CHAPTER 1

CONCEPTUAL FRAME WORK

1.1 INTRODUCTION

Education is the most important invention of mankind. It is more important for man than his invention of tools, machines, spacecrafts, medicine, weapons and even of language because language too was the product of his education. Man without education would still be living just like an animal. It is education, which transformed man from a mere “two – legged animal” into a human being. Education of man does not begin at school; it begins at birth. It ends not when he graduates from the university but continues till his death. Hence, education is a life long process. Education is the foundation upon which a country develops. It is the dynamic force in the life of every individual influencing his physical, mental, emotional and social development. Learning different subjects requires different skills for the students.

Education develops man power for different levels of economy and empowers the poor masses to become self reliant enough to participate in the process of national development. Education is an instrument for developing an economically prosperous society and for ensuring equality and social justice.

The aim of education is to manifest in our lives the perfection, which is the very nature of our inner self. This perfection is the realization of the infinite power which resides in everything and every-where existence and consciousness. After understanding the essential nature of this perfection, we should identify it with our inner self. For achieving this, one will have to eliminate one's ego, ignorance and all other false identification, which stand in the way.

Education in Vivekananda sense enables one to comprehend one’s self within as the self everywhere. The essential unity of the entire universe is realized through education. Therefore, man making for him means a harmonious
development of the body, mind and soul. All over the world education is aiming to produce a human being who is intelligent, knowledgeable, hardworking, efficient, disciplined, smart, successful and hopeful leader in his field of endeavor.

1.2 MEANING OF TEACHER EDUCATION

Teacher Education means professional preparation of teachers (Pre-service Teacher Education). It is a preparation of persons for family, for society and for the country. It is nurturing of creativity, inculcation of commitment and generation of strong will to contribute at the highest level of efficiency through a value-based approach. It is an important human vehicle to improve the quality of school education. It is the process, which makes the individuals realize the magnitude and potentialities; and if it is nurtured and inculcated in the right direction, it could make significant contribution to the identified sectors. It empowers the individual with necessary skills and competence for achieving personal and social goals and thereby contributing to the social development.

The Kothari Commission stated that a sound programme of professional education of teacher is essential for the qualitative improvement of education. Education enriches the society. Teacher education enriches it in the sense that the qualitative improvement of a society depends primarily on the qualitative teachers and teaching.

Education is an important instrument for bringing out potentialities of human beings while effectiveness of a system of education is mainly dependent upon its teachers. That is why, among all the dimensions of education, teacher education is considered to be the most crucial one. The quality, competence and character of teachers and their professional preparation depends on the quality of teacher preparation program.

Teacher education is involved in the process of preparing teachers and supporting them throughout their careers. The NPE – 1986 viewed ‘teacher education as a continuous process and its pre-service components and in-service
components inseparable and as the first step, the system should be overhauled’. There are many factors that could contribute to the quality in teacher education. A positive correlation exists between teacher’s verbal ability, knowledge of content, content-based pedagogy and experience and student achievement (Education Commission of States 2003). Good teachers produce good students. That is the primary purpose of teaching and the basis upon which teachers should be evaluated.

Behari (1998) while analyzing teacher education curriculum in the context of requisite abilities for effective teaching categorized the forty-two abilities which were considered to be necessary for effective teaching, into two major areas (1) personality characteristics and (2) skills of teaching.

These skills and abilities expected of student teachers should be viewed from the performance areas expected of the student teachers and not only within the classroom setup especially when there is increased evidence for the need for collaboration with the community and parents for effective teaching-learning outcomes.

The quality and extent of learner achievement are determined primarily by teacher competence, sensitivity and teacher motivation. The National Council for Teacher Education has defined teacher education as – A program of education, research and training of persons to teach from pre-primary to higher education level. Teacher education is a program that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. According to Goods Dictionary of Education Teacher education means, —all the formal and non-formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession or to discharge his responsibilities more effectively.

Teacher education encompasses teaching skills, sound pedagogical theory and professional skills.
Teacher Education = Teaching Skills + Pedagogical theory + Professional skills.

Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the 3 teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills.

Pedagogical theory includes the philosophical, sociological and psychological consideration that would enable the teachers to have a sound basis for practicing the teaching skills in the classroom. The theory is stage specific and is based on the needs and requirements that are characteristic of that stage.

Professional skills include the techniques, strategies and approaches that would help teachers to grow in the profession and also work towards the growth of the profession. It includes soft skills, counseling skills, interpersonal skills, computer skills, information retrieving and management skills and above all lifelong learning skills. An amalgamation of teaching skills, pedagogical theory and professional skills would serve to create the right knowledge, attitude and skills in teachers, thus promoting holistic development.

1.3 ROLE OF TEACHER IN EDUCATION

A teacher has been respected and worshipped throughout human history because of his/her noble mission. Good education requires good teachers. The profession of teacher prepares man to transform the present crisis stricken society into future utopia. Teacher education is a professional course. Professionalism in teacher education refers to commitment to excellence. In other words, it refers to the ability to work in a world of change and ever-increasing accountability.

The all-round development of children depends much upon the professional competency and efficiency of teachers. According to the International Commission on the Development of Education (UNESCO, 1972); “The teacher’s duty is less
and less to inculcate knowledge and more and more to encourage thinking; his formal functions apart, he will have to become more and more an adviser, a partner to talk to; someone who helps seek out conflicting arguments rather than handing out readymade truths. He will have to devote more time and energy to productive and creative activities; interaction, discussion, stimulation, understanding, encouragement”.

1.4 TRIANGULAR BASIS OF TEACHER EDUCATION

Construction of the relevant knowledge base for each stage of education requires a high degree of academic and intellectual understanding of matter related to teacher education at each stage.

This involves selection of theoretical knowledge from disciplines cognate to education, namely, psychology, sociology and philosophy, and converting it into forms suitable for teacher education. Teacher education derives its content from the disciplines of Philosophy, Sociology and Psychology. These disciplines provide the base for better understanding and application of teacher education.

The Philosophical basis provides insights to the student teachers about the implications of- the various schools of philosophy, ancient and modern philosophical thoughts, educational thoughts of philosophical thinkers on education and its various aspects such as curriculum construction and discipline. The Sociological basis helps the student teachers to understand the role of society and its dynamics in the educational system of a nation and the world at large. It encompasses the ideals that influence national and international scenes.

