CHAPTER II

REVIEW OF RELATED LITERATURE

II.1. Introduction

Reviewing literature is an inscrutable prerequisite to any research. The term ‘review’ means ‘revision’ or ‘glances over’ or ‘refers back’. Since education research is based upon past knowledge, this step helps to eliminate the duplication of what has been done. It provides useful hypotheses and helpful suggestions for the investigation. A careful review of chapters guides the researchers regarding the suitability and relevance of a problem and in delimiting the research problem and in defining it better. In short it can be said that as a lighthouse is used for sailer, the review of literature is used for the researcher.

According to Aggarwal ‘the survey of related studies implies locating, studying and evaluating reports of relevant researches, study of published articles, going through related portions of encyclopedias and research abstracts, study of pertinent pages out of comprehensive books on the subject and going through related manuscripts if any’. For any worthwhile study in any field of knowledge, the research worker needs adequate familiarity with the work which has already been done of his choice.

Thus, review of related literature is a crucial step which invariably minimizes the risk of dead ends, rejected topics, rejected studies, wasted effort and trial and error activity oriented towards approach already discarded by previous investigators and erroneous findings based on a faulty research design.
II.2. Source of Information

The investigator, for this study, went through the journals, unpublished theses, books, research abstracts, etc. and browsed different websites.

II.3. Classification of the Literature Reviewed in the Present Study

The literature reviewed is presented in two different captions such as (a) Studies done in India and (b) Studies done Abroad. Each caption has further been divided into (i) Studies Related to Metacognition (ii) Studies Related to Teaching Competency and (iii) Studies Related to Attitude towards Teaching Profession.

II.3.a. Studies done in India

II.3.a.(i). Studies done in India Related to Metacognition

Study : 1

Investigator : Rajagopal Ponnusamy (2001)

Title : The impact of metacognition and problem solving strategies among low achievers in history.

Objective : The study investigated the impact of metacognitive strategies among lower achievers in secondary schools.

Method : A research was conducted using a quasi-experimental design with pre and post test. A total of 90 from 4 schools were selected and they were divided into three groups. The first experimental group was taught metacognitive and problem solving strategies while the second experimental group received only metacognitive strategy. The control group was taught using traditional.

Findings : (i) The result revealed that the group which received metacognitive and problem solving strategies outperformed the other two groups in objective, subjective
and essay tests, reported higher metacognitive awareness, used more metacognitive strategies during problem solving, attained higher metacognitive knowledge and could answer more higher level cognitive questions. With regard to attitude, both the experimental groups showed more positive attitude towards the learning of history compared to the control group. (ii) The study showed that metacognitive and problem solving strategies can have a significant impact on academic achievement, metacognitive awareness and metacognitive knowledge. Also the ability to use and reflect on metacognitive strategies during problem solving can bring about a positive attitude towards the learning of history and the ability to answer higher level cognitive questions.

**Study : 2**

**Investigators**: Verma and Mishra (2002)

**Title**: Cognitive and metacognitive aspects of learning styles of prospective secondary teachers in relation to teaching aptitude and self esteem.

**Objective**: The objective of a study was to ascertain the main and interaction effects of teaching aptitude and self esteem on cognitive and metacognitive strategies of learning of prospective secondary teachers.

**Method**: The descriptive research strategy was adopted. At first institutions of teacher education situated in Himachal Pradesh were listed and out of this list, four institutions were randomly selected. From these institutions, sample of 387 subjects was selected by random cluster method.

**Findings**: The major finding of the study were the teaching aptitude and self esteem influenced some cognitive and metacognitive strategies of learning of prospective secondary teachers in an independent manner and however there seemed to be no
interaction effect of the two variables on any cognitive and metacognitive strategy of learning.

Study : 3


Title : Study on effect of metacognitive orientation on enhancing problem solving competency in mathematics among B.Ed. trainees.

Objective : The objective of this study was to develop metacognitive orientation to enhance problem solving competency in mathematics among B.Ed. trainees.

Method : Post test experimental design has been adopted.

Findings : (i) The achievement in problem solving of experimental group was more significant in post test 1 and post test 2. (ii) There is a steady decrease in the mean score of anxiety towards mathematics teaching in post test 1 and post test 2. (iii) There was a high negative correlation between metacognitive awareness and anxiety. (iv) There is no significant mean difference in achievement in problem solving among five sub groups of experimental group in pre test 1, post test 1 and post test 2.

Study : 4


Title : A study on enhancing communicative competence effect of metacognition and mediated learning experience among DIET students.

Objective : To find the correlation between metacognition and mediated learning experience was the objective of this study.

Method : A Pre test and Post test single group design was adopted for the study.

Finding : The study showed a positive correlation between the scores of metacognition and mediated learning experience in all the pre and post assessments.
Study : 5


Title : Role of pre-service teachers in developing metacognitive awareness strategies among student writers in an urban high school English classroom.

Objective : The purpose of the study was to determine the indices of metacognitive awareness skills in writing for urban high school.

Method : Survey method was used. Sample was sixteen pre-service teachers.

Findings : (i) Students’ self perception as writers changed over the course of a semester. (ii) Metacognitive awareness development occurred over a period of time. (iii) Metacognitive awareness development did not occur in a uniform manner for all students and varied teaching approaches yield effective writing instruction.

Study : 6

Investigator : Savithiri (2006)

Title : Impact of metacognitive strategies in enhancing perceptual skills among high school students in learning geometry.

Objectives : To observe whether the students’ achievement level increased after implementation of metacognitive strategies and application of perceptual skills was the objective of the study.

Method : Research was conducted in single group design with pre progressive and post-test.
Findings: It reveals that by using metacognitive strategies, perceptual skills could be enhanced in learning geometry. It is also pointed out that both perceptual skills and metacognitive strategies are needed to learn geometry.

Study: 7

Investigator: Suraya et.al. (2008)

Title: A study on relationship between motivation and level of metacognition.

Objectives: To find the relationship between level of motivation and level of metacognition with mathematics achievement and overall academic achievement and to find the relationship between motivation and metacognition were the objectives of this study.

Method: Survey method was adopted.

Finding: Significant correlation was established between levels of metacognition with level of motivation.

Study: 8

Investigator: Annalakshmi Narayanan (2009)

Title: The Resilience, Metacognition and Complexity

Objectives: To describe the children who were exposed to negative conditions of life and yet not succumbed to their ill effects (Werner, 1982), the term ‘resilience’ was introduced to psychological literature. Resilience is regarded the human capacity to face, overcome, and even be strengthened by experiences of adversity. It is developed from and nurtured by external supports and resources, inner personal strengths and
interpersonal social skills (Grotberg, 1995). As the positive capacity of individuals to cope with stress and catastrophe, psychological resilience indicates characteristic resistance to future negative events. Resilience is analogous to cumulative protective factors and stands in contrast to cumulative risk factors. The present study was to investigate the relationship between resilience and certain cognitive variables. Resilience was assessed by using Resilience Scale for Adolescents (READ). The Attributional Complexity Scale purported to measure the complexity of the attributional schemata people used to explain human behavior. The scale assessed the individuals with reference to measured seven attributional constructs including a motivational component, preference for complex rather than simple explanations, Metacognition concerning explanations, awareness of the extent to which people’s behavior is a function of interaction with others, a tendency to infer abstract or causally complex internal attributions, a tendency to infer abstract, contemporary, external causal attributions, and a tendency to infer external causes operating from the past.

Method: The sample consisted of 114 high school students in the age group 15-16 years. Both male and female students were included in the study. Criterion groups on resilience were formed using the median scores of the distribution of scores of subjects of READ.

Findings: Findings showed that among the aspects of attribution schemata investigated in this study, complex explanation and metacognition and significant effect on resilience. The highly resilient had higher preference for complex rather than simple explanations for explaining human behavior and used metacognition concerning explanations more than those who have low resilience.
Study : 9

**Investigator :** S.Usha Parvathi and Rasul Mohaideen (2009)

**Title :** Metacognition of prospective teachers in Thoothukudi District

**Objectives :** The objectives of the study were (i) to find out the metacognition of prospective teachers in total and in dimensions such as planning, memory, evaluation, monitoring, and achievement, (ii) to find out the differences, if any, in the metacognition of the prospective teachers in total and in the dimensions with respect to the variables gender (male/female), educational qualification (UG/PG), age (below 30/30 and above) and (iii) to find out the differences, if any, in the metacognition between mathematics and physical science prospective teachers in total and in the dimensions.

