INTRODUCTION

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Introduction

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"Not only is there an art in knowing a thing, but also a certain art in teaching it."

*Cicero*

Development of a nation always relied on knowledge acquired through education and its practical applications. Considering any efficient education system or educator, effective instructional strategies with identity and high potentials in which the contents were delivered are the main pillars of quality education system.

Quality education is a pre-requisite for national, regional and global development. For delivery of quality education, we need quality teachers who are committed to teaching and equipped with necessary knowledge, skills and competencies for effective teaching.

Quality teachers and teaching only can be the strong agents of social re-engineering and national reconstruction. Educationists, no matter, how different their educational philosophies and ideologies may be admit that the ultimate test of nation's greatness is the quality of her citizens which depends upon the quality of her teachers.
For teachers to be more effective and quality professionals, teacher education must be brought into the mainstream of the academic life of our institutions at all levels. Planning and implementation of futuristic, exhaustive and farsighted reforms and recommendations can make a real breakthrough and vitalise teacher education.

1.1.1. Suggestions and Recommendations of Education Commissions and Policies on Quality Education

All Education Commissions and Policies since independence stressed on the restructuring and reorganisation of teacher education and of teaching profession. Radhakrishnan Commission (1948) for higher education, Mudaliyar Commission (1952-53) for secondary education, Kothari Commission (1964-66) for all levels of education, were constituted to suggest reforms to push forward the agenda of educating India, strengthening teacher education and rewarm teaching-learning strategies.

The Secondary Education Commission (1952-53) stated, "we are, however, convinced that the most important factor in contemplated educational reconstruction, is the teacher, his personal qualities, his educational qualifications, his professional training and the place that occupies in the school as well as in the community".
The Education Commission (1964-66) observed, "Of all the different factors which influence the quality of education and its contribution to the national development, the quality, competence and character of teachers are undoubtedly the most significant". The Commission also emphasised on the training and orientation of teachers at all levels.

The Commission also observed that investment in teacher education could yield very rich dividends because the financial resources required are small when measured against the resulting improvement in the education of millions.

The National Education Policy of India (1986) focussed its attention on an educational system which can produce citizens who are by and large physically, mentally and morally healthy; who are conscious of their duties and rights, who are keen to learn on a life long basis and incessantly eager to improve their performance and who consequently are well grounded individuals competently contributing to the uplift of the quality of life everywhere.

National Council for Teacher Education, which is a creation of the NPE (2005) suggested to make teacher education effective and productive, the prevailing teacher education system is to be undergone drastic changes.
National Curriculum Framework (2005) introduced 'Critical Pedagogy', based on social constructivism, to restructure the system of teacher education. According to NCF, content and pedagogy blended together, that is content inbuilt pedagogy is the landmark of teacher education system. To achieve this NCF recommended academic planning and leadership at the school level, block level and cluster level, as essential for improving quality and strategic differentiation of roles of teachers.

1.1.2. Today's Teacher – Role Diversity

There is a paradigm shift in the role and responsibilities of modern teacher. For remaining at the centre stage of the multi-dimensional teaching-learning process, the teacher has to redefine the role, has to undergo rigorous changes, has to update the knowledge, to have basic human values, to have accountability to the society and to the students. Only such a teacher can work for the formation of right habits, thoughts, actions, cultivation of values and development of right behaviour patterns in children.

In ancient times, as revealed by great Epics like Ramayana and Mahabharata, teachers occupied a predominant role in the man making process. The teacher was given the top-most position in the hierarchy and was paid the highest reverence by all people including the rulers. The
society looked upon the 'Acharya' for his valuable suggestions and guidance.

Shikshaballi in the Thaittiriopanishad, depicts teacher as,

Acharya Purvarupam,
Antevasy Uttararupam,
Vidya Sandhi,
Pravachanas Sandhanam,
Ity Adhividyam".

