higher secondary education, illiterate vs college education,

primary education vs college education and higher secondary education vs college education do not differ significantly with respect to their school environment in total and on its dimensions namely promotion of curricular or academic activities and promotion of school community relations. Also the pair namely illiterate vs primary education do not differ significantly in the dimension namely promotion of curricular or academic activities. Mean values show that students with mother's education as illiterate possessed better school environment.

Null Hypothesis - 12

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of male and female higher secondary school students.

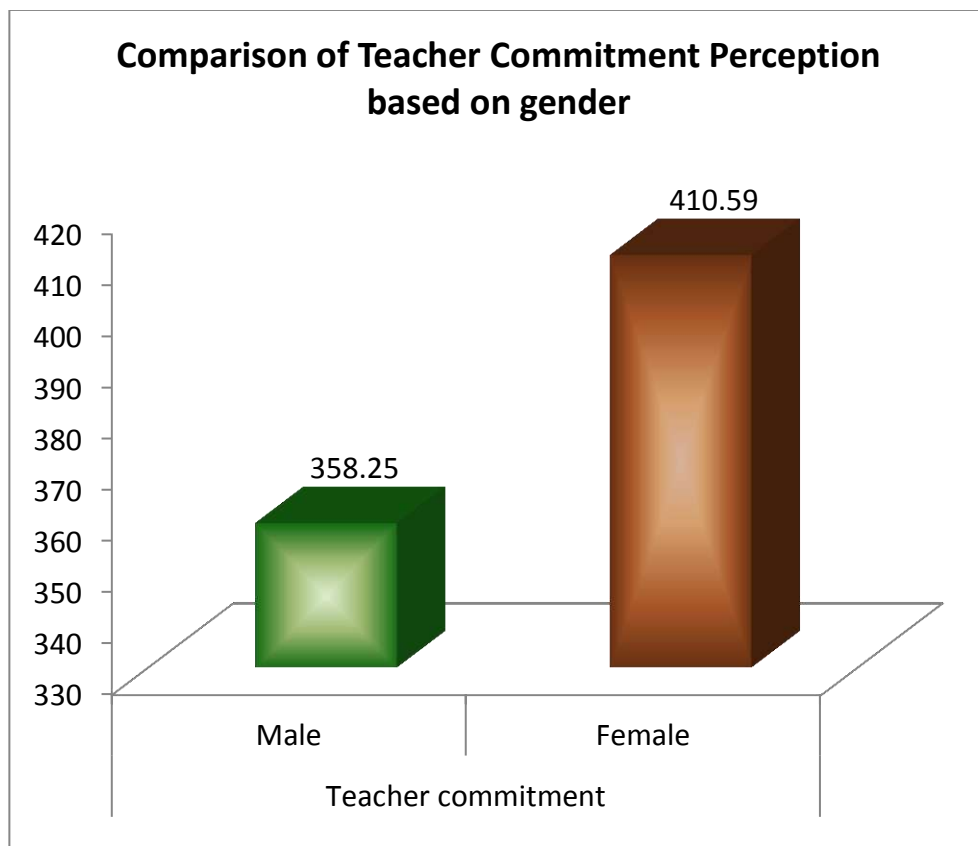
Table 5.1.12. Comparison of mean scores of Teacher Commitment Perception based on gender

Teacher Commitment Perception and its Dimensions	Gender	Mean	SD	N	t	p	Remark
Teacher commitment perception	Male	358.25	71.47	517	13.077	0.000	Sig. at 0.01 level
	Female	410.59	54.46	483			
Commitment to the learner	Male	89.22	18.44	517	12.170	0.000	Sig. at 0.01 level
	Female	101.76	13.97	483			
Commitment to the society	Male	68.19	14.51	517	11.182	0.000	Sig. at 0.01 level
	Female	77.36	11.32	483			
Commitment to the profession	Male	73.50	16.46	517	12.073	0.000	Sig. at 0.01 level
	Female	84.52	12.22	483			
Commitment to achieve excellence	Male	61.89	15.00	517	9.558	0.000	Sig. at 0.01 level
	Female	69.99	11.69	483			
Commitment to the basic human values	Male	65.44	15.33	517	13.262	0.000	Sig. at 0.01 level
	Female	76.95	12.01	483			

From table 5.1.12, it is found that the calculated 't' values are significant at 0.01 level. Hence the null hypothesis-12 is rejected at 0.01 level. Male and female students differ significantly with respect to their teacher commitment perception in total and on all its dimensions. However from the mean values it is clear that female students possessed better teacher commitment perception compared to male students.

The comparison of scores is graphically presented in figure 5.1.9

Figure 5.1.9. Comparison of Teacher Commitment Perception based on gender



Null Hypothesis - 13

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of Hindu, Christian and Muslim religions.

Table 5.1.13a. Comparison of mean scores of Teacher Commitment Perception based on religion

Teacher Commitment Perception and its Dimensions	Religion	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Hindu	Between Group	188455.33	94227.66	2	20.597	0.000	Sig. at 0.01 level
	Christian	Within Group	4561190.00	4574.91	997			
	Muslim	Total	4749645.32		999			
Commitment to the learner	Hindu	Between Group	9351.91	4675.95	2	15.570	0.000	Sig. at 0.01 level
	Christian	Within Group	299415.69	300.32	997			
	Muslim	Total	308767.60		999			
Commitment to the society	Hindu	Between Group	9280.37	4640.19	2	25.403	0.000	Sig. at 0.01 level
	Christian	Within Group	182117.47	182.67	997			
	Muslim	Total	191397.84		999			
Commitment to the profession	Hindu	Between Group	8318.97	4159.49	2	17.750	0.000	Sig. at 0.01 level
	Christian	Within Group	233632.75	234.34	997			
	Muslim	Total	241951.72		999			
Commitment to achieve excellence	Hindu	Between Group	6263.84	3131.92	2	16.256	0.000	Sig. at 0.01 level
	Christian	Within Group	192082.96	192.66	997			
	Muslim	Total	198346.80		999			
Commitment to the basic human values	Hindu	Between Group	5896.95	2948.48	2	13.490	0.000	Sig. at 0.01 level
	Christian	Within Group	217912.05	218.57	997			
	Muslim	Total	223809.00		999			

From table 5.1.13a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-13 is rejected at 0.01 level. Results show that there exists a significant difference among students of Hindu, Christian and Muslim religion with respect to their teacher commitment perception in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffé's post hoc test is used.

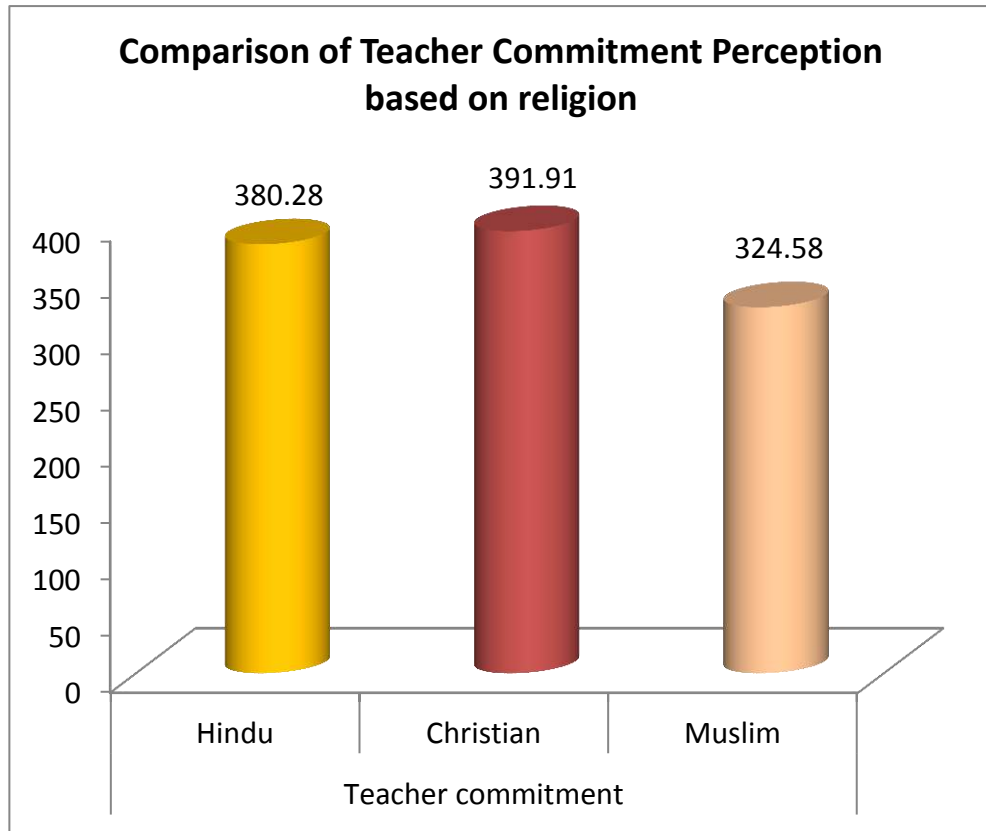
Table 5.1.13b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on religion

Teacher Commitment Perception and its Dimensions	Religion	Mean	SD	N	Pair	p (Scheffe)	Remark
Teacher commitment perception	Hindu (A)	380.28	67.6	472	A Vs B	0.029	Sig. at 0.05 level
	Christian (B)	391.91	65.74	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	324.58	86.94	43	A Vs C	0.000	Sig. at 0.01 level
Commitment to the learner	Hindu (A)	93.95	17.86	472	A Vs B	0.005	Sig. at 0.01 level
	Christian (B)	97.61	16.5	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	83.58	20.4	43	A Vs C	0.001	Sig. at 0.01 level
Commitment to the society	Hindu (A)	72.34	13.46	472	A Vs B	0.129	NS
	Christian (B)	74.11	13.07	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	58.84	18.3	43	A Vs C	0.000	Sig. at 0.01 level
Commitment to the profession	Hindu (A)	77.64	15.49	472	A Vs B	0.003	Sig. at 0.01 level
	Christian (B)	80.98	14.66	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	67.6	19.89	43	A Vs C	0.000	Sig. at 0.01 level
Commitment to achieve excellence	Hindu (A)	65.75	13.21	472	A Vs B	0.459	NS
	Christian (B)	66.87	13.97	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	54.28	19.09	43	A Vs C	0.000	Sig. at 0.01 level
Commitment to the basic human values	Hindu (A)	70.59	14.44	472	A Vs B	0.188	NS
	Christian (B)	72.34	14.76	485	B Vs C	0.000	Sig. at 0.01 level
	Muslim (C)	60.28	18.42	43	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between Christian and Muslim, and Hindu and Muslim students with respect to their teacher commitment perception in total and on all its dimensions. But significant difference is noted between Hindu and Christian students with respect to their teacher commitment perception in total and on its dimensions namely commitment to the learner and commitment to the profession. But no significant difference is noted between Hindu and Christian students in their dimensions namely commitment to the society, commitment to achieve excellence and commitment to the basic human values. Mean values show that Christian students possessed better teacher commitment perception in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.10.

Figure 5.1.10. Comparison of Teacher Commitment Perception based on religion



Null Hypothesis - 14

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities.

Table 5.1.14a. Comparison of mean scores of Teacher Commitment Perception based on community

Teacher Commitment Perception and its Dimensions	Community	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	SC/ST	Between Group	32742.19	10914.06	3	2.305	0.075	NS
	MBC	Within Group	4716903.13	4735.85	996			
	BC	Total	4749645.32		999			
	OC							
Commitment to the learner	SC/ST	Between Group	3714.14	1238.05	3	4.042	0.007	Sig. at 0.01 level
	MBC	Within Group	305053.46	306.28	996			
	BC	Total	308767.60		999			
	OC							
Commitment to the society	SC/ST	Between Group	663.25	221.08	3	1.154	0.326	NS
	MBC	Within Group	190734.59	191.50	996			
	BC	Total	191397.84		999			
	OC							
Commitment to the profession	SC/ST	Between Group	1508.07	502.69	3	2.082	0.101	NS
	MBC	Within Group	240443.65	241.41	996			
	BC	Total	241951.72		999			
	OC							
Commitment to achieve excellence	SC/ST	Between Group	761.14	253.71	3	1.279	0.280	NS
	MBC	Within Group	197585.66	198.38	996			
	BC	Total	198346.80		999			
	OC							
Commitment to the basic human values	SC/ST	Between Group	1643.51	547.84	3	2.456	0.062	NS
	MBC	Within Group	222165.49	223.06	996			
	BC	Total	223809.00		999			
	OC							

From table 5.1.14a, it is found that the calculated F values are significant for the dimension of teacher commitment perception namely commitment to the learner. Hence the null hypothesis-14 is rejected. Results show that there exists a significant

difference among students of SC/ST, MBC, BC and OC community. To identify exactly the pairs of groups which differ significantly, Scheffé's post hoc test is used.

Table 5.1.14b. Scheffé's post hoc test for comparison of mean scores of Teacher Commitment Perception based on community

Teacher Commitment Perception and its Dimensions	Community	Mean	SD	N	Pair	P (Scheffe)	Remark
Commitment to the learner	SC/ST (A)	89.69	16.33	68	A Vs B	0.752	NS
	MBC (B)	93.14	19.08	57	B Vs C	0.665	NS
	BC (C)	96.15	17.31	815	A Vs C	0.036	Sig. at 0.05 level
	OC (D)	91.83	19.68	60	A Vs D	0.924	NS
					B Vs D	0.983	NS
					C Vs D	0.334	NS

The results of Scheffé's post hoc test show that SC/ST and BC students differ significantly in the dimension namely commitment to the learner. The other five pairs namely SC/ST vs MBC, MBC vs BC, SC/ST vs OC, MBC vs OC, and BC vs OC do not differ significantly in the dimension namely commitment to the learner.

Null Hypothesis - 15

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of rural and urban higher secondary school students.

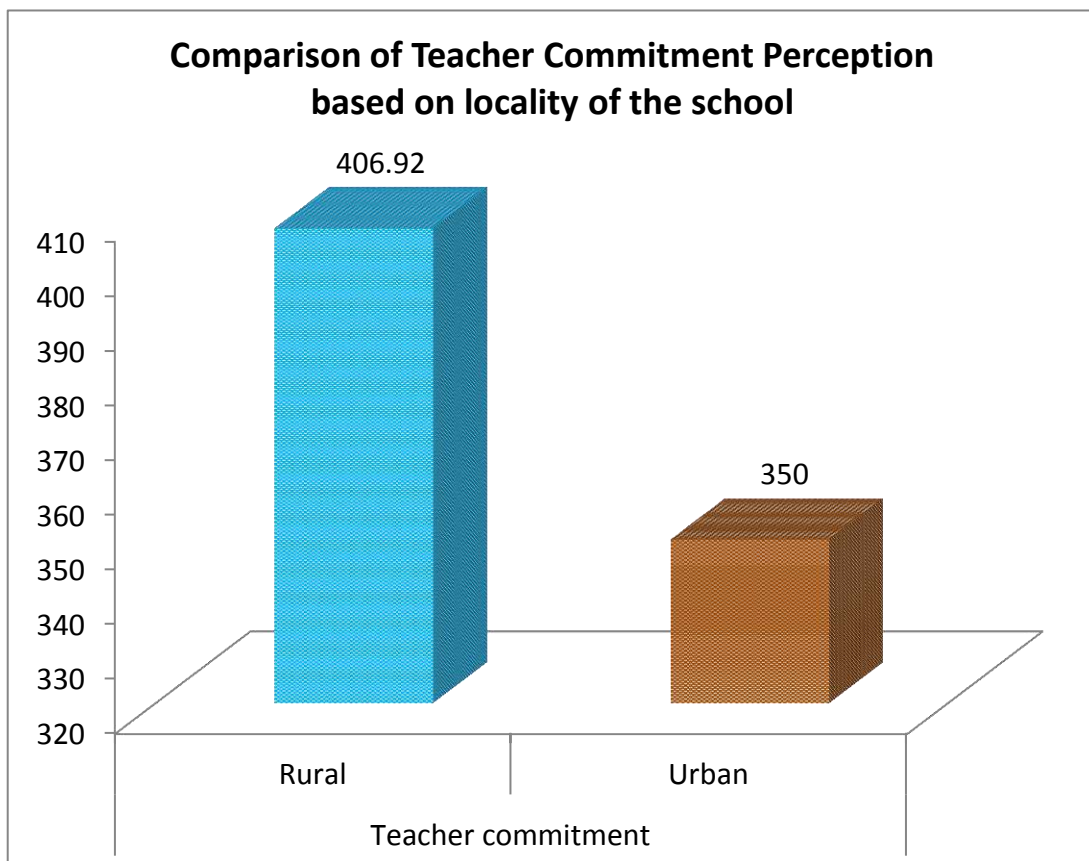
Table 5.1.15. Comparison of mean scores of Teacher Commitment Perception based on locality of the school

Teacher Commitment Perception and its Dimensions	Locality	Mean	SD	N	t	p	Remark
Teacher commitment perception	Rural	406.92	60.91	589	13.852	0.000	Sig. at 0.01 level
	Urban	350.00	65.96	411			
Commitment to the learner	Rural	101.03	15.09	589	13.087	0.000	Sig. at 0.01 level
	Urban	87.04	17.63	411			
Commitment to the society	Rural	76.72	12.51	589	11.841	0.000	Sig. at 0.01 level
	Urban	66.73	13.54	411			
Commitment to the profession	Rural	83.89	13.54	589	13.077	0.000	Sig. at 0.01 level
	Urban	71.56	15.41	411			
Commitment to achieve excellence	Rural	69.41	13.32	589	10.132	0.000	Sig. at 0.01 level
	Urban	60.64	13.57	411			
Commitment to the basic human values	Rural	75.87	13.37	589	13.200	0.000	Sig. at 0.01 level
	Urban	64.02	14.37	411			

From table 5.1.15, it is found that the calculated 't' values are significant at 0.01 level. Hence the null hypothesis-15 is rejected at 0.01 level. Rural and urban students differ significantly with respect to their teacher commitment perception in total and on all its dimensions. However from the mean values it is clear that rural students possessed better teacher commitment perception compared to urban students.

The comparison of scores is graphically presented in figure 5.1.11

Figure 5.1.11. Comparison of Teacher Commitment Perception based on locality of the school



Null Hypothesis - 16

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary students studying in boys' school, girls' school and co-education school.

Table 5.1.16a. Comparison of mean scores of Teacher Commitment Perception based on type of the school

Teacher Commitment Perception and its Dimensions	Type of school	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Boys	Between Group	1119311.06	559655.53	2	153.698	0.000	Sig. at 0.01 level
	Girls	Within Group	3630334.26	3641.26	997			
	Co-education	Total	4749645.32		999			
Commitment to the learner	Boys	Between Group	68217.39	34108.69	2	141.369	0.000	Sig. at 0.01 level
	Girls	Within Group	240550.21	241.27	997			
	Co-education	Total	308767.60		999			
Commitment to the society	Boys	Between Group	32641.0	16320.49	2	102.493	0.000	Sig. at 0.01 level
	Girls	Within Group	158756.9	159.23	997			
	Co-education	Total	191397.8		999			
Commitment to the profession	Boys	Between Group	48501.56	24250.78	2	124.983	0.000	Sig. at 0.01 level
	Girls	Within Group	193450.16	194.03	997			
	Co-education	Total	241951.72		999			
Commitment to achieve excellence	Boys	Between Group	30650.4	15325.20	2	91.112	0.000	Sig. at 0.01 level
	Girls	Within Group	167696.4	168.20	997			
	Co-education	Total	198346.8		999			
Commitment to the basic human values	Boys	Between Group	49196.98	24598.49	2	140.452	0.000	Sig. at 0.01 level
	Girls	Within Group	174612.02	175.14	997			
	Co-education	Total	223809.00		999			

From table 5.1.16a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-16 is rejected at 0.01 level. Results show that there exists a significant difference among students of boys' school, girls' school and co-education schools with respect to their teacher commitment perception in total and

on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

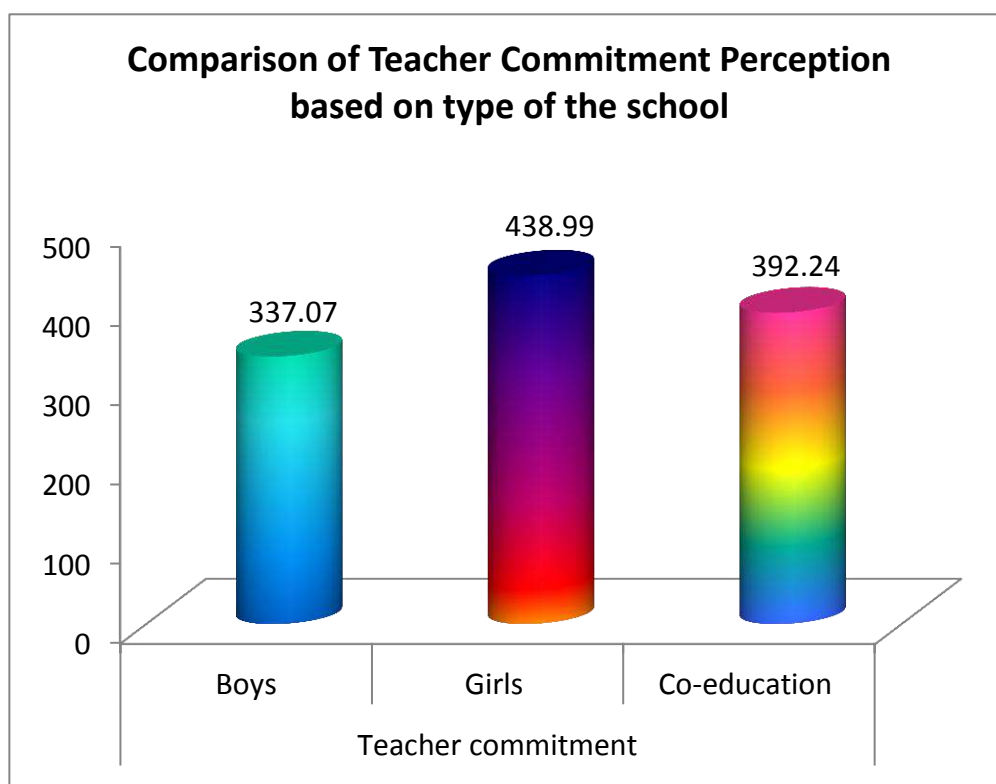
Table 5.1.16b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on type of the school

Teacher Commitment Perception and its Dimensions	Type of school	Mean	SD	N	Pair	P (Scheffe)	Remark
Teacher commitment perception	Boys (A)	337.07	64.27	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	438.99	44.7	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	392.24	61.88	565	A Vs C	0.000	Sig. at 0.01 level
Commitment to the learner	Boys (A)	83.54	17.45	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	108.33	11.2	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	97.73	15.49	565	A Vs C	0.000	Sig. at 0.01 level
Commitment to the society	Boys (A)	64.62	13.19	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	81.93	9.58	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	74.18	13.02	565	A Vs C	0.000	Sig. at 0.01 level
Commitment to the profession	Boys (A)	69.04	15.46	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	90.10	9.85	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	80.77	14.04	565	A Vs C	0.000	Sig. at 0.01 level
Commitment to achieve excellence	Boys (A)	58.49	13.66	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	75.73	9.81	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	66.86	13.34	565	A Vs C	0.000	Sig. at 0.01 level
Commitment to the basic human values	Boys (A)	61.38	14.5	285	A Vs B	0.000	Sig. at 0.01 level
	Girls (B)	82.89	10.67	150	B Vs C	0.000	Sig. at 0.01 level
	Co-education (C)	72.69	13.18	565	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between students of Boys' school and Girls' school, Girls' school and Co-education school and Boys' school and Co-education schools with respect to their teacher commitment perception in total and on all its dimensions. Mean values show that Girls' school students possessed better teacher commitment perception in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.12

Figure 5.1.12. Comparison of Teacher Commitment Perception based on type of the school



Null Hypothesis - 17

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school.

Table 5.1.17a. Comparison of mean scores of Teacher Commitment Perception based on type of management

Teacher Commitment Perception and its Dimensions	Type of Management	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Government	Between Group	463546.83	231773.42	2			
	Aided	Within Group	4286098.493	4299.00	997	53.913	0	Sig. at 0.01 level
	Self-financing	Total	4749645.324		999			
Commitment to the learner	Government	Between Group	24970.91	12485.46	2			
	Aided	Within Group	283796.69	284.65	997	43.862	0	Sig. at 0.01 level
	Self-financing	Total	308767.6		999			
Commitment to the society	Government	Between Group	11714.4	5857.214	2			
	Aided	Within Group	179683.41	180.22	997	32.500	0.00	Sig. at 0.01 level
	Self-financing	Total	191397.84		999			
Commitment to the profession	Government	Between Group	19150.17	9575.09	2			
	Aided	Within Group	222801.55	223.47	997	42.847	0.00	Sig. at 0.01 level
	Self-financing	Total	241951.72		999			
Commitment to achieve excellence	Government	Between Group	17374.9	8687.429	2			
	Aided	Within Group	180971.94	181.52	997	47.860	0.00	Sig. at 0.01 level
	Self-financing	Total	198346.8		999			
Commitment to the basic human values	Government	Between Group	21120.15	10560.07	2			
	Aided	Within Group	202688.853	203.30	997	51.944	0	Sig. at 0.01 level
	Self-financing	Total	223808.999		999			

From table 5.1.17a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-17 is rejected at 0.01 level. Results show that there exists a significant difference among students of Government school, aided school and self-finance schools with respect to their teacher commitment perception in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

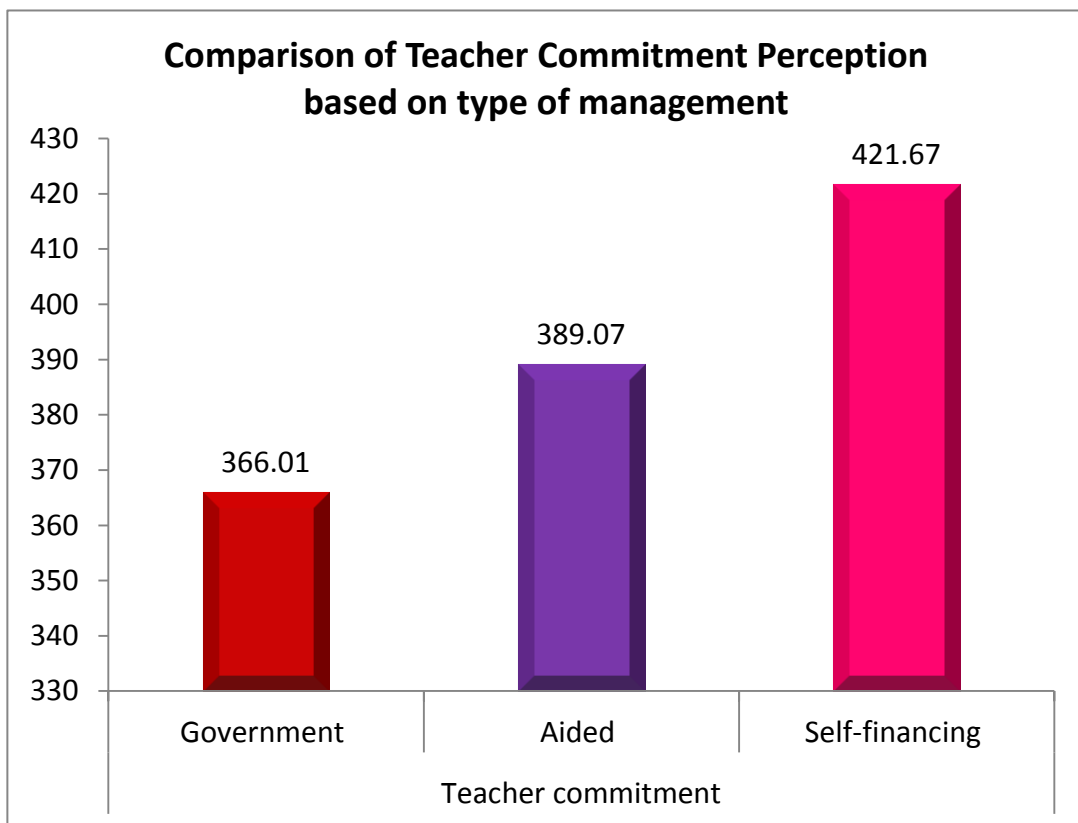
Table 5.1.17b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on type of management

Teacher Commitment Perception and its Dimensions	Type of Management	Mean	SD	N	Pair	P (Scheffe)	Remark
Teacher commitment perception	Government (A)	366.01	67.94	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	389.07	67.03	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing (C)	421.67	56.68	202	A Vs C	0.000	Sig. at 0.01 level
Commitment to the learner	Government (A)	91.14	18.24	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	96.81	15.77	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing(C)	104.00	14.41	202	A Vs C	0.000	Sig. at 0.01 level
Commitment to the society	Government (A)	69.86	13.7	526	A Vs B	0.002	Sig. at 0.01 level
	Aided (B)	73.41	13.82	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing (C)	78.73	12.08	202	A Vs C	0.000	Sig. at 0.01 level
Commitment to the profession	Government (A)	75.32	15.53	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	79.77	15.39	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing (C)	86.68	12.62	202	A Vs C	0.000	Sig. at 0.01 level
Commitment to achieve excellence	Government (A)	62.25	13.9	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	67.43	13.55	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing (C)	72.85	12.19	202	A Vs C	0.000	Sig. at 0.01 level
Commitment to the basic human values	Government (A)	67.43	14.55	526	A Vs B	0.000	Sig. at 0.01 level
	Aided (B)	71.66	14.66	272	B Vs C	0.000	Sig. at 0.01 level
	Self-financing (C)	79.41	12.87	202	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between Government school and aided school, aided school and self-financing school, and Government school and self-financing school students with respect to their teacher commitment perception in total and on all its dimensions. Mean values show that self-financing school students possessed better teacher commitment perception in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.13

Figure 5.1.13. Comparison of Teacher Commitment Perception based on type of management



Null Hypothesis - 18

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of nuclear family and joint family.