**Method :** The researcher adopted the descriptive method to study and compare the metacognition of Mathematics and Physical Science prospective teachers. The population for the present study was identified as the prospective teachers in Thoothukudi District. Among the population 100 student teachers were selected. Simple Random Sampling technique was adopted by the investigator.

**Findings :** ‘t’ test results revealed that postgraduate student teachers are having better metacognition. The student teachers whose ages had been within 30 were found to have more metacognition than the undergraduate students in the dimension of monitoring.

Study : 10

**Investigator :** S.Rajkumar(2010)
**Title**: Enhancing students’ achievement in physics through metacognitive strategies.

**Objectives**: The present study was to determine whether the teaching of metacognitive strategies can influence students’ academic achievement, increase their ability to answer higher level thinking questions, increase their metacognitive knowledge and awareness and change their attitude towards physics.

**Method**: The research was carried out using experimental design. Sample was 300 students studying in XII standard in different sections at Tirunelveli.

**Findings**: The mean score of achievement in post experiment assessment is greater than the mean score of achievement in initial assessment. The results revealed that the experimental group which received metacognitive strategies out performed the control group and scored significantly higher.

**Study**: 11

**Investigator**: Mahesh Narayanan Dixit (2010)

**Title**: The Readiness towards the use of metacognition and its relationship with academic achievement of higher secondary students.

**Objective**: This study was related to the study of readiness towards the use of metacognition in the learning process of higher secondary students.

**Method**: Survey method was adopted.

**Findings**: Results of the study revealed that there is a significant difference in the readiness towards the use of metacognition of higher secondary students on the group of gender differences. However, no significant difference was found in the readiness
towards the use of metacognition of higher secondary students on the basis of their academic achievement. Positive correlation was found between readiness of metacognition and academic achievement of higher secondary students.

**Study : 12**

**Investigator :** C. Krishnaveni (2011)

**Title :** A study on the steps taken to develop metacognitive skills of prospective teachers in Teacher Education Institutions.

**Objectives :** To find out the difference, if any, in the activities taken at teacher education institutions to develop metacognitive skills with reference to gender, age, experience of the principal, locality, type of institution and nature of institution.

**Method :** The investigator adopted the survey method in the study.

**Findings :** There was significant difference in the activities taken by the teacher education institutions to develop metacognitive skills of the student-teachers in institution with respect to nature of institution and experience.

**Study : 13**

**Investigator :** S. Emimah (2011)

**Title :** Influence of metacognition and self esteem on teaching competency of prospective teachers.

**Objectives :** (i) To find out the influence of metacognition and self esteem on teaching competency of prospective teachers. (ii) To find out whether there is any significant difference in the metacognition of prospective teachers with reference to their age, gender, qualification, type of management, language of instruction, location of the college, parent’s annual income and parent’s occupation.
Method: The investigator adopted the survey method in the study.

Findings: (i) There is significant influence of metacognition and self esteem in teaching competency of prospective teachers. (ii) There is significant difference between married and unmarried prospective teachers in their metacognition. (iii) There is no significant difference exists in the self esteem of prospective teachers with respect to their age, gender, qualification, type of management, language of instruction, location of college, parents’ annual income and parents’ occupation.

II.3.a.(ii).Studies done in India Related to Teaching Competency

Study: 1

Investigator: Muhammed Arshed (2007)

Title: Evaluative study of secondary school teachers’ competency in English.

Objectives: (i) To review the desired personal and professional competency. (ii) To find out the level of competencies of secondary school teachers in the subject of English. (iii) To find out the gaps between the desired and existing competency.

Method: Survey method was adopted for this study. Population of this study was the teachers teaching English to secondary level students ranked as secondary school teachers. The total number of head teacher is 48 and number of secondary school teacher is 192.

Findings: (i) The teachers were competent in teaching skill of explaining the theme of the lesson. (ii) On knowledge based competency, the teachers were not competent. (iii) In skill of the teachers’ teaching the students’ summary writing in their own words, teachers were competent but are not fully equipped in this skill. (iv) In the personal trait of the teachers, the teachers were well aware of objectives of secondary school education.
Study : 2

**Investigator :** V.Sheeba Titus (2009)

**Title :** Teaching competency and metacognition of secondary teacher education students.

**Objectives :** (i) To find out whether there is any significant difference between the secondary teacher students in their metacognition with respect to gender and locale. (ii) To find out whether there is any significant difference between the secondary teacher students in their teaching competency with respect to gender and locale. (iii) To find out whether there is any significant difference between rural and urban college secondary teacher education students in their teaching competency.

**Method :** Survey method was chosen for the present study.

**Findings :** (i) There is significant difference between male and female secondary teacher students in their metacognition. (ii) There is significant difference between rural and urban college secondary teacher students in their metacognition. (iii) There is no significant difference between male and female secondary teacher students in their teaching competency except in their interest in profession. (iv) There is no significant difference between rural and urban college secondary teacher education students in their teaching competency and in their attitude towards children.

Study : 3

**Investigator :** Rhoda S.David Reema Roy (2010)

**Title :** Relationship between emotional intelligence and teaching competency.
Objectives: (i) To study the relationship between emotional intelligence and teacher competencies among high school teachers. (ii) To study the influence of emotional intelligence on specific areas of teacher competencies with respect to their conceptual, content, transactional, evaluation and management competencies. (iii) To study the extent of difference in teacher competencies among high and low emotionally intelligent teachers.

Method: The researcher in the present study designed an outline for conducting the research through descriptive survey.

Findings: (i) In total, the sample revealed moderate relationship between the emotional intelligence and teacher competency. (ii) The relationship between various dimensions of teacher competencies i.e conceptual, content, evaluation, transactional and management competencies with their emotional intelligence was significant. (iii) The differential study revealed that teachers with high and low emotional intelligence differed significantly in their teacher competency. The higher emotional intelligence teachers are more competent as compared to lower emotional intelligence teachers. The dimension wise study revealed that higher emotional intelligence teachers possess greater content, transactional evaluation and management competencies as compared to lower emotional intelligence teachers.

Study: 4

Investigator: C.Ramesh (2010)

Title: A comparative study on teaching competency of male and female B.Ed., students in distance education.
Objectives: (i) To find out the level of teaching competency of male and female B.Ed., students in distance education. (ii) To find out the significant difference between male and female B.Ed., students in distance education in their professional information, interest in profession, attitude towards children, adaptability and teaching competency.

Method: The investigator employed survey method. He adapted the teaching competence inventory by Thomas Varghese (2000) for data collection. The population of the present study was all the B.Ed. students studying in distance education mode. From the population, 716 B.Ed. students were selected using simple random sampling technique.

Findings: (i) There was no significant difference between male and female B.Ed. students in their professional information, interest in profession, attitude towards children, adaptability and teaching competency. (ii) There was no significant difference between male and female B.Ed. students in their professional information, interest in profession, attitude towards children, adaptability and teaching competency.

Study: 5

Investigator: S. Sabu (2010)

Title: In-service training programmes and teaching competence of teachers.

Objective: The objective of the study was to understand the teaching competencies of teachers with regard to in service training programmes, age, gender and type of school.
Method: Survey method was adopted by the investigator for this study. The sample selected for the investigation comprised 631 teachers of 24 secondary schools in Kollam District of Kerala. Simple random sampling technique was followed to draw the sample.

Findings: (i) There was a significant difference in the teaching competence of secondary school teachers with regard to the number of in-service training programmes attended. (ii) It was observed that the mean score of secondary school teachers below 30 years is high and the mean score of secondary school teachers between 41 and 50 years was low. The teachers above 50 years scored minimum variance, whereas the teachers between 31 and 40 years secured the second high mean score. It was clear that secondary school teachers below 30 years had high teaching competence and teachers between 41 and 50 years had low teaching competence. (iii) There was no significant difference between men and women teachers with regard to teaching competence.