(Thaittiriopanishad 1.4.1)

The teacher is the prior form,
The pupil is the later form,
Knowledge is their junction,
Instruction is the connection.

(Mukhopadhayay, 2001)

In Vedas also, teacher qualities are described. In Atharva Veda, teacher is compared to Yama, the propagator of Dharma, to Varuna, the propagator against sins and to moon, giver of light and happiness. Sastra made it clear that wrong teaching is a crime.

Teaching in the modern era is a challenging profession that requires good subject knowledge, good questioning skills, an emphasis upon
instruction, clear objectives, good time management, effective planning, good classroom organisation, effective use of human resources, good interaction, effective communication skills, attitudes, perceptions, interests, etc. That is why, Moore (2001) defined teaching, "as the actions of someone who is trying to assist others to reach their fullest potential in all aspects of development".

Role of teachers change over time in response to new patterns of educational governance and managements, new kinds of students, new theories of teaching and learning, and the arising of new technologies (Chapman and Adams, 2004). Even though innovations and reforms occur, teacher is still in the pivotal position of the classroom interaction process. In the learner-centred, process-oriented, competency-based, environmental-attached, human based instructional situation, a teacher has to face multi-level problems like planning of content, selection of appropriate teaching-learning strategies and situations, creation of motivation among multi grade – multi level students, usage of group dynamics, completion of curricular objectives, its linkage with practical life, adaptations in curricular statements for the deviated students, timing, continuous and comprehensive evaluation, classroom management, linkage with society and parents, good relationship with the local bodies and their planning processes etc. That is, the role of a teacher changes to
that of a planner, manager, designer, director, facilitator, researcher, psychologist, philosopher, sociologist, artist, friend, guide, actor, well-wisher, etc. The technological developments, the knowledge explosions, the familial problems, social issues, the behavioural problems are other challenges that makes the teacher's role more complex.

A competent, committed and an accountable teacher keeps his torch of accumulated knowledge burning and ignites the minds and souls of his pupils. In the words of Tagore, "a teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its flame".

In this era of rapid changes in the field of science and technology, communication and interaction, life styles of human beings, societal viewpoints, cultural thoughts, educational expansions, the teacher has to perform a diversified role to cope up with them. That is why, all policies and commissions invested their interests in developing teaching professionals, professional aptitudes, and their production factories.

1.1.3. Teacher Aptitude and Teacher

Aptitude refers to "quality of being fit for a purpose or position" (Douglas, 2007). If so, Teacher Aptitude is the quality of being fit for teaching profession. That is why, Teacher Aptitude is considered as the
determinant factor of effective teaching. If the teachers are empowered with necessary skills and competencies, they can inculcate the skill in other persons and mainly in pupils (Dutt & Rao, 2001).

An effective teacher can focus on making connections between facts and fostering new understanding in students. They can tailor their teaching strategies to student responses and encourage them to analyse, interpret, and predict information. Instead of spending time memorizing material, filling in the blanks on work sheets, and repeating large numbers of similar problems, students need to learn to solve novel problems, integrate information, and create knowledge for themselves.

A constructivist teacher's role, is to foster and direct his work on the part of students. A teacher with teaching aptitude encourages students to use active techniques to create more knowledge and then to reflect on and talk about what they are doing and how their understandings are changing. Effective teaching requires a large repertoire of skills and the ability to put these skills to use in different situations. Good teachers improvise. The better teachers, however, are proactive; that is, they are active information processors and decision-makers. They are strongly committed to the importance of content delivery and tend to be task-oriented. They understand the demands of teaching the content, the characteristics of their students, and the importance of decision making in
keeping students on task. Researches suggest that teacher's knowledge of subject matter, student's learning and teaching methods are important elements of effective teaching, which are very much related to Teacher Aptitude.