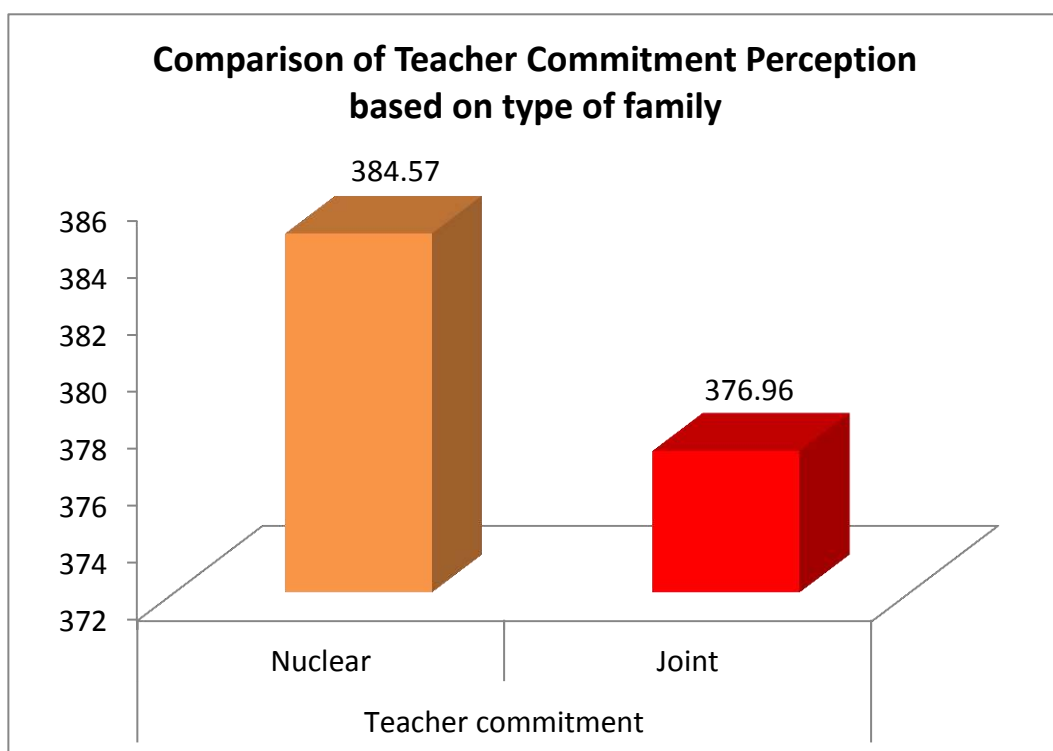
Table 5.1.18. Comparison of mean scores of Teacher Commitment Perception based on type of family

Teacher Commitment Perception and its Dimensions	Type of Family	Mean	SD	N	t	p	Remark
Teacher commitment perception	Nuclear	384.57	68.27	863	1.143	0.25	NS
	Joint	376.96	73.02	137			
Commitment to the learner	Nuclear	95.75	17.29	863	1.984	0.05	Sig. at 0.05 level
	Joint	92.31	19.09	137			
Commitment to the society	Nuclear	72.72	13.8	863	0.548	0.584	NS
	Joint	72.01	14.14	137			
Commitment to the profession	Nuclear	79.09	15.26	863	1.217	0.22	NS
	Joint	77.18	17.34	137			
Commitment to achieve excellence	Nuclear	65.86	14.1	863	0.317	0.751	NS
	Joint	65.45	14.06	137			
Commitment to the basic human values	Nuclear	71.16	14.89	863	0.819	0.41	NS
	Joint	70.00	15.49	137			

From table 5.1.18, it is found that the calculated 't' value is significant for the dimension of teacher commitment perception namely commitment to the learner. Hence the null hypothesis-18 is rejected. Nuclear family and joint family students do not differ significantly with respect to their teacher commitment perception in total and on its dimensions namely commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values. However from the mean values it is clear that nuclear family students possessed better teacher commitment perception compared to joint family students.

The comparison of scores is graphically presented in figure 5.1.14

Figure 5.1.14. Comparison of Teacher Commitment Perception based on type of family



Null Hypothesis - 19

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father's occupation.

Table 5.1.19a. Comparison of mean scores of Teacher Commitment Perception based on occupation of father

Teacher Commitment Perception and its Dimensions	Occupation of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Government	Between Group	98252.32	49126.16	2	10.530	0.00	Sig. at 0.01 level
	Private	Within Group	4651393.00	4665.39	997			
	Daily wagers	Total	4749645.324		999			
Commitment to the learner	Government	Between Group	5278.06	2639.03	2	8.670	0	Sig. at 0.01 level
	Private	Within Group	303489.54	304.40	997			
	Daily wagers	Total	308767.6		999			
Commitment to the society	Government	Between Group	3247.9	1623.973	2	8.605	0	Sig. at 0.01 level
	Private	Within Group	188149.89	188.716	997			
	Daily wagers	Total	191397.84		999			
Commitment to the profession	Government	Between Group	4385.11	2192.55	2	9.202	0.00	Sig. at 0.01 level
	Private	Within Group	237566.62	238.28	997			
	Daily wagers	Total	241951.72		999			
Commitment to achieve excellence	Government	Between Group	4825.0	2412.475	2	12.429	0.00	Sig. at 0.01 level
	Private	Within Group	193521.85	194.1042	997			
	Daily wagers	Total	198346.8		999			
Commitment to the basic human values	Government	Between Group	2544.30	1272.15	2	5.732	0.003	Sig. at 0.01 level
	Private	Within Group	221264.70	221.93	997			
	Daily wagers	Total	223808.999		999			

From table 5.1.19a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-19 is rejected at 0.01 level. Results show that there

exists a significant difference among students with father's occupation as Government employee, Private employee and Daily wager with respect to their teacher commitment perception in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.19b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on occupation of father

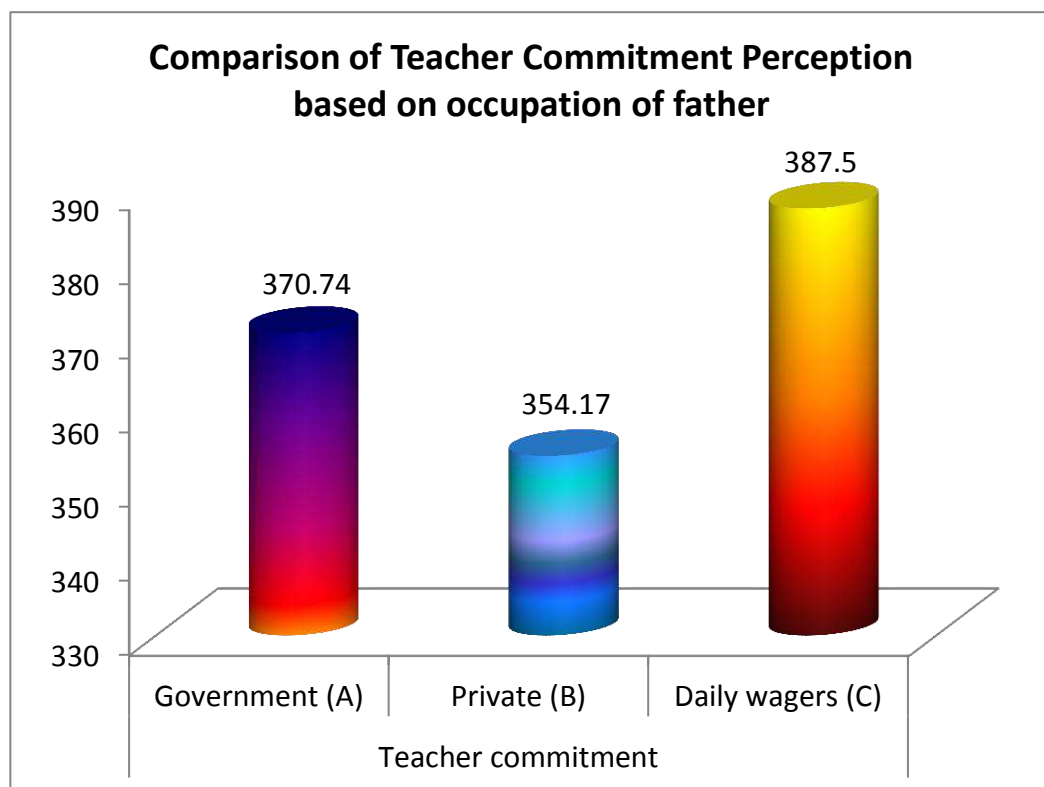
Teacher Commitment Perception and its Dimensions	Occupation of father	Mean	SD	N	Pair	P (Scheffe)	Remark
Teacher commitment perception	Government (A)	370.74	64.64	66	A Vs B	0.334	NS
	Private (B)	354.17	74.02	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	387.50	67.98	848	A Vs C	0.159	NS
Commitment to the learner	Government (A)	92.29	18.56	66	A Vs B	0.413	NS
	Private (B)	88.49	18.77	86	B Vs C	0.001	Sig. at 0.01 level
	Daily wagers (C)	96.20	17.22	848	A Vs C	0.215	NS
Commitment to the society	Government (A)	68.97	12.98	66	A Vs B	0.900	NS
	Private (B)	67.94	14.65	86	B Vs C	0.002	Sig. at 0.01 level
	Daily wagers (C)	73.38	13.7	848	A Vs C	0.043	Sig. at 0.05 level
Commitment to the profession	Government (A)	76.47	14.44	66	A Vs B	0.291	NS
	Private (B)	72.50	17.91	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	79.65	15.24	848	A Vs C	0.273	NS
Commitment to achieve excellence	Government (A)	64.23	11.98	66	A Vs B	0.066	NS
	Private (B)	58.91	15.92	86	B Vs C	0.000	Sig. at 0.01 level
	Daily wagers (C)	66.62	13.86	848	A Vs C	0.406	NS
Commitment to the basic human values	Government (A)	68.79	13.74	66	A Vs B	0.604	NS
	Private (B)	66.34	15.78	86	B Vs C	0.007	Sig. at 0.01 level
	Daily wagers (C)	71.64	14.89	848	A Vs C	0.327	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's occupation as Private employee and Daily wagers with respect to their teacher commitment perception in total and on all its dimensions. But there exists a significant difference between students with father's occupation as Government employee and Daily wagers in their teacher commitment

perception and on its dimension namely commitment to the society. But no significant difference is noted between students with father's occupation as Government employee and Private employee with respect to their teacher commitment perception in total and on all its dimensions. Also no significant difference is noted between students with father's occupation as Government employee and Daily wagers with respect to their teacher commitment perception in total and on its dimensions namely commitment to the learner, commitment to the profession, commitment to achieve excellence and commitment to the basic human values. Mean values show that students with father's occupation as Daily wagers possessed better teacher commitment perception in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.15

Figure 5.1.15. Comparison of Teacher Commitment Perception based on occupation of father



Null Hypothesis - 20

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother's occupation.

Table 5.1.20a. Comparison of mean scores of Teacher Commitment Perception based on occupation of mother

Teacher Commitment Perception and its Dimensions	Occupation of mother	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Government	Between Group	41239.85	20619.92	2	4.366	0.013	Sig. at 0.05 level
	Private	Within Group	4708405.479	4722.57	997			
	Daily wagers	Total	4749645.324		999			
Commitment to the learner	Government	Between Group	3414.66	1707.33	2	5.575	0.004	Sig. at 0.01 level
	Private	Within Group	305352.94	306.27	997			
	Daily wagers	Total	308767.6		999			
Commitment to the society	Government	Between Group	988.8	494.399	2	2.589	0.076	NS
	Private	Within Group	190409.04	190.98	997			
	Daily wagers	Total	191397.84		999			
Commitment to the profession	Government	Between Group	1951.66	975.83	2	4.054	0.018	Sig. at 0.05 level
	Private	Within Group	240000.06	240.72	997			
	Daily wagers	Total	241951.72		999			
Commitment to achieve excellence	Government	Between Group	1735.7	867.8303	2	4.401	0.013	Sig. at 0.05 level
	Private	Within Group	196611.14	197.20	997			
	Daily wagers	Total	198346.8		999			
Commitment to the basic human values	Government	Between Group	872.49	436.25	2	1.951	0.143	NS
	Private	Within Group	222936.507	223.61	997			
	Daily wagers	Total	223808.999		999			

From table 5.1.20, it is found that the calculated F values are significant with respect to their teacher commitment perception in total and on its dimensions namely

commitment to the learner, commitment to the profession and commitment to achieve excellence. Hence the null hypothesis-20 is rejected. Students with mother's occupation as Government employee, Private employee and Daily wagers differ significantly with respect to their teacher commitment perception in total and on its dimensions namely commitment to the learner, commitment to the profession and commitment to achieve excellence. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.20b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on occupation of mother

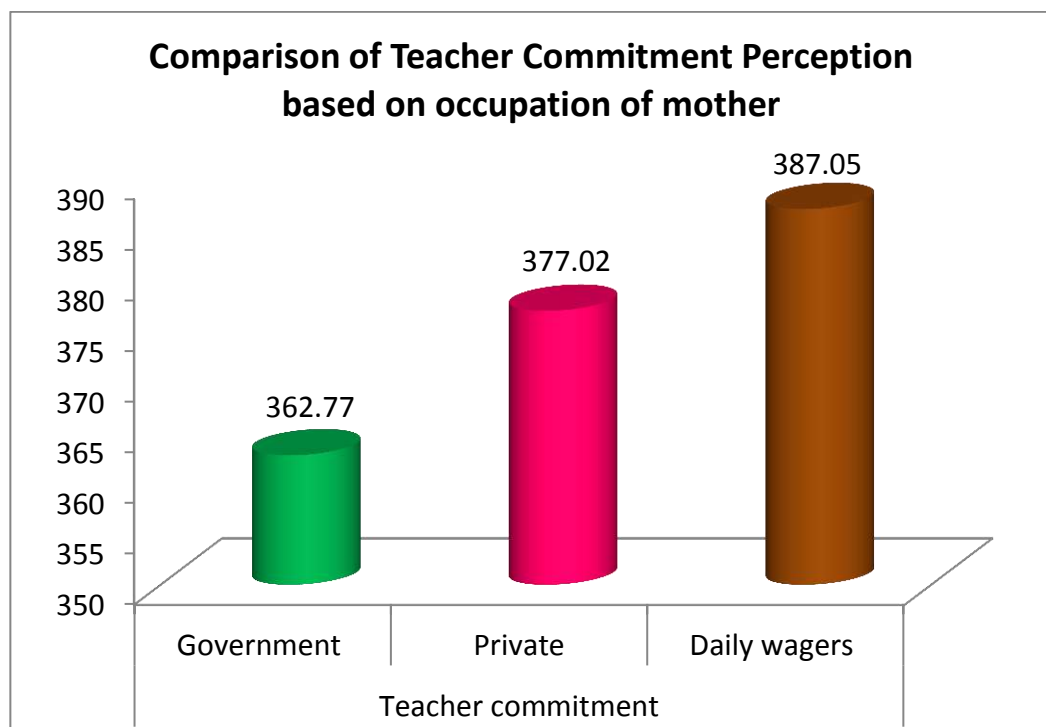
Teacher Commitment Perception and its Dimensions	Occupation of mother	Mean	SD	N	Pair	p (Scheffe)	Remark
Teacher commitment perception	Government (A)	362.77	65.65	53	A Vs B	0.399	NS
	Private (B)	377.02	72.92	223	B Vs C	0.163	NS
	Daily wagers (C)	387.05	67.6	724	A Vs C	0.046	Sig. at 0.05 level
Commitment to the learner	Government (A)	90.15	19.44	53	A Vs B	0.569	NS
	Private (B)	92.99	18.22	223	B Vs C	0.043	Sig. at 0.05 level
	Daily wagers (C)	96.36	17.12	724	A Vs C	0.045	Sig. at 0.05 level
Commitment to the profession	Government (A)	74	16.9	53	A Vs B	0.314	NS
	Private (B)	77.61	15.82	223	B Vs C	0.261	NS
	Daily wagers (C)	79.56	15.32	724	A Vs C	0.042	Sig. at 0.05 level
Commitment to achieve excellence	Government (A)	61.25	13.51	53	A Vs B	0.285	NS
	Private (B)	64.65	15.42	223	B Vs C	0.232	NS
	Daily wagers (C)	66.49	13.63	724	A Vs C	0.033	Sig. at 0.05 level

The results of Scheffe's post hoc test show that there exists a significant difference between students with mother's occupation as Government employee and Daily wagers with respect to their teacher commitment perception in total and on its dimensions namely commitment to the learner, commitment to the profession and commitment to achieve excellence. Also there exists a significant difference between students with mother's occupation as Private employee and Daily wagers in their

teacher commitment perception and on its dimension namely commitment to the learner. But no significant difference is noted between students with mother's occupation as Government employee and Private employee with respect to their teacher commitment perception in total and on its dimensions namely commitment to the learner, commitment to the profession and commitment to achieve excellence. Also no significant difference is noted between students with mother's occupation as Private employee and Daily wagers with respect to their teacher commitment perception in total and on its dimensions namely commitment to the profession, commitment to achieve excellence and commitment to the basic human values. Mean values show that mother's occupation as daily wagers possessed better teacher commitment in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.16

Figure 5.1.16. Comparison of Teacher Commitment Perception based on occupation of mother



Null Hypothesis - 21

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father's level of education.

Table 5.1.21a. Comparison of mean scores of Teacher Commitment Perception based on educational level of father

Teacher Commitment Perception and its Dimensions	Education of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Illiterate	Between Group	96315.7	32105.25	3	6.872	0.00	Sig. at 0.01 level
	Primary Education	Within Group	4653329.585	4672.02	996			
	Higher Secondary Education	Total	4749645.324		999			
	College Education							
Commitment to the learner	Illiterate	Between Group	6354.3	2118.11	3	6.976	0.00	Sig. at 0.01 level
	Primary Education	Within Group	302413.28	303.63	996			
	Higher Secondary Education	Total	308767.6		999			
	College Education							
Commitment to the society	Illiterate	Between Group	2754.8428	918.2809	3	4.848	0.002	Sig. at 0.01 level
	Primary Education	Within Group	188643	189.4006	996			
	Higher Secondary Education	Total	191397.84		999			
	College Education							
Commitment to the profession	Illiterate	Between Group	3405.4	1135.14	3	4.740	0.003	Sig. at 0.01 level
	Primary Education	Within Group	238546.29	239.50	996			
	Higher Secondary Education	Total	241951.72		999			
	College Education							
Commitment to achieve excellence	Illiterate	Between Group	3632.5332	1210.844	3	6.194	0.00	Sig. at 0.01 level
	Primary Education	Within Group	194714.26	195.4962	996			
	Higher Secondary Education	Total	198346.8		999			
	College Education							
Commitment to the basic human values	Illiterate	Between Group	3853.8	1284.61	3	5.817	0.001	Sig. at 0.01 level
	Primary Education	Within Group	219955.176	220.84	996			
	Higher Secondary Education	Total	223808.999		999			
	College Education							

From table 5.1.21a, it is found that the calculated F values are significant at 0.01 level. Hence the null hypothesis-21 is rejected at 0.01 level. Results show that there exists a significant difference among students with father's education as illiterate, primary education, higher secondary education and college education with respect to their teacher commitment perception in total and on all its dimensions. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used for further analysis.

Table 5.1.21b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on educational level of father

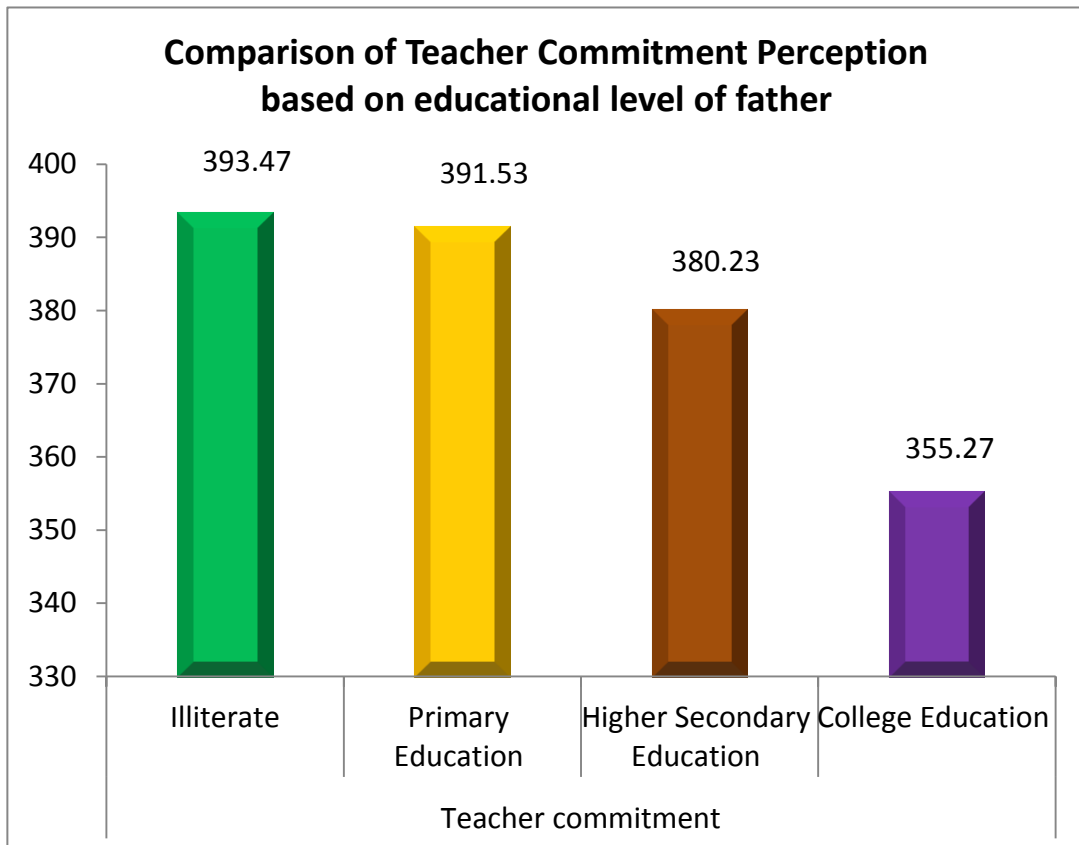
Teacher Commitment Perception and its Dimensions	Education of father	Mean	SD	N	Pair	P (Scheffe)	Remark
Teacher commitment perception	Illiterate (A)	393.47	62.33	79	A Vs B	0.997	NS
	Primary Education (B)	391.53	68.83	365	B Vs C	0.129	NS
	Higher Secondary Education (C)	380.23	66.65	481	A Vs C	0.467	NS
	College Education (D)	355.27	81.67	75	A Vs D	0.008	Sig. at 0.01 level
					B Vs D	0.001	Sig. at 0.01 level
					C Vs D	0.035	Sig. at 0.05 level
Commitment to the learner	Illiterate (A)	98.23	15.33	79	A Vs B	0.970	NS
	Primary Education (B)	97.16	17.18	365	B Vs C	0.191	NS
	Higher Secondary Education (C)	94.52	17.22	481	A Vs C	0.381	NS
	College Education (D)	87.89	21.51	75	A Vs D	0.004	Sig. at 0.01 level
					B Vs D	0.001	Sig. at 0.01 level
					C Vs D	0.025	Sig. at 0.05 level
Commitment to the society	Illiterate (A)	74.15	13.38	79	A Vs B	0.998	NS
	Primary Education (B)	73.82	14.23	365	B Vs C	0.446	NS
	Higher Secondary Education (C)	72.26	13.1	481	A Vs C	0.734	NS
	College Education (D)	67.48	15.88	75	A Vs D	0.029	Sig. at 0.05 level
					B Vs D	0.004	Sig. at 0.01 level
					C Vs D	0.050	Sig. at 0.05 level
Commitment to the profession	Illiterate (A)	79.68	14.7	79	A Vs B	0.959	NS
	Primary Education (B)	80.74	15.26	365	B Vs C	0.085	NS
	Higher Secondary (C)	77.97	15.32	481	A Vs C	0.843	NS
	College Education (D)	74.12	18.12	75	A Vs D	0.175	NS
					B Vs D	0.010	Sig. at 0.01 level
					C Vs D	0.260	NS
Commitment to achieve excellence	Illiterate (A)	67.96	12.27	79	A Vs B	0.980	NS
	Primary Education (B)	67.22	13.76	365	B Vs C	0.249	NS
	Higher Secondary Education (C)	65.25	14.09	481	A Vs C	0.467	NS
	College Education (D)	60.17	15.94	75	A Vs D	0.008	Sig. at 0.01 level
					B Vs D	0.001	Sig. at 0.01 level
					C Vs D	0.036	Sig. at 0.05 level
Commitment to the basic human values	Illiterate (A)	73.44	12.92	79	A Vs B	0.975	NS
	Primary Education (B)	72.58	14.97	365	B Vs C	0.162	NS
	Higher Secondary Education (C)	70.24	14.8	481	A Vs C	0.370	NS
	College Education (D)	65.60	16.5	75	A Vs D	0.014	Sig. at 0.05 level
					B Vs D	0.003	Sig. at 0.01 level
					C Vs D	0.098	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's education as illiterate and college education, primary education and college education, and higher secondary education and college education in their teacher commitment perception in total and its dimensions namely commitment to the learner, commitment to the society and commitment to achieve excellence. Significant difference is also noted between students with father's education as primary education and college education in their teacher commitment perception and on its dimensions namely commitment to the profession and commitment to the basic human values. Also significant difference is noted between students with father's education as illiterate and college education in their teacher commitment perception and on its dimension namely commitment to the basic human values.

The other pairs namely illiterate vs primary education, primary education vs higher secondary education and, illiterate vs higher secondary education do not differ significantly with respect to their teacher commitment perception in total and on all its dimensions. Also the other pair namely illiterate vs college education do not differ significantly in their teacher commitment perception and on its dimension namely commitment to the profession. Also another pair namely higher secondary education vs college education do not differ significantly in their teacher commitment perception and on its dimensions namely commitment to the profession and commitment to the basic human values. Mean values show that students with father's education as illiterate possessed better teacher commitment perception in total and on all its dimensions.

The comparison of scores is graphically presented in figure 5.1.17

Figure 5.1.17. Comparison of Teacher Commitment Perception based on educational level of father



Null Hypothesis - 22

There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother's level of education.

Table 5.1.22a. Comparison of mean scores of Teacher Commitment Perception based on educational level of mother

Teacher Commitment Perception and its Dimensions	Education of mother	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Teacher commitment perception	Illiterate	Between Group	40578.89425	13526.3	3	2.861	0.036	Sig. at 0.05 level
	Primary Education	Within Group	4709066.43	4727.978	996			
	Higher Secondary Education	Total	4749645.324		999			
	College Education							
Commitment to the learner	Illiterate	Between Group	2153.9092	717.97	3	2.332	0.073	NS
	Primary Education	Within Group	306613.69	307.845	996			
	Higher Secondary Education	Total	308767.6		999			
	College Education							
Commitment to the society	Illiterate	Between Group	922.31787	307.4393	3	1.608	0.186	NS
	Primary Education	Within Group	190475.52	191.2405	996			
	Higher Secondary Education	Total	191397.84		999			
	College Education							
Commitment to the profession	Illiterate	Between Group	1920.7892	640.263	3	2.657	0.047	Sig. at 0.05 level
	Primary Education	Within Group	240030.93	240.995	996			
	Higher Secondary Education	Total	241951.72		999			
	College Education							
Commitment to achieve excellence	Illiterate	Between Group	1975.7518	658.5839	3	3.340	0.019	Sig. at 0.05 level
	Primary Education	Within Group	196371.04	197.1597	996			
	Higher Secondary Education	Total	198346.8		999			
	College Education							
Commitment to the basic human values	Illiterate	Between Group	1793.27859	597.76	3	2.682	0.046	Sig. at 0.05 level
	Primary Education	Within Group	222015.72	222.907	996			
	Higher Secondary Education	Total	223808.999		999			
	College Education							

From table 5.1.22a, it is found that the calculated F values are significant for teacher commitment perception in total and its dimensions namely commitment to the profession, commitment to achieve excellence and commitment to the basic human values. Hence the null hypothesis-22 is rejected. Results show that there exists a significant difference among students with mother's education as illiterate, primary education, higher secondary education and college education. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.22b. Scheffe's post hoc test for comparison of mean scores of Teacher Commitment Perception based on educational level of mother

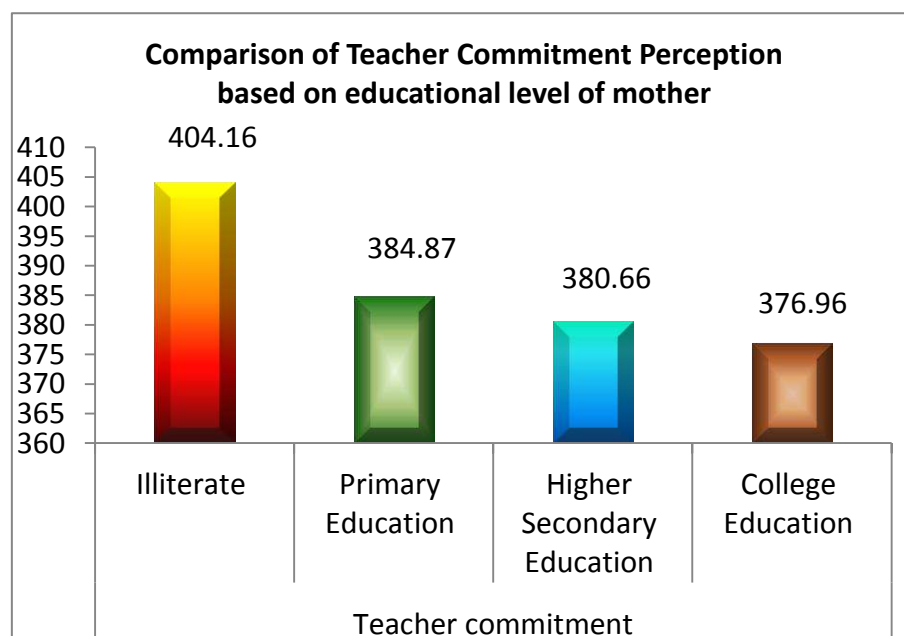
Teacher Commitment Perception and its Dimensions	Education of mother	Mean	SD	N	Pair	p (Scheffe)	Remark
Teacher commitment perception	Illiterate (A)	404.16	59.12	76	A Vs B	0.184	NS
	Primary Education (B)	384.87	67.94	325	B Vs C	0.861	NS
	Higher Secondary Education (C)	380.66	70.66	521	A Vs C	0.050	Sig. at 0.05 level
	College Education (D)				A Vs D	0.111	NS
					B Vs D	0.842	NS
				C Vs D	0.978	NS	
Commitment to the profession	Illiterate (A)	83.43	12.92	76	A Vs B	0.163	NS
	Primary Education (B)	78.95	15.79	325	B Vs C	0.886	NS
	Higher Secondary Education (C)	78.07	15.74	521	A Vs C	0.049	Sig. at 0.05 level
	College Education (D)				A Vs D	0.353	NS
					B Vs D	1.000	NS
				C Vs D	0.978	NS	
Commitment to achieve excellence	Illiterate (A)	70.07	11.84	76	A Vs B	0.152	NS
	Primary Education (B)	65.95	13.26	325	B Vs C	0.974	NS
	Higher Secondary Education (C)	65.48	14.66	521	A Vs C	0.070	NS
	College Education (D)				A Vs D	0.027	Sig. at 0.05 level
					B Vs D	0.488	NS
				C Vs D	0.614	NS	
Commitment to the basic human values	Illiterate (A)	74.97	12.05	76	A Vs B	0.374	NS
	Primary Education (B)	71.61	15.13	325	B Vs C	0.657	NS
	Higher Secondary Education (C)	70.27	15.21	521	A Vs C	0.088	NS
	College Education (D)				A Vs D	0.149	NS
					B Vs D	0.714	NS
				C Vs D	0.973	NS	

The results of Scheffe's post hoc test show that illiterate vs higher secondary education differ significantly in their teacher commitment perception in total and on its

dimension namely commitment to the profession. But significant difference is noted between students with mother's education as illiterate and college education in their teacher commitment perception and on its dimension namely commitment to achieve excellence. The other pairs namely illiterate vs primary education, primary education vs higher secondary education, primary education vs college education, and higher secondary education vs college education do not differ significantly with respect to their teacher commitment perception in total and on its dimensions namely commitment to the profession, commitment to achieve excellence and commitment to the basic human values. Also another pair namely illiterate vs higher secondary education do not differ significantly in their dimensions namely commitment to achieve excellence and commitment to the basic human values. Also another pair namely illiterate vs college education do not differ significantly in the dimension namely commitment to the basic human values. Mean values show that students with mother's education as illiterate possessed better teacher commitment perception.

The comparison of scores is graphically presented in figure 5.1.18

Figure 5.1.18. Comparison of Teacher Commitment Perception based on educational level of mother



Null Hypothesis - 23

There is no significant difference in the mean scores of student achievement in Chemistry of male and female higher secondary school students.