Study: 6

Investigator: Y. Daniel (2010)

Title: Teaching competency of primary school teachers in relation to their locus of control.

Objectives: (i) To study the level of teaching competency of primary school teachers with reference to gender and locality of school. (ii) To study the locus of control of primary school teachers with reference to gender and locality of school. (iii) To find out the significant difference, if any, in the teaching competency of primary school teachers and its dimensions with reference to gender and locality of school. (iv) To
find out the significant difference, if any, in the locus of control of primary school teachers and its dimensions with reference to gender and locality of school. (v) To find out the significant relationship between teaching competency and locus of control of primary school teachers with reference to gender and locality of school.

**Method** : The survey method was followed for this investigation. The investigator visited 120 schools in the three educational districts of Tiruneveli District. The investigator used simple random sampling technique to select the teachers in 120 schools. Thus the sample consisted of 400 primary school teachers.

**Findings** : (i) The level of teaching competency of primary school teachers with reference to gender and locality of school was average. (ii) The locus of control of primary school teachers with reference to gender and locality of school was internal. (iii) There was no significant difference between male and female primary school teachers in their teaching competency, subject competency, motivation, organization, classroom management and communication with reference to gender. (iv) There was significant difference between male and female primary school teachers in their teaching competency, use of learning materials, personality and total teaching competency with reference to gender. (v) There was no significant difference between rural and urban primary school teachers in their teaching competency, subject competency, organization and personality with reference to locality of school. There was a significant difference between rural and urban primary school teachers in their teaching competency, motivation, use of learning materials, classroom management, communication and total teaching competency, with reference to locality of school. There was no significant difference in primary school teachers’ locus of control and its dimensions with reference to gender. (vi) There was no significant difference in
primary school teachers’ locus of control and its dimensions school and total locus of control with reference to locality of school. There was a significant difference in primary school teachers’ locus of control and its dimensions family and society with reference to locality of school.

**Study : 7**

**Investigator :** F.L. Antony Gracious (2011)

**Title :** Scientific attitude and teaching competency of prospective B.Ed. teachers.

**Objective :** To find the relationship between scientific attitude and teaching competency of prospective B.Ed. teachers.

**Method :** Scientific attitude scale and teaching competency scale developed by the investigator were used. The investigator adopted survey method for this study. Population for this study were prospective B.Ed. teachers studying in Colleges of Education affiliated to the Tamilnadu Teacher Education University, Chennai at Tirunelveli, Thoothukudi and Kanyakumari districts.

**Finding :** There is no significant relationship between scientific attitude and teaching competency of prospective B.Ed. teachers.

**Study : 8**

**Investigator :** N.V.S. Suryanarayana (2011)

**Title :** Teaching competency and job satisfaction among primary and secondary school teachers.
**Objectives**: (i) To study the relationship between teaching competency and Job Satisfaction. (ii) To find out the significance of relationship between dimensions of teaching competency and job satisfaction. (iii) To find out the significance of difference between the demographic and professional variables in respect of teaching competency and job satisfaction of secondary school teachers. (iv) To find out significance of difference between high and low teaching competency in relation to job satisfaction and high and low teacher’s job satisfaction in relation to their teaching competency.

**Method**: Survey method was adopted. The sample selected for the present investigation consisted of the Teachers of Primary and Secondary Schools in Vizianagaram District.

**Findings**: (i) There was significant relationship between teacher’s teaching competency and job satisfaction. (ii) There was significant relationship among the dimensions of teaching competency.(iii) There was a significant relationship between the dimensions of teacher’s job satisfaction. (iv) In respect of teaching competency, there was significant difference between all the variables like sex, locality, qualification, age, marital status, experience, type of management and type of institution. (v) In respect of teacher’s job satisfaction, there was significant of difference between the variables like locality, age, marital status, experience, type of management and type of institution. Further, no significance of difference was found between the teachers in respect of sex category, related with job satisfaction. (vi) The mean values of teaching competency in merit order was presentation followed by planning, closing and evaluation. Where the mean values from highest to lowest was inter-personal relation, teaching learning and professional innovation aspects.
II.3.a.(iii).Studies done in India related to Attitude towards Teaching Profession

Study : 1

Investigator : B.B Panda (2001)

Title : Attitude towards teaching profession and job satisfaction of college teachers of Assam and Orissa.

Objectives : (i) To assess and compare the attitude towards teaching profession and job satisfaction. (ii) To assess and compare the attitude towards teaching profession and job satisfaction of college teachers of two educationally backward states such as Orissa and Assam.

Method : Survey method was adopted by the investigator. The sample consisted of 400 college teachers (200 each from Assam and 200 from Orissa). General colleges of arts, science and commerce were taken using stratified random sampling technique.

Findings : (i) It was found that the majority of college teachers of Assam and Orissa had highly favourable attitude towards teaching profession. (ii) A significant percentage of college teachers of Assam and Orissa had high or moderate degree of job satisfaction. (iii) College teachers of Assam and Orissa did not differ significantly in their attitude towards teaching profession irrespective of their gender, experience, location and status.

Study : 2


Title : Attitude towards teaching profession and job satisfaction of women teachers in Coimbatore.
Objectives: (i) To find out the attitude of women teachers towards teaching profession. (ii) To find out the level of job satisfaction of women teachers. (iii) To find out the relationship between attitude of women teachers towards teaching profession and secondary variables like age, experience, type of school, type of management, nature of schools, nature of job, marital status, location of school, educational qualification, subject of specialization, community, size of the family and pay.

Method: Survey method was adopted for this study. Sample was 725 teachers.

Findings: (i) The attitude of women teachers working in co-educational schools were better than those working in other schools. (ii) Women teachers working in aided schools and private unaided schools had better attitude towards teaching profession than teachers working in other types of management. (iii) Age, experience, general qualification, professional qualification, subject of specialization, community, total family income and number of children of women teachers did not significantly influence the attitude of women teachers towards teaching profession.

Study: 3

Investigator: Jeya Jothi (2005)

Title: A study of correlation between teaching competency of secondary grade teacher trainees and their attitude towards teaching.

Objective: To find out the correlation between teaching competency of secondary grade teacher trainees and their attitude towards teaching.
**Method** : Survey method was adopted for this study. Sample was 150 secondary grade teacher trainees.

**Finding** : The correlation between teaching competency and attitude towards teaching among secondary grade teacher trainees was found to be positive.

**Study** : 4

**Investigator** : Ramesh H. Naik (2006)

**Title** : Teachers’ personality, attitude and teaching effectiveness rating on student’s academic achievement.

**Objectives** : (i) To study the teacher effectiveness of high school science teachers with respect to demographic variables. (ii) To find out the whether there is any significant difference between the school students in assessing teacher effectiveness with respect to demographic variables.

**Method** : Survey method was adopted for this study. A total of 350 students from four schools situated in Tirunelveli educational district were selected as samples.

**Findings** : (i) There is significant difference between the mean scores of boys and girls in assessing teacher effectiveness of high school science teachers. (ii) There is a significant difference between the mean scores of boys in assessing teacher effectiveness by the students with age 14 and below and age 16. (iii) There is no significant difference between the mean scores of rural and urban students in assessing teacher effectiveness. (iv) There is no significant difference between the mean scores of BC/FC and SC/ST in assessing teacher effectiveness. (v) There is no significant difference between the mean scores of IX and X Standard students in
assessing teacher effectiveness. (vi) There is no significant difference between the mean scores of government and matric school students in assessing teacher effectiveness. (vii) There is no significant difference between the mean scores of Tamil and English medium students in assessing teacher-effectiveness.

Study: 5

Investigators: Harpreet Kaur (2007)

Title: Impact of teaching training programme on B.Ed. students' motivation, attitude towards teaching and personality.