The dynamic and complex nature of teaching warrants that teachers be prepared to be self monitoring individuals. They are capable of self analysis and making systematic observations for patterns and trends in teaching-learning behaviour. Effective teachers can inquire into students experiences and build an understanding of learners' capacity to analyse what occurs in classrooms and in the lives of their students. The teacher can change the orientation from a view of teaching as 'static', to teaching as 'dynamic' and everchanging. Then the teacher becomes a reflective teacher.

Reflective teachers learn all they can about teaching from both theory and practical. They teach and reflect on the teaching. Such teaching requires that they are sensitive to the diversity of student's needs. Reflective teacher often ask basic questions about the appropriateness and success of their teaching.

Effective teachers know that good teaching is more than simply explaining, lecturing and discussing. To be effective, teachers must be well organised. Effective teaching is a complex occupation requiring the
development of knowledge and essential teaching skills, as well as continuous professional growth. Danielson (1996) suggested four main skill areas for effective teaching. Effective teachers (1) Engage in quality planning and preparation, (2) Prepare a positive classroom environment (3) Use proven instructional techniques, and (4) Exhibit professional behaviour.

Is teaching an art or a science? Today, most educators are in agreement with Gagne (1985), who argues that there is a scientific basis for the art of teaching. Experienced teachers know it is not simply a matter of sharing what they know with their students; a good teacher must be able to transform knowledge into learning activities that motivate students to learn. Thus teaching can be viewed as having both artistic and scientific elements.

In the field of primary education, which is the base of life long experiences, quality of the teacher is very much criticised. Educational Commissions and Policies have overemphasised the importance of primary education and stressed on the enhancement of the capacity of primary teachers for a better generation.

In any educational system, teachers are the source of existence, energy and enrichment. All policies gave due importance to preservice education, that they are the tomorrow's stake holders. A better
understanding of the determinants of effective teaching should enable education professionals, curriculum developers, and policy makers to adapt suitable changes in the field of preservice teacher education and they can think of the measures that can be taken for improving the quality of preservice training.

1.2. NEED AND SIGNIFICANCE OF THE STUDY

Quest for quality or effectiveness has been the characteristic of the entire history of human civilization. It is the driving force behind all human endeavours. Teacher quality, which is very much associated with Teacher Aptitude, is considered as the main spring for all educational innovations.

Although an educational system has excellent resources, or if the teachers are lacking teaching aptitude and are incompetent or indifferent to their responsibilities, the whole programme is likely to be ineffective and largely wasteful.

Since the future of our nation is moulded in our classrooms, teachers are the real makers. Teachers with rich teacher aptitude can create wonders in the minds of their children and can lead them to a world of reality, practicability and accountability.
In the field of education, a term is always discussed, in relation with 'quality'. This is, no matter, highly related to teaching professionals and aspirants of teacher education. This quality is mainly depend on teacher's aptitude in teaching and several associated factors.

Several studies had provided substantial evidence favouring teacher aptitude, for quality education. Complexity and multi dimensional nature of teacher aptitude warrants a comprehensive study of the factors related with it.

How student teachers with Teacher Aptitude can be identified? How Teacher Aptitude can be reliably measured? In the case of teachers, teacher educators and teacher trainees, how can we infer their level of teaching aptitude from related factors? What are such factors? Can we predict Teacher aptitude from achievement in Teacher education? These are some of the questions which are to be answered.

Reviewed studies in this area revealed that attitude towards teaching (Vashishta, 1973), teacher effectiveness (Mutha, 1980; Sharma, 1971; Singh, 1987; Beena, 1995), teaching success (Vyas, 1982), general intelligence (Banerjy, 1956; Thakkur, 1977), etc. are significantly related to Teacher Aptitude. This made investigator to study the extent of relationship of certain psychological variables and studying the predictability of Teacher Aptitude from these variables.
Considering the pivotal role of teacher aptitude in quality teaching, a significant weightage was given to teacher aptitude in entrance examinations related to teaching profession. In B.Ed. entrance examination of Kerala 13.3% of mark is the weightage for aptitude in teaching (Prospectus, for B.Ed, Kerala, 2006). This signifies the importance of teacher aptitude given by Kerala Government for the selection of candidates for getting admitted to the B.Ed. course.