The Psychological basis helps the student teachers develop insights into student’s psychological make-up. This enables the student teachers to understand their self, their students and the learning situations such that they are able to provide meaningful and relevant learning experiences to their students.
1.5 ASPECTS OF TEACHER EDUCATION

Teacher education is concerned with the aspects such as, who (Teacher Educator), whom (Student-Teacher), what (Content) and how (Teaching Strategy). Teacher education is dependent upon the quality of teacher educators. The quality of pedagogical inputs in teacher education programmes and their effective utilization for the purpose of preparing prospective teachers depend largely on the professional competence of teacher educators and the ways in which it is utilized for strengthening the teacher education program. Teacher education, thus, first deals with the preparation of effective teacher educators.

Teacher education reaches out to the student-teachers by providing the relevant knowledge, attitude and skills to function effectively in their teaching profession. It serves to equip the student-teachers with the conceptual and theoretical framework within which they can understand the intricacies of the profession.

It aims at creating the necessary attitude in student-teachers towards the stakeholders of the profession, so that they approach the challenges posed by the environment in a very positive manner. It empowers the student-teachers with the skills (teaching and soft skills) that would enable them to carry on the functions in the most efficient and effective manner. Teacher education therefore pays attention to its content matter.

1.6 TEACHING AND GLOBALIZATION

Globalization is typically understood as an economic, political and cultural process that is reshaping the role of many nation-states in relation to global markets, agreements, and traditions. Recently it has become frequently analyzed in the context of education. However, there is surprisingly little work done on the pedagogical implications of globalization on teaching and learning other than shifting the emphasis from traditional subjects to information and communication technology and English as a foreign language. This article argues that globalization
is having an effect on teaching and learning in three ways: educational
development is often based on a global unified agenda, standardized teaching and
learning are being used as vehicles to improvement of quality, and emphasis on
competition is increasingly evident among individuals and schools.

The article concludes that recent development of standardization and
competition-based education will become increasingly counter-productive to
preparing students for meaningful lives for and beyond knowledge economy.
Furthermore, as a response to globalization, educators need to rethink the ways
teaching and learning are organized in schools, promote appropriate flexibility at
school level, creativity in classrooms and risk-taking among students and teachers
as part of their daily work in school.

Education systems are reacting differently to the changes in the world’s
new economic, political and cultural orders. Globalization has become an
influence in nation-states’ social reforms as education sectors adjust to the new
global environments that are characterized by flexibility, diversity, increased
competition and unpredictable change. Understanding the effects of globalization
on teaching and learning is essential for any policy maker, reform designer and
educational leader.

According to Carnoy, the approach which governments take in reforming
their education sector and its responses to globalization depends on three key
factors:

1. The government’s objective financial situation,

2. Its interpretation of that situation,

3. Its political-ideological position regarding the public sector in education.

These three factors are normally spelled out in the macro-economic
structural adjustment policies and related large-scale education reform strategies
through which countries adjust not only their economies but also their education
systems to the new realities. The key purpose of structural adjustment policies in
the education sector has been a transition towards ‘global educational standards’.
This is often done by benchmarking the entire systems of less-developed countries
to those of economically more advanced ones. Unfortunately, governments often
think that there is one correct approach to adjustment of education and that certain
‘global education standards’ need to be met if the system is to perform in an
internationally competitive way.

Research on education reforms and experiences on structural adjustment
suggest that governments need to realize that there is more than one way of
proceeding on the way to improvement. The major condition for sustainable
evolution of public education and cultivation of democratically functioning nation-
states is the kind of reform that is based on the principle of development rather
than creation. In creation, according to Sarason new externally designed solutions
are being introduced to solve the existing local problems. The new educational
orthodoxy is to a large extent a market-based offspring of globalization and,
according to Hargreaves et al., has the following major components:

1. Higher standards of learning for all students, except for those who have the
   most severe mental or physical dysfunctions.

2. Deeper learning, which shifts the focus of teaching away from a
   presentation-recitation mode of instruction towards teaching for conceptual
   understanding, problem solving, and shared intelligence that are all
   essential for successful participation in the knowledge society or knowledge
   economy.

3. Centralized curricula that ensure common and consistent coverage of what
   every student should know and be able to do, often in the form of standards
   or pre-scripted attainment targets. Literacy and numeracy as prime targets
   of reform and which also determine the success or failure of pupils,
   teachers, schools, and entire education systems.
4. Indicators and attainment targets of student achievement and curriculum planning that enable teachers and others to be clear whether these standards have been reached or not.

5. Aligned assessments that are tightly linked to the prescribed curriculum, learning standards, and indicators making sure that teachers focus on high learning achievements for all students.

6. Consequential accountability where the school performance and especially raising the quality of education, are closely tied to the processes of accreditation, promotion, inspection and ultimately funding and rewarding (or punishing).

1.7 TRENDS AND ISSUES IN TEACHER EDUCATION

1. Building a high-quality education system relevant to 21st century social and economic realities has become a top priority for most governments and nations. Reforming education systems within a context of ever-deepening globalization without first understanding its present challenges is not judicious. These challenges include:

   a) The mercerization of education as a commodity, which has a marked impact on educational consequences and standards;

   b) The rapid but uneven influence of information and communication technologies across nations that will redefine the traditional nature of learning, teaching and schooling;

   c) Shifts in the learning needs of students from literacy, numeracy and content mastery to include soft skills like communication, curiosity, resilience, cooperation, and problem-solving abilities; and the concomitant expectations surrounding the goals of education and schooling by a larger number of stakeholders.
2. Central to the idea of a quality education system is the quality of the teaching provided by teachers to students. As education systems have to cope with the impact of the new economy, so does the profession. In these “new times”, high quality teaching will be characterized by:

   a) Greater emphasis on teachers’ values, skills and knowledge that are fundamental for good teaching;
   b) Expanded teachers’ roles and responsibilities of teachers that are shared collaboratively with other professionals;
   c) Different career expectations and aspirations resulting from changing teacher demographics and new job opportunities; and
   d) Personalizing learning for individual students to accommodate greater diversity in learning contexts

1.8 PRE-SERVICE TEACHER EDUCATION

Pre-service teacher education is the education that a teacher gets before joining the profession of teaching. The person desirous of adopting teaching as his profession is required to undergo a well-devised course of teacher education offered by various institutes. This training course leads to a certificate or degree. This is in fact a licence which is essential for joining the teaching profession.