Objectives: (i) The study aimed at studying Motivation, Attitude towards teaching and Personality characteristics at three stage of the teacher training programme of B.Ed., Students. (ii) Depending on the findings to make recommendations in the teacher training programme including syllabi, teaching practice, etc, to raise motivation, personality and attitude to the desire level.

Method: Survey method was adopted for this study. A representative sample of 380 female students of B.Ed. class was taken so as to represent rural and urban education colleges affiliated to Punjab University, Chandigarh.

Findings: (i) The study identified the least preferred motives to which none of the students have given their fast priority. (ii) The study pointed out in unequivocal terms that the B.Ed., training programme failed to sustain the student’s attitude towards the teaching profession, the magnitude rather decreased at the B.Ed. programme processes ahead.
Study : 6

Investigator : Jeyanthi Alwan (2008)

Title : Attitude of mathematics teacher trainees towards mathematics.

Objective : To study whether mathematics teacher trainees differ in attitude towards mathematics owing to variation in gender, location, qualification, previous experience and type of management.

Method : In the present investigation descriptive study was used.

Findings : (i) Male teacher trainees are at higher level in their attitude towards mathematics than female teacher trainees. (ii) Teacher trainees from urban areas are found to have a better attitude towards mathematics than their counterparts from rural areas. (iii) The post graduate teacher trainees do not differ significantly from the graduate teacher trainees in their attitude towards mathematics.

Study : 7

Investigator : G.Devaraj (2009)

Title : A study of high school teachers’ attitude towards teaching.

Objectives : (i) To find the attitude of the teachers towards their teaching profession. (ii) To find the difference between the attitude of teachers towards teaching profession with respect to variable gender, locale and age.

Method : Survey method was adopted for this study. The sample was taken from Kanyakumari District. There are about 96 schools in this district.
**Finding**: There was no significant difference between male teachers and female teachers, rural teachers and urban teachers in their attitude towards teaching. Teacher showed more favourable attitude towards teaching as they advanced in their age.

**Study**: 8

**Investigators**: Parvathi S.Ghani and Jagadesh (2009)

**Title**: Attitude of secondary school teachers towards teaching profession.

**Objectives**: (i) To study the teachers’ attitude towards teaching profession. (ii) To study the attitude of male and female teachers of government schools towards teaching profession. (iii) To study the attitude of male and female teachers of private schools towards teaching profession.

**Method**: Survey method was adopted for this study. One hundred school teachers were considered as the sample. Out of them 50 school teachers were from government schools and 50 school teachers were from private schools. Again out of 50 teachers, 25 were male teachers and 25 were female teachers.

**Findings**: (i) Attitude of teachers’ towards teaching profession is highly favorable. (ii) Teacher working in government and private secondary schools did not differ significantly in their attitude towards teaching profession. (iii) Government schools male and female teachers’ did not differ significantly in their attitude towards teaching profession. (iv) Private schools male and female teachers revealed similar opinion about their attitude towards teaching profession. (v) In general male and female teachers did not differ significantly in their attitude towards teaching profession.
Study : 9

Investigator : I.Priscilla (2009)

Title : Attitude of prospective physical science teachers in Thoothukudi district towards teaching.

Objectives : To find out the differences in the attitude of prospective physical science teachers towards teaching.

Method : Survey method was adopted in this study. The questionnaires are used as the tools. The data collected were treated statistically and interpretations are given. 150 B.Ed. physical science trainees were selected as the sample.

Findings : There is significant difference in the attitude of prospective physical science teachers towards teaching in the dimension academic aspect of teaching profession with respect to type of management and medium of instruction.

Study : 10

Investigator : Simon Philip (2009)

Title : Teacher trainees’ metacognitive awareness in relation to their attitude towards teaching.

Objectives : (i) To study metacognitive awareness of teacher trainees. (ii) To study teacher trainees’ attitude towards teaching. (iii) To study whether there is any significant difference between metacognitive awareness with respect to gender, age and medium of study. (iv) To study whether there is any significant difference between teacher trainees’ attitude towards teaching with respect to gender, age and
medium of study. (v) To study whether there is any significant relationship between metacognitive awareness and teacher trainees’ attitude towards teaching.

**Method**: Normative survey method was adopted in the present study. The sample for the present study was 200 commerce teacher trainees belonging to Kottayam and Ernakulam districts of Kerala State. The sample for the study had been selected by the purposive sampling techniques.

**Findings**: (i) Male teacher trainees showed better metacognitive awareness than their counterparts. (ii) Trainees who are above 22 years of age showed better metacognitive awareness than trainees who were less than 22 years of age. (iii) Trainees who studied in English medium schools had better metacognitive awareness than Malayalam medium.

**Study**: 11

**Investigator**: H.V. Belagali (2009)

**Title**: A study of teachers’ attitude towards teaching profession in relation to gender and locality.

**Objectives**: (i) To study the attitude towards teaching profession and its dimensions of gender (male and female) of secondary school teachers. (ii) To study the attitude towards teaching profession and its dimensions of locality (rural and urban) of secondary school teachers.

**Method**: Cluster sampling technique was the followed in the present study. The data were collected from the 50 (25 male and 25 female) secondary teachers of Kundagol taluk.

**Findings**: (i) The female teachers had higher attitude towards teaching profession as compared to male teachers of secondary schools. (ii) The female teachers had higher
attitude towards teaching profession dimension that is social and psychological as compared to male teachers of secondary schools. (iii) The urban secondary school teachers had higher attitude towards teaching profession as compared to rural secondary school teachers. (iv) The urban secondary school teachers had higher attitude towards teaching profession dimension that is academic and social and psychological as compared to rural secondary school teachers.

Study : 12

Investigator : Jasmine Maria Sylvester (2010)

Title : Attitude towards teaching profession and job satisfaction of teacher educators.

Objectives : (i) To study the level of attitude of teacher educators and job satisfaction in their teaching profession separately. (ii) To find out the significant difference in attitude towards teaching profession of teacher educators with regards to gender, location of the institution and educational qualification. (iii) To find out the significant difference in job satisfaction of teacher educators with regard to gender, location of the institutions and educational qualification. (iv) To compare the significant effectiveness on the level of attitude towards teaching profession of teacher educators with regard to years of total teaching experience. (v) To compare the significant effectiveness on the level of job satisfaction of teacher educators with regard to years of total teaching experience. (vi) To find out relationship between the attitude of the teacher educators towards their profession and their job satisfaction.

Method : Survey method was adopted for this study. A random sample of 100 teacher educators of 15 private colleges of education in Madurai district was taken for the study.
**Findings** : (i) 52% of the teacher educators had high level of attitude towards their teaching profession. (ii) 48% of the teacher educators had high level of job satisfaction in their teaching profession. (iii) There was no significant difference in the attitude towards teaching profession with respect to variable gender, locale and educational qualification. (iv) There was no significant difference in the job satisfaction in their teaching profession with respect to the variable gender, locale and educational qualification. (v) Attitude of the teacher educators towards their profession and their job satisfaction did not have relationship.

**Study** : 13

**Investigator** : A.Jeronsia (2010)

**Title** : Attitude of Non-teaching staff of educational institutions towards teaching profession in Thoothukudi.

**Objectives** : (i) To find the attitude of non-teaching staff in educational institution towards teaching profession with respect to the dimensions academic, administrative, co-curricular, social and psychological and economic. (ii) To find the differences in the attitude of non-teaching staff in educational institution towards teaching profession with respect to the variables age, gender, religion, locality, experience, educational qualification and type of institution.

**Method** : Survey method was adopted for this study.

**Findings** : (i) There is significant difference in the attitude of non-teaching staff towards teaching profession in the dimension economic, academic and co-curricular aspect with respect to locality. (ii) There is significant difference in the attitude of
non-teaching staff towards teaching profession in the dimension economic aspect and
co-curricular aspect with respect to type of institution.

**Study : 14**

**Investigators :** V.Sumangala and V.K.Ushadevi (2010)

**Title :** Women teachers’ attitude towards teaching profession and success in teaching.

**Objectives :** (i) To estimate the percentage of secondary school women teachers with high, average and low attitude towards teaching profession. (ii) To test whether attitude towards teaching profession are significantly different between successful and less successful secondary school women teachers. (iii) To test whether there is any significant relationship between attitude towards teaching profession and success in teaching among secondary school women teachers.