Out of the personal experiences of the investigator while training her own teacher trainees, she had noticed that certain trainees who are competent in their subject matters are often failure in classroom teaching and class management. Hence a need was felt for knowing the relationship of Academic Achievement in Teacher Education with Teacher Aptitude.

Reviewing the previous studies conducted both inside and outside India, it was found that the studies related to Teacher Aptitude are very few in number. The investigator believes that the present study will fill the gap and may become a motivation for the future researchers. The investigator being a teacher educator felt that the study will help the concerned personnel to chalk out a selection procedure by considering either Teacher Aptitude or the allied or related psychological variables as the major criteria of admission to teacher education.
1.2. STATEMENT OF THE PROBLEM

Nowadays teaching goes beyond traditional classroom instruction. Effective teachers embrace the extra tasks and strive to improve their knowledge and skills in teaching while working to make significant contributions to their school and community. They work to become true professionals. They implement new instructional techniques that will captivate the interest of students and motivate them to learn.

What is the purpose of education? Careful consideration of this question should be one of the first concerns of an effective teacher. Rousseau, Pestalozzi, Herbart, Dewey, Russell, Mahatma Gandhi, Vivekananda, all have given an extended meaning of education which direct a prospective teacher to the vast world of teaching. All these agreed that the effective teaching-learning strategies should be centred around the needs and dispositions of the learners. That is why, methodology of teaching has undergone drastic changes.

In the past, teaching was centred on the teacher only. Now, it is changed to learner centred and learning centred. Learning objectives are remoulded into curricular statements. Lecture method become activity oriented. Behaviouristic teaching techniques give way to constructivistic teaching-learning strategies. Content-related, critical pedagogy is now, our choice.
In such a situation, teachers and teacher trainees are to undergo rigorous training to develop their capacity in teaching profession and to enrich their pedagogy skills. Then only, they can cope up with the emerging changes occurring in the field of education. Do these knowledge, viz., knowledge in content and pedagogy, lead to teacher to become effective in teaching? Is effectiveness an outproduct of teacher aptitude? What are the major constructs of teacher aptitude? Do these constructs help to measure teacher aptitude? Which are the psychological variables that have significant relationship with teacher aptitude? Does academic achievement of teacher trainees has any relation with their teaching aptitude? Do there exist any significant locale wise and management wise difference in criterion variables and predictor variables? How can we differentiate a teacher with teacher aptitude and without teacher aptitude? How can we found out a person having teacher aptitude from a set of teaching related psychological variables? These are some of the questions the investigator is in search for answers, through this investigation.

The problem is thus entitled, "RELATIONSHIP OF TEACHER APTITUDE WITH ACADEMIC ACHIEVEMENT AND CERTAIN PSYCHOLOGICAL VARIABLES OF PRIMARY TEACHER TRAINEES OF KERALA".
1.3. DEFINITION OF KEY TERMS

The key terms in the title of the problem are defined below for the meaning as used in the study.

1.3.1. Teacher Aptitude

Aptitude refers to "A natural or acquired disposition or capacity for a particular purpose, or tendency to a particular action or effect" (Webster's Revised Unabridged Dictionary, Internet Explorer).

In this study, teacher aptitude refers to the acquired capacity of the teacher trainees to do in teaching profession which is measured in terms of four constructs of teaching profession viz., Instructional Awareness, Educational Problem Solving, Creativity and Mental Ability.

1.3.2. Academic Achievement

Academic Achievement refers to the relative accomplishment of pupils in one or more subjects after undergoing a course of study.