The existing programs of teacher education are said to be mechanical, stereotyped, traditional, dull, old fashioned and passive unable to prepare effective and competent teachers. These programs whether at pre-service level or in-service level are confronted with different problems. As far as pre-service teacher education program is concerned, it has encountered many ordeals in terms of lack of infrastructure facilities, defective procedure of selection, defective curriculum, less duration of the course, short teaching practice and traditional methods of teaching etc.
Teaching practice is an activity for the teacher trainee to gain first-hand experience of dealing with school students in the classroom situation. It involves the students, the subjects taught and the trainee who teaches. The practice-teaching program is not merely limited to classroom teaching but to prepare the trainee to face all kinds of situations in actual school system.

Modern human life is encountered with various problems such as problems related to education, health environment, intergroup relations, marital relations, daily life hassles etc. solution of most of these problems involve political, economic and social reforms. However, interventions at individual levels are also needed to bring changes in human life and provide relief by easing the tension caused due to various problems that human beings are facing today.

Many of the human life problems are psychologically originated and these result from our ill thinking, negative attitudes towards people and self and undesirable behavioural patterns. Analysis of these problems a long psychological frames helps not only in having a deeper understanding of problems but also in finding their effective solutions.

The teachers are in a position not only to teach the content to the student but also the teachers should know the behaviour of the students. So the measurement of self-confidence, attitude towards teaching profession, mental health, emotional intelligence, values, personality are useful in research.

1.9 ATTITUDE TOWARDS TEACHING PROFESSION

Attitude is important to understand human behavior. To define what exactly an attitude is, many attempts have been made in literature. Generally it is defined as a complex mental state involving beliefs. Anastasi (1957) defines attitude as a tendency to react in a certain way towards a designed class of stimuli. People’s attitudes towards their profession have an effect on their performance. It is also valid for teaching profession.
Teacher is expected not only to master the subject and various methods of teaching but also to show that he is capable of selecting the various study materials according to the teaching goals and varied group of pupils. He also possesses the potentials to create a learning environment for the students (Vermunt and Verschaffel, 2000).

Attitude of teachers largely depends upon their personal characteristics and disposition, both seems to be highly interlinked. The teaching profession requires certain dominant behaviors which show teacher’s intellect, desire to excel, extended professionalism and teaching as a life concern. This is a profession, which exalts service above the personal gains (Goodings et al., 1995).

Teaching involves human nurturance, connectedness, warmth and love (Hargreaves, 1994) and the teacher’s beliefs about his role in caring for the students plays a crucial part in developing the personality of the students (Kelchtermans and Ballet, 2002). Attitude of teachers have also been determined to be influenced by gender (Dodeen, et al., 2003). They found that female teachers have more positive attitude towards teaching profession as compared to male teachers.

1.10 PERSONALITY TRAITS

Personality is the basis for explaining human behavior. Career placement, job satisfaction, leadership styles, dating and marriage preferences, learning styles, and levels of achievement can also be explained in terms of personality. More often than not, inferences are drawn based on personality measures that have been created by different forms of assessment. Most forms of assessments strive to be sensitive to racial and ethnic differences so that their results are not biased.

Personality is the sum total of characteristics that differentiates people or the stability in a person’s behaviour across different situations. Personality is the entire mental organization of a human being at any stage of his development. It
embraces every phase of human character, intellect, temperament, skill, morality and every attitude that has built the course of one’s life.

Jung (1923) developed the concept of collective unconsciousness, which proposed that we inherit certain personality characteristics from our ancestors and the human race as a whole. He categorized and explained individual differences in terms of function and attitudes. Jung believed that in order to make individuals function well, they must have a way to perceive a stimulus and to make an adequate response to that perception. The two attitude types, extroversion and introversion, describe how an individual prefers to engage the environment and use the four basic mental functions. Extroversion defines the actions of individuals, which prefer an orientation to the outer world of people, places and things, whereas introversion describes a preferred orientation towards the inner world of thoughts, concepts and ideas.

Emotional intelligence helps us to explain how personality and people function. The goal of personality psychology is to connect parts of the mind to life outcomes. Personality can be divided into four primary parts too can be divided and subdivided, so that one can see where the proposed parts of emotional intelligence, such as persistence, optimism, political savvy and self-control fall within the personality system.

Cattell and Kline (1977) stressed that personality is the natural core of psychological science, since the process area such as perception, memory, learning theory, physiological psychology can only be effectively understood in relation to the unified organism (Mai & Mai, 2002). Personality traits have a positive or negative relationship with motivation and academic achievement, depending on the type of learning activities. Research dating back to the 1960s demonstrates that an individual’s personality traits are good predictors of future training and learning performance (Wiggins, Blackburn & Hackman, 1969).
Marks (2000) reported that differences between students rather than differences between classes or schools were responsible for the majority of variability in academic engagement, thus emphasizing the role of students' personality over environmental factors. Therefore, it is important for educators to be informed about the relationship between personality traits and learning performance.

The research surrounding the prediction of grades from individual differences is extensive, but the role of personality constructs is being examined instead of cognitive predictors. The Big Five constructs or Five Factor Model (FFM) suggests there are five basic dimensions of adult personality: neuroticism, extroversion, openness, agreeableness, and conscientiousness (Worrell & Cross, 2004). Empirical studies have verified the overall factor structure and individual integrity of the Big Five constructs in many different research settings and populations (Costa & McCrae, 1994). Even with the use of different instruments, the FFM proves to be quite robust in different cultures and across different theoretical perspectives (Blaylock, 1999).

Interest in the relation between personality traits and academic performance has persisted throughout the 20th century. During this period, investigators have adopted several theoretical approaches to the topic, involving distinct conceptualizations of the relevant personality dimensions.

Early research efforts focused on the relation between academic performance and a broad personality trait termed persistence of motives. More recently, research has examined the relations between academic achievement and the personality dimensions proposed in Cattell’s (1973) and Eysenck’s (1970) models of personality structure.