**Method :** Data for the study were collected by means of a sample consisting of three hundred secondary school women teachers belonging to ten districts of Kerala drawn by proportionate stratified sampling technique.

**Findings :** (i) Attitude towards teaching profession was a variable that affected success in teaching. (ii) Successful and less successful women teachers differed significantly in the mean scores of attitude towards teaching profession. Attitude towards teaching profession was significantly related with success in teaching.

**Study : 15**

**Investigator :** Anil Ambasana (2011)

**Title :** University Teachers’ Attitude towards Professionalism.
Objectives: (i) To know the attitude of teachers working in four/five star universities towards professionalism. (ii) To find out whether there is any significant difference in attitude of teachers towards professionalism with respect to the gender and discipline. (iii) To find out the effect of teaching experience of teachers on their attitude towards professionalism. (iv) To check whether there is any significant difference in attitudes towards professionalism of teachers so far as professional and non-professional courses are concerned.

Method: Survey method was adopted for this study. The purpose was to study the entire population of the teachers. But at the time of data collection, 86 teachers were available. Thus the sample size was of 86 teachers among whom 70 were male teachers and 16 were female teachers.

Findings: (i) There was no difference between attitudes towards professionalism so far as gender of the teachers was concerned. (ii) There was no significant difference in mean professional attitude indexes of teachers working in social science faculty, science faculty and in the faculty of linguistics. (iii) There was no significant difference in mean professional attitude indexes of teachers having different levels of teaching experiences. The teachers working for 16 to 20 years had higher attitude towards professionalism than the teachers working for the five years or less than five years. (iv) There was no significant difference in mean professional attitude indexes of teachers of professional courses.

Study: 16

Investigators: K.F. Merline Preetha and S. Francisca (2011)

Title: Attitude towards professional development of college teachers.
Objective: To find out significant correlation between professional attitude and professional development of college teachers with respect to gender, age, marital status, years of experience, type of institution, nature of institution and domicile of institution.

Method: Survey method had been employed. The investigator had employed simple random sampling technique to draw a sample of 310 teachers from the Arts and Science Colleges in Kanyakumari district.

Finding: There was significant positive correlation between attitude towards professional development and professional development with influence to all the background variables except for the teachers of non minority institutions.

Study: 17

Investigators: Meena and Rokade (2011)

Title: Teaching attitude of the pre-service and in-service B.Ed. trainees.

Objectives: (i) To study the teaching attitude of the male pre-service B.Ed. trainees. (ii) To study the teaching attitude of the female pre-service B.Ed. trainees. (iii) To compare the teaching attitude of the male and female pre service B.Ed. trainees. (iv) To study the teaching attitude of the male in-service B.Ed. trainees. (v) To study the teaching attitude of the female in-service B.Ed. trainees. (vi) To compare the teaching attitude of the male and female in-service B.Ed. trainees. (vii) To compare the teaching attitude of the pre-service and in-service B.Ed. trainees.
**Method**: Survey method was adopted for this study. The sample comprised of 200 B.Ed. trainees of whom 100 in-service and 100 pre-service trainees were selected randomly from Amravati district.

**Findings**: (i) Pre-service male and female B.Ed. trainees differed significantly in their teaching attitude. (ii) There was no significant difference in teaching attitude of in-service male and female B.Ed. trainees. (iii) There was no significant difference in teaching attitude of pre-service and in-service male B.Ed. trainees. (iv) Pre-service and in-service female B.Ed. trainees differed significantly in their teaching attitude. (v) Pre-service and in-service male and female B.Ed. trainees differed significantly in their teaching attitude. (vi) Pre-service and in-service B.Ed. trainees differed significantly in their teaching attitude.

**Study**: 18

**Investigators**: R. Sahaya Mary and Manorama Samuel (2011)

**Title**: Attitude of the B.Ed. student teachers towards teaching and academic achievement.

**Objectives**: (i) To measure the overall level of attitude of student teachers towards teaching and its dimensions drawn from different groups and different institutions. (ii) To find out the overall level of academic achievement (theory, practical and total) of B.Ed. student teachers drawn from different groups and different institutions and (iii) To study the relationship of attitude of student teachers towards teaching and academic achievement.
Method: Survey method was adopted for this study. Keeping in view the availability of the resources and the feasibility of the study, 336 B.Ed. student teachers were selected from five Colleges of Education in Chennai. They were drawn by applying stratified random sampling technique.

Findings: (i) So far as the attitude towards teaching is concerned, the student teachers were found to be at average level (46% scores between 151 and 165). Regarding academic achievement, the student teachers again fall under average level (41% marks between 70 and 77). (ii) Regarding the attitude towards teaching of the student teachers and gender, the findings of the study showed that there was a significant difference between the female student teachers (158.37) and their male (156.61) counterparts comparing the mean scores of the dimensions of attitude towards teaching, the female student teachers were better than male student teachers except with regard to the dimensions of teacher character and teaching learning. (iii) So far as attitude towards teaching and the educational qualification of the student teachers were concerned, the findings of the study showed that there was no significant difference between the student teachers whose qualification is UG (157.92) and PG (157.38). (iv) As far as teaching experience and the attitude towards teaching of the student teachers were concerned, the findings of the study indicated that there was no significant difference between the experienced (157.89) and inexperienced (157.61) student teachers. (v) Pertaining to the overall mean scores of attitude towards teaching and the entry into the college, the results of the study revealed that there was no significant difference between the student teachers coming from first generation learners (157.97) and second generation learners (156.78). But with regard to the dimension of values, the student teachers hailing from first
generation learners showed more favourable attitude towards teaching than those hailing from second generation learners. Since they were educationally as well as economically lagging behind, the youngsters aspired to achieve their goals by hard work. (vi) As far as the attitude towards teaching and the influence of different groups (self, parents, teachers and others) on the student teachers to become a teacher are concerned, the findings of the study showed that there was significant difference between the student teachers coming from the group “self” (159.01) and the other groups. It may be due to the factors such as self motivation, self discipline and self confidence. (vii) Moreover, there was a significant relationship (‘r’-0.060 at 0.05 level) between overall attitude towards teaching and academic achievement of the student teachers. The reason may be that higher the attitude, higher is the achievement.

II.3.b.Studies done Abroad

II.3.b.(i).Studies done Abroad Related to Metacognition

Study : 1

Investigator : Esther Kapa (2001)

Title : A metacognitive support during the process of problem solving in a computerized environment.

Objectives : (i) To find out problem solving among the students who learn in the different conditions of metacognitive support. The direction of the expected effect would be as follows. Group A > group B > group C > group D. (ii) To find out problem solving among the students with high flow previous knowledge. The effect
of the treatment would be found among students with low previous knowledge more than among with high previous knowledge.

**Method**: Initially, 487 eighth grade students (aged 13-14) from four integrative schools in the Gush – Dan region participated in this study. The classes were randomly assigned to the different treatment cells of the metacognitive supports. Some of the classes included immigrants who had been living in Israel for less than a year and a half. These students were disqualified prior to the data processing in order to avoid statistical bias. In total 441 subjects (218 boys and 223 girls) participated in the data processing stage.

**Findings**: (i) The students with low previous knowledge were able to improve in their ability to solve word problems correctly. (ii) The students with high previous knowledge in the control group showed a decline of achievements compared to their achievements before the treatment whereas the students with low previous knowledge had better achievements at the end of the treatment compared to their achievement before the treatment.

**Study : 2**

**Investigator**: Bracha Kramarski, Zemira Mevarech and Marrel Arami (2002)

**Title**: The effects of metacognitive instruction on solving Mathematical Authentic Tasks.

**Objectives**: (i) To compare the effects of cooperative metacognitive and co-operative instruction on students’ ability to solve mathematical authentic tasks. (ii) To examine the differential effects of these two methods on lower and higher achievers. (iii) To replicate the findings of previous studies regarding the effects of cooperative
metacognitive and cooperative instruction on students’ solutions tasks with teachers who use metacognitive instruction regularly in their mathematics classroom.