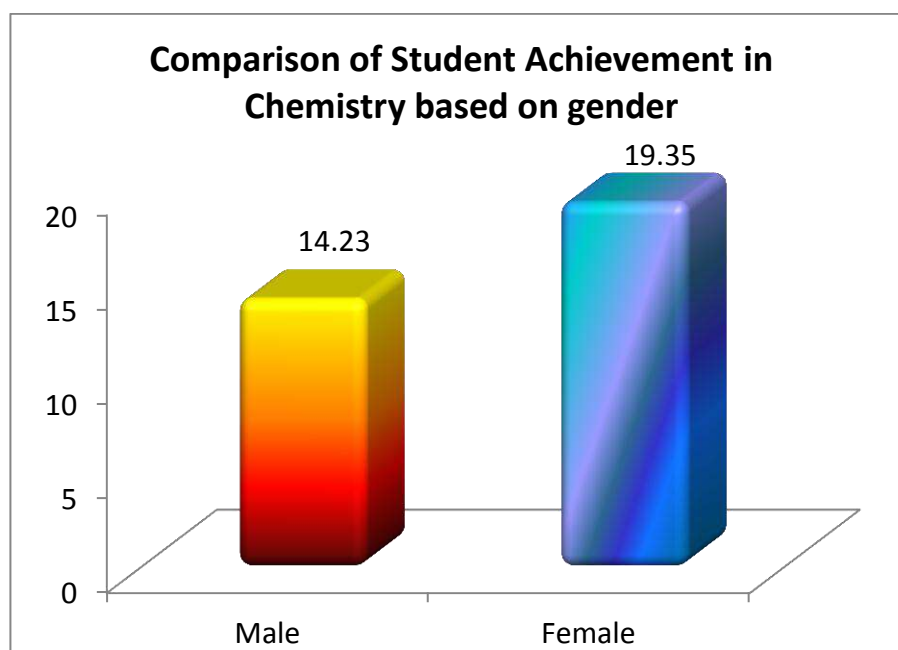
Table 5.1.23. Comparison of mean scores of Student Achievement in Chemistry based on gender

Gender	Mean	SD	N	t	p	Remark
Male	14.23	5.76	517	12.658	0.000	Sig. at 0.01 level
Female	19.35	6.93	483			

From table 5.1.23, it is found that the calculated 't' value is significant at 0.01 level. Hence the null hypothesis-23 is rejected at 0.01 level. Male and female students differ significantly in their achievement in Chemistry. However from the mean values it is clear that female students possessed high achievement level than the male students.

The comparison of scores is graphically presented in figure 5.1.19

Figure 5.1.19. Comparison of Student Achievement in Chemistry based on gender



Null Hypothesis - 24

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different religions.

Table 5.1.24a. Comparison of mean scores of Student Achievement in Chemistry based on religion

Religion	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Hindu	Between Group	401.61	200.80	2	4.313	0.014	Sig. at 0.05 level
Christian	Within Group	46419.18	46.56	997			
Muslim	Total	46820.79		999			

From table 5.1.24a, it is found that the calculated F value is significant at 0.05 level. Hence the null hypothesis-24 is rejected at 0.05 level. Results show that there exists a significant difference among students of Hindu, Christian and Muslim religion with respect to their achievement in Chemistry. To identify exactly the pairs of groups which differ significantly, Scheffé's post hoc test is used.

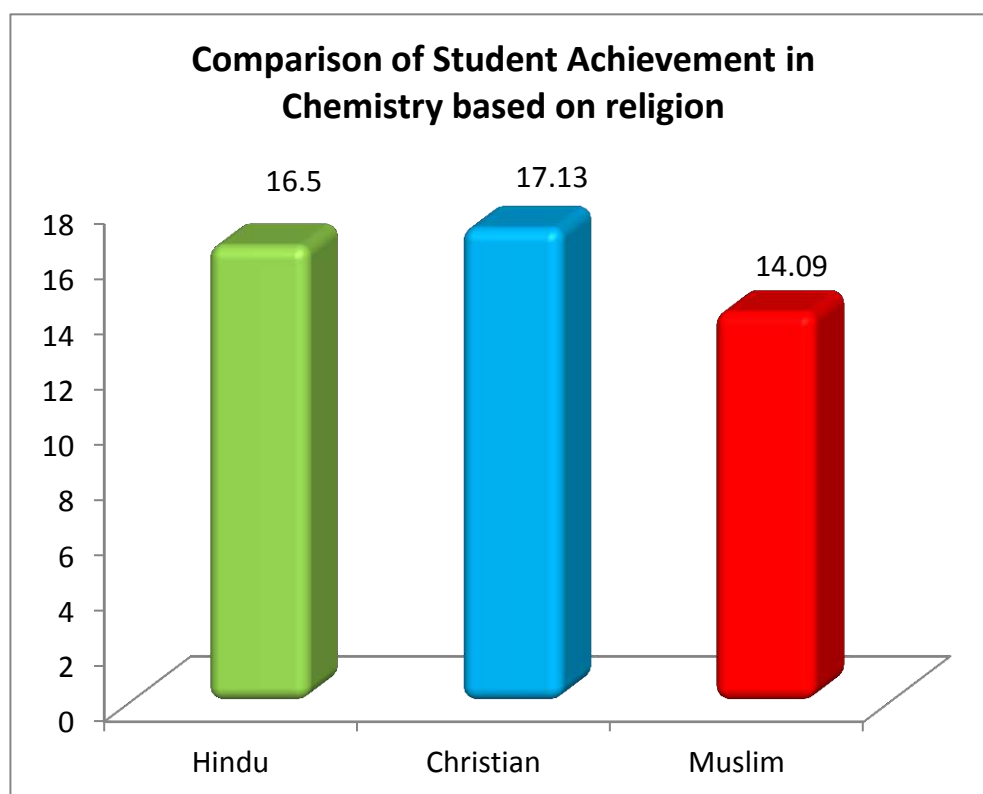
Table 5.1.24b. Scheffé's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on religion

Religion	N	Mean	SD	Pair	P (Scheffe)	Remark
Hindu (A)	472	16.50	6.69	A Vs B	0.361	NS
Christian(B)	485	17.13	7.06	B Vs C	0.020	Sig. at 0.05 level
Muslim (C)	43	14.09	5.35	A Vs C	0.086	NS

The results of Scheffe's post hoc test show that there exists a significant difference between Christian and Muslim students with respect to their achievement in Chemistry. The other pairs namely Hindu vs Christian and Hindu vs Muslim do not differ significantly in their achievement in Chemistry. Mean values show that Christian students possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.20

Figure 5.1.20. Comparison of Student Achievement in Chemistry based on religion



Null Hypothesis - 25

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different communities.

Table 5.1.25. Comparison of mean scores of Student Achievement in Chemistry based on community

Community	Mean	SD	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
SC/ST	16.16	7.03	Between Group	112.70	37.57	3			
MBC	16.11	6.18	Within Group	46708.10	46.90	996			
BC	16.86	6.93	Total	46820.79		999	0.801	0.493	NS
OC	15.77	6.1							

From table 5.1.25, it is found that the calculated F value is not significant for achievement in Chemistry. Hence the null hypothesis-25 is accepted. Results show that there exists no significant difference among students of SC/ST, MBC, BC and OC communities.

Null Hypothesis - 26

There is no significant difference in the mean scores of student achievement in Chemistry of rural and urban higher secondary school students.

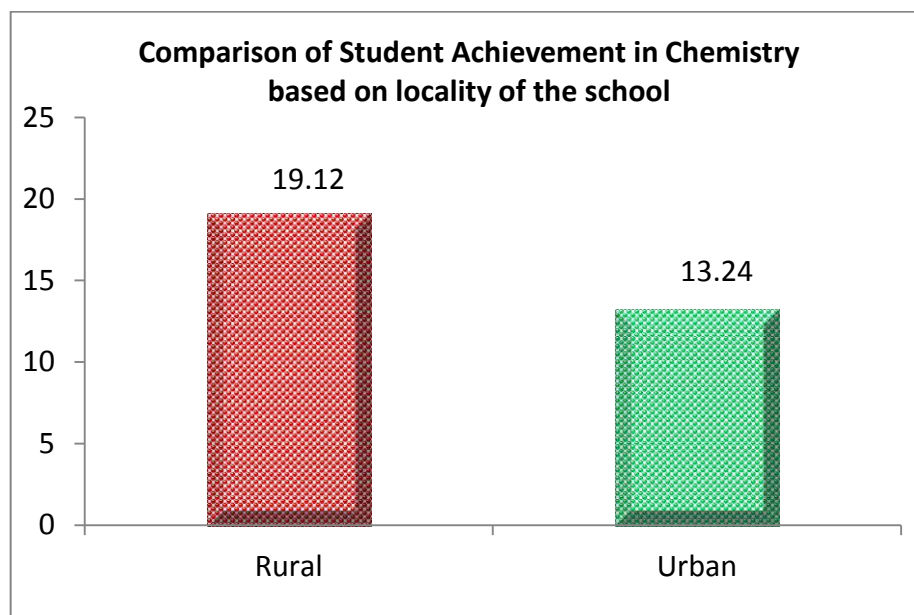
Table 5.1.26. Comparison of mean scores of Student Achievement in Chemistry based on locality of the school

Locality	Mean	SD	N	t	p	Remark
Rural	19.12	7.00	589			
Urban	13.24	4.85	411	15.691	0.000	Sig. at 0.01 level

From table 5.1.26, it is found that the calculated 't' value is significant at 0.01 level. Hence the null hypothesis-26 is rejected at 0.01 level. Rural and urban students differ significantly in their achievement in Chemistry. However from the mean values it is clear that rural students possessed better achievement level than the urban students.

The comparison of scores is graphically presented in figure 5.1.21

Figure 5.1.21. Comparison of Student Achievement in Chemistry based on locality of the school



Null Hypothesis - 27

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different types of schools.

Table 5.1.27a. Comparison of mean scores of Student Achievement in Chemistry based on type of the school

Type of school	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Boys	Between Group	6723.8	3361.88	2			
Girls	Within Group	40097.0	40.22	997	83.592	0.000	Sig. at 0.01 level
Co-education	Total	46820.8		999			

From table 5.1.27a, it is found that the calculated F value is significant at 0.01 level. Hence the null hypothesis-27 is rejected at 0.01 level. Results show that there exists a significant difference among students of boys' school, girls' school and co-education schools in their achievement in Chemistry. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

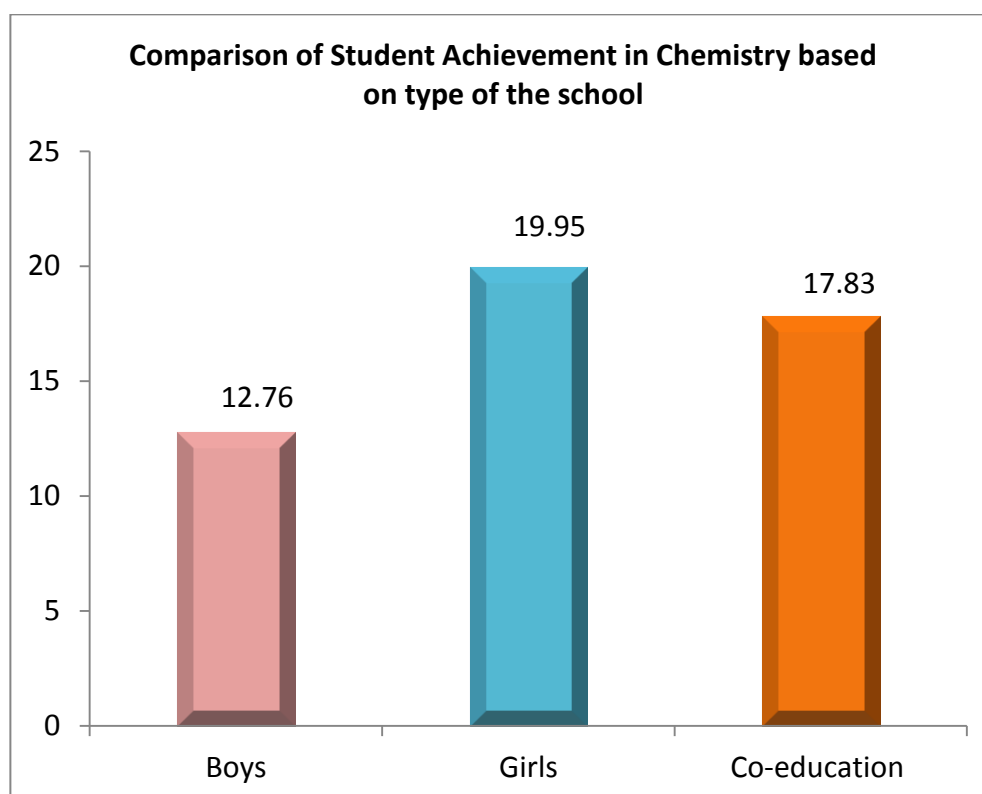
Table 5.1.27b. Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on type of the school

Type of school	Mean	SD	N	Pair	P (Scheffe)	Remark
Boys (A)	12.76	4.55	285	A Vs B	0.000	Sig. at 0.01 level
Girls (B)	19.95	6.49	150	B Vs C	0.001	Sig. at 0.01 level
Co-education (C)	17.83	7.04	565	A Vs C	0.000	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between students of Boys' school and Girls' school, Girls' school and Co-education school and Boys' school and Co-education schools in their achievement in Chemistry. Mean values show that Girls' school students possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.22

Figure 5.1.22. Comparison of Student Achievement in Chemistry based on type of the school



Null Hypothesis - 28

There is no significant difference in the mean scores of Student Achievement in Chemistry of higher secondary school students belonging to different management system.

Table 5.1.28a. Comparison of mean scores of Student Achievement in Chemistry based on type of management

Type of Management	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Government	Between Group	2245.0	1122.494	2			
Aided	Within Group	44575.803	44.71	997	25.106	0.00	Sig. at 0.01 level
Self-financing	Total	46820.791		999			

From table 5.1.28a, it is found that the calculated F value is significant at 0.01 level. Hence the null hypothesis-28 is rejected at 0.01 level. Results show that there exists a significant difference among students of Government school, aided school and self-financing schools in their achievement in Chemistry. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.28b. Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on type of management

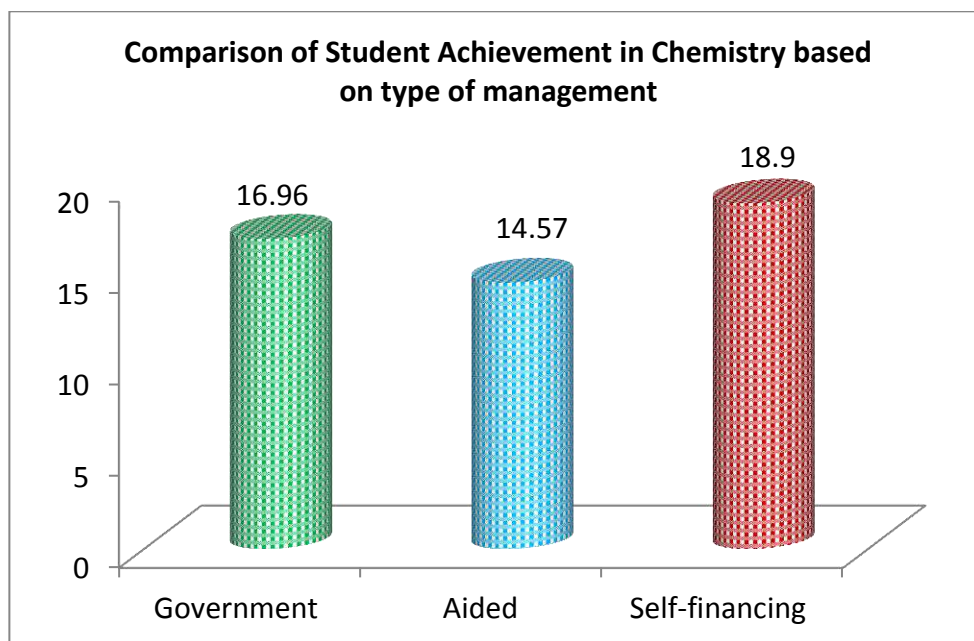
Type of Management	Mean	SD	N	Pair	p (Scheffe)	Remark
Government (A)	16.96	6.89	526	A Vs B	0.000	Sig. at 0.01 level
Aided (B)	14.57	6.04	272	B Vs C	0.000	Sig. at 0.01 level
Self-financing (C)	18.90	6.96	202	A Vs C	0.002	Sig. at 0.01 level

The results of Scheffe's post hoc test show that there exists a significant difference between students of Government school and aided school, aided school and self-financing school, and Government school and self-financing school students in

their achievement in Chemistry. Mean values show that self-financing school students possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.23

Figure 5.1.23. Comparison of Student Achievement in Chemistry based on type of management



Null Hypothesis - 29

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students of nuclear family and joint family.

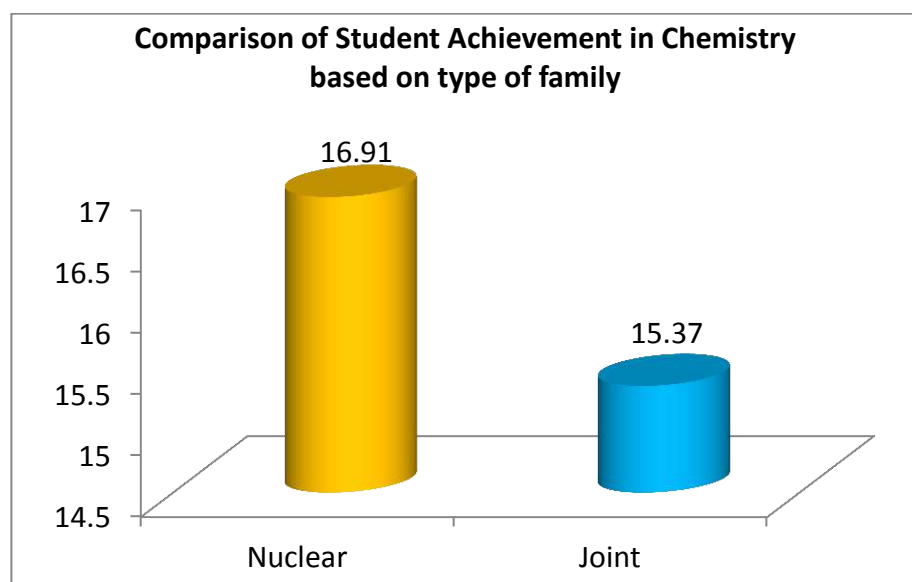
Table 5.1.29. Comparison of mean scores of Student Achievement in Chemistry based on type of family

Type of Family	Mean	SD	N	t	p	Remark
Nuclear	16.91	6.75	863	2.311	0.021	Sig. at 0.05 level
Joint	15.37	7.32	137			

From table 5.1.29, it is found that the calculated 't' value is significant at 0.05 level. Hence the null hypothesis-29 is rejected at 0.05 level. Nuclear family and joint family students differ significantly in their achievement in Chemistry. However from the mean values it is clear that nuclear family students possessed better achievement level than the joint family students.

The comparison of scores is graphically presented in figure 5.1.24

Figure 5.1.24. Comparison of Student Achievement in Chemistry based on type of family



Null Hypothesis - 30

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to father's occupation.

Table 5.1.30a. Comparison of mean scores of Student Achievement in Chemistry based on occupation of father

Occupation of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Government	Between Group	405.5	202.7355	2			
Private	Within Group	46415.32	46.55498	997	4.355	0.013	Sig. at 0.05 level
Daily wagers	Total	46820.791		999			

From table 5.1.30a, it is found that the calculated F value is significant at 0.05 level. Hence the null hypothesis-30 is rejected at 0.05 level. Results show that there exists a significant difference among students with father's occupation as Government employee, Private employee and Daily wagers in their achievement in Chemistry. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

Table 5.1.30b. Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on occupation of father

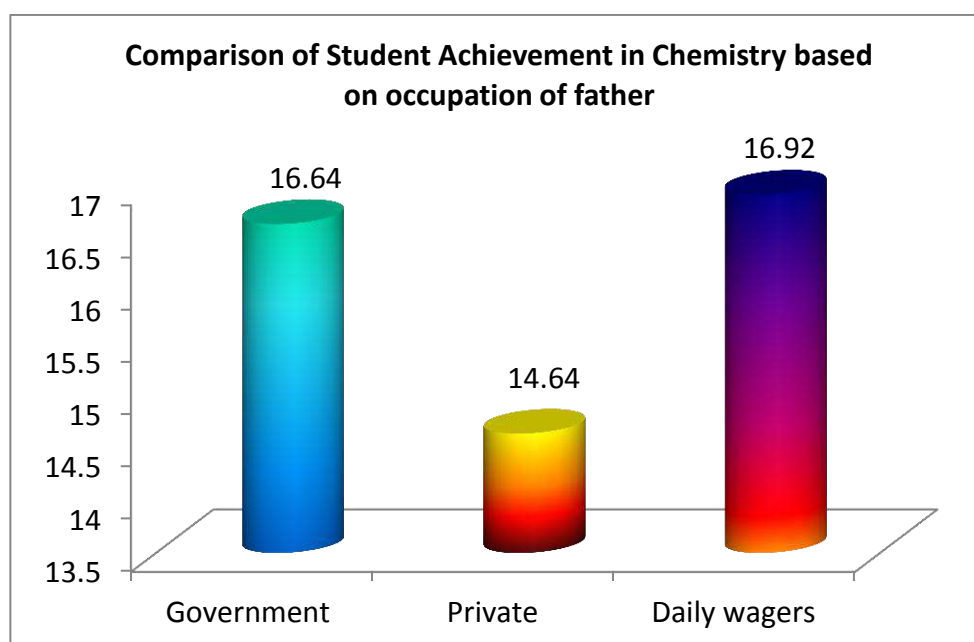
Occupation of father	Mean	SD	N	Pair	p (Scheffe)	Remark
Government (A)	16.64	7.29	66	A Vs B	0.202	NS
Private (B)	14.64	5.97	86	B Vs C	0.013	Sig. at 0.05 level
Daily wagers (C)	16.92	6.87	848	A Vs C	0.950	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's occupation as Private employee and Daily wagers in their achievement in Chemistry. But no significant difference is noted between students with father's occupation as Government employee and Private

employee and also Government employee and Daily wagers in their achievement in Chemistry. Mean values show that students with father's occupation as Daily wagers possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.25

Figure 5.1.25. Comparison of Student Achievement in Chemistry based on occupation of father



Null Hypothesis - 31

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother's occupation.

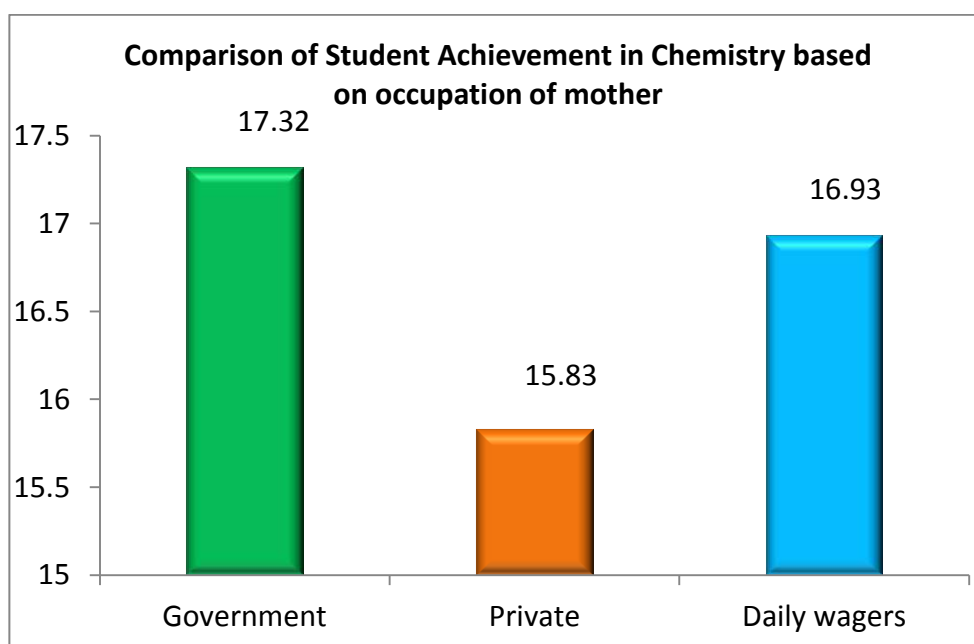
Table 5.1.31. Comparison of mean scores of Student Achievement in Chemistry based on occupation of mother

Occupation of mother	Mean	SD	Variance Squares	Sum of Squares	df	Mean Square	F	p	Remark
Government	17.32	6.72	Between Group	228.8	2	114.3996			
Private	15.83	6.13	Within Group	46591.992	997	46.73	2.448	0.087	NS
Daily wagers	16.93	7.05	Total	46820.791	999				

From table 5.1.31, it is found that the calculated F value is not significant. Hence the null hypothesis-31 is accepted. Mother's occupation as Government employee, Private employee and Daily wagers do not differ significantly in their achievement in Chemistry. However from the mean values it is clear that students with mother's occupation as Daily wagers possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.26

Figure 5.1.26. Comparison of Student Achievement in Chemistry based on occupation of mother



Null Hypothesis - 32

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to father's level of education.

Table 5.1.32a. Comparison of mean scores of Student Achievement in Chemistry based on educational level of father

Education of father	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Illiterate	Between Group	624.82627	208.2754	3			
Primary Education	Within Group	46195.965	46.38149	996			
Higher Secondary Education	Total	46820.791		999	4.490	0.004	Sig. at 0.01 level
College Education							

From table 5.1.32a, it is found that the calculated F value is significant at 0.01 level. Hence the null hypothesis-32 is rejected 0.01 level. Results show that there exists a significant difference among students with father's education as illiterate, primary education, higher secondary education and college education in their achievement in Chemistry. To identify exactly the pairs of groups which differ significantly, Scheffe's post hoc test is used.

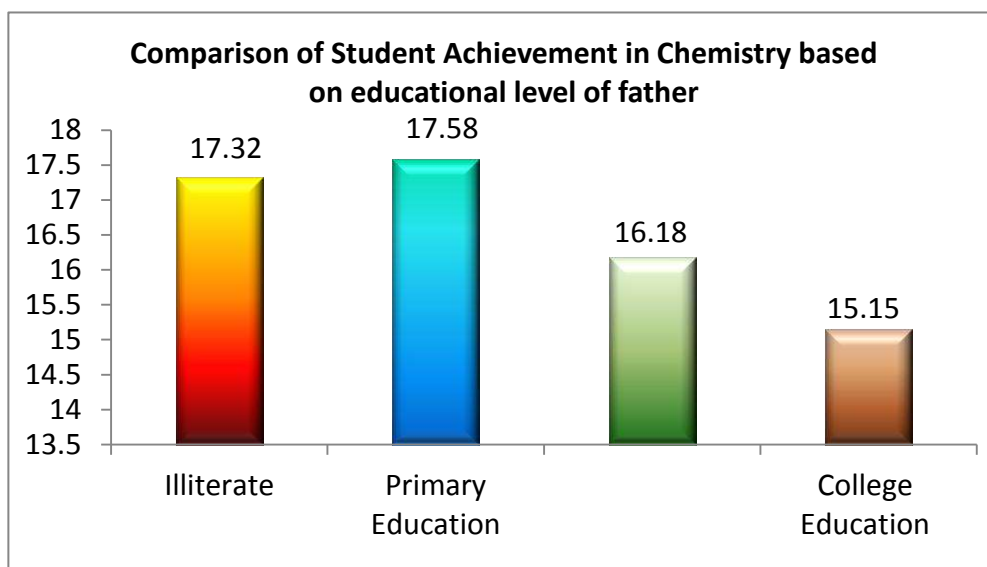
Table 5.1.32b. Scheffe's post hoc test for comparison of mean scores of Student Achievement in Chemistry based on educational level of father

Education of father	Mean	SD	N	Pair	p (Scheffe)	Remark
Illiterate (A)	17.32	7.08	79	A Vs B	0.992	NS
Primary Education (B)	17.58	7.01	365	B Vs C	0.033	Sig. at 0.05 level
Higher Secondary Education (C)	16.18	6.78	481	A Vs C	0.593	NS
College Education (D)	15.15	5.65	75	A Vs D	0.272	NS
				B Vs D	0.048	Sig. at 0.05 level
				C Vs D	0.686	NS

The results of Scheffe's post hoc test show that there exists a significant difference between students with father's education as primary education and higher secondary education in their achievement in Chemistry. Also significant difference is noted between students with father's education as primary education and college education in their achievement in Chemistry. But the other pairs namely illiterate vs primary education, illiterate vs higher secondary education, illiterate vs college education and higher secondary education vs college education do not differ significantly in their achievement in Chemistry. Mean values show that students with father's education as primary education possessed better achievement in Chemistry.

The comparison of scores is graphically presented in figure 5.1.27

Figure 5.1.27. Comparison of Student Achievement in Chemistry based on educational level of father



Null Hypothesis - 33

There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother's level of education.

Table 5.1.33. Comparison of mean scores of Student Achievement in Chemistry based on educational level of mother

Education of mother	Mean	SD	Variance Squares	Sum of Squares	df	Mean Square	F	p	Remark
Illiterate	16.43	7.18	Between Group	170.32515	3	56.77505			
Primary Education	17.28	6.9	Within Group	46650.466	996	46.83782			
Higher Secondary Education	16.48	6.78	Total	46820.791	999		1.212	0.304	NS
College Education	16.06	6.68							

From table 5.1.33a, it is found that the calculated F value is not significant. Hence the null hypothesis-33 is accepted. Students with mother's education as illiterate, primary education, higher secondary education and college education do not differ significantly in their achievement in Chemistry.

5.2 Correlational Analysis

Null Hypothesis - 34

There is no significant correlation between school environment and teacher commitment perception of higher secondary school students with regard to various sub samples.

Table 5.2.1. Correlation between School Environment and Teacher Commitment Perception of higher secondary school students

Background characteristics		Pearson Correlation (r)	p	Remark
Total		0.82	0.000	Sig. at 0.01 level
Gender	Male	0.807	0.000	Sig. at 0.01 level
	Female	0.760	0.000	Sig. at 0.01 level
Religion	Hindu	0.853	0.000	Sig. at 0.01 level
	Christian	0.777	0.000	Sig. at 0.01 level
	Muslim	0.807	0.000	Sig. at 0.01 level
Community	SC/ST	0.756	0.000	Sig. at 0.01 level
	MBC	0.853	0.000	Sig. at 0.01 level
	BC	0.817	0.000	Sig. at 0.01 level
	OC	0.86	0.000	Sig. at 0.01 level
Locality	Rural	0.798	0.000	Sig. at 0.01 level
	Urban	0.78	0.000	Sig. at 0.01 level
Type of school	Boys	0.788	0.000	Sig. at 0.01 level
	Girls	0.678	0.000	Sig. at 0.01 level
	Co-education	0.778	0.000	Sig. at 0.01 level
Type of Management	Government	0.822	0.000	Sig. at 0.01 level
	Aided	0.778	0.000	Sig. at 0.01 level
	Self-financing	0.765	0.000	Sig. at 0.01 level
Type of Family	Nuclear	0.819	0.000	Sig. at 0.01 level
	Joint	0.825	0.000	Sig. at 0.01 level
Occupation of father	Government	0.818	0.000	Sig. at 0.01 level
	Private	0.867	0.000	Sig. at 0.01 level
	Daily wagers	0.811	0.000	Sig. at 0.01 level
Occupation of mother	Government	0.818	0.000	Sig. at 0.01 level
	Private	0.830	0.000	Sig. at 0.01 level
	Daily wagers	0.817	0.000	Sig. at 0.01 level
Education of father	Illiterate	0.853	0.000	Sig. at 0.01 level
	Primary Education	0.831	0.000	Sig. at 0.01 level
	Higher Secondary Education	0.801	0.000	Sig. at 0.01 level
	College Education	0.825	0.000	Sig. at 0.01 level
Education of mother	Illiterate	0.823	0.000	Sig. at 0.01 level
	Primary Education	0.780	0.000	Sig. at 0.01 level
	Higher Secondary Education	0.835	0.000	Sig. at 0.01 level
	College Education	0.87	0.000	Sig. at 0.01 level

Based on the above table 5.2.1 following findings are derived

The correlation between school environment and teacher commitment perception of total sample ($r= 0.82$) is significant at 0.01 level. There exists positive high correlation between school environment and teacher commitment perception. i.e. As school environment of total sample improves teacher commitment perception also increases.