The past empirical research stemming from the historical approaches mentioned above has been reviewed elsewhere (Chamorro-Premuzic & Furnham, 2005; De Raad & Schouwenburg, 1996; Eysenck, 1970) and, therefore, will not receive any further attention in this article. Rather, our concern is with the most
recent theoretical approach to the study of personality traits and academic achievement; namely, that based on the Five-Factor Model of personality structure. A comprehensive review of the empirical literature examining the relations between the personality dimensions of the Five-Factor Model and post-secondary academic performance has yet to be provided in the literature (Chamorro-Premuzic & Furnham, 2005, for a partial review).

The Five-Factor Model of personality (McCrae & Costa, 1997) represents the dominant conceptualization of personality structure in the current literature. This model posits that the Big Five personality factors of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness reside at the highest level of the personality hierarchy. These factors are thought to encompass the entire domain of more narrow personality traits that fall at lower levels of the hierarchy.

Recent investigations of the relations between personality traits and academic performance tend generally to operate under the framework provided by the Five-Factor Model of personality structure. Under this framework, however, contemporary researchers have adopted two broad approaches to the study of Big Five personality dimensions and academic performance. In the first method, investigators have examined how well the broad Big Five personality factors (i.e., those factors residing at the highest level of the personality hierarchy) predict academic performance. In the second method, researchers have evaluated more narrow personality traits, at lower levels of the personality hierarchy, in terms of predicting academic success.

1.11 BIG FIVE PERSONALITY FACTORS AND ACHIEVEMENT

The Big Five model is a comprehensive, empirical, data-driven research finding. Identifying the traits and structure of human personality has been one of the most fundamental goals in all of psychology. The five broad factors were discovered and defined by several independent sets of researchers. These researchers began by studying known personality traits and then factor-analyzing
hundreds of measures of these traits (in self-report and questionnaire data, peer ratings, and objective measures from experimental settings) in order to find the underlying factors of personality.

The initial model was advanced by Ernest Tupes and Raymond Christal in 1961, but failed to reach an academic audience until the 1980s. In 1990, J.M. Digman advanced his five factor model of personality, which Goldberg extended to the highest level of organization. These five overarching domains have been found to contain and subsume most known personality traits and are assumed to represent the basic structure behind all personality traits. These five factors provide a rich conceptual framework for integrating all the research findings and theory in personality psychology. The Big Five traits are also referred to as the "Five Factor Model" or FFM, and as the Global Factors of personality.

At least four sets of researchers have worked independently for decades on this problem and have identified generally the same Big Five factors: Tupes & Cristal were first, followed by Goldberg at the Oregon Research Institute, Cattell at the University of Illinois, and Costa and McCrae at the National Institutes of Health. These four sets of researchers used somewhat different methods in finding the five traits, and thus each set of five factors has somewhat different names and definitions.

However, all have been found to be highly inter-correlated and factor-analytically aligned. Because the Big Five traits are broad and comprehensive, they are not nearly as powerful in predicting and explaining actual behavior as are the more numerous lower-level traits. Many studies have confirmed that in predicting actual behavior the more numerous facet or primary level traits are far more effective (e.g. Mershon & Gorsuch, 1988; Paunonen & Ashton, 2001)

When scored for individual feedback, these traits are frequently presented as percentile scores. For example, a Conscientiousness rating in the 80th percentile indicates a relatively strong sense of responsibility and orderliness, whereas an Extraversion rating in the 5th percentile indicates an exceptional need for solitude
and quiet. Although these trait clusters are statistical aggregates, exceptions may exist on individual personality profiles. On average, people who register high in Openness are intellectually curious, open to emotion, interested in art, and willing to try new things. A particular individual, however, may have a high overall Openness score and be interested in learning and exploring new cultures but have no great interest in art or poetry.

The most frequently used measures of the Big Five comprise either items that are self-descriptive sentences or, in the case of lexical measures, items that are single adjectives. Due to the length of sentence-based and some lexical measures, short forms have been developed and validated for use in applied research settings where questionnaire space and respondent time are limited, such as the 40-item balanced *International English Big-Five Mini-Markers* or a very brief (10 item) measure of the Big Five domains. Many empirical studies have investigated the relations between post-secondary academic performance and the Big Five personality factors. Different measures of the Big Five have been employed in this research.

1.12 CONSCIENTIOUSNESS

Of the Big Five factors, Conscientiousness has been the most consistently linked to academic success. Conscientiousness is a tendency to show self-discipline, act dutifully, and aim for achievement against measures or outside expectations. The trait shows a preference for planned rather than spontaneous behavior. It influences the way in which we control, regulate, and direct our impulses. According to a study conducted at Michigan State University, it was found by R.E. Lucas and his colleagues that the average level of conscientiousness augmented among young adults and then declined among older adults.

Numerous empirical studies have identified positive relations between the factor and diverse indicators of academic performance. At the broadest level, Conscientiousness has been found to be positively associated with GPA, indicating
that conscientious students tend to perform better academically than do less conscientiousness students.

1.13 OPENNESS TO EXPERIENCE

Openness is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience. People who are open to experience are intellectually curious, appreciative of art, and sensitive to beauty. They tend to be, when compared to closed people, more creative and more aware of their feelings. They are more likely to hold unconventional beliefs. Another characteristic of the open cognitive style is a facility for thinking in symbols and abstractions far removed from concrete experience. People with low scores on openness tend to have more conventional, traditional interests. They prefer the plain, straightforward, and obvious over the complex, ambiguous, and subtle. They may regard the arts and sciences with suspicion or view these endeavors as uninteresting. Closed people prefer familiarity over novelty; they are conservative and resistant to change.

Investigations of the Openness to Experience factor of personality as a predictor of academic performance have produced mixed results. On one hand, a number of studies have identified a positive association between Openness and academic performance.

1.14 EXTRAVERSION

Extraversion is characterized by positive emotions, urgency, and the tendency to seek out stimulation and the company of others. The trait is marked by pronounced engagement with the external world. Extraverts enjoy being with people, and are often perceived as full of energy. They tend to be enthusiastic, action-oriented individuals who are likely to say "Yes!" or "Let's go!" to opportunities for excitement. In groups they like to talk, assert themselves, and draw attention to themselves.
Introverts have lower social engagement and activity levels than extraverts. They tend to seem quiet, low-key, deliberate, and less involved in the social world. Their lack of social involvement should not be interpreted as shyness or depression. Introverts simply need less stimulation than extraverts and more time alone. They may be very active and energetic, simply not socially.