Method: Participants were 91 seventh grade students (44 boys and 47 girls) who studied in three heterogeneous classrooms selected from two junior schools. Each school is an integrated school composed of students from different socioeconomic backgrounds as defined by the Israel Ministry of Education. Classes were similar in term of size. Student’s mean age was 12.3 years old and levels of mathematics achievements were assessed prior to the beginning of the study.

Findings: (i) The cooperative metacognitive students significantly outperformed the cooperative students in both kinds of tasks (authentic and standard). (ii) Metacognitive students were also better able to reorganise and process given information than their counterparts in the non-metacognitive condition. (iii) The cooperative metacognitive students were better able to justify their reasoning than their counterparts in the cooperative condition.

Study: 3

Investigator: Leutwyler (2006)

Title: A study to explore the ways in which a concept mapping task could enhance the learning experience of school children by facilitating metacognitive skills involving planning, prediction, connecting errors and evaluating progress.

Objectives: (i) To identify scaffolding of metacognitive control by adults during the activity. (ii) To seek evidence of regulation in action evidenced by children talk and behavior.
**Method:** This study used discourse analysis from transfused to explore child adult interactions in three small groups as each group engaged in building a concept map about pumpkins.

**Findings:** (i) Preschoolers were able to engage in metacognitive process depends on the manner in which the activity is framed and structured by adult overseeing the activity, highlighting problem solving with respect to gender. (ii) There was a significant difference in the dimension of self checking between males and females. (iii) There was a significant difference in metacognitive awareness depending on discipline of study.

**Study:** 4

**Investigator:** Zakaria et.al (2007)

**Title:** A study on metacognitive awareness and students achievement on mathematical problem tasks.

**Objectives:** (i) To find the relationship between metacognitive awareness and students’ achievement in mathematical problem solving. (ii) To find out whether there were differences in metacognitive problem solving in relation to gender and discipline of study.

**Method:** Survey method was adopted. The sample consisted of 378 matriculation college students (123 males and 255 females).

**Findings:** (i) There was significant relationship between metacognitive awareness and students’ achievement in mathematical problem solving. (ii) There was no
significant difference in metacognitive awareness in mathematical problem solving with respect to gender.

**Study : 5**

**Investigators** : Coutinho, Antonette and Savia (2007)

**Title** : A model of metacognition, achievement goal orientation, learning style and self efficacy.

**Objective** : To test a model integrating achievement goal orientation, learning style, self efficacy and metacognition into a single framework that could explain and predict variation performance.

**Method** : Quasi-experimental method was adopted.

**Findings** : Self efficacy was the strongest predictor of the performance followed by metacognition. Achievement goals correlated with each other suggesting that students may be adopting multiple goals at the same time. Goal orientation was related to two or three learning style to achieve their goals. Achievement goals, self efficacy and learning style had weak and negative relationships with metacognition.

**Study : 6**

**Investigator** : Keengfeng (2007)

**Title** : Computer based game playing within alternative classroom and goal structure on fifth grader’s math learning outcomes, cognitive, metacognitive, affective evaluation and interpretation.
Objectives: To investigate whether computer based educational game playing in comparison to traditional paper and pencil drilling would be more effective in facilitating comprehensive math.

Method: Experimental method was adopted for this study.

Finding: Computer based game playing facilitated positive attitudes towards math learning significantly more than paper and pencil drilling but its advantage on cognitive math test performance and metacognitive awareness was not significant co operative goal structure, in comparison to computer based game structure which was significantly more effective than the other two students in promoting math test performance.

Study: 7


Title: Critical thinking, metacognition and epistemological beliefs.

Objective: To explore the effect of adding metacognitive enrichment exercises to classes in which critical thinking is an implicit learning objective.

Method: Survey method was adopted for this study. 681 pre-test and 469 post test students at Central Tennessee Community College were the sample.

Findings: The findings demonstrated adding metacognitive enriching exercises increased the epistemological maturity levels of the students in all four factors measured by the instrument. In two of those factors, the increase was statistically significant. A focus on metacognitive enrichment can significantly increase a students’ personal epistemology and thereby, the student’s critical thinking skills.
Study : 8

**Investigators**: Noronha Nemmo and Alda (2008)

**Title**: Effectiveness of skills versus metacognitive strategy-based approaches on reading comprehension of college developmental students.

**Objective**: To explore the relative value of behavioural and cognitive psychology as the basis of instruction for underprepared college students enrolled in developmental reading courses.

**Method**: Experimental method was adopted for this study. The sample were hundred college developmental reading students who were enrolled in six intact sections of a reading course.

**Finding**: There were significant differences in reading comprehension between the groups receiving the different instructional treatments and no differences in reading comprehension between the men and women participants.

Study : 9

**Investigator**: David Whitebread (2009)

**Title**: The development of two observational tools for assessing metacognition and self regulated learning in young children.

**Objective**: To give a report on observational approaches developed with a United Kingdom study to the identification and assessment of metacognition and self regulation in young children in the 3-5 year age range.

**Method**: Survey method was adopted for this study.
**Findings** : The establishment of the metacognitive and self regulatory capabilities of young children by means of the kinds of observational tools developed within this study also had clear and significant implications for models and theories of metacognition and self regulation.

**Study : 10**

**Investigator** : Bruno Leutwyler (2009)

**Title** : Metacognitive learning strategies; differential development patterns in high school.

**Objective** : The objective of this study is to identify the development of students’ self-reported use of metacognitive learning strategies during high school.

**Method** : Survey method was adopted for this study.

**Findings** : (i) The result suggested that from a global perspective, there was no development of students’ self reported use of metacognitive learning strategies during high school. (ii) The self reported use of monitoring and evaluation strategies tend to converge between genders during high school; whereas the differences in the self reported use of planning strategies remained stable.

**Study : 11**

**Investigator** : Ibe (2009)

**Title** : A study on effects of metacognitive strategies on classroom participation and students achievement in senior secondary school science classrooms.
Objectives: (i) To measure achievement. (ii) To measure the metacognitive strategies.

Method: The design for the study was a quasi experimental design involving 3 intact groups named two treatment groups Thinks Paci Share (TPS) strategy and the Metacoginitive Questions (MQ) and a control group.

Findings: Metacognitive strategies were more effective in enhancing academic achievement followed by the TPS.

Study: 12

Investigator: Sevgi Turani et.al. (2009)

Title: A study to investigate the acquisition of metacognitive awareness and self regulated learning skills in medical schools using different curricular models.

Objective: To fix the significant differences in MAI (Metacognitive Awareness Investigator) scores according to gender, curricular language and previous exposure or not to a learner centered method during secondary school.

Method: Experimental design was implemented.

Findings: (i) With regard to SRLPS (Self Regulated Learning Perception Scale) total scores, no difference was found according to gender but significant differences were found according to phase, curricular language and curricular model. (ii) MAI(Metacognitive Awareness Investigator) and SRLPS(Self Regulated Learning Perception Scale) scores of students from the medical school using a learner centered curriculum were higher than the other schools students.
Study : 13

Investigator : Ozsoy et.al. (2009)

Title : A study to investigate the relationship between fifth grade students’ metacognition levels and their study habits and attitudes.

Objectives : (i) To find the relationship between students' metacognition levels and their study habits. (ii) To find the relationship between students’ metacognition levels and their attitudes.

Method : Survey method was adopted. Participants of the study consisted of 221 students, 125 female and 96 male, enrolling to Sin Public Primary Schools in Turkey.

Findings : (i) There is a medium positive relationship between metacognitive knowledge, skills, study habits, study attitudes and study orientation. (ii) There is no significant relationship between metacognition and study habits and attitudes.

Study : 14

Investigator : Coskun (2010)

Title : A study to investigate the effect of metacognitive listening strategy training on the listening performance of a group of beginners preparatory school students at the University in Turkey.