For the sub samples male ($r=0.807$), female ($r=0.760$), Hindu ($r=0.853$), Christian ($r=0.777$), Muslim ($r=0.807$), SC/ST ($r=0.756$), MBC ($r=0.853$), BC ($r=0.817$), OC ($r=0.86$), rural ($r=0.798$), urban ($r=0.78$), boys ($r=0.788$), girls ($r=0.678$), co-education ($r=0.778$), Government ($r=0.822$), aided ($r=0.778$), self-financing ($r=0.765$), nuclear ($r=0.819$), joint ($r=0.825$), fathers working in Government sector ($r=0.818$), fathers working in Private sector ($r=0.867$), fathers working in Daily wagers sector ($r=0.811$), mothers working in Government sector ($r=0.818$), mothers working in Private sector ($r=0.830$), mothers working in Daily wagers sector ($r=0.817$), illiterate fathers ($r=0.853$), fathers having primary education ($r=0.831$), fathers having higher secondary education ($r=0.801$), fathers having college education ($r=0.825$), illiterate mothers ($r=0.823$), mothers having primary education ($r=0.780$), mothers having higher secondary education ($r=0.835$) and mothers having college education ($r=0.87$) is significant. Hence there exists positive high correlation between school environment and teacher commitment perception for these sub samples.

Null Hypothesis - 35

There is no significant correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to various sub samples.

Table 5.2.2. Correlation between School Environment and Student Achievement in Chemistry of higher secondary school students

Background characteristics		Pearson Correlation (r)	p	Remark
Total		0.232	0.000	Sig. at 0.01 level
Gender	Male	0.186	0.000	Sig. at 0.01 level
	Female	0.022	0.630	NS
Religion	Hindu	0.184	0.000	Sig. at 0.01 level
	Christian	0.231	0.000	Sig. at 0.01 level
	Muslim	0.513	0.000	Sig. at 0.01 level
Community	SC/ST	0.245	0.044	Sig. at 0.05 level
	MBC	0.363	0.006	Sig. at 0.01 level
	BC	0.224	0.000	Sig. at 0.01 level
	OC	0.175	0.181	NS
Locality	Rural	0.027	0.513	NS
	Urban	0.212	0.000	Sig. at 0.01 level
Type of school	Boys	0.233	0.000	Sig. at 0.01 level
	Girls	-0.088	0.284	NS
	Co-education	0.066	0.117	NS
Type of Management	Government	0.245	0.000	Sig. at 0.01 level
	Aided	0.341	0.000	Sig. at 0.01 level
	Self-financing	0.084	0.235	NS
Type of Family	Nuclear	0.231	0.000	Sig. at 0.01 level
	Joint	0.228	0.007	Sig. at 0.01 level
Occupation of father	Government	0.148	0.236	NS
	Private	0.313	0.003	Sig. at 0.01 level
	Daily wagers	0.22	0.000	Sig. at 0.01 level
Occupation of mother	Government	0.215	0.122	NS
	Private	0.222	0.001	Sig. at 0.01 level
	Daily wagers	0.233	0.000	Sig. at 0.01 level
Education of father	Illiterate	0.071	0.534	NS
	Primary Education	0.173	0.001	Sig. at 0.01 level
	Higher Secondary Education	0.275	0.000	Sig. at 0.01 level
	College Education	0.294	0.010	Sig. at 0.01 level
Education of mother	Illiterate	0.05	0.668	NS
	Primary Education	0.229	0.000	Sig. at 0.01 level
	Higher Secondary Education	0.24	0.000	Sig. at 0.01 level
	College Education	0.363	0.001	Sig. at 0.01 level

Based on the above table 5.2.2 following findings are derived

The correlation between school environment and student achievement in Chemistry at higher secondary level of total sample ($r=0.232$) is significant at 0.01 level. There exists positive correlation between school environment and student achievement in Chemistry. i.e. As school environment of total sample improves student achievement in Chemistry also increases.

For the sub samples male ($r=0.186$), Hindu ($r=0.184$), Christian ($r=0.231$), Muslim ($r=0.513$), SC/ST ($r=0.245$), MBC ($r=0.363$), BC ($r=0.224$), urban ($r=0.212$), boys ($r=0.233$), Government ($r=0.245$), aided ($r=0.341$), nuclear ($r=0.231$), joint ($r=0.228$), fathers working in Private sector ($r=0.313$), fathers working in Daily wagers sector ($r=0.22$), mothers working in Private sector ($r=0.222$), mothers working in Daily wagers sector ($r=0.233$), fathers having primary education ($r=0.173$), fathers having higher secondary education ($r=0.275$), fathers having college education ($r=0.294$), mothers having primary education ($r=0.229$), mothers having higher secondary education ($r=0.24$) and mothers having college education ($r=0.363$) is significant. Hence there exists positive correlation between school environment and student achievement in Chemistry for these sub samples.

For the sub samples female ($r=0.022$), OC ($r=0.175$), rural ($r=0.027$), girls ($r=-0.088$), co-education ($r=0.066$), self-financing ($r=0.084$), fathers working in Government sector ($r=0.148$), mothers working in Government sector ($r=0.215$), illiterate fathers ($r=0.071$) and illiterate mothers ($r=0.05$) which indicates that there is no significant correlation. Hence there exists no significant correlation between school environment and student achievement in Chemistry for these sub samples.

Null Hypothesis - 36

There is no significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to various sub samples.

Table 5.2.3. Correlation between Teacher Commitment Perception and Student Achievement in Chemistry of higher secondary school students

Background characteristics		Pearson Correlation (r)	p	Remark
Total		0.296	0.000	Sig. at 0.01 level
Gender	Male	0.219	0.000	Sig. at 0.01 level
	Female	0.145	0.001	Sig. at 0.01 level
Religion	Hindu	0.290	0.000	Sig. at 0.01 level
	Christian	0.279	0.000	Sig. at 0.01 level
	Muslim	0.351	0.021	Sig. at 0.05 level
Community	SC/ST	0.329	0.006	Sig. at 0.01 level
	MBC	0.507	0.000	Sig. at 0.01 level
	BC	0.282	0.000	Sig. at 0.01 level
	OC	0.24	0.065	NS
Locality	Rural	0.113	0.006	Sig. at 0.01 level
	Urban	0.232	0.000	Sig. at 0.01 level
Type of school	Boys	0.225	0.000	Sig. at 0.01 level
	Girls	-0.116	0.157	NS
	Co-education	0.168	0.000	Sig. at 0.01 level
Type of Management	Government	0.345	0.000	Sig. at 0.01 level
	Aided	0.326	0.000	Sig. at 0.01 level
	Self-financing	0.101	0.153	NS
Type of Family	Nuclear	0.291	0.000	Sig. at 0.01 level
	Joint	0.314	0.000	Sig. at 0.01 level
Occupation of father	Government	0.214	0.084	NS
	Private	0.291	0.007	Sig. at 0.01 level
	Daily wagers	0.294	0.000	Sig. at 0.01 level
Occupation of mother	Government	0.224	0.107	NS
	Private	0.277	0.000	Sig. at 0.01 level
	Daily wagers	0.308	0.000	Sig. at 0.01 level
Education of father	Illiterate	0.186	0.101	NS
	Primary Education	0.228	0.000	Sig. at 0.01 level
	Higher Secondary Education	0.363	0.000	Sig. at 0.01 level
	College Education	0.22	0.058	NS
Education of mother	Illiterate	0.194	0.093	NS
	Primary Education	0.311	0.000	Sig. at 0.01 level
	Higher Secondary Education	0.293	0.000	Sig. at 0.01 level
	College Education	0.37	0.001	Sig. at 0.01 level

Based on the table 5.2.3 following findings are derived

The correlation between teacher commitment perception and student achievement in Chemistry of total sample ($r=0.296$) is significant at 0.01 level. There exists positive correlation between teacher commitment perception and student achievement in Chemistry. i.e. As teacher commitment perception of total sample improves student achievement in chemistry also increases.

For the sub samples male ($r=0.219$), female ($r=0.145$), Hindu ($r=0.290$), Christian ($r=0.279$), Muslim ($r=0.351$), SC/ST ($r=0.329$), MBC ($r=0.507$), BC ($r=0.282$), rural ($r=0.113$), urban ($r=0.232$), boys ($r=0.225$), co-education ($r=0.168$), Government ($r=0.345$), aided ($r=0.326$), nuclear ($r=0.291$), joint ($r=0.314$), fathers working in Private sector ($r=0.291$), fathers working in Daily wagers sector ($r=0.294$), mothers working in Private sector ($r=0.277$), mothers working in Daily wagers sector ($r=0.308$), fathers having primary education ($r=0.228$), fathers having higher secondary education ($r=0.363$), mothers having primary education ($r=0.311$), mothers having higher secondary education ($r=0.293$) and mothers having college education ($r=0.37$) is significant. Hence there exists positive correlation between teacher commitment perception and student achievement in Chemistry for these sub samples.

For the sub samples OC ($r=0.24$), girls ($r=-0.116$), self-financing ($r=0.101$), fathers working in Government sector ($r=0.214$), mothers working in Government sector ($r=0.224$), illiterate fathers ($r=0.186$), fathers having college education ($r=0.22$) and illiterate mothers ($r=0.194$) which indicates that there is no significant correlation. Hence there exists no significant correlation between teacher commitment perception and student achievement in Chemistry for these sub samples.

5.3 Tenability of Hypotheses

1. The first null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of male and female higher secondary school students” is rejected at 0.01 level of significance.
2. The second null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Hindu, Christian and Muslim religions” is rejected at 0.01 level of significance.
3. The third null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities” is rejected at 0.05 level of significance.
4. The fourth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of rural and urban higher secondary school students” is rejected at 0.01 level of significance.
5. The fifth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary students studying in boys’ school, girls’ school and co-education school” is rejected at 0.01 level of significance.
6. The sixth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school” is rejected at 0.01 level of significance.

7. The seventh null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students of nuclear family and joint family” is accepted.
8. The eighth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father’s occupation” is rejected at 0.01 level of significance.
9. The ninth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother’s occupation” is accepted.
10. The tenth null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to father’s level of education” is rejected at 0.01 level of significance.
11. The eleventh null hypothesis, “There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students with regard to mother’s level of education” is rejected.
12. The twelfth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of male and female higher secondary school students” is rejected at 0.01 level of significance.
13. The thirteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher

secondary school students of Hindu, Christian and Muslim religions” is rejected at 0.01 level of significance.

14. The fourteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of SC/ST, MBC, BC, and OC communities” is rejected.
15. The fifteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of rural and urban higher secondary school students” is rejected at 0.01 level of significance.
16. The sixteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary students studying in boys’ school, girls’ school and co-education school” is rejected at 0.01 level of significance.
17. The seventeenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of Government school, aided school and self-financing school” is rejected at 0.01 level of significance.
18. The eighteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students of nuclear family and joint family” is rejected.
19. The nineteenth null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father’s occupation” is rejected at 0.01 level of significance.

20. The twenty null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother’s occupation” is rejected at 0.05 level of significance.
21. The twenty first null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to father’s level of education” is rejected at 0.01 level of significance.
22. The twenty second null hypothesis, “There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students with regard to mother’s level of education” is rejected at 0.05 level of significance.
23. The twenty third null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of male and female higher secondary school students” is rejected at 0.01 level of significance.
24. The twenty fourth null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different religions” is rejected at 0.05 level of significance.
25. The twenty fifth null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different communities” is accepted.

26. The twenty sixth null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of rural and urban higher secondary school students” is rejected at 0.01 level of significance.
27. The twenty seventh null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different types of schools” is rejected at 0.01 level of significance.
28. The twenty eighth null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students belonging to different management system” is rejected at 0.01 level of significance.
29. The twenty ninth null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students of nuclear family and joint family” is rejected at 0.05 level of significance.
30. The thirty null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to father’s occupation” is rejected at 0.05 level of significance.
31. The thirty first null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother’s occupation” is accepted.
32. The thirty second null hypothesis, “There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school

students with regard to father's level of education" is rejected at 0.01 level of significance.

33. The thirty third null hypothesis, "There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students with regard to mother's level of education" is accepted.
34. The thirty fourth null hypothesis, "There is no significant correlation between school environment and teacher commitment perception of higher secondary school students with regard to various sub samples" is rejected at 0.01 level of significance
35. The thirty fifth null hypothesis, "There is no significant correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to various sub samples" is rejected.
36. The thirty sixth null hypothesis, "There is no significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to various sub samples" is rejected.

The following chapter deals with the findings, conclusion and suggestions.



Chapter VI

Findings, Conclusion and Suggestions

CHAPTER VI

FINDINGS, CONCLUSION AND SUGGESTIONS

- 6.1 The Study in Retrospect
- 6.2 Restatement of the Problem
- 6.3 Objectives
- 6.4 Hypothesis Formulated
- 6.5 Major Findings
- 6.6 Interpretation and Discussion
- 6.7 Recommendations
- 6.8 Suggestions for Further Studies

CHAPTER VI

FINDINGS, CONCLUSION AND SUGGESTION

6.1 The Study in Retrospect

The study under investigation is entitled as “School Environment, Teacher Commitment and Student Achievement in Chemistry at Higher Secondary Level”.

A sample of 1000 higher secondary school students was selected from different schools in Kanyakumari District of Tamil Nadu. The investigator used normative survey method.

Random sampling technique was used for selecting the sample.

For collecting data, the tools used were PrAn’s School Environment Scale, PrAn’s Teacher Commitment Perception Scale, PrAn’s Achievement Test in Chemistry and Personal Data Sheet.

The data were subjected to statistical analysis like mean, standard deviation, test of significance (‘t’ test and ANOVA) and correlation.

6.2 Restatement of the Problem

It is the duty of the teacher to give multiple learning experiences to the students so that they may realize and involve in learning which leads to their academic achievement. To identify the school environment, perceived teacher commitment and students’ achievement in Chemistry, this study has been undertaken by the investigator. The present study is entitled as SCHOOL ENVIRONMENT, TEACHER COMMITMENT AND STUDENT ACHIEVEMENT IN CHEMISTRY AT HIGHER SECONDARY LEVEL.

6.3 Objectives

1. To study the significant difference, if any, in the school environment of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.
2. To study the significant difference, if any, in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities and promotion of school community relations with regard to the background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents of school students at higher secondary level.
3. To study the significant difference, if any, in the teacher commitment perception of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.
4. To study the significant difference, if any, in the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values with regard to the background variables namely gender, religion, community, locality of the school, type of the school,

type of management, type of family, parents' occupation and educational level of parents of school students at higher secondary level.

5. To study the significant difference, if any, in the student achievement in Chemistry of school students at higher secondary level with regard to the background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.
6. To study the correlation between school environment and teacher commitment perception of school students at higher secondary level.
7. To study the correlation between school environment and student achievement in Chemistry of school students at higher secondary level.
8. To study the correlation between teacher commitment perception and student achievement in chemistry of school students at higher secondary level.

6.4 Hypothesis Formulated

1. There is no significant difference in the mean scores of school environment in total and its dimensions of higher secondary school students based on gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.
2. There is no significant difference in the mean scores of teacher commitment perception in total and its dimensions of higher secondary school students based on gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.

3. There is no significant difference in the mean scores of student achievement in Chemistry of higher secondary school students based on gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents.
4. There is no significant correlation between school environment and teacher commitment perception of higher secondary school students with regard to various sub samples.
5. There is no significant correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to various sub samples.
6. There is no significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to various sub samples.

6.5 Major Findings

1. School environment in total with regard to gender was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of male and female higher secondary school students.
2. School environment in total with regard to religion was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and

promotion of school community relations of Hindu, Christian and Muslim higher secondary school students.

3. School environment in total with regard to community was found to be significant. Significant difference was noted in the dimensions of school environment namely promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of SC/ST, MBC, BC and OC higher secondary school students. But there was no significant difference in the dimensions of school environment namely provision of basic facilities and provision of special services.
4. School environment in total with regard to locality of the school was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of rural and urban higher secondary school students.
5. School environment in total with regard to type of the school was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students studying in different type of schools.
6. School environment in total with regard to type of management was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services,

promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students studying in different type of management schools.

7. School environment in total with regard to type of family was found to be non-significant. Significant difference was not noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students of nuclear family and joint family.
8. School environment in total with regard to occupation of father was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students with regard to occupation of father.
9. School environment in total with regard to occupation of mother was found to be non-significant. Significant difference was not noted in the dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students with regard to occupation of mother.
10. School environment in total with regard to education of father was found to be significant. Significant difference was noted in the dimensions of school environment namely provision of basic facilities, provision of special services,

promotion of curricular or academic activities, promotion of co-curricular activities and promotion of school community relations of higher secondary school students with regard to education of father.

11. School environment in total with regard to education of mother was found to be non-significant. Significant difference was noted in the dimensions of school environment namely promotion of curricular or academic activities and promotion of school community relations of higher secondary school students with regard to education of mother. But there was no significant difference in the dimensions of school environment namely provision of basic facilities, provision of special services and promotion of co-curricular activities.
12. Teacher commitment perception in total with regard to gender was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of male and female higher secondary school students.
13. Teacher commitment perception in total with regard to religion was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of Hindu, Christian and Muslim higher secondary school students.

14. Teacher commitment perception in total with regard to community was found to be non-significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner of SC/ST, MBC, BC, and OC higher secondary school students. But there was no significant difference in the dimensions of teacher commitment namely commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values.
15. Teacher commitment perception in total with regard to locality of the school was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of rural and urban higher secondary school students.
16. Teacher commitment perception in total with regard to type of the school was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of higher secondary school students studying in different type of schools.
17. Teacher commitment perception in total with regard to type of management was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of higher secondary school students studying in different type of management schools.

18. Teacher commitment perception in total with regard to type of family was found to be non-significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner of higher secondary school students of nuclear family and joint family. But there was no significant difference in the dimensions of teacher commitment namely commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values.
19. Teacher commitment perception in total with regard to occupation of father was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values of higher secondary school students with regard to occupation of father.
20. Teacher commitment perception in total with regard to occupation of mother was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the profession and commitment to achieve excellence of higher secondary school students with regard to occupation of mother. But there was no significant difference in the dimensions of teacher commitment namely commitment to the society and commitment to the basic human values.
21. Teacher commitment perception in total with regard to education of father was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and

commitment to the basic human values of higher secondary school students with regard to education of father.

22. Teacher commitment perception in total with regard to education of mother was found to be significant. Significant difference was noted in the dimensions of teacher commitment namely commitment to the profession, commitment to achieve excellence and commitment to the basic human values of higher secondary school students with regard to education of mother. But there was no significant difference in the dimensions of teacher commitment namely commitment to the learner and commitment to the society.
23. Significant difference was noted in the mean scores of achievement in Chemistry of male and female higher secondary school students.
24. Significant difference was noted in the mean scores of achievement in Chemistry of Hindu, Christian and Muslim higher secondary school students.
25. Significant difference was not noted in the mean scores of achievement in Chemistry of SC/ST, MBC, BC, and OC higher secondary school students.
26. Significant difference was noted in the mean scores of achievement in Chemistry of rural and urban higher secondary school students.
27. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students studying in different types of schools.
28. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students studying in different management schools.

29. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students of nuclear family and joint family.
30. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students with regard to father's occupation.
31. Significant difference was not noted in the mean scores of achievement in Chemistry of higher secondary school students with regard to mother's occupation.
32. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students with regard to father's educational qualification.
33. Significant difference was noted in the mean scores of achievement in Chemistry of higher secondary school students with regard to mother's educational qualification.
34. The correlation between school environment and teacher commitment perception of higher secondary school students in total was found to be significant. There was significant positive high correlation between school environment and teacher commitment perception of higher secondary school students with regard to background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents on school environment of higher secondary school students.

35. The correlation between school environment and student achievement in Chemistry of higher secondary school students in total was found to be significant. There was significant positive low correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to background variables namely gender (male), religion, community (SC/ST, MBC, BC), locality of the school (Rural), type of the school (Boys), type of management (Government, Aided), type of family, parents occupation of father (Private, Daily wagers), occupation of mother (Private, Daily wagers), education of father (Primary education, Higher Secondary education, college education) and education of mother (Primary education, Higher Secondary education, college education). But there was no significant correlation between school environment and student achievement in Chemistry of higher secondary school students with regard to background variables namely gender (Female), occupation of father (Government), community (OC), locality (Rural), type of school (Girls, Co-education), type of management (Self financing), occupation of father (Government), occupation of mother (Government), education of father (Illiterate) and education of mother (Illiterate) on school environment of higher secondary school students.
36. The correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students in total was found to be significant. There was significant positive low correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to background variables namely gender, religion, community (SC/ST, MBC, BC), locality, type of the school (Boys, Co-education), type of management (Government, Aided), type of family,

occupation of father (Private, Daily wagers), occupation of mother (Private, Daily wagers), education of father (Primary education, Higher Secondary education) and education of mother (Primary education, Higher Secondary education, college education). But there was no significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to background variables namely community (OC), type of the school (Girls), type of management (Self-financing), occupation of father (Government), occupation of mother (Government), education of father (Illiterate, College education) and education of mother (Illiterate) of the school on school environment of higher secondary school students.

6.6 Interpretation and Discussion

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to gender. The mean scores showed that female students feel more facilities with regard to school environment than male students. This may be due to the reason that more comforts and facilities may be provided to female students. This finding is in harmony with the studies reviewed by Bency and Prasad (2013).

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to students of various religion. The Scheffe's post hoc test revealed that Christian students feel to have more

conducive school environment than Hindu and Muslim students. This may be due to the reason that due to regular religious exposure from the early ages Christian students may easily adjust and adapt to any situation and easily establish and maintain social relations. This finding is in tune with the studies reviewed by Bency and Prasad (2013).

There was significant difference in the mean scores on dimensions of school environment namely promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to community. The BC students feel to have more conducive school environment. The Scheffe's post hoc test revealed that BC students are found to experience than MBC students. This may be due to the reason that in this society there are more BC students than MBC students and it may help to establish a healthy community relation among themselves.

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to locality. The mean scores showed that students who belong to urban area feel more facilities with regard to school environment than the students of rural areas. Further the urban schools may provide better educational opportunities for their students. Also they expose advanced technologies for the betterment of education of their students. So there may be the reasons for the urban students to feel better when compared with that of rural students. This finding is in harmony with the studies reviewed by Sharma (2016), Bency and Prasad (2013) and Madankar (2013).

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to type of the school. The mean scores of the Scheffe's post hoc test showed that students belonging to girls' school feel more facilities with regard to school environment than the students of boys' school. This may be due to the reason that girl students show more interest and positive attitude towards learning and so it may help to develop a positive feeling towards the school atmosphere.

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to type of management. The mean scores of the Scheffe's post hoc test showed that students belonging to Government schools feel more facilities with regard to school environment than their counterpart in other schools. The reason may be that in recent year Government schools are providing many activities, orientation programmes and varieties of training for the betterment of students' learning and achievement. This finding is in consonance with the studies reviewed by Sharma (2016), Bency and Prasad (2013).

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to occupational status of fathers. The Scheffe's post hoc test revealed that students whose fathers are daily wagers are found to possess favourable school environment than students whose

parents are Private and Government employees. This may be due to the reason that poor fathers motivate the students to be more active in their life in future by attending and coping with any situation that is given to them.

There was significant difference in the mean scores on dimensions of school environment namely provision of basic facilities, provision of special services, promotion of curricular (or) academic activities, promotion of co-curricular activities, and promotion of school community relations with regard to educational level of father. From the Scheffe's post hoc test, it is clear that students of illiterate fathers showed better attitude towards school environment than their counterparts. This may be due to the reason that these parents face more hardships in their life and their children study from all kinds of difficult situations. Also these students have achievement motivation to taste the success in their life and it may help them to have a positive attitude towards the school as well as their learning.

There was significant difference in the mean scores on dimensions of school environment namely promotion of curricular (or) academic activities and promotion of school community relations with regard to educational level of mother. From the Scheffe's post hoc test, it is clear that students of illiterate or lower levels of educated mothers showed better satisfaction in their school environment than their counterparts. This may be due to the reason that these parents face more problems in their life and therefore insist their children to study well in difficult situations. Moreover their life depends totally on having sound education by all means.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and commitment to the basic human values based on gender. The mean scores showed that

male students in general had more perceived teacher commitment than female students. This may be due to the reasons that the male students perceive their teachers from different angles and judge them in a broader way.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and commitment to the basic human values with regard to religion. The mean scores showed that students who belonged to Christian religion had more teacher commitment perception than Hindu and Muslim students. This may be due to the fact that in Christianity students are guided properly to respect their teachers and this in turn make them to perceive their teachers as highly committed.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner with regard to community. BC students had more commitment towards learning than the SC/ST students. This may be because of the reason that BC students are more motivated and more inspired than the SC/ST group of students. The livelihood conditions of BC students are also better than the SC/ST students.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values with regard to locality as rural and urban. The mean scores showed that students who belonged to urban areas were having more teacher commitment perception than the students from rural areas. This may be due to fact that the urban area students are exposed more aware about the importance of education as well as the role of teachers in society.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and commitment to the basic human values with regard to type of the school. The mean scores showed that students who belonged to girls' schools had more perceived teacher commitment than the students of boys' school and co-education school. This may be due to the fact that girl students are found to show more commitment in studies rather than boys in academic activities.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and commitment to the basic human values with regard to type of management. The mean scores showed that students who belonged to self-financing schools had more perceived teacher commitment than that their counterparts in other schools. Moreover in self-financing schools, teachers are equipped well with adequate facilities and proper monitoring by the management.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner with regard to type of family. The mean score values showed that students from nuclear family visualised more commitment to the learner than the students from joint families. This may be because in nuclear families children are guided properly by their parents by giving individual attention.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence, and

commitment to the basic human values with regard to occupational status of father. The mean score revealed that students whose fathers are daily wagers showed more teacher commitment perception than the students whose fathers are Government and private employees. This can be due to the poor condition of their parents. Hence children of such parents are satisfied highly with available conditions provided by their teachers.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the profession and commitment to achieve excellence with regard to occupational status of mother. The mean score revealed that students whose mothers' are daily wagers showed more than students whose mothers are Government and private employees. This may also be because of the poor financial and life situations which they experience through their mothers. This economic condition indirectly motivates those students to have a healthy attitude towards their teachers.

There was significant difference in the mean scores for the dimensions of teacher commitment perception namely commitment to the learner, commitment to the society, commitment to the profession, commitment to achieve excellence and commitment to the basic human values with regard to educational level of father. From the Scheffe's post hoc test, it is clear that students of illiterate parents showed more teacher commitment perception their counterparts. This may be due to the reason that these parents face more problems in their life and insist their children to study more with a positive bend of mind.

There was significant difference in the mean scores for the dimensions of teacher commitment namely commitment to the profession, commitment to achieve excellence and commitment to the basic human values with regard to educational level of mother. From the Scheffe's post hoc test, it is clear that students of illiterate parents

showed more teacher commitment perception their counterparts. The reason may be children of such parents develop achievement motivation to taste success in their life and it may lead them to have a positive attitude towards the school and their teachers.

There was significant difference in the mean scores of student achievement in Chemistry with regard to gender. The mean scores showed that female students had more student achievement than the male students. This may be due to the reason that female students spend more time to learn seriously and prepare their lessons well in advance and thereby become high achievers.

There was significant difference in the mean scores of student achievement in Chemistry with regard to religion. The mean scores showed that Christian students had more achievement levels than the Hindu and Muslim students. This may be due to the reason that students belonging to Christianity have healthy study habits and definite goals in their life.

There was significant difference in the mean scores of student achievement in Chemistry with regard to locality. The mean scores showed that students who belong to rural area had more student achievement than the students from urban areas. This may be due to the reason that the rural area students are free from unhealthy competitions and enjoy learning in a serene atmosphere.

There was significant difference in the mean scores of student achievement in Chemistry with regard to type of school. The mean scores showed that students who belong to girls' school showed more student achievement than the students of boys' school and their counterparts. This may be because of the reason that in girls' schools disciplinary problems and classroom management problems are very less compared to

boys' schools and co-education schools. Moreover in general, girls exhibit remarkable academic achievement in all academic fields.

There was significant difference in the mean scores of student achievement in Chemistry with regard to type of management. The mean scores showed that students who belong to Self-financing school had more student achievement than their counterparts. Nowadays Self-financing schools are providing many types of special coaching with the cooperation of many experts in the field. As a result of these programmes, these schools have shown better student achievement level.

There was significant difference in the mean scores of student achievement in Chemistry with regard to type of family. The mean scores showed that students belonging to nuclear family had more student achievement than the students of joint family. This may be due to focused attention given by the parents to their children. Here children get individual attention at a greater level.

There was significant difference in the mean scores of student achievement in Chemistry with regard to occupational status of father. The Scheffe's post hoc test revealed that students whose fathers are daily wagers are found to achieve more than students of Private and Government employees. This may be because their parents help and motivate the students to achieve more so that they can think of better position in future.

There was significant difference in the mean scores of student achievement in Chemistry with regard to educational level of father. From the Scheffe's post hoc test, it is clear that the students of illiterate fathers show more efficiency than their counterparts. This may be due to the reason that these parents struggle a lot in their life and this in turn motivate their children to study well.

There was significant correlation between school environment and student achievement in Chemistry of higher secondary school students for the background variables namely religion and type of family. This result supports the fact that students achieve better in a healthy school climate. The relationship between school environment and student achievement in Chemistry is an established fact.

There was significant correlation between teacher commitment perception and student achievement in Chemistry of higher secondary school students with regard to the background variables namely gender, religion and locality of the school. This brings out the fact that only the committed teachers can promote better achievement levels in students. A committed teacher always works and thereby student achievement is enhanced irrespective of all hurdles and problems.

The study also reported significant correlation between school environment and teacher commitment perception of higher secondary school students with regard to background variables namely gender, religion, community, locality of the school, type of the school, type of management, type of family, parents' occupation and educational level of parents. This result in general clearly showed that all the background variables supported firmly that there is a significant relationship between school environment and teacher commitment perception. If teachers work with commitment by providing a good school climate, students definitely can enjoy learning and thereby their achievement can be increased considerably.

6.7 Recommendations

The findings of the study revealed that there is significant positive high correlation between school environment and teacher commitment perception. Also significant positive correlation was obtained between school environment and student achievement

in Chemistry. Significant positive correlation was also obtained between teacher commitment perception and student achievement in Chemistry. All these facts are to be considered positively for giving guidelines for the authorities concerned with educational process.

i) To the School Administrators

School environment is a very important factor in order to create commitment on the part of teachers. This being a fact, the institution shall try to provide good school environment by creating sound social and psychological climate to both teachers and students. This in turn can increase teacher commitment also. To increase teacher commitment, teachers may be given opportunities to attend orientation programmes and refresher courses periodically to enhance their competency and commitment.

Further to enhance the academic performance of students in Chemistry, it is recommended that every school should be provided with sound infrastructural facilities like Science park and well equipped Chemistry laboratory. Moreover, there should be a separate Science library in the school with adequate number of books related to Chemistry. There should be provision of frequent experiments and also Science exhibitions can be conducted in the school to inculcate scientific temper for promoting better achievement.

ii) To the Teachers

Teachers should play a vital role in introducing new methods of teaching. Activity-centered learning could be introduced in higher secondary classes. Multi-sensory learning should be used very often in order to motivate the slow learners and average learners. Learner-centered method should be introduced for better learning to take place.

The teachers should treat all the students equally without any bias. Gender, caste, community, financial and educational status of the family, educational progress of the students should not be a factor for the interpersonal relationship of a teacher. But it is the duty the teacher to give some special attention for the slow learners also by providing remedial teaching for them.