Research examining Extraversion as a predictor of academic performance has, like Openness to Experience, produced mixed results. Several studies have identified negative associations.

1.15 NEUROTICISM

Neuroticism is the tendency to experience negative emotions, such as anger, anxiety, or depression. It is sometimes called emotional instability, or is reversed and referred to as emotional stability. According to Eysenck’s (1967) theory of personality, neuroticism is interlinked with low tolerance for stress or aversive stimuli. Those who score high in neuroticism are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These problems in emotional regulation can diminish the ability of a person scoring high on neuroticism to think clearly, make decisions, and cope effectively with stress. Lacking contentment in one's life achievements can correlate to high Neuroticism scores and increase a person's likelihood of falling into clinical depression.

At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally reactive. They tend to be calm, emotionally stable, and free from persistent negative feelings. Freedom from negative feelings does not mean that low scorers experience a lot of positive feelings. Research suggests extraversion and neuroticism are negatively correlated. A few studies have found negative associations between Neuroticism and post-secondary academic performance that emotionally stable students perform better.
academically than do more neurotic students. This relation has been most often interpreted in terms of the debilitating effects of anxiety – under academic evaluation conditions, neurotic individuals are thought to experience anxiety and stress, impairing their performance (Chamorro-Premuzic & Furnham, 2005).

1.16 AGREEABLENESS

Agreeableness is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. The trait reflects individual differences in general concern for social harmony. Agreeable individuals value getting along with others. They are generally considerate, friendly, generous, helpful, and willing to compromise their interests with others. Agreeable people also have an optimistic view of human nature.

Although agreeableness is positively correlated with good team work skills, it is negatively correlated with leadership skills. Those who voice-out their opinion in team environment tend to move up the corporate rankings, whereas the ones that don't remain in the same position usually labeled as the followers of the team.

Disagreeable individuals place self-interest above getting along with others. They are generally unconcerned with others’ well-being, and are less likely to extend themselves for other people. Sometimes their skepticism about others’ motives causes them to be suspicious, unfriendly, and uncooperative.

Agreeableness has been mostly unassociated with post-secondary academic performance. The small body of empirical research that has uncovered significant relations between that factor and academic achievement has produced mixed results.
1.17 SELF-CONFIDENCE AND ACADEMIC ACHIEVEMENT

According to Brown (2000) and Skehan (1989) the affective domain is the emotional side of human behavior and it involves a variety of personality aspects such as emotion, motivation, attitude, anxiety, personality and self – confidence. Among these, self-confidence is one of the most influential variables which affect learning.

It is one of the central drives in human beings and can exercise a determining influence on a person’s life for good or bad. Basically, it is an psychological and social phenomenon in which an individual evaluates him/herself according to some values which may result in different emotional states and which become developmentally stable, but are still open to variation depending on personal circumstances (Reasoner, cited in Rubio, 2004).

Self-confidence is a personal factor that plays a supportive role in academic achievement. When there is a low self-confidence on the contrary, “learners suffer from uncertainty, insecurity, fear and social distance” (Rubio, 2007). Self-Confidence is an aspect of self-concept and one with Self-Confidence can approach any action with determined ability; can feel that one’s success or failure lie within one self. The way we think about ourselves is closely related to our ability to learn or to achieve academically.

Hemachek (1978) writes, “Basically the self has two aspects-concept and feeling. That is, we know ourselves to have particular qualities”. It is evident from the above that Self-Confidence can pave the way for one’s success in academic career. The academic achievement of the students may relate to Self-Confidence of Teachers at all levels can have an enormous influence on a student’s Self-Confidence. Teachers are quickly established as significant persons in the lives of most of the students.

The teacher is an important factor in the inter-personal field of forces which influences a student’s developing self. Even if a student’s self has not been
nurtured in a healthy home atmosphere, the teacher can develop his/her Self- Confidence. A good teacher generally trusts other people and perceives them as having the capacity to solve their own problems.

A teacher’s expectations can influence the academic achievement of the students. Expectations not only relay the message that he has the ability to do what is required of him, but also represent the strongest vote of confidence possible. Wivagg (1991) has stated in an editorial note that Achievement is generally accompanied by risk-taking. A good way to develop self-confidence in students is to provide them with challenge.

Parents, teachers, educationalists and others are all equally interested in the academic progress of children. Sometimes, due to lack of knowledge of psychology some parents and others think academic achievement is the outcome of the native intellectual ability, potentially present in children. But, the fact that remains that apart from intelligence many other, personal qualities are responsible and are at the basis of one’s academic achievement.

Many psychologists and educationalists consequent on their extensive and laborious studies have proved that this important component, namely, self-confidence plays a very vital and significant role in the academic achievement of learners. Teachers, by providing proper guidance and counseling can go a long way in developing in students a strong sense of Self-Confidence.

1.18 EMOTIONAL INTELLIGENCE AND ACADEMIC PERFORMANCE

Emotional Intelligence is defined as an array of non cognitive abilities, capabilities, competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures.

Emotional intelligence is the ability to use our emotions, helps in solving our problems and in leading a more effective life. Emotional intelligence without intelligence or intelligence without emotional intelligence is only a part of a solution. It is the head working with the heart.
Emotional Intelligence is needed for a student who learns is much apt to succeed. The idea of emotional intelligence has inspired research and curriculum development. Researchers have conducted that people who manage their own feeling well and deal effectively with others are more apt to retain information and do so more effectively than dissatisfied people (Mangal, S.K. 2003).

Emotional Intelligence may be the most important influence of success on the job, according to studies done over the last decade. Effective management of emotional intelligence is a strong predictor of success in both our personal life and in the office (Pierre Elizabeth).

The achievement of the end results in terms of better handling of mutual relationships is quite essential and significant in his life. It can only be possible through his potential of emotional intelligence and its proper development. (Mangal, s.K. 2003)

According to Mayer and Cobb (2000) ‘Emotional Intelligence is the ability to process emotional information particularly as it involves the perception, assimilation, understanding and management of emotion’.