Operationally Academic Achievement in the study refers to Achievement in Teacher Education. That is, to the marks obtained in all the papers of the first year examination by senior primary teacher trainees of Kerala undergoing two year TTC course.
1.3.3. Psychological Variables

In the study, psychological variables stands for a set of teacher variables like:

1. Teaching Interest
2. Attitude towards Teaching Profession
3. Teacher Perception of Teacher Effectiveness; and
4. Self Concept in Teaching

1.3.4. Primary Teacher Trainees

In this study, Primary Teacher Trainees refers to teacher trainees studying in the second year of the two year TTC course who are to engage pupils of primary classes after successful completion of the course.

1.4. VARIABLES

The study is designed with Teacher Aptitude and its select four constructs as criterion variables and Academic Achievement in Teacher Education and the select four psychological teacher variables viz., Teaching Interest, Attitude towards Teaching Profession, Teacher Perception of Teacher Effectiveness and Self Concept in Teaching as predictor variables.
1.5. **MAJOR HYPOTHESES AND OBJECTIVES OF THE STUDY**

Aptitude being a condition or a set of characteristics regarded as symptomatic of an individual's ability to acquire with some training, some knowledge, some skills etc. and the present population is senior primary teacher trainees who underwent one year training on Teacher Education, the major hypothesis of the study is that, Teacher Aptitude can be significantly predicted by one or more of the psychological teacher variables selected for the study.

It was further hypothesised that this will be evidenced by each of the following:

1. The existence of significant correlations of the criterion variables Teacher Aptitude and its four constructs with each of the five predictor variables for the total sample and for the subsamples studied.

2. Efficiency of each of the predictor variables to predict significantly Teacher Aptitude and its four constructs.

As the sample drawn for the study was stratified and the two strata considered were locale and type of management of institution, it was also hypothesised that,
3. Significant difference exists in the nature of relationship of the criterion variables with the predictor variables between relevant subsamples studied.

4. There exists significant locale wise and management wise difference in Teacher Aptitude and its four constructs.

5. There exists significant locale wise and management wise difference in each of the five predictor variables.

The hypotheses stated earlier made the investigator to fix the objectives of the study as follows:

1. To estimate the extent of relationship of Teacher Aptitude and its four constructs with each of the five predictor variables for the total sample and sub samples.

2. To derive the multiple regression equation of Teacher Aptitude and its four constructs in terms of the predictor variables and to estimate the relative efficiency of the predictor variables in predicting Teacher Aptitude and each of its constructs.

3. To test whether there exists significant difference in the nature of relationship of the criterion variables with the predictor variables between relevant subsamples studied.
4. To test locale wise and school management wise difference in Teacher Aptitude and its four constructs.

5. To test locale wise and school management wise difference in the five predictor variables.

1.6. METHODOLOGY

Methodology adopted for carrying out the investigation is described as follows:

1.6.1. Sample

Population for the study is senior TTC students studying in the Primary Teacher Training Institutions of Kerala. Stratified random sampling was the technique used for sampling. In drawing the sample, representation was given to locale and type of management of the institutions. Thus 506 senior student teachers belonging to government, aided and unaided Primary Teacher Training Institutions formed the sample of the study.

1.6.2. Tools Used

Necessary data for the study were collected using the following tools:

1. Test of Teacher Aptitude (Sumangala and Usha, 2001)
2. Teaching Interest Inventory (Mumtas and Suja, 2006)
3. Scale of Attitude towards Teaching Profession (Mumtas and Hafsath, 2003)
4. Scale of Teacher Perception of Teacher Effectiveness (Sumangala and Kurian T., 1994)
5. Self Concept Scale for Teachers (Pillai, 1989).