Moreover, to enhance the academic performance of students in Chemistry, teachers can frequently use experimental method which in turn helps the students to understand the concept better through practical activities. Also teachers can use simulation method for teaching to promote variety in learning. It is also recommended that teachers should correlate their teaching by applying the concepts in real life situations. The use of all these innovative methods in the school helps the teachers to be more committed which in turn leads to better achievement on the part of the students.

iii) To the Researchers

Teacher commitment, school environment and student achievement are the important variables which are closely related with the teaching learning process. Also this study showed a correlation among these three variables. That means there exists a strong relationship among these variables as far as education is concerned. This gives an insight for the researchers and tends them to go through the subject matters very deeply. This study also helps the researchers to find out the factors, both internal and external, which are favourable for school environment and also boost the teacher commitment and student achievement.

Every study has its own limitations. So the researchers are advised to do various researches in the untouched areas of these variables. In accordance with school environment, classroom climate and classroom environment can be also studied in

relation with student achievement. It is also advisable to study about home environment and teacher commitment in relation to student achievement. Based on the findings the researchers can nourish the tips and techniques for enhancing the teacher commitment and student achievement.

6.8 Suggestions for Further Studies

In order to make the present study effective, similar studies in this area could be carried out. The desirable areas of further research are the following.

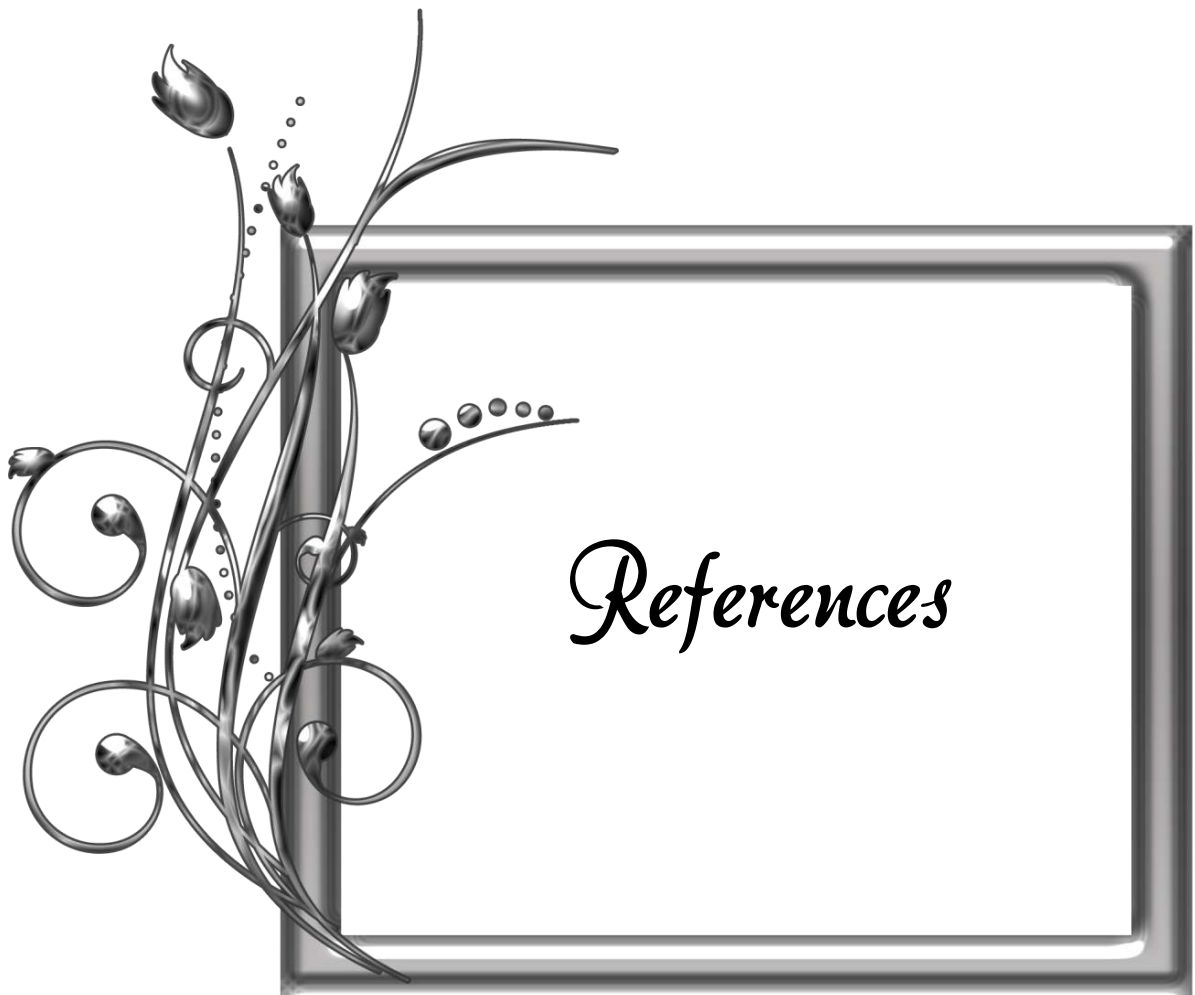
An investigation may be undertaken to find out the factors that influence teacher commitment among teachers of various levels. A correlation study on the commitment of parents and the academic achievement of children may also be carried out. Similar studies can be conducted on a larger sample and in different regions and states to have in-depth knowledge of the factors determining teacher commitment of teachers.

The present study was conducted on the sample of secondary school students only. It can also be extended to students and teachers of other levels such as primary and secondary level and comparisons can be made between them.

A similar research work may be undertaken in colleges using school environment as a variable. A comparative study of the school environment of teachers working in arts colleges and professional colleges can also be undertaken.

A study of teacher commitment of teachers in relation to school environment of the colleges may be undertaken. Also a study of teacher commitment of teachers in relation to their interest in teaching may be done. Similarly, a study on relation between teacher commitment and academic achievement of pupils can be done as well.

The research can also be conducted at various levels of higher education, for example in engineering and medical colleges. The researcher feels that a survey can be done on NET qualified teachers and their attitude and teacher commitment can be studied. The comparison of attitude and teacher commitment of doctoral teachers and non-doctoral teachers can also be suggested as a future research topic for researchers.



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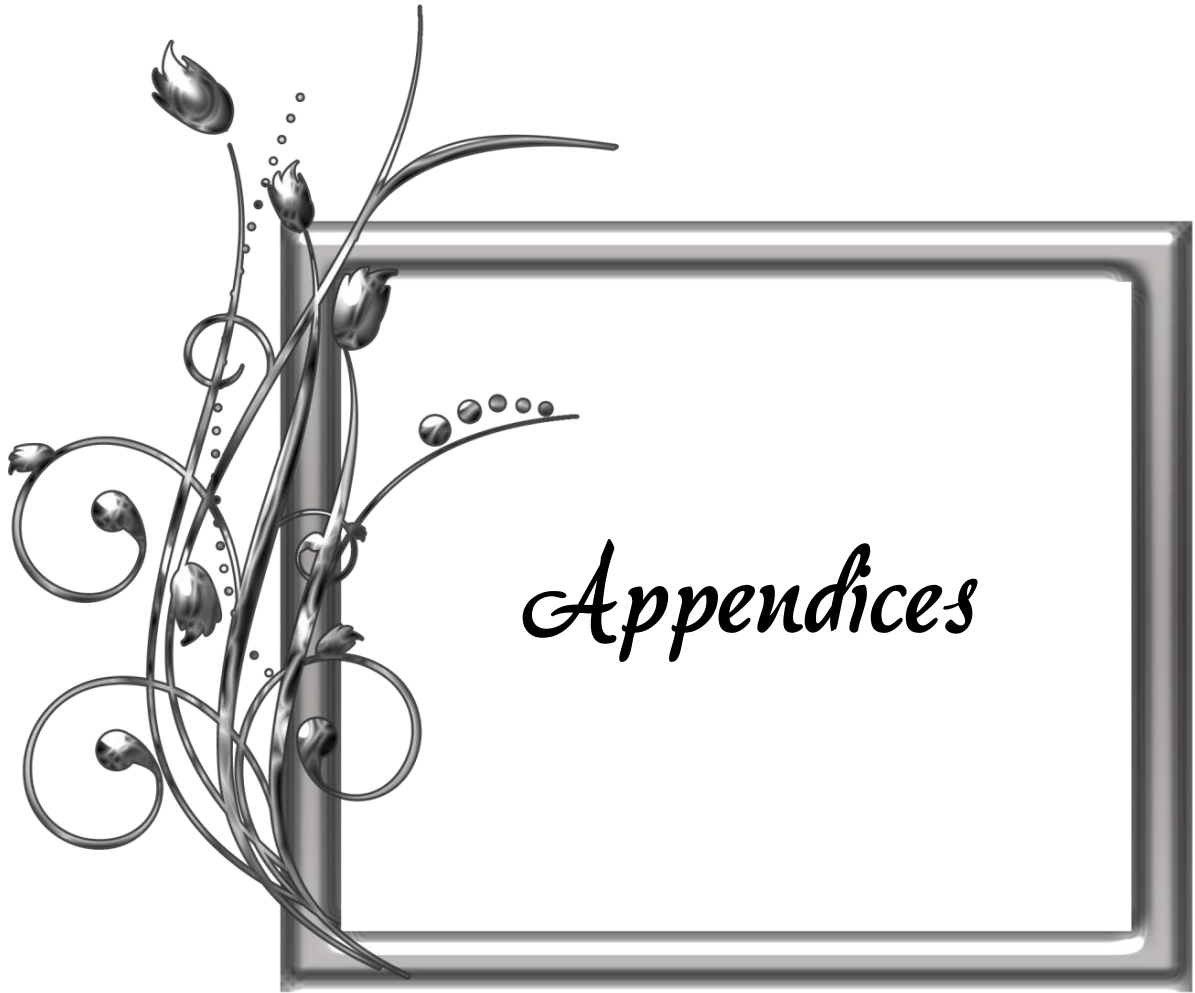
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Appendices

*Appendix - 1***PERSONAL DATA**

1. Name of the student :
2. Name of the school :
3. Gender : Male/Female
4. Religion : Hindu/Christian/Muslim
5. Community : SC/ST/MBC/BC/OC
6. Locality of the school : Rural/ Urban
7. Type of the school : Boys/ Girls/Co-education
8. Type of management : Government/ Aided/Self-financing
9. Type of family : Nuclear/Joint
10. Parents' occupation :
 - a) Father : Government/Private/Daily wagers
 - b) Mother : Government/Private/Daily wagers
11. Educational level of parents :
 - a) Father : Illiterate//Primary Education/
Higher Secondary Education/
College Education
 - b) Mother : Illiterate/ Primary Education/
Higher Secondary Education/
College Education

Appendix - 2(a)

PrAn'S School Environment Scale (Preliminary Draft)

Instructions:

Please carefully read the following statements and answer with a tick mark (✓) in the appropriate box (SA-Strongly Agree/ A-Agree/ N-Neutral/ DA -Disagree /SD-Strongly Disagree). The answer will be used only for the research purpose and kept confidential.

Sl. No.	Statement	SA	A	N	DA	SD
I	Provision of basic facilities					
1	The school environment is conducive for learning. பள்ளியின் சுற்றுப்புறச் சூழல் கற்றலுக்கு உகந்ததாக உள்ளது.					
2	The school has the provision of sanitary facilities. பள்ளியில் கழிவறை வசதிகள் செய்யப்பட்டுள்ளன.					
3	The school has the provision of good drinking water. பள்ளியில் குடிநீர் வசதி நன்முறையில் செய்யப்பட்டுள்ளது.					
4	Classrooms are provided with good seating arrangement. வகுப்பறைகள்நல்ல இருக்கை வசதிகளுடன் ஒழுங்குபடுத்தப்பட்டுள்ளன.					
5	Classrooms have proper lighting and ventilation. வகுப்பறைகள் தகுந்த முறையில் ஒளியோட்டம் மற்றும் காற்றோட்டம் உடையனவாக அமைந்துள்ளன.					
6	The school library has sufficient books. பள்ளி நூலகத்தில் போதுமான புத்தகங்கள் உள்ளன.					
7	There is no provision for sports and games in the school. பள்ளியில் விளையாட்டுப் போட்டிகளுக்கான வசதிகள் இல்லை.					
8	The school maintenance works are done properly. பள்ளியின் பராமரிப்பு வேலைகள் சரிவர செய்யப்படுகின்றன.					
9	The schools' infrastructure facilities are attractive. பள்ளியின் உள்கட்டமைப்பு வசதிகள் அழகுற அமைந்து உள்ளன.					

Sl. No.	Statement	SA	A	N	DA	SD
10	The school has no auditorium to conduct programmes. பள்ளியில் நிகழ்ச்சிகள்நடைபெற கலையரங்கம் இல்லை.					
11	The classroom is disturbed due to the noisy environment of other class. வகுப்பறை பிற வகுப்பின் இரைச்சல் சூழலால் தொல்லை கொடுப்பதாகவே உள்ளது.					
12	Bulletin boards are available in the school for displaying important events. முக்கிய நிகழ்வுகளைக் காட்சிப்படுத்த பள்ளியில் அறிக்கை பலகைகள் உள்ளன.					
13	The school provides usage of technology for students. மாணவர்களுக்குத் தொழில் நுட்பங்களைப் பயன்படுத்த பள்ளி வாய்ப்பளிக்கிறது.					
14	The school has a separate reading room in the library. பள்ளியின் நூலகத்தில் தனியாக படிக்கும் ஓர் அறை உள்ளது.					
15	The school has a well-equipped computer lab. பள்ளியில் ஓர் கணினி ஆய்வகம் நன்முறையில் உள்ளது.					
16	The classrooms are spacious enough to accommodate all students. அனைத்து வகுப்பறைகளும் மாணவர்கள் அனைவரையும் உள்ளடக்குமளவிற்கு இடவசதியோடு உள்ளன.					
17	There are sufficient black boards in every class room. எல்லா வகுப்பறைகளிலும் கரும்பலகைகள் போதுமான அளவில் உள்ளன.					
18	The black boards in the class room are always neat and clean. வகுப்பறையிலுள்ள கரும்பலகைகள் எப்போதும் சுத்தமாகவும் தூய்மையாகவும் இருக்கும்.					
II	Provision of special services					
1	The school security system is good. பள்ளியின் பாதுகாப்பு அமைப்பு நன்றாக உள்ளது.					
2	The school arranges for general medical camps for the students. பள்ளி, மாணவர்களுக்கென பொது மருத்துவ முகாம்களை ஏற்பாடு செய்கின்றது.					

Sl. No.	Statement	SA	A	N	DA	SD
3	The school provides counselling services to the students in need. தேவைப்படும் மாணவர்களுக்கு பள்ளி வழிகாட்டுதல் அறிவுரை சேவையை வழங்குகிறது.					
4	The school organizes health and physical education programmes for the benefit of students. உடற்கல்வி மற்றும் சுகாதாரக் கல்வி நிகழ்வுகளை மாணவர்களின் நலனுக்காகப் பள்ளி ஒருங்கமைக்கிறது.					
5	The school does not plan for student counselling for career choices. மாணவர்களின் தொழில் தேர்வுக்கான வழிகாட்டலை வழங்கிட பள்ளி திட்டமிடவில்லை.					
6	The school takes suitable steps for improving pupils' achievement. மாணவர்களின் செயல்பாட்டுச் சாதனைகளை மேம்படுத்த பள்ளி தகுந்த வழிமுறைகளை கையாள்கின்றது.					
7	The school provides remedial coaching programmes for the benefit of weak learners. கற்றலில் பின்தங்கிய மாணவர்களின் நலனுக்காகக் குறைதீர் வகுப்புகளைப் பள்ளி வழங்குகிறது.					
8	The school provides educational guidance to the students. மாணவர்களுக்கான கல்வி வழிகாட்டுதலை பள்ளி வழங்குகிறது.					
9	The school pays individual attention to the students who are academically weak. படிப்பில் பின்தங்கிய மாணவர்களுக்கு பள்ளி தனிப்பட்ட கவனம் செலுத்துகிறது.					
10	The programmes organized in school contribute to the all- round development of the students. பள்ளியில் ஏற்பாடு செய்கின்ற நிகழ்ச்சிகள் அனைத்தும் மாணவர்களின் ஒழுங்கிணைந்த முன்னேற்றத்திற்குத் துணைபுரிகின்றன.					
11	The school provides various welfare programmes for the benefit of the students who are financially weak. பொருளாதாரத்தில் பின்தங்கிய மாணவர்களுக்கென, பள்ளி பல்வேறு நலத்திட்டங்களை வழங்குகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
12	The school renders special services for the handicapped students. உடல் ஊனமுற்ற மாணவர்களுக்குச் சிறப்பு சேவைகளை பள்ளி வழங்குகிறது.					
13	The school provides special education services for students with learning disabilities. கற்றலில் குறைபாடுடைய மாணவர்களுக்கு சிறப்பு கல்விச் சேவைகளை பள்ளி வழங்குகிறது.					
14	The school arranges enrichment programmes for the benefit of the outstanding and gifted students. முதன்மையான மற்றும் மீத்திறன் மாணவர்களுக்கு வளமுட்டும் நிகழ்ச்சிகளை பள்ளி ஏற்பாடு செய்கின்றது.					
15	The school provides special educational devices for the disabled students. மாற்றுத்திறனாளி மாணவர்களுக்குத் தனிப்பட்ட கற்றல் உபகரணங்களை பள்ளி வழங்குகிறது.					
III	Promotion of curricular (or) Academic activities					
1	The school takes steps to develop the academic skills of students. மாணவர்களின் கல்விசார் திறன்களை வளர்க்கத் தேவையான வழிமுறைகளை பள்ளி கையாள்கிறது.					
2	The school provides balance and variety in the academic activities. பள்ளியானது சமநிலை மற்றும் பலவிதமான கல்விச் செயல்பாடுகளை வழங்குகிறது.					
3	The school is keen on providing learning experiences as envisaged in the curriculum. பள்ளியானது கலைத்திட்டம் எதிர்நோக்கும் கற்றல் அனுபவங்களை வழங்க முனைப்போடு செயல்படுகிறது.					
4	The school provides adequate budget allocation for organizing academic activities. கல்விச் செயல்பாடுகளை ஒருங்கிணைக்க போதுமான நிதியைப்பள்ளி ஒதுக்கீடு செய்து வழங்குகிறது.					
5	The school maintains properly all the records of students related to their academic proficiency. பள்ளியானது மாணவர்களின் கல்வித் தேர்ச்சி சார்ந்த அனைத்துப் பதிவேடுகளையும் தக்கமுறையில் பள்ளி பேணுகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
6	The school strives to get best results in public examination and prepares students for that. பள்ளியானது பொதுத்தேர்வில் சிறந்த தேர்ச்சிபெற வேண்டி மாணவர்களைத் தயாரிக்க கடும் முயற்சி செய்கிறது.					
7	The academic activities are distributed properly in the year. கல்விச் செயல்பாடுகள் ஆண்டு முழுவதற்குமாக சரியாகப் பகிர்ந்தளிக்கப்பட்டுள்ளது.					
8	Exhibitions are conducted for different subjects in the school. பள்ளியானது ஒவ்வொரு பாடத்திற்கும் கண்காட்சிகளை நடத்துகிறது.					
9	Power point presentation often used in the class. வகுப்பில் அடிக்கடி powerpoint presentation பயன்படுத்தப்படுகிறது.					
10	The school provides appropriate learning situation for the students to realize the learning objectives. பள்ளியானது மாணவர்களின் கற்றல் நோக்கங்களை உணர்ந்து கொள்ளும்படி கற்றல் சூழல்களை வழங்குகின்றது.					
11	The school takes steps to prepare and use improvised aids effectively. புதுமை வாய்ந்த கற்பித்தல் கருவிகளைத் தயாரிக்கவும் பயன்படுத்தவும் உரிய நடவடிக்கைகளை பள்ளி மேற்கொள்கிறது.					
12	The school maintains the progress report of the student in a systematic way. பள்ளியானது மாணவர்களின் மதிப்பெண் அட்டவணையை முறையாக பராமரிக்கின்றது.					
13	The school does not provides for the practical learning activities of the students. பள்ளியானது மாணவர்களுக்குச் செய்முறை கற்றல் நிகழ்வுகளை வழங்குவதில்லை.					
14	The school promotes project method of learning for developing the abilities of the students. பள்ளியானது மாணவர்களின் திறன்களை வளர்க்க செயல்திட்ட முறை கற்றலை ஊக்குவிக்கிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
15	Class test and monthly examinations are regularly conducted in the school. வகுப்புமற்றும் மாதாந்திர தேர்வுகளைப் பள்ளி சீராக நடத்துகிறது.					
IV	Promotion of co-curricular activities					
1	The school provides different type of co-curricular activities. பள்ளியானது பலவகை இணை கலைத்திட்டச் செயல்பாடுகளை வழங்குகிறது.					
2	The school never fails to organize NSS camps. பள்ளியானது நாட்டு நலத்திட்டம் முகாமை ஒருங்கமைக்க ஒருபோதும் தவறியதில்லை.					
3	The school provides training for the students to enhance their creative talents. பள்ளியானது மாணவர்களின் ஆக்கத்திறனை விரிவுபடுத்த பயிற்சிகளை வழங்குகிறது.					
4	The school encourages participation of students in the cultural programmes conducted by other agencies. பள்ளியானது பிற முகவர்களால் நடத்தப்படுகின்ற கலைப் போட்டிகளிலும் பங்கேற்க மாணவர்களை ஊக்கப்படுத்துகிறது.					
5	The school encourages participation of all students in cultural activities. கலை நிகழ்ச்சிகளில் அனைத்து மாணவர்களையும் பங்கேற்க பள்ளி ஊக்கப்படுத்துகிறது.					
6	The school provides adequate training for students to take leadership activities. மாணவர்களின் தலைமைப்பண்பு வளரத் தேவையான பயிற்சிகளை பள்ளி வழங்குகிறது.					
7	The school programme helps children to practice desirable social relationship. பள்ளி நிகழ்ச்சிகள் குழந்தைகளிடையே விரும்பத்தக்க சமூக உறவுகளோடு பழக துணைபுரிகிறது.					
8	The school is concerned about the all-round development of students by organizing various activities. பள்ளியானது பல்வேறு செயல்பாடுகளை ஒருங்கமைப்பதன் மூலம் மாணவர்களின் ஒருங்கிணைந்த வளர்ச்சியில் கவனம்செலுத்துகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
9	The school conducts educational tours for all classes. பள்ளி அனைத்து வகுப்புகளுக்கும் கல்விச் சுற்றுலா நடத்துகிறது.					
10	The class is spacious enough to accommodate all students பள்ளியானது அனைத்து மாணவர்களுக்கும் போதுமான இடவசதியளித்துள்ளது.					
11	The school organizes science quiz. பள்ளி அறிவியல் வினாடிவினாவிற்கு ஏற்பாடு செய்கிறது.					
12	The school organises various club activities like fine-arts club, science club and eco-club. பள்ளியானது இலக்கிய மன்றம், அறிவியல் கழகம் மற்றும் பசுமைக் கழகம் போன்ற பலவேறு கழகச் செயல்பாடுகளை ஒருங்கமைக்கிறது.					
13	The school take steps for the participation of students in sports and games மாணவர்கள் விளையாட்டுப் போட்டிகளில் கலந்து கொள்ள வேண்டிய நடவடிக்கைகளை பள்ளி எடுக்கிறது.					
14	The school provides training to students in preparing socially useful productive works. சமூக பயனுள்ள ஆக்கச் செயல்பாடுகளில் மாணவர்களுக்குப் பள்ளி பயிற்சி வழங்குகிறது.					
15	The school often organises intercultural programmes. பள்ளிகளுக்கு இடையே நடைபெறும் கலைநிகழ்ச்சிகளை பள்ளி ஒருங்கமைக்கிறது.					
V	Promotion of school community relations					
1	The school organizes computer literacy programmes for the parents. பள்ளியானது கணினி எழுத்தறிவு நிகழ்வுகளை பெற்றோர்களுக்காக ஏற்பாடு செய்கிறது					
2	The school shows involvement in the sanitary conditions of the village. கிராமத்தின் தூய்மை மற்றும் ஆரோக்கியத்தில் அக்கறையோடு பள்ளி ஈடுபடுகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
3	Health awareness programmes are organized in the school for the welfare of the community. சமூக நலனிற்காக ஆரோக்கிய விழிப்புணர்வு நிகழ்ச்சிகளை பள்ளி ஏற்பாடு செய்கிறது.					
4	The school organizes of parents- teacher meetings. பெற்றோர் ஆசிரியர் கூடுகைகளைப்பள்ளி ஒருங்கமைக்கிறது.					
5	The school is open for the public to organize awareness programmes. விழிப்புணர்வு நிகழ்வுகளை ஒருங்கமைக்க வேண்டி பள்ளி பொதுமக்களை எப்போதுமே வரவேற்கிறது.					
6	The school satisfies the educational needs of the community. சமூகத்தின் கல்வித் தேவைகளைப் பள்ளி திருப்திபடுத்துகிறது.					
7	The school organizes programmes that enable all teachers, students and the leaders of the community to participate. அனைத்து ஆசிரியர்கள், மாணவர்கள் மற்றும் சமூகத் தலைவர்கள் பங்கேற்கும் அளவிற்கு ஏற்ற நிகழ்ச்சிகளைப் பள்ளி ஒருங்கமைக்கிறது.					
8	The school playground is utilized by the public for conducting sports activities. பொது மக்கள் விளையாட்டுப் போட்டிகளை நடத்துவதற்கும் பள்ளியின் விளையாட்டு மைதானம் பயன்படுத்தப்படுகிறது.					
9	The school furniture and equipment are utilized for conducting community programmes. பள்ளியிலுள்ள மரச்சாமான்கள் மற்றும் உபகரணங்கள் சமூக நிகழ்ச்சிகள் நடத்தப் பயன்படுத்தப்படுகின்றன.					
10	There is mutual exchange of resources and certain facilities between the school and the society. பள்ளி மற்றும் சமூகத்தின் வளங்கள் மற்றும் பிற வசதிகளை ஒன்றோடொன்று பகிர்ந்து கொள்கிறார்கள்.					
11	Various programmes are organised for the welfare of the community. சமூக நலனிற்காகப் பல்வேறு நிகழ்வுகள் ஒருங்கமைக்கப்படுகின்றன.					

Sl. No.	Statement	SA	A	N	DA	SD
12	The school exchanges ideas and maintains mutual co-operation with the community. பள்ளியானது சமூகத்தோடு கருத்துக்களை பரிமாற்றிக் கொள்வதோடு ஒன்றோடொன்று ஒற்றுமையோடும் செயல்படுகிறது.					
13	Distribution of uniforms and study materials are arranged for poor students in the school. பள்ளிச் சீருடை மற்றும் கற்றல் உபகரணங்களை ஏழை மாணவர்களுக்கு வழங்க ஏற்பாடு செய்கிறது.					
14	The school organizes various extension programmes and makes students to participate in such activities. பள்ளிபல்வேறு சமூகம் சார்ந்த நிகழ்ச்சிகளை ஏற்பாடு செய்து அதில் மாணவர்களையும் பங்கேற்கச் செய்கிறது.					

Appendix - 2(b)**PrAn'S School Environment Scale - 2015 (Final Draft)****Instructions:**

Please carefully read the following statements and answer with a tick mark (✓) in the appropriate box (SA-Strongly Agree/ A-Agree/ N-Neutral/ DA -Disagree /SD-Strongly Disagree). The answer will be used only for the research purpose and kept confidential.

Sl. No.	Statement	SA	A	N	DA	SD
I	Provision of basic facilities					
1	The school environment is conducive for learning. பள்ளியின் சுற்றுப்புறச் சூழல் கற்றலுக்கு உகந்ததாக உள்ளது.					
2	The school has the provision of sanitary facilities. பள்ளியில் கழிவறை வசதிகள் செய்யப்பட்டுள்ளன.					
3	The school has the provision of good drinking water. பள்ளியில் குடிநீர் வசதி நன்முறையில் செய்யப்பட்டுள்ளது.					
4	Classrooms are provided with good seating arrangement. வகுப்பறைகள்நல்ல இருக்கை வசதிகளுடன் ஒழுங்குபடுத்தப்பட்டுள்ளன.					
5	Classrooms have proper lighting and ventilation. வகுப்பறைகள் தகுந்த முறையில் ஒளியோட்டம் மற்றும் காற்றோட்டம் உடையனவாக அமைந்துள்ளன.					
6	The school library has sufficient books. பள்ளி நூலகத்தில் போதுமான புத்தகங்கள் உள்ளன.					
7	The school maintenance works are done properly. பள்ளியின் பராமரிப்பு வேலைகள் சரிவர செய்யப்படுகின்றன.					
8	The schools' infrastructure facilities are attractive. பள்ளியின் உட்கட்டமைப்பு வசதிகள் அழகுற அமைந்து உள்ளன.					
9	Bulletin boards are available in the school for displaying important events. முக்கிய நிகழ்வுகளைக் காட்சிப்படுத்த பள்ளியில் அறிக்கை பலகைகள் உள்ளன.					

Sl. No.	Statement	SA	A	N	DA	SD
10	The school provides usage of technology for students. மாணவர்களுக்குத் தொழில் நுட்பங்களைப் பயன்படுத்த பள்ளி வாய்ப்பளிக்கிறது.					
11	The school has a separate reading room in the library. பள்ளியின் நூலகத்தில் தனியாக படிக்கும் ஓர் அறை உள்ளது.					
12	The school has a well-equipped computer lab. பள்ளியில் ஓர் கணிணி ஆய்வகம் நன்முறையில் உள்ளது.					
13	The classrooms are spacious enough to accommodate all students. அனைத்து வகுப்பறைகளும் மாணவர்கள் அனைவரையும் உள்ளடக்குமளவிற்கு இடவசதியோடு உள்ளன.					
14	There are sufficient black boards in every class room. எல்லா வகுப்பறைகளிலும் கரும்பலகைகள் போதுமான அளவில் உள்ளன.					
15	The black boards in the class room are always neat and clean. வகுப்பறையிலுள்ள கரும்பலகைகள் எப்போதும் சுத்தமாகவும் தூய்மையாகவும் இருக்கும்.					
II Provision of special services						
1	The school security system is good. பள்ளியின் பாதுகாப்பு அமைப்பு நன்றாக உள்ளது					
2	The school arranges for general medical camps for the students. பள்ளி, மாணவர்களுக்கென பொது மருத்துவ முகாம்களை ஏற்பாடு செய்கின்றது.					
3	The school provides counselling services to the students in need. தேவைப்படும் மாணவர்களுக்கு பள்ளி வழிகாட்டுதல் அறிவுரை சேவையை வழங்குகிறது.					
4	The school organizes health and physical education programmes for the benefit of students. உடற்கல்வி மற்றும் சுகாதாரக் கல்வி நிகழ்வுகளை மாணவர்களின் நலனுக்காகப் பள்ளி ஒருங்கமைக்கிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
5	The school takes suitable steps for improving pupils' achievement. மாணவர்களின் செயல்பாட்டுச் சாதனைகளை மேம்படுத்த பள்ளி தகுந்த வழிமுறைகளை கையாள்கின்றது.					
6	The school provides remedial coaching programmes for the benefit of weak learners. கற்றலில் பின்தங்கிய மாணவர்களின் நலனுக்காகக் குறைதீர் வகுப்புகளைப் பள்ளி வழங்குகிறது.					
7	The school provides educational guidance to the students. மாணவர்களுக்கான கல்வி வழிகாட்டுதலை பள்ளி வழங்குகிறது.					
8	The school pays individual attention to the students who are academically weak. படிப்பில் பின்தங்கிய மாணவர்களுக்கு பள்ளி தனிப்பட்ட கவனம் செலுத்துகிறது.					
9	The programmes organized in school contribute to the all- round development of the students. பள்ளியில் ஏற்பாடு செய்கின்ற நிகழ்ச்சிகள் அனைத்தும் மாணவர்களின் ஒழுங்கிணைந்த முன்னேற்றத்திற்குத் துணைபுரிகின்றன.					
10	The school provides various welfare programmes for the benefit of the students who are financially weak. பொருளாதாரத்தில் பின்தங்கிய மாணவர்களுக்கென, பள்ளி பல்வேறு நலத்திட்டங்களை வழங்குகிறது.					
11	The school renders special services for the handicapped students. உடல் ஊனமுற்ற மாணவர்களுக்குச் சிறப்பு சேவைகளை பள்ளி வழங்குகிறது.					
12	The school provides special education services for students with learning disabilities. கற்றலில் குறைபாடுடைய மாணவர்களுக்கு சிறப்பு கல்விச் சேவைகளை பள்ளி வழங்குகிறது.					
13	The school arranges enrichment programmes for the benefit of the outstanding and gifted students. முதன்மையான மற்றும் மீத்திறன் மாணவர்களுக்கு வளமூட்டும் நிகழ்ச்சிகளை பள்ளி ஏற்பாடு செய்கின்றது.					