It consists of four branches of mental ability:

1. Emotional identification, perception and expression.
2. Emotional facilitation of thought
3. Emotional understanding
4. Emotional Management.

According to Hyde, Pethe and Dhar (2001), emotional Intelligence may be defined in terms of self awareness, empathy, self motivation, emotional stability, managing relations, integrity, self development, value orientation and social skills.

These and many more questions underscore the important place intelligence has been found to play in academic success. Goleman (1995) gave a short answer
when he asserted that success depends on several intelligences and on the control of emotion. Specifically, he stressed that intelligence (IQ) alone is no more the measure of success. According to him, intelligent account for only 20% of the total success and the rest goes for Emotional and Social intelligences.

1.19 MENTAL HEALTH AND ACADEMIC ACHIEVEMENT

One of the major aims of education is the development of wholesome personality of the individual. Mental well-being is as essential as physical well-being for efficient functioning of the individual at school or at college. Mental Health is a part of general health. A person’s mental health is a result assessment of man’s relations to himself, his society and his values. The Mental Health of each individual is related the interaction between constitutional and environmental factors. Mental Health is the “state of mind in which one is free to make use of his natural capacities in an effective and satisfying manner”. It means those individuals who possess greater degree of successful adjustment, emotional well-being, freedom from anxiety, a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life.

The preamble of the world Health Organization’s charter defined health as a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity (Monopolis & Sarles, 1977). Thus, health is a broader concept including physical, social and mental health. Mental health has been reported as an important factor influencing individual’s various behaviors, activities, happiness and performance.

Mental health is a crucial psychological factor with respect to human behavior. Available research evidence have demonstrated that mental health offers an opportunity for investigation as an attribute of human resource development in that empirical research findings indicated that mental health improvements leads to a better utilization of resources while its impairment has led to serious negative and life consequences.
"The feeling of being valuable - 'I am a valuable person' - is essential to mental health and is a cornerstone of self-discipline." - **M. Scott Peck**

Depression, low self-esteem and an overall bad mental health are conditions that a majority of people in the world go through. The phases and time span of such conditions may depend on the intensity of causes. Whatever the cause might be, it is better to improve our mental health and stay strong in our mind and thought process. This can be achieved by following some simply ways to improve mental health, which are discussed in the following. Good physical health certainly has a positive effect on the emotional wellbeing of a person.

Quality mental health is salient for all students. Each student needs to focus on achieving worthwhile learning rather than worrying or be distracted by an ineffective class/school environment. Thus, the emotional fact of a learner needs adequate attention to achieve worthwhile knowledge, skills and attitudinal objectives

The Association for Supervision and Curriculum Development (ASCD) in their report titled New Compact state the following:

“Current educational practice and policy focus overwhelmingly on academic achievement. This achievement, however, is one element of students learning and development, and only a part of any complete system of educational accountability”

The report’s recommendations to local, state and federal policymakers (USA) recognize that academic achievement is crucial but cannot happen without significant emphasis on student health, the school environment, student engagement, personalized learning, skilled and caring educators, and outcomes beyond formal schooling.
1.20 IMPORTANCE OF VALUES IN EDUCATION

Vivekananda (1863 – 1902), a great thinker and reformer of India, embraces education, which for him signifies ‘man-making’ is the very mission of his life. Vivekananda realizes that mankind is passing through a crisis. The tremendous emphasis on the scientific and mechanical ways of life is fast reducing man to the status of a machine.

Moral and religious values are being undermined. The fundamental principles of civilization are being ignored. Conflicts of ideals, manners and habits are pervading the atmosphere. Disregard for everything old is the fashion of the day. Vivekananda seeks the solutions of all these social and global evils through education.

Education is the development of all those capacities in the individual which will enable him to control his environment and fulfill his responsibilities --- John Dewey

If values are introduced in our education they form systematic and planned educational action aiming at development of values in teachers. For it leads to development of personality i.e., intellectual, social, moral, aesthetic, and spiritual, and it helps in proper adjustment in the society and heightens a person’s awareness of oneself and one’s relationship by dispensing crime, violence, cruelty and selfishness. Finally it leads to full development of a person’s consciousness. Teaching profession controls and internalizes the values among students.

1.21 NEED AND SIGNIFICANCE OF THE STUDY

Undoubtedly, the quality of school education is the direct consequence and outcome of the quality of teachers and the education system. Hence the importance of quality of teachers in improving the quality of education is a matter of concern and quality improvement of our teacher education program is an indispensable need of the hour.
Many studies reveal that there is a significant relationship between the attitude and skills of the teachers. In order to develop favorable attitude towards teaching during pre-service training they should be given some practice. It is not enough if the prospective teachers are empowered with knowledge and skills but they should have a favorable attitude towards teaching which in turn influences their teaching competency.

Teaching profession demands a clear set of goals, love for profession, good interpersonal and intrapersonal skills and obviously a favorable attitude towards the profession. As student-teachers, they will be required not only to acquire proficiency in planning of the lessons and delivery but also must have good personality and good attitude towards their teaching. They learn the practical management of the class to arrange and organize school assemblies, prayer, promoting habits of cleanliness among the students and premises, developing healthy habits etc. Their personality gives the genuine satisfaction and assurance to excel in their teaching profession.

Attitude is developed over a long period of experience and interactions with different objects or events. Hence, assessing the attitude of the B.Ed. trainees towards teaching profession as soon as they join the course will help the teacher educators to plan various curricular and co-curricular activities for the teacher education program, which enable the prospective teachers to develop favorable attitude towards teaching, necessary skills and interest towards teaching during the course of the program. Admissions to B.Ed. course is based on the marks scored in the Undergraduate level.

Academic Achievement of the students is influenced by many factors including their mental health, self-confidence, personality, emotional intelligence and attitude. Hence a study has been taken to assess how the psychological attributes influence their academic achievement.
Emotional Intelligence depends on the environment. It is related neither to development of some organ nor to physiological process. There is a sample scope for its development at any stage. Since academic achievement is the criterion for selection, promotion or recognition in various walks of life, the importance of academic achievement cannot be ignored. There are several factors that influence the academic achievement of an individual such as personality, intellectual ability, environment, etc.