Objective : To find the effect of metacognitive listening strategy training on the listening performance of a group beginner preparatory school students.

Method : Experimental design was chosen. Two beginner groups a control group (n=20) and an experimental group (n=20) were chosen as the participants of the study.
Finding: The experimental group did statistically better in the test.

Study: 1

Investigator: Magno (2010)

Title: The influence of metacognition on critical thinking skills.

Objectives: To study that critical thinking occurs when individuals use their understanding metacognitive skills and strategies that increase the probability of a desirable outcome.

Method: The Metacognitive Assessment Inventory (MAI) by Schraw and Dennison, which measures regulation of cognition and knowledge of cognition and the Watson Glaser Critical Thinking Appraisal (WGCTA) with the factors inference and recognition of assumption of arguments were administrated to 240 college students from different universities in the National Capital Region in the Philippines. The Structural Equations Modeling (SEM) was used to determine the effect of metacognition on critical thinking as latent variables. Two models were tested. (i) In the first model, metacognition was composed of two factors. (ii) In the second model, metacognition had eight factors as they affected critical thinking.

Findings: (i) The results indicated that in both models, metacognition had a significant path to critical thinking. (ii) The analysis also showed that for both metacognition and critical thinking factors were significant.

II.3.b.(ii).Studies done Abroad Related to Teaching Competency

Study: 1

Title: Mathematics teachers' competence in relation to students' performance in national high schools of capital city division, Zamboanga Del Norte, Mindanao.

Objective: To find out the competence of mathematics teachers and its relation to the performance of students in mathematics in the National High Schools of the Division of Dapitan City, Zamboanga del Norte, Mindanao, Philippines during the school year 2003-2004. This was to ensure the preparedness and competence of these teachers in carrying out the focal goal of the 2002 Basic Education Curriculum (BEC) in the country, which is the development of functional literacy among the learners. The output of the study was envisioned to become a useful basis in generating an evaluation tool for teachers’ competence to supplement the usual appraisal system for teachers’ performance.

Method: Survey method was adopted for this study.

Findings: (i) The mathematics teachers were very much competent with mean of 4.24 as perceived by the students and much competent with mean of 4.02 as perceived by the teachers in terms of communication skills. They were very much competent with mean of 4.25 as perceived by the students and much competent with mean of 3.85 as perceived by the teachers in terms of problem solving and critical thinking. In terms of sustainable use of resources and productivity, they were much competent with means of 3.91 and 3.73 as perceived by the students and the teachers respectively. In terms of development of self and a sense of community, they were very much competent with means of 4.41 and 4.22 as perceived by the students and the teachers respectively. They were much competent with means of 3.83 and 4.02 as perceived by the students and the teachers respectively in terms of expanding one’s world vision. In general, the mathematics teachers were much competent as perceived by the students and the teachers with overall means of 4.13 and 3.97 respectively.
(ii) There was no significant difference between the perceptions of students and teachers on the competence of the mathematics teachers. The computed t-values of 0.28 for communication skills, 0.50 for problem solving and critical thinking, 0.23 for sustainable use of resources, productivity 0.17 for development of self and a sense of community and 0.23 for expanding one’s world vision did not exceed the tabulated t-value of 1.96 which means not significant. (iii) The performance of students in mathematics during the first and second grading periods was average with means of 2.72 and 2.85 respectively. In general, the performance of students in mathematics was average with overall mean of 2.79. (iv) There was a significant moderate relationship between the competence of mathematics teachers and the performance of students in mathematics. The computed r-value is 0.59, which indicates moderate correlation, while the computed t-value is 12.16 exceeding the tabulated t-value of 1.96, which means significant.

Study : 2

Investigator : Sonhwana (2006)

Title : A Delphi study to identify teaching competencies of teacher education faculty in 2015.

Objective : The purpose of the study is to determine consensus on future course delivery modes and recommended teaching competencies that would be required for teacher education faculty in the future course delivery environment. Teaching competencies are reflective of instructional delivery modes and environments. Therefore, the study will identify the emerging course delivery modes and the competencies needed by teacher education faculty for the identified teaching environment in the year 2015.
Method: The study followed the pattern of previous competency studies (McCoy, 2001; Williams, 2000) by using a panel of experts to determine the future course delivery modes and teaching competencies. Limited time and financial resources for travel along with geographically dispersed experts necessitated the use of a method that would allow the chosen experts to participate from their respective locations (Ludwig, 1997). The approach used in this study to achieve its purposes was the online modified Delphi methodology. This study involved three rounds to achieve consensus among a group of experienced teacher education faculty in higher education. Individuals were either nominated or selected from various educational organizations to serve on the panel of experts. All data were gathered via e-mail and the World Wide Web as a primary mode of communication using Web-based instruments that resided on the Web Services Server of West Virginia University.

Findings: The total percentage of questionnaires returned during the first round was 81%, during the second 100%, and during the third 88%. Out of the 21 individuals who expressed their willingness to participate in the study, 17 responded to the first round by signing the study participation agreement form and also completing Round I Questionnaire. After the panelist received the first round instrument, four members withdrew from the study due to time constraints. The resultant 17 member panel of educational experts comprised of 12 females and 5 males from 11 different organizations. Of these 17 panelists who completed Round I Questionnaire, 17 completed the second round (100% response rate). Of these 17 panelists, 15 completed the third round of this study resulting in a response rate of 88%. It was noted that participants from educational technology organizations (100%) showed strong participation rate than general teacher education organizations (25%) throughout the study.
Study : 3

**Investigator** : Nwachukwu Prince Olelube (2008)

**Title** : Methodological competencies of teachers

**Objectives** : (i) To identify best practices of academically and professionally qualified teachers. (ii) To evaluate the extent to which teachers with academic qualification and those with professional teaching qualification use problem solving methods employ individual teaching methods, dramatize and demonstrate teaching situation effectively.

**Method** : Survey method was adopted for the study. Four point Likert type scale was used to collect the data for the study.

**Findings** : (i) It showed that the problem with the child who lags behind in school work is one of the most difficult situations that teachers have to face. (ii) It should be that there are multifaceted roles that professional teachers play in effecting quality in teaching.

Study : 4


**Title** : The pre-service teacher’s competency perception regarding technology planning.

**Objectives** : (i) To determine the pre-service teacher’s competency perceptions regarding technology planning. (ii) To evaluate them in terms of gender and grade.
**Method:** The survey method was applied in this study to collect the research data. In line with the sub goals, singular and correlation survey method was employed.

**Findings:** (i) The total score obtained from the data collection instrument, 122 students’ mean score was calculated at 103.85 and SD was 14.52. On the basis of the scores to be obtained from the instrument, minimum score was 29 while the maximum was 145. Accordingly, it was observed that the participants generally agreed with the statements related to technology planning process and their technology planning competency perceptions were above the average. (ii) The participants technology planning competency perceptions did not differ significantly in terms of gender \( t = 1.310, p<.05 \). Thus it was seen that females students’ technology competency perceptions \( (\bar{X} = 105.81) \) were statistically higher than the male students’ \( (\bar{X} = 102.35) \). But the difference between them was not significant. This finding can be interpreted in a way that both female and male students similarly perceived themselves competent. (iii) There is a significant difference between participants’ technology planning competency perceptions and their grades \( (F = 4.908; P<.05) \). Scheffe post hoc multiple comparison test was applied to find out which group caused this difference. According to the results of this test, it was obtained that 4th grade students \( (\bar{X} = 106.84) \) and 3rd grade students \( (\bar{X} =106.60) \) technology planning competency perceptions were significantly higher than the 2nd grade students \( (\bar{X} = 95.24) \).

**Study:** 5

**Investigators:** Natasa pantic and Theo wubbels(2008)

**Title:** Teacher competencies as a basis for teacher education views of student teachers and teacher educators.
Objectives: (i) To ensure that voices of teachers and teacher educators are heard in identification of areas of expertise that makes up a competent teacher. (ii) To identify four components underling teachers’ perceptions of competencies relating to values and child rearing, understanding of the education system and contribution to its development, subject knowledge, pedagogy and curriculum and self evaluation and professional development.