Sl. No.	Statement	SA	A	N	DA	SD
14	The school provides special educational devices for the disabled students. மாற்றுத்திறனாளி மாணவர்களுக்குத் தனிப்பட்ட கற்றல் உபகரணங்களை பள்ளி வழங்குகிறது.					
III	Promotion of curricular (or) Academic activities					
1	The school takes steps to develop the academic skills of students. மாணவர்களின் கல்விசார் திறன்களை வளர்க்கத் தேவையான வழிமுறைகளை பள்ளி கையாள்கிறது.					
2	The school provides balance and variety in the academic activities. பள்ளியானது சமநிலை மற்றும் பலவிதமான கல்விச் செயல்பாடுகளை வழங்குகிறது.					
3	The school is keen on providing learning experiences as envisaged in the curriculum. பள்ளியானது கலைத்திட்டம் எதிர்நோக்கும் கற்றல் அனுபவங்களை வழங்க முனைப்போடு செயல்படுகிறது.					
4	The school provides adequate budget allocation for organizing academic activities. கல்விச் செயல்பாடுகளை ஒருங்கிணைக்க போதுமான நிதியைப்பள்ளி ஒதுக்கீடு செய்து வழங்குகிறது.					
5	The school maintains properly all the records of students related to their academic proficiency. பள்ளியானது மாணவர்களின் கல்வித் தேர்ச்சி சார்ந்த அனைத்துப் பதிவேடுகளையும் தக்கமுறையில் பள்ளி பேணுகிறது.					
6	The school strives to get best results in public examination and prepares students for that. பள்ளியானது பொதுத்தேர்வில் சிறந்த தேர்ச்சிபெற வேண்டி மாணவர்களைத் தயாரிக்க கடும் முயற்சி செய்கிறது.					
7	The academic activities are distributed properly in the year. கல்விச் செயல்பாடுகள் ஆண்டு முழுவதற்குமாக சரியாகப் பகிர்ந்தளிக்கப்பட்டுள்ளது.					
8	Exhibitions are conducted for different subjects in the school. பள்ளியானது ஒவ்வொரு பாடத்திற்கும் கண்காட்சிகளை நடத்துகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
9	Power point presentation often used in the class. வகுப்பில் அடிக்கடி powerpoint presentation பயன்படுத்தப்படுகிறது.					
10	The school provides appropriate learning situation for the students to realize the learning objectives. பள்ளியானது மாணவர்களின் கற்றல் நோக்கங்களை உணர்ந்து கொள்ளும்படி கற்றல் சூழல்களை வழங்குகின்றது.					
11	The school takes steps to prepare and use improvised aids effectively. புதுமை வாய்ந்த கற்பித்தல் கருவிகளைத் தயாரிக்கவும் பயன்படுத்தவும் உரிய நடவடிக்கைகளை பள்ளி மேற்கொள்கிறது.					
12	The school maintains the progress report of the student in a systematic way. பள்ளியானது மாணவர்களின் மதிப்பெண் அட்டவணையை முறையாக பராமரிக்கின்றது.					
13	The school promotes project method of learning for developing the abilities of the students. பள்ளியானது மாணவர்களின் திறன்களை வளர்க்க செயல்திட்ட முறை கற்றலை ஊக்குவிக்கிறது					
14	Class test and monthly examinations are regularly conducted in the school. வகுப்புமற்றும் மாதாந்திர தேர்வுகளைப் பள்ளி சீராக நடத்துகிறது.					
IV	Promotion of co-curricular activities					
1	The school provides different type of co-curricular activities. பள்ளியானது பலவகை இணை கலைத்திட்டச் செயல்பாடுகளை வழங்குகிறது.					
2	The school never fails to organize NSS camps. பள்ளியானது நாட்டு நலத்திட்டம் முகாமை ஒருங்கமைக்க ஒருபோதும் தவறியதில்லை.					
3	The school provides training for the students to enhance their creative talents. பள்ளியானது மாணவர்களின் ஆக்கத்திறனை விரிவுபடுத்த பயிற்சிகளை வழங்குகிறது.					
4	The school encourages participation of students in the cultural programmes conducted by other agencies. பள்ளியானது பிற முகவர்களால் நடத்தப்படுகின்ற கலைப் போட்டிகளிலும் பங்கேற்க மாணவர்களை ஊக்கப்படுத்துகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
5	The school encourages participation of all students in cultural activities. கலை நிகழ்ச்சிகளில் அனைத்து மாணவர்களையும் பங்கேற்க பள்ளி ஊக்கப்படுத்துகிறது.					
6	The school provides adequate training for students to take leadership activities. மாணவர்களின் தலைமைப்பண்பு வளரத் தேவையான பயிற்சிகளை பள்ளி வழங்குகிறது.					
7	The school programme helps children to practice desirable social relationship. பள்ளி நிகழ்ச்சிகள் குழந்தைகளிடையே விரும்பத்தக்க சமூக உறவுகளோடு பழக துணைபுரிகிறது.					
8	The school is concerned about the all-round development of students by organizing various activities. பள்ளியானது பல்வேறு செயல்பாடுகளை ஒருங்கமைப்பதன் மூலம் மாணவர்களின் ஒருங்கிணைந்த வளர்ச்சியில் கவனம்செலுத்துகிறது.					
9	The school conducts educational tours for all classes. பள்ளி அனைத்து வகுப்புகளுக்கும் கல்விச் சுற்றுலா நடத்துகிறது.					
10	The class is spacious enough to accommodate all students பள்ளியானது அனைத்து மாணவர்களுக்கும் போதுமான இடவசதியளித்துள்ளது.					
11	The school organizes science quiz. பள்ளி அறிவியல் வினாடிவினாவிற்கு ஏற்பாடு செய்கிறது.					
12	The school organises various club activities like fine-arts club, science club and eco-club. பள்ளியானது இலக்கிய மன்றம், அறிவியல் கழகம் மற்றும் பசுமைக் கழகம் போன்ற பல்வேறு கழகச் செயல்பாடுகளை ஒருங்கமைக்கிறது.					
13	The school take steps for the participation of students in sports and games மாணவர்கள் விளையாட்டுப் போட்டிகளில் கலந்து கொள்ள வேண்டிய நடவடிக்கைகளை பள்ளி எடுக்கிறது.					
14	The school provides training to students in preparing socially useful productive works. சமூக பயனுள்ள ஆக்கச் செயல்பாடுகளில் மாணவர்களுக்குப் பள்ளி பயிற்சி வழங்குகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
15	The school often organises intercultural programmes. பள்ளிகளுக்கு இடையே நடைபெறும் கலைநிகழ்ச்சிகளை பள்ளி ஒருங்கமைக்கிறது.					
V	Promotion of school community relations					
1	The school organizes computer literacy programmes for the parents. பள்ளியானது கணிணி எழுத்தறிவு நிகழ்வுகளை பெற்றோர்களுக்காக ஏற்பாடு செய்கிறது					
2	The school shows involvement in the sanitary conditions of the village. கிராமத்தின் தூய்மை மற்றும் ஆரோக்கியத்தில் அக்கறையோடு பள்ளி ஈடுபடுகிறது.					
3	Health awareness programmes are organized in the school for the welfare of the community. சமூக நலனிற்காக ஆரோக்கிய விழிப்புணர்வு நிகழ்ச்சிகளை பள்ளி ஏற்பாடு செய்கிறது.					
4	The school organizes of parents- teacher meetings. பெற்றோர் ஆசிரியர் கூடுகைகளைப்பள்ளி ஒருங்கமைக்கிறது.					
5	The school is open for the public to organize awareness programmes. விழிப்புணர்வு நிகழ்வுகளை ஒருங்கமைக்க வேண்டி பள்ளி பொதுமக்களை எப்போதுமே வரவேற்கிறது.					
6	The school satisfies the educational needs of the community. சமூகத்தின் கல்வித் தேவைகளைப் பள்ளி திருப்திபடுத்துகிறது.					
7	The school organizes programmes that enable all teachers, students and the leaders of the community to participate. அனைத்து ஆசிரியர்கள், மாணவர்கள் மற்றும் சமூகத் தலைவர்கள் பங்கேற்கும் அளவிற்கு ஏற்ற நிகழ்ச்சிகளைப் பள்ளி ஒருங்கமைக்கிறது.					
8	The school playground is utilized by the public for conducting sports activities. பொது மக்கள் விளையாட்டுப் போட்டிகளை நடத்துவதற்கும் பள்ளியின் விளையாட்டு மைதானம் பயன்படுத்தப்படுகிறது.					

Sl. No.	Statement	SA	A	N	DA	SD
9	The school furniture and equipment are utilized for conducting community programmes. பள்ளியிலுள்ள மரச்சாமான்கள் மற்றும் உபகரணங்கள் சமூக நிகழ்ச்சிகள் நடத்தப் பயன்படுத்தப்படுகின்றன.					
10	There is mutual exchange of resources and certain facilities between the school and the society. பள்ளி மற்றும் சமூகத்தின் வளங்கள் மற்றும் பிற வசதிகளை ஒன்றோடொன்று பகிர்ந்து கொள்கிறார்கள்.					
11	Various programmes are organised for the welfare of the community. சமூக நலநிற்காகப் பல்வேறு நிகழ்வுகள் ஒருங்கமைக்கப்படுகின்றன.					
12	The school exchanges ideas and maintains mutual co-operation with the community. பள்ளியானது சமூகத்தோடு கருத்துக்களை பரிமாற்றிக் கொள்வதோடு ஒன்றோடொன்று ஒற்றுமையோடும் செயல்படுகிறது.					
13	Distribution of uniforms and study materials are arranged for poor students in the school. பள்ளிச் சீருடை மற்றும் கற்றல் உபகரணங்களை ஏழை மாணவர்களுக்கு வழங்க ஏற்பாடு செய்கிறது.					
14	The school organizes various extension programmes and makes students to participate in such activities. பள்ளிபல்வேறு சமூகம் சார்ந்த நிகழ்ச்சிகளை ஏற்பாடு செய்து அதில் மாணவர்களையும் பங்கேற்கச் செய்கிறது.					

Appendix - 3(a)**PrAn'S Teacher Commitment Perception Scale (Preliminary Draft)****Instructions:**

Please carefully read the following statements and answer with a tick mark (✓) in the appropriate box (SA-Strongly Agree/ A- Agree/ N-Neutral/ DA -Disagree /SD-Strongly Disagree). The answer will be used only for the research purpose and kept confidential.

Sl. No.	Statement	SA	A	N	DA	SD
I	Commitment to the learner					
1	Teachers consider the individual differences of the students in the class. ஆசிரியர்கள் வகுப்பறையில் மாணவர்களின் தனியாள் வேறுபாடுகளைக் கருத்தில் கொள்கின்றனர்.					
2	Teachers have an understanding about the home environment of the students. ஆசிரியர்கள் மாணவர்களின் வீட்டுச் சூழ்நிலைகளைப் பற்றி புரிந்துள்ளார்கள்.					
3	Teachers are aware about the physical and mental health of the students. ஆசிரியர்கள் மாணவர்களின் உடல் மற்றும் மன நலம் பற்றி விழிப்போடுள்ளனர்.					
4	Teachers fail to check the daily home assignments. ஆசிரியர்கள் தினசரி ஒப்படைப்புகளைச் சரிபார்க்கத் தவறுகிறார்கள்.					
5	Teachers are emotionally stable while solving the students' problems. ஆசிரியர்கள் மாணவர்களின் பிரச்சனைகளைத்தீர்க்குமளவிற்கு மனவெழுச்சி நிலைத்தன்மை பெற்றுள்ளனர்.					
6	Teachers do not clarify the doubts of the students' then and there. ஆசிரியர்கள் மாணவர்களின் சந்தேகங்களை உடனுக்குடன் தீர்ப்பதில்லை.					
7	Teachers are concerned with the development of students. ஆசிரியர்கள் மாணவர்களின் முன்னேற்றத்தில் கருத்தாய் உள்ளனர்.					

Sl. No.	Statement	SA	A	N	DA	SD
8	Teachers provide correct information to the parents about their wards. ஆசிரியர்கள் பெற்றோர்களுக்குத் தங்கள் குழந்தைகளைப் பற்றிய சரியான தகவல்களைக் கூறுகிறார்கள்.					
9	Teachers conduct tests to know the level of learning of the students. ஆசிரியர்கள் மாணவர்களின் கற்றல் நிலையை அறிந்து கொள்ள தேர்வுகளை நடத்துகின்றனர்.					
10	Teachers are not particular in maintaining the cumulative records. ஆசிரியர்கள் மாணவர்களின் திரள்பதிவேட்டைச் சரியாகப் பராமரித்து வைக்கவில்லை.					
11	Teachers have a true concern towards the class students. ஆசிரியர்கள் அவர்களின் வகுப்பு மாணவர்களின் மேல் உண்மையான அக்கறையோடு உள்ளார்கள்.					
12	Teachers take measures to develop the students' communication skills. ஆசிரியர்கள் மாணவர்களின் தகவல் பரிமாற்றத் திறன்களை மேம்படுத்த நடவடிக்கை எடுக்கிறார்கள்.					
13	Teachers make the students to interact freely in the class room. மாணவர்கள் வகுப்பறையில் சுதந்திரமாக தகவல் பரிமாறிக் கொள்ள ஆசிரியர்கள் உதவுகிறார்கள்.					
14	Teachers give counselling to students to solve the personal problems of the students. ஆசிரியர்கள் மாணவர்களின் தனிப்பட்ட பிரச்சனைகளைத் தீர்க்க அறிவுறுத்தப்படுகிறார்கள்.					
15	Teachers arrange classroom activities based on students' interest. ஆசிரியர்கள் வகுப்பறைச் செயல்பாடுகளை மாணவர்களின் ஆர்வத்திற்கு ஏற்ப அமைத்துக் கொள்கிறார்கள்.					
16	Teachers provide feedback the student for their improvement in learning. ஆசிரியர்கள் மாணவர்களின் கற்றல் முன்னேற்றத்திற்காகப் பின்னூட்டம் வழங்குவார்கள்.					
17	Teachers provide learning materials to students. ஆசிரியர்கள் மாணவர்களுக்குக் கற்றல் உபகரணங்களை வழங்குவார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
18	Teachers encourage teacher- student Interaction. மாணவர்-ஆசிரியர் உரையாடல்களை ஆசிரியர்கள் ஊக்குவிக்கிறார்கள்.					
19	Teachers are not easily approachable to the students. ஆசிரியர்கள் மாணவர்களுக்கு எளிதில் அணுகும் தன்மையில் இல்லாமல் உள்ளார்கள்.					
20	Teachers get to know about each student in the class. ஆசிரியர்கள் வகுப்பறையில் உள்ள ஒவ்வொரு மாணவர்களைப் பற்றியும் தெரிந்து கொள்வார்கள்.					
21	Teachers extend the contact with the students' beyond the class hours. மாணவர்களோடுள்ள உறவை வகுப்பறைக்கு வெளியேயும் ஆசிரியர்கள் தொடர்கிறார்கள்.					
22	Teachers adjust their teaching according to the needs of students. ஆசிரியர்கள் மாணவர்களின் தேவைக்கேற்ப கற்பித்தலை அமைத்துக் கொள்கின்றனர்.					
23	Teachers provide educational guidance to the students. ஆசிரியர்கள் மாணவர்களுக்குக் கல்வி வழிகாட்டுதலை வழங்குகிறார்.					
24	Teachers monitor the progress of children. ஆசிரியர்கள் மாணவர்களின் முன்னேற்றத்தைக் கண்காணிக்கிறார்கள்.					
25	Teachers provide necessary assistance to slow pacers to overcome hurdles. கற்றல் திறன் குறைவாக உள்ள மாணவர்கள் சந்திக்கின்ற தடைகளிலிருந்து விடுபட தேவையான உதவிகளை ஆசிரியர்கள் செய்கிறார்கள்.					
26	Teachers monitor the progress of children towards mastery through continuous evaluation. ஆசிரியர்கள் தொடர் மதிப்பீடுகளின் மூலம் மாணவர்களின் புலமை மேம்பாட்டைக் கண்காணிக்கிறார்கள்.					
27	Teachers provide latest knowledge to students. ஆசிரியர்கள் மாணவர்களுக்கு அண்மை செய்திகளை வழங்குகின்றனர்.					
28	Teachers take steps to develop and emotional intelligence of students. ஆசிரியர்கள் மாணவர்களின் மனவெழுச்சி நுண்ணறிவு முன்னேற்றத்திற்கான வழிமுறைகளைக் கையாள்கிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
II	Commitment to the society					
1	Teachers establish good rapport with the parents. ஆசிரியர்கள் பெற்றோர்களோடு நல்ல உறவை உருவாக்குகின்றனர்.					
2	Teachers hesitate to participate in community affairs. ஆசிரியர்கள் சமூக நிகழ்வுகளில் பங்கேற்கத் தயங்குவார்கள்.					
3	Teachers show due courtesy to the members of the society when they meet. ஆசிரியர்கள் சமூகத்திலுள்ள நபர்களைச் சந்திக்கும் போது உரிய மரியாதையை வெளிப்படுத்துவார்கள்.					
4	Teachers encourage students to utilize the community resources to make learning real and effective. ஆசிரியர்கள் மாணவர்களின் சமூக வளங்களைப் பயன்படுத்தி கற்றலை உண்மையாகவும் சிறப்பாகவும் செய்ய ஊக்கப்படுத்துகிறார்கள்.					
5	Teachers cherish the values of the community. ஆசிரியர்கள் சமூக மதிப்புகளைப் பேணி வளர்க்கிறார்கள்.					
6	Teachers are not interested to maintain the tradition of the society. ஆசிரியர்கள் சமூக பாரம்பரியங்களைக்கடைபிடிக்க ஆர்வம் காட்டுவதில்லை.					
7	Teachers make the community to involve for the development of the institution. ஆசிரியர்கள் சமுதாயத்தை நிறுவன வளர்ச்சிக்குத் துணைபுரிய வேண்டி ஈடுபடுத்துகிறார்கள்.					
8	Teachers inter-relate the curricular aspects with environmental issues. ஆசிரியர்கள் கலைத்திட்ட கூறுகளைச் சுற்றுச்சூழல் பிரச்சனைகளோடு தொடர்பு படுத்துகிறார்கள்.					
9	Teachers train the students to have the responsibility in serving the society. மாணவர்கள் சமுதாயத்திற்குச் சேவை செய்வது தங்கள் கடமை என்ற நோக்கில் ஆசிரியர்கள் பயிற்சி அளிக்கிறார்கள்.					
10	Teachers train the students to have the duty of care about the society. ஆசிரியர்கள் சமூக அக்கறையோடு வளர பயிற்சி அளிக்கிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
11	Teachers do not encourage the students to participate in community works. ஆசிரியர்கள் சமூக அலுவல்களில் மாணவர்கள் ஈடுபடுவதை உற்சாகப்படுத்தவில்லை.					
12	Teachers make the students to serve the society. ஆசிரியர்கள் மாணவர்களைச் சமூக சேவை செய்ய துணைபுரிகிறார்கள்.					
13	Teachers encourage the students to create awareness about education among the villagers. ஆசிரியர்கள் கிராமங்களில் கல்வி பற்றி விழிப்புணர்வூட்டமாணவர்களை ஆர்வ மூட்டுகிறார்கள்.					
14	Teachers advise the students to save the environment from global warming. ஆசிரியர்கள் புவி வெப்பமடைவதிலிருந்து சுற்றுப்புறத்தைப் பேணிக் காக்க மாணவர்களுக்கு அறிவுரை கூறுகிறார்கள்.					
15	Teachers provide vocational and educational guidance. ஆசிரியர்கள் தொழில் மற்றும் கல்வி வழிகாட்டுதலை வழங்குகிறார்கள்.					
16	Teachers do not involve themselves with the society in celebrating the national days. ஆசிரியர்கள் தேசிய விழாக்களை சமூகத்தோடு இணைந்து கொண்டாட தங்களை உட்படுத்துவதில்லை.					
17	Teachers always pay respect to all the people of the society without any discrimination. ஆசிரியர்கள் சமூகத்திலுள்ள எல்லா மக்களையும் எந்தவித பாகுபாடுமின்றி மதிக்கிறார்கள்.					
18	Teachers are conscious about social changes. ஆசிரியர்கள் சமூக மாற்றங்கள் பற்றி விழிப்பாயிருக்கிறார்கள்.					
19	Teachers keep in touch with the parents and the community. ஆசிரியர்கள் பெற்றோர் மற்றும் சமூகத்தோடு தொடர்பு வைத்திருக்கிறார்கள்.					
20	Teachers promote awareness of national aspiration. ஆசிரியர்கள் தேசிய மேம்பாட்டு விழிப்புணர்வை ஊக்கப்படுத்துகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
21	Teachers promote understanding of core moral values of our culture. ஆசிரியர்கள் நமது பண்பாட்டின் மைய நல்லொழுக்க மதிப்புகளைப் புரிந்து கொள்ளச்செய்கிறார்கள்					
22	Teachers promote positive attitude towards manual labour ஆசிரியர்கள் மனித உழைப்பின் மீது நேர்முக மனப்பான்மையை ஏற்படுத்துகிறார்கள்.					
III	Commitment to the profession					
1	Teachers make the classroom environment conducive for learning. ஆசிரியர்கள் வகுப்பறைச் சூழலைக் கற்பதற்கு இணக்கமானதாக உருவாக்குவார்கள்					
2	Teachers use audio visual instructional materials to teach the abstract concepts. ஆசிரியர்கள் கருத்தியல் கூறுகளைக் கற்பிப்பதற்குக் காட்சியொலி கற்பித்தல் கருவிகளைப் பயன்படுத்துவார்கள்.					
3	Teachers demonstrate their passion for the subject matter and teaching. ஆசிரியர் தங்களின் கற்பித்தல் திறன் மீதும் பாடத்தின் மீதும் உள்ள பற்றினை வெளிப்படுத்துவார்கள்.					
4	Teachers do not adhere to the rules and regulations of the institution. ஆசிரியர்கள் நிறுவனத்தின் விதிமுறைகளையும் ஒழுங்கு முறைகளையும் பின்பற்றுவதில்லை.					
5	Teachers are dedicated to the profession. ஆசிரியர்கள் தங்கள் தொழிலில் அர்ப்பணம் உடையவர்கள்.					
6	Teachers maintain punctuality in the school. ஆசிரியர்கள் பள்ளியில் காலந்தவறாமையைக் கடைபிடிக்கிறார்கள்.					
7	Teachers exchange and clarify my professional ideas. ஆசிரியர்கள் தங்கள் தொழில் சார்ந்த கருத்துக்களைப் பகிர்ந்து கொண்டு தெளிவடைவார்கள்.					
8	Teachers finish the syllabus with the allotted time bound. ஆசிரியர்கள் பாடத்திட்டத்தைக் கொடுக்கப்பட்டுள்ள நேரத்தில் முடித்துக் கொள்வார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
9	Teachers do not like to provide extra knowledge beyond the content in the text book. ஆசிரியர்கள் பாடப்புத்தகத்திற்கு அப்பாற்பட்ட இதர தகவல்களை தர விரும்புவதில்லை.					
10	Teachers do not allow personal problems to affect their profession. ஆசிரியர்கள் தங்களின் தனிப்பட்ட பிரச்சனைகளால் வேலையில் பாதிப்பு ஏற்பட அனுமதிப்பதில்லை.					
11	Teachers participate in in-service programmes. ஆசிரியர்கள் பணியிடைப் பயிற்சிகளில் பங்கேற்பார்கள்.					
12	Teachers serves as a member in the professional organizations relevant to the subject. ஆசிரியர்கள் தங்கள் துறை சார்ந்த பல்வேறு அமைப்புகளில் உறுப்பினர்களாக சேவை செய்கிறார்கள்.					
13	Teachers assure justice to provide quality education to all students. ஆசிரியர்கள் அனைத்து மாணவர்களுக்கும் தரமான கல்வியை நீதியோடு வழங்குகிறார்கள்.					
14	Teachers hesitateto learn new course that helps to develop the professional career. ஆசிரியர்கள் தங்கள் பணியினை மேம்படுத்தும் வெவ்வேறு மேற்படிப்புகளைப் படிக்கத் தயங்குகிறார்கள்.					
15	Teachers discharge the responsibilities with full efficiency. ஆசிரியர்கள் தங்கள் பொறுப்புக்களை முழு திறமையோடு வெளிப்படுத்துகிறார்கள்.					
16	Teachers evaluate their own behavior. ஆசிரியர்கள் தங்கள் சுய நடத்தைகளை மதிப்பீடு செய்வார்கள்.					
17	Teachers are not concerned about the development of the institution. ஆசிரியர்கள் நிறுவனத்தின் முன்னேற்றத்தில் ஆர்வம் காட்டுவதில்லை.					
18	Teachers make use of appropriate teaching method and technique. ஆசிரியர்கள் தகுந்த கற்பித்தல் முறைகளையும் உத்திகளையும் பயன்படுத்துவார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
19	Teachers evaluate their own performance. ஆசிரியர்கள் தங்களின் சுய செயல்பாடுகளை மதிப்பீடு செய்வார்கள்.					
20	Teachers have favourable attitude towards teaching. ஆசிரியர்கள் கற்பித்தலின் மீது விரும்பத்தக்க மனப்பான்மையை கொண்டுள்ளார்கள்.					
21	Teachers have good involvement towards teaching. ஆசிரியர்களுக்கு கற்பித்தலின் மீது நல்ல ஈடுபாடு உள்ளது.					
22	Teachers use the modern evaluation techniques. ஆசிரியர்கள் நவீன மதிப்பீட்டு உத்திகளை பயன்படுத்துகிறார்கள்.					
23	Teachers participate in the professional development programmes. ஆசிரியர்கள் தங்கள் பணி முன்னேற்ற நிகழ்வுகளில் கலந்து கொள்கிறார்கள்.					
24	Teachers make the instructional process as learner-centered rather than teacher-centered. ஆசிரியர்கள் கற்பித்தலை ஆசிரியர் மையமாக கருதாமல் மாணவர் மையமாக உருவாக்குகிறார்கள்.					
25	Teachers show institutional loyalty by taking part in all the activities of the institution. ஆசிரியர்கள்தங்கள் நிறுவனத்தின் அனைத்து செயல்பாடுகளிலும் ஈடுபடுவதன் மூலம் நிறுவனத்தின் மீதுள்ள நம்பிக்கையை வெளிப்படுத்துகிறார்கள்.					
IV	Commitment to achieve excellence					
1	Teachers make the students to attend the competitions at all levels. ஆசிரியர்கள் மாணவர்களை அனைத்து நிலையிலுள்ள போட்டிகளிலும் கலந்து கொள்ளச் செய்கிறார்கள்.					
2	Teachers enrich themselves in the content and delivery of the subject material. ஆசிரியர்கள் பாட அறிவையும் அதை வெளிப்படுத்த உதவும் உபகரண /கருவிகளையும் தாங்களாகவே வளர்த்துக் கொள்கிறார்கள்.					
3	Teachers arrange practical activities related to the theoretical contents. ஆசிரியர்கள் பாடத்தோடு தொடர்புடைய செய்முறைகளை ஒழுங்குபடுத்துகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
4	Teachers advise the students to update their knowledge through media. ஆசிரியர்கள் மாணவர்களின் அறிவை ஊடகங்களின் மூலம் வளர்த்துக் கொள்ள அறிவுறுத்துகிறார்கள்.					
5	Teachers use evaluation techniques for overall development. ஆசிரியர்கள் மாணவர்களின் ஒட்டுமொத்த முன்னேற்றத்தை அளவிட மதிப்பீட்டு உத்திகளை பயன்படுத்துகிறார்கள்.					
6	Teachers encourage the students to exhibit their talents through extra-curricular programmes like exhibitions and quiz programmes. ஆசிரியர்கள் பொருட்காட்சி மற்றும் வினாடி வினா போன்ற இணை பாடத்திட்ட நிகழ்வுகளின் மூலம் மாணவர்களின் திறமைகளை வெளிப்படுத்த ஊக்கப்படுத்துகிறார்கள்.					
7	Teachers reinforce students through rewards. ஆசிரியர்கள் பரிசுகள் வழங்கி மாணவர்களை வலுவூட்டுகிறார்கள்.					
8	Teachers organize puzzles and riddles and other such sessions in the class to bring excellence in students. ஆசிரியர்கள் மாணவர்களிடம் மிகச்சிறந்த மேம்பாட்டை கொண்டுவர புதிர்கள், விடுகதைகள் போன்ற அமர்வுகளை ஒருங்கிணைக்கிறார்கள்.					
9	Teachers do not give remedial teaching for the weak students. ஆசிரியர்கள் பின்தங்கிய மாணவர்களுக்கு குறைதீர் கற்பித்தலை வழங்குவதில்லை.					
10	Teachers conduct special coaching for the slow learners. ஆசிரியர்கள்மெதுவாக கற்கும் மாணவர்களுக்கு சிறப்பு வகுப்புகளை நடத்துகிறார்கள்.					
11	Teachers arrange special classes for the gifted students. ஆசிரியர்கள் மீத்திறன் மிக்க மாணவர்களுக்கு சிறப்பு வகுப்புகளை ஏற்பாடு செய்வார்கள்.					
12	Teachers realize their various role in the institution. ஆசிரியர்கள் நிறுவனத்திலுள்ள அவர்களின் பல்வேறு பங்குகளைப் பற்றித் தெரிந்துள்ளார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
13	Teachers make the students to listen to educational programmes broadcasted in radio and T.V. ஆசிரியர்கள் தொலைக்காட்சி மற்றும் வானொலியில் ஒலிபரப்பப்படுகின்ற கல்வி சார்ந்த நிகழ்ச்சிகளைக் கவனிக்க மாணவர்களைத் தூண்டுகிறார்கள்.					
14	Teachers provide adequate feedback for the betterment of students. ஆசிரியர்கள் மாணவர்களின் நலனுக்கானத் தகுந்த பின்னூட்டங்களை வழங்குகிறார்கள்.					
15	Teachers do not conduct periodical tests to make the students achieve mastery over the content. ஆசிரியர்கள் மாணவர்களின் பாடப்புலமை அடைவைக் கண்டறிய தொடர்ந்து தேர்வுகளை நடத்துவதில்லை.					
16	Teachers adopt drill and practice technique to make the students to achieve high. மாணவர்கள் உயர்ந்த அடைவை அடைய பயிற்சி மற்றும் மீண்டும் செய்தல் போன்ற உத்திகளை ஆசிரியர்கள் கையாள்கிறார்கள்.					
17	Teachers encourage the students to participate in physical and health activities for their physical and mental development. ஆசிரியர்கள் மாணவர்களின் உடல் மற்றும் அறிவு வளர்ச்சிக்காக உடலியக்க நலம் சார்ந்த செயல்பாடுகளில் ஈடுபட மாணவர்களை உற்சாகப்படுத்துகிறார்கள்.					
18	Teachers have interest in involving students in co-curricular activities. ஆசிரியர்கள் மாணவர்களை இணை கலைத்திட்ட செயல்பாடுகளில் ஈடுபட வைக்க ஆர்வமாக உள்ளார்கள்.					
19	Teachers make use of technology to enhance pedagogical skills. ஆசிரியர்கள் கற்பித்தல் திறன்களை மேம்படுத்த தொழில்நுட்பங்களைப் பயன்படுத்துகிறார்கள்.					
V	Commitment to the basic human values.					
1	Teachers maintain equity in the class room. ஆசிரியர்கள் வகுப்பறையில் நடுநிலை நேர்மையைச் செயல்படுத்துகிறார்கள்.					
2	Teachers do not maintain friendly approached with the students. ஆசிரியர்கள் மாணவர்களுடன் நட்பான அணுகுமுறையை பராமரிப்பதில்லை.					