Keeping this goal in mind, the investigator planned to collect data about the attitude of student-teachers towards teaching and academic achievement. It will provide a better picture of the situation and to identify the means to improve their teaching further so as to produce quality teachers. There are a number of variables that effect the academic achievement of students of an individual. In this regard the environment, attitude, personality, self-confidence, mental health, emotions and parental socio-economic status are said to be countable.

A well-adjusted pupil can perhaps be able to develop a high sense of worth in him and thus infuses confidence. The confidence so gained gives him a greater scope for the knowledge of what he is capable and what he is not capable. This personal assessment of him in life situations can show beckon light to his future student career as well as his future life situation. Thus intelligence and other non-academic factors on the one hand and the development of self-confidence on the other hand, are the fundamental aspects, which shape the personality of an individual.

People observe, analyze, and explain behaviors with explanations. The people make correspondent inferences by reviewing the context of behavior. People make inferences on the basis of three factors; degree of choice, expectedness of behavior and effects of someone’s behaviors. When people try to make attributions about another's behavior, their information focuses on the individual. Their perception of that individual is lacking most of the external factors which might affect the individual. The gaps tend to be skipped over and the
attribution is made based on the perception information most salient. The most salient perceptual information dominates a person's perception of the situation. For individuals making behavioral attributions about themselves, the situation and external environment are entirely salient, but their own body and behavior are less so. This leads to the tendency to make an external attribution in regards to their own behavior.

Attitudes and interests determine largely the direction of behavior. More than knowledge, attitudes affect action. In a great many areas of life attitude plays a dominant role in determining action. Attitudes are usually defined as a readiness to react towards or against some object or value. For the professional preparation of teachers the study of attitude is important. How a teacher performs his duty as a teacher is dependent, to a great extent on his attitude, values and beliefs.

There is a huge concern among the heads of the institutions, teachers and parents that the academic achievement is deteriorating nowadays. Therefore, discussing the means and ways through which academic achievement could be increased is the need of the hour. Intelligence is an important factor which influences the achievement.

Therefore, every teacher educator should teach his lesson in consonance with the intellectual abilities of all kinds of student-teacher in the classroom. Similarly, to achieve better, the learner should have confidence about himself-that is the self confidence. Learner’s strengths and weakness are not being considered while assigning a task. Therefore there is a need to bring about awareness among the learners about their selves.

In order to realize this, teacher educators are advised to plan their instructional process with a sound background of the learner’s growth and development. Hence, there exacts a need to know the influence of psychological factors in increasing the vim and vigor of the learner. Hence, the present study was undertaken to get a clear picture of correlative effect of psychological attributes of student-teachers on their academic achievement.
1.22 SCOPE OF THE STUDY

The ultimate aim of education is to help students to achieve healthy adjustment with their own environment. In order to fulfill its aim, a better understanding of the psychological adjustment against frustration and anxieties in learning atmosphere is essential.

Education is meant to bring up and meet the inherent potential of the student. Education is referred to as any act experiences that has a formative effect on the personality of an individual. The demands from science vary from time to time. There have been great explosions of knowledge during the last few decades. The main tasks of education in a modern society are to keep pace with the rate of increasing knowledge and this cannot be received passively. The main emphasis in education should be awakening of curiosity, the simulations of creativity of the development of proper interests, attitudes and values and building of essential skills such as independent study capacity to think, judge for one self etc.

Certain psychological attributes have been shown to be more relevant for long term decision making. All psychological attributes of interest are assumed to be normally distributed. Therefore, all psychological attributes should reveal individual differences. This assumption of normal distribution is necessary in order to analyze data with parametric statistics. When using psychological attributes in making predictions, it is absolutely vital to match the appropriate attribute with the predicted behavior. While there may be differences, such as female keeping scrapbooks and men liking boxing, most psychological attributes fail to fit a specific gender.

A healthy personality is a developmental achievement. The healthy individual is confident and efficient in problem solving, constructively productive, realistic in self-appraisal and in goal setting, and able to accept and give esteem and love in interpersonal relations and happily committed to significant personal and social goals. Mental health generally implies optimal development of human abilities, optimal growth towards emotional maturity with freedom from neurotic...
tensions and inhibitions. It also indicates optimal ability to maintain relationships with individuals and groups in accordance with existing cultural patterns.

Teachers need to be trained for inculcating values in their students, such as accountability, rights as well as duties of an individual. As the society is looking at the teachers for a solution in these times of erosion of values, there is a need for working out strategies, which will lay adequate emphasis on the Affective Domain. There is a need for training teachers in health education aspects. Health here means not only absence of disease but complete physical, social, mental and economic well being.

The advancement in science and technology needs an individual to develop skills and competence to cope with the external demands by coping with the external demands, zeal, persistence, motivation and regulation of emotions and behaviour. The success and the chances of a productive life of a student are directly dependent on how much the educators enhance the emotional quotient. Emotional intelligence and human personality are two important correlates and personality provides the context in which emotional intelligence operates. It has been suggested that once we know and understand our personality characteristics, it will be possible to be aware of others and stimulate each other.

Emotional Intelligence is totally dependent on the environment. It is related neither to Development of some organ nor to physiological process. There is ample scope for its development at any stage. So the results of this study will be useful to the student teachers to improve their emotional intelligence. It gives a new approach to student-teachers, who in future become teachers.

As a teacher plays important role in shaping the pupils’ behaviour, an emotionally balanced and strong-teacher is the need of the hour. By improving emotional intelligence the student-teachers’ ability to think independently is increased and they develop as responsible teachers and complete citizens.
Education for promoting emotions needs to be recognized as an essential element of the educational process in the classroom and therefore, developing emotional intelligence becomes a prime concern of colleges of education and curriculum of B.Ed. course.

Academic performance is a very broad term, which indicates generally the learning outcome of pupils. Achievement of learning outcomes requires a series of planned and organized experiences; hence learning is called process. Learning affects major areas of behavior of pupils, such as cognitive, affective and psychomotor domains. It is difficult to say without proper evidence that pupils reach the same level in all the three domains at a time. As the areas of affective and psychomotor domains are not sufficiently exposed, it is generally a custom to restrict the term academic performance to the level of achievement of pupils in the cognitive area of various subjects.