1.6.3. Statistical Techniques used

Statistical Techniques used in the analysis of data are the following:

1. Pearson's Product Moment Coefficient of Correlation 'r' followed by
   (a) Test of significance of 'r's.
   (b) 0.95 Confidence Interval of 'r's.
   (c) Coefficient of determination, \( r^2 \times 100 \)
2. Step wise Multiple Regression Analysis (ANOVA approach)
3. Test of significance of the Difference between two Correlation Coefficient for Independent samples
4. Two tailed Test of Significance of Mean Difference for large independent samples.
5. One-way Analysis of Variance
1.8. **SCOPE OF THE STUDY**

The major purpose of the study is to find out the extent of relationship of the criterion variables viz., Teacher Aptitude and its four constructs with the five predictor variables viz., Achievement in Teacher Education, Teaching Interest, Attitude towards Teaching Profession, Teacher Perception of Teacher Effectiveness and Self Concept in Teaching of the Primary teacher trainees of Kerala. This was studied by using the different statistical techniques like Pearson's Product Moment Coefficient of Correlation \( r \) followed by Coefficient of Determination 0.95, Confidence Interval of each \( r \), Multiple Regression Analysis, Test of significance of the difference between two Correlations, Test of significance of difference between means for large independent samples and One-way Analysis of Variance. It is therefore expected that, the results of analysis of the present study would be generalisable to a great extent.

Educationists can adopt a suitable selection procedure at the time of selection of teacher trainees and can select the apt ones for the profession and can give a reformation to the field of preservice teacher education.

Since efficiency of an educational system is primarily determined by the efficiency of its teachers, the identification of apt, able and efficient teaching personnel constitutes one of the most important task of all
educatinal concerns. Hence, the findings of the study, it is hoped, will be beneficiary for teacher educators, administrators and educationists. The investigator also hopes that, findings of the study will be serving as guidelines for remoulding the field of preservice teacher education by adopting necessary modifications and inclusions.

The sample for the study is a representative group of teacher trainees drawn by the stratified sampling technique and is subdividing the population in to small homogenous groups to get more accurate representation.

Even though the study was conducted among the teacher trainees who are to engage pupils of primary classes, the findings will also be reflective of the B.Ed. trainees, who are to engage pupils of High School classes.

Review of related literature reveals that the studies related to the criterion variable viz., Teacher Aptitude are very few. Hence the importance of study is increased and the investigator is motivated to conduct such a study.

The investigator has taken measures to make the study precise, comprehensive and objective as far as possible by taking sample on a stratified random sampling method. Even then some limitations have been identified are listed in the following section.
1.9. LIMITATIONS OF THE STUDY

1. Even though the sample selected for the study is a large sample included 506 Senior teacher trainees, it is only a minor proportion of the population.

2. Even though the sample selected for the study is drawn from centrally located districts of Kerala, only three districts were selected due to time cost factors.

3. The study is delimited to Teacher Aptitude, Academic Achievement, Teaching Interest, Attitude towards Teaching profession, Teacher perception of Teacher effectiveness and Self Concept in Teaching. But there are some variables which are associated with teaching aptitude viz., success in teaching, job commitment, teaching competency, personality, role conflict, strategical understanding, etc.

4. The objective of estimating the difference between male and female, related to Teacher Aptitude, was not included in the study due to the small proportion of male and female teacher trainees.
1.10. ORGANISATION OF THE REPORT

The report of the study is organised and presented in five chapters. Details of each chapter are given below:

**Chapter I** deal with the need and significance of the study leading to the statement of the problem, definition of key terms, hypotheses, objectives, procedural framework, and scope and limitations of the study.

**Chapter II** includes the review of literature which would provide a clear picture of the work done in the area and to draw conclusions at the end.

**Chapter III** illustrates the methodology adopted for the study which provides a detailed account of the variables, rationale for the selection of the variables, sample selected, data collection procedure, tools used, standardisation procedures of tools and the statistical techniques employed in the analysis of the data.

**Chapter IV** describes the analysis of data and interpretation of the results leading to discussion of results and findings thereafter and tenability of hypotheses.

**Chapter V** summarises the major findings of the present study, their implications and suggestions for further research.
REFERENCES

Radhakrishnan Commission (1948).