Sl. No.	Statement	SA	A	N	DA	SD
3	Teachers co-operate with the colleagues for the development of the institution. ஆசிரியர்கள் நிறுவனத்தின் முன்னேற்றத்திற்காக உடன் பணியாளர்களோடு ஒத்துழைக்கிறார்கள்.					
4	Teachers train the students to do their duties properly. ஆசிரியர்கள் மாணவர்கள் தங்கள் கடமைகளைச் சரிவர செய்ய வேண்டிய பயிற்சியை அளிக்கிறார்கள்.					
5	Teachers are impartial to the students. ஆசிரியர்கள் மாணவர்களிடம் நடுநிலை தவறாமல் உள்ளனர்.					
6	Teachers inculcate self discipline in the students. ஆசிரியர்கள் சுய ஒழுக்கத்தை மாணவர்களிடம் புகுத்துகிறார்கள்.					
7	Teachers encourage the students to know about the harvest of hard work. ஆசிரியர்கள் கடின உழைப்பின் பலனை அறிந்து கொள்ள மாணவர்களை ஊக்குவிப்பார்கள்.					
8	Teachers do not help the poor students. ஆசிரியர்கள் ஏழை மாணவர்களுக்கு உதவுவதில்லை.					
9	Teachers create opportunities for developing values. ஆசிரியர்கள் மதிப்பீடுகளை /விழுமியங்களை வளர்த்துக் கொள்வதற்கான வாய்ப்புகளை உருவாக்குகிறார்கள்.					
10	Teachers are role model to the students in all aspects. ஆசிரியர்கள் எல்லா விதத்திலும் மாணவர்களுக்கு ஓர் முன் மாதிரியாக விளங்குகிறார்கள்.					
11	Teachers train the students about the personal cleanliness. ஆசிரியர்கள் மாணவர்களின் தனிப்பட்ட ஆரோக்கியத்திற்கான பயிற்சிகளை வழங்குகிறார்கள்.					
12	Teachers equip students with human values. ஆசிரியர்கள் மாணவர்களை மனித மதிப்புகளோடு தயார் செய்கிறார்கள்.					
13	Teachers provide right direction to student with full devotion. ஆசிரியர்கள் முழு அர்ப்பணிப்போடு மாணவர்களுக்குச் சரியாகவழி காட்டுகிறார்கள்.					
14	Teachers provide the necessary guidance to the student with full dedication. ஆசிரியர்கள் முழு அர்ப்பணிப்போடு மாணவர்களுக்கு தேவையான வழிகாட்டுதலை வழங்குகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
15	Teachers are not true and fair towards the profession. ஆசிரியர்கள் தங்கள் தொழிலில் உண்மையானவர்களாக இல்லை.					
16	Teachers encourage the students to attend the moral classes. ஆசிரியர்கள் மாணவர்களை நல்லொழுக்க வகுப்புகளில் பங்கேற்க ஊக்குவிக்கிறார்கள்.					
17	Teachers inculcate national integration and patriotic feeling among the students. ஆசிரியர்கள் மாணவர்களிடையே தேசிய ஒருமைப்பாடு மற்றும் தேசப்பற்று உணர்வை வளர்க்கிறார்கள்.					
18	Teachers train the students to be a good citizen. ஆசிரியர்கள் மாணவர்களை நல்ல குடிமகன்களாக மாற்ற உதவுகிறார்கள்.					
19	Teachers help in promoting leadership qualities in students. ஆசிரியர்கள் மாணவர்களிடம் தலைமைப்பண்புகள் வளர உதவுகிறார்கள்.					
20	Teachers have the tendency to deal the students problems sympathetically. ஆசிரியர்கள் மாணவர்களின் பிரச்சனைகளை இரக்கத்தோடு கையாளும் தன்மை உடையவர்கள்.					
21	Teachers have the understanding of universalisation of education in national development. ஆசிரியர்கள் நாட்டு வளர்ச்சியில் உலகமயமாதல் கல்வியின் பங்கை புரிந்துள்ளார்கள்.					

Appendix - 3(b)**PrAn'S Teacher Commitment Perception Scale – 2015 (Final Draft)****Instructions:**

Please carefully read the following statements and answer with a tick mark (✓) in the appropriate box (SA-Strongly Agree/ A- Agree/ N-Neutral/ DA -Disagree /SD-Strongly Disagree). The answer will be used only for the research purpose and kept confidential.

Sl. No.	Statement	SA	A	N	DA	SD
I	Commitment to the learner					
1	Teachers consider the individual differences of the students in the class. ஆசிரியர்கள் வகுப்பறையில் மாணவர்களின் தனியாள் வேறுபாடுகளைக் கருத்தில் கொள்கின்றனர்.					
2	Teachers have an understanding about the home environment of the students. ஆசிரியர்கள் மாணவர்களின் வீட்டுச் சூழ்நிலைகளைப் பற்றி புரிந்துள்ளார்கள்.					
3	Teachers are aware about the physical and mental health of the students. ஆசிரியர்கள் மாணவர்களின் உடல் மற்றும் மன நலம் பற்றி விழிப்போடுள்ளனர்.					
4	Teachers are emotionally stable while solving the students' problems. ஆசிரியர்கள் மாணவர்களின் பிரச்சனைகளைத்தீர்க்குமளவிற்கு மனவெழுச்சி நிலைத்தன்மை பெற்றுள்ளனர்.					
5	Teachers are concerned with the development of students. ஆசிரியர்கள் மாணவர்களின் முன்னேற்றத்தில் கருத்தாய் உள்ளனர்.					
6	Teachers provide correct information to the parents about their wards. ஆசிரியர்கள் பெற்றோர்களுக்குத் தங்கள் குழந்தைகளைப் பற்றிய சரியான தகவல்களைக் கூறுகிறார்கள்.					
7	Teachers conduct tests to know the level of learning of the students. ஆசிரியர்கள் மாணவர்களின் கற்றல் நிலையை அறிந்து கொள்ள தேர்வுகளை நடத்துகின்றனர்.					

Sl. No.	Statement	SA	A	N	DA	SD
8	Teachers have a true concern towards the class students. ஆசிரியர்கள் அவர்களின் வகுப்பு மணவர்களின் மேல் உண்மையான அக்கறையோடு உள்ளார்கள்.					
9	Teachers take measures to develop the students' communication skills. ஆசிரியர்கள் மாணவர்களின் தகவல் பரிமாற்றத் திறன்களை மேம்படுத்த நடவடிக்கை எடுக்கிறார்கள்.					
10	Teachers make the students to interact freely in the class room. மாணவர்கள் வகுப்பறையில் சுதந்திரமாக தகவல் பரிமாறிக் கொள்ள ஆசிரியர்கள் உதவுகிறார்கள்.					
11	Teachers give counselling to students to solve the personal problems of the students. ஆசிரியர்கள் மாணவர்களின் தனிப்பட்ட பிரச்சனைகளைத் தீர்க்க அறிவுறுத்தப்படுகிறார்கள்.					
12	Teachers arrange classroom activities based on students' interest. ஆசிரியர்கள் வகுப்பறைச் செயல்பாடுகளை மாணவர்களின் ஆர்வத்திற்கு ஏற்ப அமைத்துக் கொள்கிறார்கள்.					
13	Teachers provide feedback the student for their improvement in learning. ஆசிரியர்கள் மாணவர்களின் கற்றல் முன்னேற்றத்திற்காகப் பின்னூட்டம் வழங்குவார்கள்.					
14	Teachers provide learning materials to students. ஆசிரியர்கள் மாணவர்களுக்குக் கற்றல் உபகரணங்களை வழங்குவார்கள்.					
15	Teachers encourage teacher- student Interaction. மாணவர்-ஆசிரியர் உரையாடல்களை ஆசிரியர்கள் ஊக்குவிக்கிறார்கள்.					
16	Teachers get to know about each student in the class. ஆசிரியர்கள் வகுப்பறையில் உள்ள ஒவ்வொரு மாணவர்களைப் பற்றியும் தெரிந்து கொள்வார்கள்.					
17	Teachers extend the contact with the students' beyond the class hours. மாணவர்களோடுள்ள உறவை வகுப்பறைக்கு வெளியேயும் ஆசிரியர்கள் தொடர்கிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
18	Teachers adjust their teaching according to the needs of students. ஆசிரியர்கள் மாணவர்களின் தேவைக்கேற்ப கற்பித்தலை அமைத்துக் கொள்கின்றனர்.					
19	Teachers provide educational guidance to the students. ஆசிரியர்கள் மாணவர்களுக்குக் கல்வி வழிகாட்டுதலை வழங்குகிறார்.					
20	Teachers monitor the progress of children. ஆசிரியர்கள் மாணவர்களின் முன்னேற்றத்தைக் கண்காணிக்கிறார்கள்.					
21	Teachers provide necessary assistance to slow pacers to overcome hurdles. கற்றல் திறன் குறைவாக உள்ள மாணவர்கள் சந்திக்கின்ற தடைகளிலிருந்து விடுபட தேவையான உதவிகளை ஆசிரியர்கள் செய்கிறார்கள்.					
22	Teachers monitor the progress of children towards mastery through continuous evaluation. ஆசிரியர்கள் தொடர் மதிப்பீடுகளின் மூலம் மாணவர்களின் புலமை மேம்பாட்டைக் கண்காணிக்கிறார்கள்.					
23	Teachers provide latest knowledge to students. ஆசிரியர்கள் மாணவர்களுக்கு அண்மை செய்திகளை வழங்குகின்றனர்.					
24	Teachers take steps to develop and emotional intelligence of students. ஆசிரியர்கள் மாணவர்களின் மனவெழுச்சி நுண்ணறிவு முன்னேற்றத்திற்கான வழிமுறைகளைக் கையாள்கிறார்கள்.					
II	Commitment to the society					
1	Teachers establish good rapport with the parents. ஆசிரியர்கள் பெற்றோர்களோடு நல்ல உறவை உருவாக்குகின்றனர்.					
2	Teachers show due courtesy to the members of the society when they meet. ஆசிரியர்கள் சமூகத்திலுள்ள நபர்களைச் சந்திக்கும் போது உரிய மரியாதையை வெளிப்படுத்துவார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
3	Teachers encourage students to utilize the community resources to make learning real and effective. ஆசிரியர்கள் மாணவர்களின் சமூக வளங்களைப் பயன்படுத்தி கற்றலை உண்மையாகவும் சிறப்பாகவும் செய்ய ஊக்கப்படுத்துகிறார்கள்					
4	Teachers cherish the values of the community. ஆசிரியர்கள் சமூக மதிப்புகளைப் பேணி வளர்க்கிறார்கள்.					
5	Teachers are not interested to maintain the tradition of the society. ஆசிரியர்கள் சமூக பாரம்பரியங்களைக்கடைபிடிக்க ஆர்வம் காட்டுவதில்லை.					
6	Teachers make the community to involve for the development of the institution. ஆசிரியர்கள் சமுதாயத்தை நிறுவன வளர்ச்சிக்குத் துணைபுரிய வேண்டி ஈடுபடுத்துகிறார்கள்.					
7	Teachers inter-relate the curricular aspects with environmental issues. ஆசிரியர்கள் கலைத்திட்ட கூறுகளைச் சுற்றுச்சூழல் பிரச்சனைகளோடு தொடர்பு படுத்துகிறார்கள்.					
8	Teachers train the students to have the responsibility in serving the society. மாணவர்கள் சமுதாயத்திற்குச் சேவை செய்வது தங்கள் கடமை என்ற நோக்கில் ஆசிரியர்கள் பயிற்சி அளிக்கிறார்கள்.					
9	Teachers train the students to have the duty of care about the society. ஆசிரியர்கள் சமூக அக்கறையோடு வளர பயிற்சி அளிக்கிறார்கள்.					
10	Teachers make the students to serve the society. ஆசிரியர்கள் மாணவர்களைச் சமூக சேவை செய்ய துணைபுரிகிறார்கள்.					
11	Teachers encourage the students to create awareness about education among the villagers. ஆசிரியர்கள் கிராமங்களில் கல்வி பற்றி விழிப்புணர்வுட்டமாணவர்களை ஆர்வ மூட்டுகிறார்கள்.					
12	Teachers advise the students to save the environment from global warming. ஆசிரியர்கள் புவி வெப்பமடைவதிலிருந்து சுற்றுப்புறத்தைப் பேணிக் காக்க மாணவர்களுக்கு அறிவுரை கூறுகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
13	Teachers provide vocational and educational guidance. ஆசிரியர்கள் தொழில் மற்றும் கல்வி வழிகாட்டுதலை வழங்குகிறார்கள்.					
14	Teachers always pay respect to all the people of the society without any discrimination. ஆசிரியர்கள் சமூகத்திலுள்ள எல்லா மக்களையும் எந்தவித பாகுபாடுமின்றி மதிக்கிறார்கள்.					
15	Teachers are conscious about social changes. ஆசிரியர்கள் சமூக மாற்றங்கள் பற்றி விழிப்பாயிருக்கிறார்கள்.					
16	Teachers keep in touch with the parents and the community. ஆசிரியர்கள் பெற்றோர் மற்றும் சமூகத்தோடு தொடர்பு வைத்திருக்கிறார்கள்.					
17	Teachers promote awareness of national aspiration. ஆசிரியர்கள் தேசிய மேம்பாட்டு விழிப்புணர்வை ஊக்கப்படுத்துகிறார்கள்.					
18	Teachers promote understanding of core moral values of our culture. ஆசிரியர்கள் நமது பண்பாட்டின் மைய நல்லொழுக்க மதிப்புகளைப் புரிந்து கொள்ளச்செய்கிறார்கள்					
19	Teachers promote positive attitude towards manual labour ஆசிரியர்கள் மனித உழைப்பின் மீது நேர்முக மனப்பான்மையை ஏற்படுத்துகிறார்கள்.					
III	Commitment to the profession					
1	Teachers make the classroom environment conducive for learning. ஆசிரியர்கள் வகுப்பறைச் சூழலைக் கற்பதற்கு இணக்கமானதாக உருவாக்குவார்கள்					
2	Teachers use audio visual instructional materials to teach the abstract concepts. ஆசிரியர்கள் கருத்தியல் கூறுகளைக் கற்பிப்பதற்குக் காட்சியொலி கற்பித்தல் கருவிகளைப் பயன்படுத்துவார்கள்.					
3	Teachers demonstrate their passion for the subject matter and teaching. ஆசிரியர் தங்களின் கற்பித்தல் திறன் மீதும் பாடத்தின் மீதும் உள்ள பற்றினை வெளிப்படுத்துவார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
4	Teachers are dedicated to the profession. ஆசிரியர்கள் தங்கள் தொழிலில் அர்ப்பணம் உடையவர்கள்.					
5	Teachers maintain punctuality in the school. ஆசிரியர்கள் பள்ளியில் காலந்தவறாமையைக் கடைபிடிக்கிறார்கள்.					
6	Teachers exchange and clarify my professional ideas. ஆசிரியர்கள் தங்கள் தொழில் சார்ந்த கருத்துக்களைப் பகிர்ந்து கொண்டு தெளிவடைவார்கள்.					
7	Teachers finish the syllabus with the allotted time bound. ஆசிரியர்கள் பாடத்திட்டத்தைக் கொடுக்கப்பட்டுள்ள நேரத்தில் முடித்துக் கொள்வார்கள்.					
8	Teachers participate in in-service programmes. ஆசிரியர்கள் பணியிடைப் பயிற்சிகளில் பங்கேற்பார்கள்.					
9	Teachers serves as a member in the professional organizations relevant to the subject. ஆசிரியர்கள் தங்கள் துறை சார்ந்த பல்வேறு அமைப்புகளில் உறுப்பினர்களாக சேவை செய்கிறார்கள்.					
10	Teachers assure justice to provide quality education to all students. ஆசிரியர்கள் அனைத்து மாணவர்களுக்கும் தரமான கல்வியை நீதியோடு வழங்குகிறார்கள்.					
11	Teachers discharge the responsibilities with full efficiency. ஆசிரியர்கள் தங்கள் பொறுப்புக்களை முழு திறமையோடு வெளிப்படுத்துகிறார்கள்.					
12	Teachers evaluate their own behavior. ஆசிரியர்கள் தங்கள் சுய நடத்தைகளை மதிப்பீடு செய்வார்கள்.					
13	Teachers make use of appropriate teaching method and technique. ஆசிரியர்கள் தகுந்த கற்பித்தல் முறைகளையும் உத்திகளையும் பயன்படுத்துவார்கள்.					
14	Teachers evaluate their own performance. ஆசிரியர்கள் தங்களின் சுய செயல்பாடுகளை மதிப்பீடு செய்வார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
15	Teachers have favourable attitude towards teaching. ஆசிரியர்கள் கற்பித்தலின் மீது விரும்பத்தக்க மனப்பான்மையை கொண்டுள்ளார்கள்.					
16	Teachers have good involvement towards teaching. ஆசிரியர்களுக்கு கற்பித்தலின் மீது நல்ல ஈடுபாடு உள்ளது.					
17	Teachers use the modern evaluation techniques. ஆசிரியர்கள் நவீன மதிப்பீட்டு உத்திகளை பயன்படுத்துகிறார்கள்.					
18	Teachers participate in the professional development programmes. ஆசிரியர்கள் தங்கள் பணி முன்னேற்ற நிகழ்வுகளில் கலந்து கொள்கிறார்கள்.					
19	Teachers make the instructional process as learner-centered rather than teacher -centered. ஆசிரியர்கள் கற்பித்தலை ஆசிரியர் மையமாக கருதாமல் மாணவர் மையமாக உருவாக்குகிறார்கள்.					
20	Teachers show institutional loyalty by taking part in all the activities of the institution. ஆசிரியர்கள்தங்கள் நிறுவனத்தின் அனைத்து செயல்பாடுகளிலும் ஈடுபடுவதன் மூலம் நிறுவனத்தின் மீதுள்ள நம்பிக்கையை வெளிப்படுத்துகிறார்கள்.					
IV	Commitment to achieve excellence					
1	Teachers make the students to attend the competitions at all levels. ஆசிரியர்கள் மாணவர்களை அனைத்து நிலையிலுள்ள போட்டிகளிலும் கலந்து கொள்ளச் செய்கிறார்கள்.					
2	Teachers enrich themselves in the content and delivery of the subject material. ஆசிரியர்கள் பாட அறிவையும் அதை வெளிப்படுத்த உதவும் உபகரண /கருவிகளையும் தாங்களாகவே வளர்த்துக் கொள்கிறார்கள்.					
3	Teachers arrange practical activities related to the theoretical contents. ஆசிரியர்கள் பாடத்தோடு தொடர்புடைய செய்முறைகளை ஒழுங்குபடுத்துகிறார்கள்.					
4	Teachers advise the students to update their knowledge through media. ஆசிரியர்கள் மாணவர்களின் அறிவை ஊடகங்களின் மூலம் வளர்த்துக் கொள்ள அறிவுறுத்துகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
5	Teachers use evaluation techniques for overall development. ஆசிரியர்கள் மாணவர்களின் ஒட்டுமொத்த முன்னேற்றத்தை அளவிட மதிப்பீட்டு உத்திகளை பயன்படுத்துகிறார்கள்.					
6	Teachers encourage the students to exhibit their talents through extra-curricular programmes like exhibitions and quiz programmes. ஆசிரியர்கள் பொருட்காட்சி மற்றும் வினாடி வினா போன்ற இணை பாடத்திட்ட நிகழ்வுகளின் மூலம் மாணவர்களின் திறமைகளை வெளிப்படுத்த ஊக்கப்படுத்துகிறார்கள்.					
7	Teachers reinforce students through rewards. ஆசிரியர்கள் பரிசுகள் வழங்கி மாணவர்களை வலுவூட்டுகிறார்கள்.					
8	Teachers organize puzzles and riddles and other such sessions in the class to bring excellence in students. ஆசிரியர்கள் மாணவர்களிடம் மிகச்சிறந்த மேம்பாட்டை கொண்டுவர புதிர்கள், விடுகதைகள் போன்ற அமர்வுகளை ஒருங்கிணைக்கிறார்கள்.					
9	Teachers conduct special coaching for the slow learners. ஆசிரியர்கள்மெதுவாக கற்கும் மாணவர்களுக்கு சிறப்பு வகுப்புகளை நடத்துகிறார்கள்.					
10	Teachers arrange special classes for the gifted students. ஆசிரியர்கள் மீத்திறன் மிக்க மாணவர்களுக்கு சிறப்பு வகுப்புகளை ஏற்பாடு செய்வார்கள்.					
11	Teachers realize their various role in the institution. ஆசிரியர்கள் நிறுவனத்திலுள்ள அவர்களின் பல்வேறு பங்குகளைப் பற்றித் தெரிந்துள்ளார்கள்.					
12	Teachers make the students to listen to educational programmes broadcasted in radio and T.V. ஆசிரியர்கள் தொலைக்காட்சி மற்றும் வானொலியில் ஒலிபரப்பப்படுகின்ற கல்வி சார்ந்த நிகழ்ச்சிகளைக் கவனிக்க மாணவர்களைத் தூண்டுகிறார்கள்.					
13	Teachers provide adequate feedback for the betterment of students. ஆசிரியர்கள் மாணவர்களின் நலனுக்கானத் தகுந்த பின்னூட்டங்களை வழங்குகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
14	Teachers adopt drill and practice technique to make the students to achieve high. மாணவர்கள் உயர்ந்த அடைவை அடைய பயிற்சி மற்றும் மீண்டும் செய்தல் போன்ற உத்திகளை ஆசிரியர்கள் கையாள்கிறார்கள்.					
15	Teachers encourage the students to participate in physical and health activities for their physical and mental development. ஆசிரியர்கள் மாணவர்களின் உடல் மற்றும் அறிவு வளர்ச்சிக்காக உடலியக்க நலம் சார்ந்த செயல்பாடுகளில் ஈடுபட மாணவர்களை உற்சாகப்படுத்துகிறார்கள்.					
16	Teachers have interest in involving students in co-curricular activities. ஆசிரியர்கள் மாணவர்களை இணை கலைத்திட்ட செயல்பாடுகளில் ஈடுபட வைக்க ஆர்வமாக உள்ளார்கள்.					
17	Teachers make use of technology to enhance pedagogical skills. ஆசிரியர்கள் கற்பித்தல் திறன்களை மேம்படுத்த தொழில்நுட்பங்களைப் பயன்படுத்துகிறார்கள்.					
V	Commitment to the basic human values.					
1	Teachers maintain equity in the class room. ஆசிரியர்கள் வகுப்பறையில் நடுநிலை நேர்மையைச் செயல்படுத்துகிறார்கள்.					
2	Teachers co-operate with the colleagues for the development of the institution. ஆசிரியர்கள் நிறுவனத்தின் முன்னேற்றத்திற்காக உடன் பணியாளர்களோடு ஒத்துழைக்கிறார்கள்.					
3	Teachers train the students to do their duties properly. ஆசிரியர்கள் மாணவர்கள் தங்கள் கடமைகளைச் சரிவர செய்ய வேண்டிய பயிற்சியை அளிக்கிறார்கள்.					
4	Teachers are impartial to the students. ஆசிரியர்கள் மாணவர்களிடம் நடுநிலை தவறாமல் உள்ளனர்.					
5	Teachers inculcate self-discipline in the students. ஆசிரியர்கள் சுய ஒழுக்கத்தை மாணவர்களிடம் புகுத்துகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
6	Teachers encourage the students to know about the harvest of hard work. ஆசிரியர்கள் கடின உழைப்பின் பலனை அறிந்து கொள்ள மாணவர்களை ஊக்குவிப்பார்கள்.					
7	Teachers create opportunities for developing values. ஆசிரியர்கள் மதிப்பீடுகளை /விழுமியங்களை வளர்த்துக் கொள்வதற்கான வாய்ப்புகளை உருவாக்குகிறார்கள்.					
8	Teachers are role model to the students in all aspects. ஆசிரியர்கள் எல்லா விதத்திலும் மாணவர்களுக்கு ஓர் முன் மாதிரியாக விளங்குகிறார்கள்.					
9	Teachers train the students about the personal cleanliness. ஆசிரியர்கள் மாணவர்களின் தனிப்பட்ட ஆரோக்கியத்திற்கான பயிற்சிகளை வழங்குகிறார்கள்.					
10	Teachers equip students with human values. ஆசிரியர்கள் மாணவர்களை மனித மதிப்புகளோடு தயார் செய்கிறார்கள்.					
11	Teachers provide right direction to student with full devotion. ஆசிரியர்கள் முழு அர்ப்பணிப்போடு மாணவர்களுக்குச் சரியாகவழி காட்டுகிறார்கள்.					
12	Teachers provide the necessary guidance to the student with full dedication. ஆசிரியர்கள் முழு அர்ப்பணிப்போடு மாணவர்களுக்கு தேவையான வழிகாட்டுதலை வழங்குகிறார்கள்.					
13	Teachers encourage the students to attend the moral classes. ஆசிரியர்கள் மாணவர்களை நல்லொழுக்க வகுப்புகளில் பங்கேற்க ஊக்குவிக்கிறார்கள்.					
14	Teachers inculcate national integration and patriotic feeling among the students. ஆசிரியர்கள் மாணவர்களிடையே தேசிய ஒருமைப்பாடு மற்றும் தேசப்பற்று உணர்வை வளர்க்கிறார்கள்.					
15	Teachers train the students to be a good citizen. ஆசிரியர்கள் மாணவர்களை நல்ல குடிமகன்களாக மாற்ற உதவுகிறார்கள்.					

Sl. No.	Statement	SA	A	N	DA	SD
16	Teachers help in promoting leadership qualities in students. ஆசிரியர்கள் மாணவர்களிடம் தலைமைப்பண்புகள் வளர உதவுகிறார்கள்.					
17	Teachers have the tendency to deal the students problems sympathetically. ஆசிரியர்கள் மாணவர்களின் பிரச்சனைகளை இரக்கத்தோடு கையாளும் தன்மை உடையவர்கள்.					
18	Teachers have the understanding of universalisation of education in national development. ஆசிரியர்கள் நாட்டு வளர்ச்சியில் உலகமயமாதல் கல்வியின் பங்கை புரிந்துள்ளார்கள்.					

*Appendix 4(a)***Blue print of PrAn's Achievement Test in Chemistry****Weightage to objectives**

Due weightage was given to all the objectives Knowledge, Understanding, Application and Skills.

Sl.No	Objectives	Marks	Percentage
1	Knowledge	15	30
2	Understanding	20	40
3	Application	15	30
4	Skills	10	20
	Total	60	100

Weightage to content

Due weightage was provided to different areas of content.

Sl.No	Objectives	Marks	Percentage
1	Chemical calculation	15	25
2	The solid state-I	15	25
3	Gaseous state	15	25
4	Basic concept of organic chemistry	15	25
	Total	60	100

Weightage to form of questions

The test included objective type questions only.

Sl.No	Form of question	No. of questions	Marks	Percentage
1	Objective type	60	60	100
	Total	60	60	100

Weightage to Difficulty level

In order to provide an opportunity to test the bright and the weak students in the classroom, some easy items, some difficult items and some average items were included in the test.

Sl.No	Difficulty level	Marks	Percentage
1	Easy	20	33.33
2	Average	30	50
3	Difficult	10	16.67
	Total	60	100

Blue print

The blue print is a document that gives a complete functional picture of the test. It show the distribution of the questions to different objectives, areas of content, forms of questions and also the distribution of marks to each questions.

Objectives	Knowledge			Understanding			Application			Skills			Total
	O	S	E	O	S	E	O	S	E	O	S	E	
Form of questions													
Content													
Chemical calculation	4(4)	-	-	5(5)	-	-	4(4)	-	-	2(2)	-	-	15
The solid state-I	2(2)	-	-	5(5)	-	-	5(5)	-	-	3(3)	-	-	15
Gaseous state	5(5)	-	-	4(4)	-	-	3(3)	-	-	3(3)	-	-	15
Basic concept of organic chemistry	4(4)	-	-	6(6)	-	-	3(3)	-	-	2(2)	-	-	15
Sub total	15(15)	-	-	20(20)	-	-	15(15)	-	-	10(10)	-	-	60
Total	15			20			15			10			60

Note: i. O-Objectives type, S-Short answer type, E-Essay type

- ii. The number outside the bracket indicated the marks and those inside indicates the number of questions.