It is the major task of the teachers to find out the root cause of such performance, whether it be in themselves, in the students or in the institutions and to find out suitable remedial measures. So that the student-teachers need the proper maintenance of Mental Health and Emotional Intelligence helps them to lead a happy life. All this reveals that the research is needed to determine the exact connection of academic achievement and Psychological attributes of student-teachers.

1.23 STATEMENT OF THE PROBLEM

The broad justifications have been offered for the evaluation of Psychological traits as predictors of academic performance. It has been suggested that behavioral tendencies reflected in personality traits affect certain habits that can have an influence on academic success. Rothstein, Paunonen, Rush, and King (1994) have argued that, “to the extent that evaluations of performance in [an academic] program are influenced by characteristic modes of behavior such as perseverance, conscientiousness, talkativeness, dominance, and so forth, individual
differences in specific personality traits justifiably can be hypothesized to be related to scholastic success”.

The Psychological traits as predictors of academic performance whereas cognitive ability reflects what an individual can do, personality traits reflect what an individual will do (Furnham & Chamorro-Premuzic, 2004).

Stated otherwise, it is thought that long-term academic performance may be more accurately predicted by a measure of typical performance, such as a personality scale, rather than a measure of maximal performance, such as a cognitive ability scale (Goff & Ackerman, 1992). Based on this, the title of the study is “An analysis of Selective Psychological traits and Academic Performance of B.Ed students in Preservice Training”.

1.24 DEFINITION OF THE TERMS

ANALYSIS:

The examination and evaluation of the relevant information to be select the best course of action from various alternates.

PSYCHOLOGICAL TRAITS:

It refers to ways in which people behave, or explained some ones behavior by saying, "that's just the type of person he/she is". Though there are number of Psychological traits are present within an individual, Investigator selected certain Psychological attributes like attitude towards teaching profession, self-confidence, value, mental health, emotional intelligence, psychotism, social desirability, depression, emotional stability and extroversion for the present study.
ACADEMIC ACHIEVEMENT:

Academic achievement is the outcome of education in the extent to which students had achieved their educational goals. It is the amount of knowledge gained by the students in different subjects of study. It is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important procedural knowledge such as skills or declarative knowledge such as facts.

B.Ed. STUDENTS:

The students who study in B.Ed. College to acquire pre service training to be eligible to join as teachers in regular schools.

PRE-SERVICE TRAINING:

Pre service training is instruction which takes place before a person joins as teacher to teach the students in the subject specialized.

1.25 OBJECTIVES OF THE STUDY

The objectives of the present study are as follows:

1. To find out the Psychological attributes of student- teachers in terms of their Gender, Qualification, Medium of study, Marital status, Locality, Parents income, Major subjects, Community, Age, Type of college and Academic achievement.

2. To study and analyze the Psychological attributes like Attitude towards teaching profession, Self-confidence, Value, Mental health, Emotional Intelligence and Personality of student-teachers.

3. To find out the relation between different psychological attributes of student-teachers.
4. To study the relation between Psychological attribute and the academic achievement of student-teachers

1.26 HYPOTHESES OF THE STUDY

The hypotheses of the present study are as follows:

HYPOTHESIS 1

Student-Teachers do not differ in their different psychological attributes with respect to the selected sub sample viz., Gender, Qualification, Medium Studied, Locality, Marital status, Major subjects, Community, Parents Income, Age, Type of college

HYPOTHESIS 1.1

Student-Teachers do not differ in their different psychological attributes with respect to Gender.

HYPOTHESIS 1.2

Student-Teachers do not differ in their different psychological attributes with respect to qualification.

HYPOTHESIS 1.3

Student-Teachers do not differ in their different psychological attributes with respect to marital status.

HYPOTHESIS 1.4

Student-Teachers do not differ in their different psychological attributes with respect to Locality.
HYPOTHESIS 1.5

Student-Teachers do not differ in their different psychological attributes with respect to medium of study.

HYPOTHESIS 1.6

Student-Teachers do not differ in their different psychological attributes according to Major subjects.

HYPOTHESIS 1.7

Student-Teachers do not differ in their different psychological attributes according to community.

HYPOTHESIS 1.8

Student-Teachers do not differ in their different psychological attributes with respect to Parents Income.

HYPOTHESIS 1.9

Student-Teachers do not differ in their different psychological attributes according to Age.

HYPOTHESIS 1.10

Student-Teachers do not differ in their different psychological attributes according to type of college.

HYPOTHESIS 2

Student-Teachers do not differ in their academic achievement in terms of their Gender, Qualification, Medium, Marital Status and Locality, Major subjects, Community, Age, Parents Income and Type of college.
HYPOTHESIS 3

Student-Teachers do not differ in their Academic achievement based on their different psychological attributes.

HYPOTHESIS 4

There is significant relationship between psychological attributes of different B.Ed. college student-Teachers.

HYPOTHESIS 5

There is significant relationship between different dimensions of Psychological attributes of Autonomous female student-teachers.

HYPOTHESIS 6

There is significant relationship between different dimensions of Psychological attributes of Government female student-teachers.

HYPOTHESIS 7

There is significant relationship between different dimensions of Psychological attributes of Government male student-teachers.

HYPOTHESIS 8

There is significant relationship between different dimensions of Psychological attributes of Autonomous male student-teachers.

HYPOTHESIS 9

There is significant relationship between different dimensions of Psychological attributes of Self-Finance male student-teachers.
HYPOTHESIS 10

There is significant relationship between different dimensions of Psychological attributes of Self- finance female student-teachers.

HYPOTHESIS 11

There is significant relationship between Academic achievement and Psychological attributes of student-teachers.

HYPOTHESIS 12

There is significant relationship between Academic achievement and Psychological attributes of student-teachers in different type of B.Ed. colleges.

HYPOTHESIS 13

There is a relationship between Academic achievement and Psychological attributes of Male student-teachers studying in Government B.Ed. college.

1.27 LIMITATIONS OF THE STUDY

1. The study was limited to student-teachers studying in B.Ed., colleges only.
2. The B.Ed students are selected from four districts of Tamil Nadu for the study. They are Salem, Namakkal, Coimbatore and Pudukottai.
3. Data were collected from two Government College, two Autonomous college and Self Financing Colleges only.
4. This study was also limited to 594 student-teachers (Both Male and Female)
5. Data was collected by means of questionnaire only.