Appendix - 4(b)**PrAn's Achievement test in Chemistry (Preliminary Draft)****N.V.K.S.D College of Education, Attoor****Kanyakumari District****Std: XI****Time: 1hr****Total Marks: 60****I. Choose the best Answer:****சரியான விடையை தேர்ந்தெடுத்து எழுதுக**

1. Avogadro's number represents the number of atoms in
 a) 12g Carbon¹² b) 320g Sulphur c) 32g Oxygen d) 12.7g of Iodine
 அவேகாட்ரா எண்ணில் குறிப்பிடும் அணுக்களின் எண்ணிக்கை
 a) 12g கார்பன்¹² b) 320g சல்பர் c) 32g ஆக்சிஜன் d) 12.7g அயோடின்
2. The molecular formula for Chloroform is
 a) Fe₂(SO₄)₃ b) NaCl c) CHCl₃ d) CH₃OH
 குளோரோபார்ம் மூலக்கூறு வாய்ப்பாடு
 a) Fe₂(SO₄)₃ b) NaCl c) CHCl₃ d) CH₃OH
3. Which one among the following is the standard for atomic mass?
 a) ¹H² b) ¹²C c) ¹⁴C d) ¹⁶O
 கீழ்காண்பவைகளில் எது அணு நிறையின் நியமம்?
 a) ¹H² b) ¹²C c) ¹⁴C d) ¹⁶O
4. The structure of cesium chloride is
 a) Octahedral b) Square planar
 c) Face centered cubic lattice d) Body centered cubic lattice
 சீசியம் குளோரைடு படிகத்தின் வடிவமைப்பு
 a) எண்முகி b) சதுரதளம்
 c) முகப்பு மைய கனசதுரம் d) பொருள் மைய கனசதுரம்
5. The number of NaCl units per unit cell is
 a) 1 b) 4 c) 2 d) 8
 NaCl -ல் ஒரு அலகுக் கூட்டில் உள்ள NaCl அலகுகள்
 a) 1 b) 4 c) 2 d) 8

12. The crystal having all faces alike is
 a) Fluorspar b) Galena c) Sodium Iodide d) Cesium Iodide
 இப்படிக்கங்களில் அனைத்து முகப்புகளும் சமமாக இருக்கும்
 a) புளூர்ஸ்பார் b) கலீனா c) சோடியம் அயோடைடு d) சீசியம் அயோடைடு
13. All the faces corresponding to a crystal are said to constitute a
 a) Interfacial Angle b) Edges c) Like d) Form
 படிக்கத்தில் உள்ள அனைத்து முகப்புகளும் சேர்ந்து----- எனப்படும்
 a) முகப்பு கோணம் b) மூலைகள் c) சமமானவை d) அமைப்பு
14. Classes of unit cells
 a) 7 b) 3 c) 6 d) 5
 அலகுக் கூடு வகைகள்
 a) 7 b) 3 c) 6 d) 5
15. In a simple cubic cell, each point at the corner is shared by
 a) 8 unit cells b) 4 unit cells c) 2 unit cells d) not shared
 எளிய கனசதுரத்தில், பொருள் மையத்திலுள்ள அணுவை பகிர்ந்துக் கொள்ளும்
 அலகுக் கூடுகளின் எண்ணிக்கை
 a) 8 அலகு கூடு b) 4 அலகு கூடு
 c) 2 அலகு கூடு d) பகிர்ந்துக் கொள்ளப்படுவதில்லை
16. Representative crystal having the NaCl arrangements include
 a) LiH b) NH₄Cl c) TlBr d) CsBr
 NaCl வடிவமைப்பைக் கொண்டுள்ள மற்ற படிக்கம்
 a) LiH b) NH₄Cl c) TlBr d) CsBr
17. The general formula for interplanar spacing in cubic lattices is
 a) $\frac{a\sqrt{3}}{2}$ b) $\frac{a}{\sqrt{2}}$ c) $a\sqrt{2}$ d) $d_{hkl} = \frac{a}{\sqrt{h^2+k^2+l^2}}$
 கன சதுர அணிக்கோவையின் பொது வாய்ப்பாடு
 a) $\frac{a\sqrt{3}}{2}$ b) $\frac{a}{\sqrt{2}}$ c) $a\sqrt{2}$ d) $d_{hkl} = \frac{a}{\sqrt{h^2+k^2+l^2}}$
18. The study of crystal is known as
 a) Crystallography b) polygraph
 c) Seismograph d) Choreograph

வாயுவின் இயக்க ஆற்றல்

- a) $\frac{1}{2} mv^2$ b) mv^2 c) a^3 d) p^2v^2

25. In C.G.S system the numerical value of the gas constants is

- a) 1.987 cal deg⁻¹ mol⁻¹ b) 8.314×10^7 erg K⁻¹ mol⁻¹
c) 0.0821 dm³ atm k⁻¹ mol⁻¹ d) 6.023×10^{23}

C.G.S அலகில் வாயுமாறிலி R-ன் மதிப்பு

- a) 1.987 கலோரி K⁻¹ மோல்⁻¹ b) 8.314×10^7 எர்க் K⁻¹ மோல்⁻¹
c) 0.0821 dm³ atm k⁻¹ mol⁻¹ d) 6.023×10^{23}

26. The Law of diffusion was formulated by

- a) Dalton b) Vander Waal's c) Thomson d) Graham

வாயுக்களின் விரவுதல் விதியை கூறியவர்

- a) டால்டன் b) வாண்டர் வால்ஸ் c) தாம்சன் d) கிரஹாம்

27. The unit of b in Vander Waal's equation of state is

- a) litre mol⁻¹ b) atm litre² mol⁻² c) Kelvin d) K⁻¹ mol⁻¹

ஒரு அமைப்பின் வாண்டர் மோல் சமன்பாட்டிலுள்ள b-ன் அலகு

- a) லிட்டர் மோல்⁻¹ b) வளிமண்டல லிட்டர்² மோல்⁻²
c) கெல்வின் d) K⁻¹ மோல்⁻¹

28. Equation of state of gaseous mixture is

- a) $\frac{P_1V_1}{T_1}$ b) $\left(\frac{M_2}{M_1}\right)^{1/2}$ c) $\frac{2a}{Rb}$ d) $PV = (n_A+n_B+n_C) RT$

வாயுக் கலவைக்கான சமன்பாடு

- a) $\frac{P_1V_1}{T_1}$ b) $\left(\frac{M_2}{M_1}\right)^{1/2}$ c) $\frac{2a}{Rb}$ d) $PV = (n_A+n_B+n_C) RT$

29. In CO₂ the temperatures 31.1⁰C is considered as,

- a) Critical temperature b) Low temperature
c) High temperature d) Freezing temperature

31.1⁰C – வெப்ப நிலையானது CO₂ ன்

- a) நிலைமாறு வெப்பநிலை b) குறைந்த வெப்ப நிலை
c) அதிக வெப்பநிலை d) குளிர்ந்த வெப்பநிலை

30. A gaseous state can be described in terms of parameter
 a) volume b) pressure c) temperature d) all of these
 ஒரு வாயு நிலைமையை விளக்குவதற்கு தேவைப்படும் காரணி
 a) கன அளவு b) அழுத்தம் c) வெப்பநிலை d) இவை அனைத்தும்
31. Mixing of gases by random motion of the molecules is called as
 a) effusion b) diffusion c) mixing d) collision
 வாயு மூலக்கூறுகள் ஒழுங்கற்ற முறையில் கலப்பது
 a) பாய்தல் b) விரவுதல் c) கலத்தல் d) மோதுதல்
32. Values of gas constant R is
 a) 1.987cal k⁻¹mol⁻¹ b) 8.314 joule k⁻¹mol⁻¹
 c) 0.821 lit atm k⁻¹mol⁻¹ d) All the above
 வாயு மாறிலி R-ன் மதிப்பு
 a) 1.987cal k⁻¹mol⁻¹ b) 8.314 joule k⁻¹mol⁻¹
 c) 0.821 lit atm k⁻¹mol⁻¹ d) மேலே உள்ள அனைத்தும்
33. The IUPAC name of CH₃-CH₂-OH is
 a) methanol b) ethanol c) propanol d) methyl
 CH₃-CH₂-OH- இன் IUPAC பெயர்
 a) மெத்தனால் b) எத்தனால் c) புரப்பனால் d) மெத்தில்
34.
$$\text{C}_6\text{H}_5\text{-COCH}_3 \xrightarrow[\text{HCl}]{\text{Zn/Hg}} ?$$

 a) C₆H₅-CH₂-CH₃ b) $\begin{array}{c} \text{CH}_2\text{-OH} \\ | \\ \text{CH}_2\text{-OH} \end{array}$ c) CH₂=CH₂ d) C₆H₆

$$\text{C}_6\text{H}_5\text{-COCH}_3 \xrightarrow[\text{HCl}]{\text{Zn/Hg}} ?$$

 a) C₆H₅-CH₂-CH₃ b) $\begin{array}{c} \text{CH}_2\text{-OH} \\ | \\ \text{CH}_2\text{-OH} \end{array}$ c) CH₂=CH₂ d) C₆H₆
35. The total pressure exerted by a number of non-reacting gases is equal to the sum of partial pressures of the gases under the same conditions. It is known as
 a) Boyle's law b) Charles law c) Dalton's law d) Avogadro' law

ஒன்றோடொன்று வினைபுரியாத வாயுக்கள் கலந்த வாயுக்கலவையின் மொத்த அழுத்தம், அதிலுள்ள தனிப்பட்ட வாயுக்களின் பகுதி அழுத்தங்களின் கூட்டுத்தொகைக்குச் சமம் என்பது

- a) பாயில்விதி b) சார்லஸ் விதி c) டால்டன் விதி d) அவாகாட்ரோவிதி

36. The maximum element with bond energy for catenation of atom is

- a) Si b) S c) P d) C

பின்வருவனவற்றுள் சுய சகப்பிணைப்பு ஆற்றல் அதிகம் உள்ள அணு

- a) Si b) S c) P d) C

37. The decreasing order of catenation of the following atom is

- a) $C > Si \approx S > P > N > O$ b) $C < Si \approx S < P < N < O$

- c) $P > C > Si > N > S$ d) $O > N > P > S \approx Si > C$

பின்வரும் அணுவின் சுய சகப்பிணைப்பு இறங்கு வரிசை

- a) $C > Si \approx S > P > N > O$ b) $C < Si \approx S < P < N < O$

- c) $P > C > Si > N > S$ d) $O > N > P > S \approx Si > C$

38. The general formula of alkenes is

- a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2} d) C_nH_{2n+1}

ஆல்கீன்கள் பொது வாய்ப்பாடு

- a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2} d) C_nH_{2n+1}

39. The functional group of alcohol is

- a) -X b) -COOH c) -CHO d) -OH

ஆல்கஹாலின் வினைத் தொகுதி

- a) -X b) -COOH c) -CHO d) -OH

40. An example for aromatic compounds is

- a) Benzene b) toluene c) naphthalene d) All the above

ஆரோமேட்டிக் சேர்மத்தின் எடுத்துக்காட்டு

- a) பென்சீன் b) டொலுவீன் c) நாப்தலீன் d) இவை அனைத்தும்

41. The functional group of Ester is

- a) -OH b) -CHO c) >C=O d) -COOR

எஸ்டர் வினைத் தொகுதி

- a) -OH b) -CHO c) >C=O d) -COOR

42. An example of primary amine is
 a) $\text{CH}_3\text{-NH}_2$ b) $\text{CH}_3\text{-NH-CH}_3$
 c) $\text{CH}_3 - \underset{\text{CH}_3}{\text{N}} - \text{CH}_3$ d) $\text{CH}_3 - \text{NH-CH}_2\text{-CH}_3$
- ஓரிணை அமீன் எடுத்துக்காட்டு
 a) $\text{CH}_3\text{-NH}_2$ b) $\text{CH}_3\text{-NH-CH}_3$
 c) $\text{CH}_3 - \underset{\text{CH}_3}{\text{N}} - \text{CH}_3$ d) $\text{CH}_3 - \text{NH-CH}_2\text{-CH}_3$
43. An example for alicyclic compound is
 a) Benzene b) toluene c) cyclopropane d) anthracene
 ஆலிசைக்ளிக் சேர்மத்தின் எடுத்துக்காட்டு
 a) பென்சீன் b) டொலுவின் c) வளைய புரப்பேன் d) ஆந்தரசீன்
44. The IUPAC name of $\text{CH}_3\text{-CH-CH}_2\text{-Cl}$
 $\underset{\text{CH}_3}{\text{CH}}$
 a) 1-Chlorobutane b) 2- Chlorobutane
 c) 2-Chloro-2-methylpropane d) 1 -Chloro-2-methyl propane
 $\text{CH}_3\text{-CH-CH}_2\text{-Cl}$ -ன் IUPAC பெயர்
 $\underset{\text{CH}_3}{\text{CH}}$
 a) 1-குளோரோ பியூட்டேன் b) 2- குளோரோ பியூட்டேன்
 c) 2-குளோரோ-2-மெத்தில் புரப்பேன் d) 1-குளோரோ-2- மெத்தில் புரப்பேன்
45. The molecular formula of formaldehyde is
 a) HCHO b) CH_3CHO c) $\text{CH}_3\text{CH}_2\text{CHO}$ d) CH_2OH
 ஃபார்மால்ஹைடின் மூலக்கூறு வாய்ப்பாடு
 a) HCHO b) CH_3CHO c) $\text{CH}_3\text{CH}_2\text{CHO}$ d) CH_2OH
46. Compounds that have the same molecular formula but different structural formula are called-----
 a) structural isomerism b) stereoisomerism
 c) Isomers d) position Isomerism
 ஒரே மூலக்கூறு வாய்ப்பாட்டையும், வெவ்வேறு அமைப்புகளையும் கொண்டிருக்கும் சேர்மங்கள் ----- எனப்படும்.
 a) அமைப்பு மாற்றியம் b) புறவெளி மாற்றியம்
 c) மாற்றியங்கள் d) இடமாற்றியம்

47. Group having +I effect is
 a) - C₆H₄ b) CH₃- c) - I d) - F
 +I வினைவை உடைய தொகுதி
 a) - C₆H₄ b) CH₃- c) - I d) - F
48. The C-O bond length in CO₂ molecule is
 a) 1.15Å⁰ b) 1.22Å⁰ c) 3.5 Å⁰ d) 8.5 Å⁰
 CO₂ மூலக்கூறில் C-O பிணைப்பின் நீளம்
 a) 1.15Å⁰ b) 1.22Å⁰ c) 3.5 Å⁰ d) 8.5 Å⁰
49. The symbol of Avogadro's number
 a) N_A b) P_A c) amu d) STP
 அவோகட்ரோ எண்ணின் குறியீடு
 a) N_A b) P_A c) amu d) STP
50. Avogadro's number is
 a) 6.023 x 10²³ b) 56 x 10⁻³ c) 0.958 x 10⁵ d) 1.696 x 10⁻⁴
 அவோகட்ரோ எண்
 a) 6.023 x 10²³ b) 56 x 10⁻³ c) 0.958 x 10⁵ d) 1.696 x 10⁻⁴
51. It is used as a source of oxygen for rocket propellant fuels.
 a) H₃BO₃ b) H₂O₂ c) CS₂ d) KMNO₄
 ராக்கெட் எரிப்பொருளை தயாரிக்க பயன்படும் ஆக்ஸிஜன் மூலப் பொருள்
 a) H₃BO₃ b) H₂O₂ c) CS₂ d) KMNO₄
52. The acid which is a mild antiseptic and is often used as an eye wash is
 a) H₃BO₃ b) H₂O₂ c) CS₂ d) KMNO₄
 எளிய புரைத்தடுப்பானாகவும் கண்களை கழுவவும் பயன்படும் அமிலம்
 a) H₃BO₃ b) H₂O₂ c) CS₂ d) KMNO₄
53. The liquid used in the manufacture of rayon and cellophane is
 a) H₂O₂ b) H₃BO₃ c) CS₂ d) HNO₃
 ரேயான், செல்லோபேன் தயாரிக்கப் பயன்படும் சேர்மம்
 a) H₂O₂ b) H₃BO₃ c) CS₂ d) HNO₃

54. $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + ?$
 a) 2NaCl b) NaCl c) HBr d) KCl



- a) 2NaCl b) NaCl c) HBr d) KCl

55. Addition of oxygen (or) removal of hydrogen is
 a) Reduction b) oxidation
 c) Displacement reaction d) Addition reaction

ஆக்சிஜனைச் சேர்த்தல் அல்லது ஹைட்ரஜனை நீக்கல்

- a) ஒடுக்கம் b) ஆக்சிஜனேற்றம்
 c) பதிலீட்டு வினை d) கூட்டுவினை

56. In all its compounds the oxidation number of fluorine is

- a) +1 b) +2 c) -2 d) -1

எல்லா சேர்மங்களிலும் .புளோரினின் ஆக்சிஜனேற்ற எண்

- a) +1 b) +2 c) -2 d) -1

57. Molality (m)

- a) $\frac{\text{number of moles of solute}}{\text{mass of solvent in kilograms}}$
 b) $\frac{\text{strength in grams per litre}}{\text{molecular mass of the solute}}$
 c) $\frac{\text{mass of solute in grams}}{\text{volume of solution in litres}}$
 d) $\frac{\text{strength in grams per litre}}{\text{volume of solution in litre}}$

மோலாலிட்டி (m)

- a) $\frac{\text{கரைபொருளின் மோல் எண்ணிக்கை}}{\text{கரைப்பானின் நிறை (கிகி)ல்}}$
 b) $\frac{\text{கரைசலின் வலிமை (கிராம்/ லிட்டர்)}}{\text{கரைபொருளின் மோலார் நிறை}}$
 c) $\frac{\text{கரைபொருளின் நிறை}}{\text{கரைசலின் பருமன்}}$
 d) $\frac{\text{கரைசலின் வலிமை}}{\text{கரைசலின் பருமன்}}$

58. The method used for determination of molecular mass is
 a) Oxide method b) Victor-meyer's method
 c) Chloride method d) Hydrogen displacement method
 எளிதில் ஆவியாகக்கூடிய சேர்மத்தின் மூலக்கூறு நிறையை கணக்கிடும் முறை
 a) குளோரைடு முறை b) விக்டர் மேயர் முறை
 c) ஆக்சைடு முறை d) ஹைட்ரஜன் இடப்பெயர்ச்சி முறை
59. The equivalent mass of KOH is
 a) 2 b) 80 c) 56 d) 49
 KOH சமான நிறை
 a) 2 b) 80 c) 56 d) 49
60. The oxidation number of Cr in $\text{Cr}_2\text{O}_7^{2-}$ is
 a) +3 b) +1 c) +4 d) +6
 $\text{Cr}_2\text{O}_7^{2-}$ -யில் காணும் குரோமியத்தின் (Cr) ஆக்ஸிஜனேற்ற எண்
 a) +3 b) +1 c) +4 d) +6

Appendix - 4(c)

PrAn's Achievement test in Chemistry
N.V.K.S.D College of Education, Attoor
Kanyakumari District

Scoring Key**Choose the best Answer**

1. a) 12g Carbon¹²
2. c) CHCl₃
3. b) ¹²C₆
4. d) Body centered cubic lattice
5. b) 4
6. a) CsCl
7. d) 4
8. b) $(P + \frac{a}{v^2}) (v-b) = RT$
9. c) primitives
10. a) Galena
11. d) CsBr
12. a) Fluorspar
13. d) Form
14. a) 7
15. a) 8 unit cells
16. a) LiH
17. d) $d_{hkl} = \frac{a}{\sqrt{h^2+k^2+l^2}}$
18. a) crystallography
19. b) 1
20. a) $P \propto \frac{1}{V}$
21. a) $P \propto T$
22. c) $PV = nRT$
23. c) $\frac{r_1}{r_2} = \sqrt{\frac{M_2}{M_1}}$
24. a) $\frac{1}{2} mv^2$
25. b) $8.314 \times 10^7 \text{ erg K}^{-1} \text{ mol}^{-1}$
26. d) Graham

27. a) litre mol⁻¹
28. d) $PV = (n_A + n_B + n_C)RT$
29. a) Critical temperature
30. d) all of these
31. b) diffusion
32. d) All the above
33. b) ethanol
34. a) C₆H₅-CH₂-CH₃
35. c) Dalton's law
36. d) C
37. a) C > Si ≈ S > P > N > O
38. b) C_nH_{2n}
39. d) -OH
40. d) All the above
41. d) -COOR
42. a) CH₃-NH₂
43. c) cyclopropane
44. d) 1-Chloro-2-methyl propane
45. a) HCHO
46. c) Isomers
47. b) CH₃ -
48. a) 1.15A⁰
49. a) N_A
50. a) 6.023 x 10²³
51. b) H₂O₂
52. a) H₃BO₃
53. c) CS₂
54. a) 2NaCl
55. b) oxidation
56. d) -1
57. a) $\frac{\text{number of moles of solute}}{\text{mass of solvent in kilograms}}$
58. b) Victor-meyer's method
59. c) 56
60. d) +6

Appendix - 4(d)

PrAn's Achievement test in Chemistry - 2015 (Final Draft)

N.V.K.S.D College of Education, Attoor

Kanyakumari District

Std: XI

Time: 1hr

Total Marks: 43

I. Choose the best Answer:

சரியான விடையை தேர்ந்தெடுத்து எழுதுக

1. Avogadro's number represents the number of atoms in

- a) 12g Carbon¹² b) 320g Sulphur
c) 32g Oxygen d) 12.7g of Iodine

அவேகாட்ரா எண்ணில் குறிப்பிடும் அணுக்களின் எண்ணிக்கை

- a) 12g கார்பன்¹² b) 320g சல்பர்
c) 32g ஆக்சிஜன் d) 12.7g அயோடின்

2. The molecular formula for Chloroform is

- a) Fe₂(SO₄)₃ b) NaCl c) CHCl₃ d) CH₃OH

குளோரோபார்ம் மூலக்கூறு வாய்ப்பாடு

- a) Fe₂(SO₄)₃ b) NaCl c) CHCl₃ d) CH₃OH

3. Which one among the following is the standard for atomic mass?

- a) ¹H² b) ¹²C₆ c) ¹⁴C₆ d) ¹⁶O₈

கீழ்காண்பவைகளில் எது அணு நிறையின் நியமம்?

- a) ¹H² b) ¹²C₆ c) ¹⁴C₆ d) ¹⁶O₈

4. The structure of cesium chloride is

- a) Octahedral b) Square planar
c) Face centered cubic lattice d) Body centered cubic lattice

சீசியம் குளோரைடு படிகத்தின் வடிவமைப்பு

- a) எண்முகி b) சதுரதளம்
c) முகப்பு மைய கனசதுரம் d) பொருள் மைய கனசதுரம்

5. The number of NaCl units per unit cell is

- a) 1 b) 4 c) 2 d) 8

12. The number of CsCl units per unit cell is

- a) 2 b) 1 c) 4 d) 3

CsCl-ல் ஒரு அலகுக் கூட்டிலுள்ள CsCl அலகுகளின் எண்ணிக்கை

- a) 2 b) 1 c) 4 d) 3

13. Boyle's law is

- a) $P \propto \frac{1}{V}$ b) $P \propto \frac{T}{V}$ c) $PV = RT$ d) $R = \frac{PV}{T}$

பாயில் விதி என்பது

- a) $P \propto \frac{1}{V}$ b) $P \propto \frac{T}{V}$ c) $PV = RT$ d) $R = \frac{PV}{T}$

14. Charles law is

- a) $P \propto T$ b) $\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$ c) $R = \frac{PV}{T}$ d) $PV = nRT$

சார்லஸ் விதி என்பது

- a) $P \propto T$ b) $\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$ c) $R = \frac{PV}{T}$ d) $PV = nRT$

15. Graham's law of diffusion is

- a) $P \propto \frac{1}{V}$ b) $P \propto T$ c) $\frac{r_1}{r_2} = \sqrt{\frac{M_2}{M_1}}$ d) $R = \frac{PV}{T}$

கிரஹாமின் வாயு விரவுதல் விதி

- a) $P \propto \frac{1}{V}$ b) $P \propto T$ c) $\frac{r_1}{r_2} = \sqrt{\frac{M_2}{M_1}}$ d) $R = \frac{PV}{T}$

16. In C.G.S system the numerical value of the gas constants is

- a) 1.987 cal deg⁻¹ mol⁻¹ b) 8.314 × 10⁷ erg K⁻¹ mol⁻¹
c) 0.0821 dm³ atm k⁻¹ mol⁻¹ d) 6.023 × 10²³

C.G.S அலகில் வாயுமாறிலி R-ன் மதிப்பு

- a) 1.987 கலோரி K⁻¹ மோல்⁻¹ b) 8.314 × 10⁷ எர்க் K⁻¹ மோல்⁻¹
c) 0.0821 dm³ atm k⁻¹ mol⁻¹ d) 6.023 × 10²³

17. The Law of diffusion was formulated by

- a) Dalton b) Vander Waal's c) Thomson d) Graham

வாயுக்களின் விரவுதல் விதியை கூறியவர்

- a) டால்டன் b) வாண்டர் வால்ஸ் c) தாம்சன் d) கிரஹாம்

18. The unit of b in Vander Waal's equation of state is
 a) litre mol⁻¹ b) atm litre² mol⁻² c) Kelvin d) K⁻¹mol⁻¹
 ஒரு அமைப்பின் வாண்டர் மோல் சமன்பாட்டிலுள்ள b -ன் அலகு
 a) லிட்டர் மோல்⁻¹ b) வளிமண்டல லிட்டர்² மோல்⁻²
 c) கெல்வின் d) k⁻¹ மோல்⁻¹
19. In CO₂ the temperatures 31.1⁰C is considered as,
 a) Critical temperature b) Low temperature
 c) High temperature d) Freezing temperature
 31.1⁰C –வெப்ப நிலையானது CO₂ ன்
 a) நிலைமாறு வெப்பநிலை b) குறைந்த வெப்ப நிலை
 c) அதிக வெப்பநிலை d) குளிர்ந்த வெப்பநிலை
20. A gaseous state can be described in terms of parameter
 a) volume b) pressure c) temperature d) all of these
 ஒரு வாயு நிலைமையை விளக்குவதற்கு தேவைப்படும் காரணி
 a) கன அளவு b) அழுத்தம் c) வெப்பநிலை d) இவை அனைத்தும்
21. Mixing of gases by random motion of the molecules is called as
 a) effusion b) diffusion c) mixing d) collision
 வாயு மூலக்கூறுகள் ஒழுங்கற்ற முறையில் கலப்பது
 a) பாய்தல் b) விரவுதல் c) கலத்தல் d) மோதுதல்
22. The IUPAC name of CH₃-CH₂-OH is
 a) methanol b) ethanol c) propanol d) methyl
 CH₃-CH₂-OH- இன் IUPAC பெயர்
 a) மெத்தனால் b) எத்தனால் c) புரப்பனால் d) மெத்தில்
23. The total pressure exerted by a number of non-reacting gases is equal to the sum of partial pressures of the gases under the same conditions. It is known as
 a) Boyle's law b) Charles law c) Dalton's law d) Avogadro' law
 ஒன்றோடொன்று வினைபுரியாத வாயுக்கள் கலந்த வாயுக்கலவையின் மொத்த அழுத்தம், அதிலுள்ள தனிப்பட்ட வாயுக்களின் பகுதி அழுத்தங்களின் கூட்டுத்தொகைக்குச் சமம் என்பது
 a) பாயில்விதி b) சார்லஸ் விதி c) டால்டன் விதி d) அவாகாட்ரோவிதி

24. The maximum element with bond energy for catenation of atom is
 a) Si b) S c) P d) C
 பின்வருவனவற்றுள் சுய சகப்பிணைப்பு ஆற்றல் அதிகம் உள்ள அணு
 a) Si b) S c) P d) C
25. The decreasing order of catenation of the following atom is
 a) $C > Si \approx S > P > N > O$ b) $C < Si \approx S < P < N < O$
 c) $P > C > Si > N > S$ d) $O > N > P > S \approx Si > C$
 பின்வரும் அணுவின் சுய சகப்பிணைப்பு இறங்கு வரிசை
 a) $C > Si \approx S > P > N > O$ b) $C < Si \approx S < P < N < O$
 c) $P > C > Si > N > S$ d) $O > N > P > S \approx Si > C$
26. The general formula of alkenes is
 a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2} d) C_nH_{2n+1}
 ஆல்கீன்கள் பொது வாய்ப்பாடு
 a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2} d) C_nH_{2n+1}
27. The functional group of alcohol is
 a) -X b) -COOH c) -CHO d) -OH
 ஆல்கஹாலின் வினைத் தொகுதி
 a) -X b) -COOH c) -CHO d) -OH
28. An example for aromatic compounds is
 a) benzene b) toluene c) naphthalene d) All the above
 ஆரோமேட்டிக் சேர்மத்தின் எடுத்துக்காட்டு
 a) பென்சீன் b) டொலுவீன் c) நாப்தலீன் d) இவை அனைத்தும்
29. The functional group of Ester is
 a) -OH b) -CHO c) >C=O d) -COOR
 எஸ்டர் வினைத் தொகுதி
 a) -OH b) -CHO c) >C=O d) -COOR
30. An example of primary amine is
 a) CH_3-NH_2 b) $CH_3-NH-CH_3$
 c) $CH_3 - \underset{\text{CH}_3}{\text{N}} - CH_3$ d) $CH_3 - NH - CH_2 - CH_3$

ஓரிணை அமீன் எடுத்துக்காட்டு

- a) $\text{CH}_3\text{-NH}_2$ b) $\text{CH}_3\text{-NH-CH}_3$
 c) $\text{CH}_3 - \underset{\text{CH}_3}{\text{N}} - \text{CH}_3$ d) $\text{CH}_3 - \text{NH-CH}_2\text{-CH}_3$

31. An example for alicyclic compound is

- a) benzene b) toluene c) cyclopropane d) anthracene
 ஆலிசைக்ளிக் சேர்மத்தின் எடுத்துக்காட்டு
 a) பென்சீன் b) டொலுவின் c) வளைய புரப்பேன் d) ஆந்தரசீன்

32. The IUPAC name of $\text{CH}_3\text{-CH-CH}_2\text{-Cl}$



- a) 1-Chlorobutane b) 2- Chlorobutane
 c) 2-Chloro-2-methylpropane d) 1 -Chloro-2-methyl propane

$\text{CH}_3\text{-CH-CH}_2\text{-Cl}$ -ன் IUPAC பெயர்
 $\begin{array}{c} | \\ \text{CH}_3 \end{array}$

- a) 1-குளோரோ பியூட்டேன் b) 2- குளோரோ பியூட்டேன்
 c) 2-குளோரோ-2-மெத்தில் புரப்பேன் d) 1-குளோரோ-2- மெத்தில் புரப்பேன்

33. The molecular formula of formaldehyde is

- a) HCHO b) CH_3CHO c) $\text{CH}_3\text{CH}_2\text{CHO}$ d) CH_2OH

∴ பார்மால்ஹைடின் மூலக்கூறு வாய்ப்பாடு

- a) HCHO b) CH_3CHO c) $\text{CH}_3\text{CH}_2\text{CHO}$ d) CH_2OH

34. Compounds that have the same molecular formula but different structural formula are called-----

- a) structural isomerism b) stereoisomerism
 c) Isomers d) position Isomerism

ஓரே மூலக்கூறு வாய்ப்பாட்டையும், வெவ்வேறு அமைப்புகளையும் கொண்டிருக்கும் சேர்மங்கள் ----- எனப்படும்.

- a) அமைப்பு மாற்றியம் b) புறவெளி மாற்றியம்
 c) மாற்றியங்கள் d) இடமாற்றியம்

35. The symbol of Avogadro's number

- a) N_A b) P_A c) amu d) STP

மோலிட்டி (m)

a) கரைபொருளின் மோல் எண்ணிக்கை

கரைப்பானின் நிறை (கிகி)ல்

b) கரைசலின் வலிமை (கிராம்/ லிட்டர்)

கரைபொருளின் மோலார் நிறை

c) கரைபொருளின் நிறை

கரைசலின் பருமன்

d) கரைசலின் வலிமை

கரைசலின் பருமன்

41. The method used for determination of molecular mass is

a) Oxide method

b) Victor-meyer's method

c) Chloride method

d) Hydrogen displacement method

எளிதில் ஆவியாகக்கூடிய சேர்மத்தின் மூலக்கூறு நிறையை கணக்கிடும் முறை

a) குளோரைடு முறை

b) விக்டர் மேயர் முறை

c) ஆக்சைடு முறை

d) ஹைட்ரஜன் இடப்பெயர்ச்சி முறை

42. The equivalent mass of KOH is

a) 2

b) 80

c) 56

d) 49

KOH சமான நிறை

a) 2

b) 80

c) 56

d) 49

43. The oxidation number of Cr in $\text{Cr}_2\text{O}_7^{2-}$ is

a) +3

b) +1

c) +4

d) +6

$\text{Cr}_2\text{O}_7^{2-}$ -யில் காணும் குரோமியத்தின் (Cr) ஆக்ஸிஜனேற்ற எண்

a) +3

b) +1

c) +4

d) +6

*Appendix - 4(e)***PrAn's Achievement test in Chemistry -2015 (Final Draft)****N.V.K.S.D College of Education, Attoor****Kanyakumari District****Scoring Key****Choose the best Answer**

1. a) 12g Carbon¹²
2. c) CHCl₃
3. b) ¹²/₆C
4. d) Body centered cubic lattice
5. b) 4
6. a) CsCl
7. c) primitives
8. d) CsBr
9. a) LiH
10. d) $d_{hkl} = \frac{a}{\sqrt{h^2+k^2+l^2}}$
11. a) crystallography
12. b) 1
13. a) $P \propto \frac{1}{V}$
14. a) $P \propto T$
15. c) $\frac{r_1}{r_2} = \sqrt{\frac{M_2}{M_1}}$
16. b) $8.314 \times 10^7 \text{ erg K}^{-1} \text{ mol}^{-1}$
17. d) Graham
18. a) litre mol⁻¹
19. a) Critical temperature
20. d) all of these

21. b) diffusion
22. b) ethanol
23. c) Dalton's law
24. d) C
25. a) $C > Si \approx S > P > N > O$
26. b) C_nH_{2n}
27. d) $-OH$
28. d) All the above
29. d) $-COOR$
30. a) CH_3-NH_2
31. c) cyclopropane
32. d) 1-Chloro-2-methyl propane
33. a) HCHO
34. c) Isomers
35. a) N_A
36. a) 6.023×10^{23}
37. a) H_3BO_3
38. b) oxidation
39. d)-1
40. a) $\frac{\text{number of moles of solute}}{\text{mass of solvent in kilograms}}$
41. b) Victor-meyer's method
42. c) 56
43. d) +6