Method: This study followed the methodology of the European tuning project (Gonzales and wagenaar, 2005) in which competencies were evaluated by staff and students at post-secondary institutions and employers. In area of teacher education, this means that competencies are to be defined in consultation with teacher educators, student-teachers and school practitioners. In this way, the main actors were given an opportunity to assist in shaping a frame of reference for professional competency and were therefore more likely to make use of it.

Findings: (i) The multivariate analysis of covariance showed that experience level of education and had significant effects on the participants’ evaluation of the four scales. (ii) Statistical significance had been reached for the first scale. All the respondents from pre primary institutions were women, but the effect was that all other levels rated all four scales larger than men, the difference being significant for the fourth scale. The effect of experience is significant for the third scale, which more experienced teachers rated higher than did less experienced ones, but the difference were small 4, the mean score for this scale by teachers with more than 2 years of experience was 3.70, while for those with less than 2 years of experience, it is 3.43. The results for each of the four scales were discussed not only in terms of the mean scale scores, but also referring to individual items that made up the scale.
Study : 6

Investigators : Franziska Vogt and Marion Royalla (2009)

Title : Developing Adaptive Teaching Competency through Coaching.

Objective : This research project examines to what extent adaptive teaching competency of teachers can be fostered and what effect adaptive teaching competency has on students’ learning.

Method : A quasi-experimental design had been chosen to examine these two research questions, 50 classes in total, 27 classes at primary and 23 classes at secondary level participated in the study. The experimental group included 32 teachers and 623 students and the control group 18 teachers and 353 students.

Findings : (i) Both groups of teachers (experimental and control) developed their adaptive implementation competency to a similar extent. Even though for the individual dimensions no significant effects were shown, all results pointed into the expected direction. The effect on teaching methods accounted for 1.7% of the variance. Regarding the grade taught, years of teaching experience, and teachers’ gender, no significant differences (F = 0.814; df = 1.47; P = 0.371) were found for the development of the adaptive implementation competency. (ii) Students who were taught by teachers with high adaptive teaching competency obtained a significantly higher achievement gain after the eight lessons on the given topic than students who were taught by teachers with low adaptive teaching competency.

Study : 7

Investigators : Arzu Tasdelen Karckey and Seyala Sanli (2009)
Title: The effect of micro teaching application on the preservice teachers’ teacher competency levels.

Objectives: (i) To assess the student teachers’ overall teaching skills. (ii) To identify skills that requires improvement. (iii) To provide a system for practicing the skills and (iv) To monitor the skill development process.

Method: The study of the pre-test, post-test design of experimental research model had been used without the control group.

Findings: (i) A significant difference (t = 4.788; P < 0.001) between pre-test and post-test of teaching competency test, arithmetic means of teacher competency of pre-test was 17.36, post test this average raised to 19.16. The study pointed out that the micro teaching activity might affect university student-teachers competency levels positively. (ii) There was significant difference (F = 5.611; P < 0.05) among teacher competency means of pre-test and post-test scores for gender groups. It was possible to conclude that micro teaching practice affects both female and male students’ teacher competency levels positively. (iii) There was a significant difference (F = 24.517; P < 0.001) among teacher competency means of pre-test and post-test scores for type of education groups. It was possible to conclude that micro teaching practice affects both normal education and second education student-teacher’s competency level.

Study: 8

Investigators: Fethiye Karsli, Fatma Yaman and Alipasa Ajas (2010)

Title: Prospective chemistry teachers’ competency of evaluation of chemical experiments in terms of science process skills.
Objective: To determine the prospective chemistry teachers’ (PCT) science process skills (SPS) on different chemistry experiments.

Method: The study was carried out in the academic year of 2008-2009 at the faculty of education in Raradeniz Technical University in Turkey. The sample group consisted of a total number of 28 senior undergraduate at the department of chemistry teacher education. PCT in the sample were separated into groups consisting of 2 or 3 members by their own decision. This study was carried out within course of chemistry teaching methods. In this course, some theoretic information related to SPS was given to the PCT. The data were collected by using document analysis technique. This technique has comprised the analysis of written documents which give information about the target situation. In the content of the course of the chemistry teaching methods that PCT were taught about SPS theoretically, they were required to determine SPS in the experiments which they selected. Each SPS, in each experiment selected by the groups, were determined by researchers and these skills were compared with PCT. Every group was given a number such as 1, 2,… the numbers of SPS in each experiment that were determined by PCT and researchers were determined and percent of consistency was counted to determine consistency between researchers and PCT result.

Findings: (i) It was presented in that comparison between PCT determining SPS in their experiments and researcher’s evaluation on them. (ii) The total number of determined SPS of PCT in the first group was 6, the total number of determined SPS of researchers was 27. The number of SPS that PCT determined in the second group was 9, while the number of SPS that researchers determined was 23. (iii) The total number of SPS determined by the 3, 4, 5, 6, 7, 8, 9 and 10 groups were in order of 13,
5, 8, 4, 7, 4, 6 and 3. (iv) On the contrary the number of SPS determined by researchers was order of 21, 11, 17, 10, 14, 25, 16 and 13. Alike it was found that percent of resistance between the number of SPS determined by each group and researchers were in order of 22%, 39%, 62%, 45%, 47%, 40%, 50%, 16%, 37% and 23%.

Study : 9


Title : Teacher competence in ICT : Implications for computer education in Zimbabwean Secondary Schools.

Objective : This study aimed at identifying areas of ICT competence and areas of weaknesses among secondary school teachers. It also identified possible challenges confronting the effective use of ICTs in classroom instruction in the schools. On the basis of the findings, the study came up with recommendations likely to contribute towards improving teachers’ ICT competences for the betterment of classroom instructional processes.

Method : The present study adopted the descriptive survey design due to the nature of the responses which were being sought for. In order to solicit data from the teachers, a questionnaire was used. The questionnaire required data on their ICT qualifications, their competence in ICT, their knowledge of ICT especially the technology that had to do with instructional processes. A practical test was given to the teachers to test their ability to use computers for basic classroom operations such as document production, internet, web operations and record keeping.

Findings : (i) Urban teachers were in the majority. They made up 60% of the total respondents. This was a result of proportional representation since more schools in
urban areas offered computer education than those in the rural areas. (ii) A total of 46 (38.33%) teachers had no formal ICT qualifications. However, 38 (31.67%) had a certificate of competence in computer usage and single subject certificate holders accounted for 27(22.5%) of the total sample. Only 9 (7.5%) had a diploma in computers while none had a degree. It appeared that the qualifications of the majority of the teachers were far from being satisfactory. (iii) The use of spread sheets was a familiar operation for only 52(43%) while the Internet and Email skills and knowledge accounted for 45 (37.5%) and 55 (46%) respectively. Contrary to the situation obtaining in the district under study, in most industrialized countries, schools have for a long time had access to the internet (Russell and Bradley, 1997). Basically, indications are that the teachers lacked the necessary skills and knowledge of computers and related technology.

**Study : 10**

**Investigators :** Alice E. Asim, Iroha M. Kalu, Idaka E. Sam and Bassey(2010)

**Title :** Competency in STM assessment the case of primary school teachers in cross river state.

**Objectives :** This study sought to determine how competent the teachers sample were in STM(Science ,Maths and Technology) assessment. It related their competence to sex, educational qualification, school proprietorship, teaching experience, geographical location of their school and the class taught.

**Method :** The research design was a sample survey carried out among primary school teachers in Cross River State.

**Findings :** (i) It revealed that 67 (or 40.4%) of the 166 teachers studied were competent in STM assessment while 99 (or 59.6%) could be rated ‘incompetent’. 
(ii) The chi square values were only significant for school proprietorship ($X^2=11.96; p < .05$) and teacher’s sex ($X^2=12.32; p < .05$). Thus the teachers’ competency in STM assessment is a function of school proprietorship and teacher’s sex but not that of school location ($X^2=1.41; p > .05$), teaching qualification ($X^2=2.15; p > .05$), teaching experience ($X^2=0.84; p > .05$) nor the level of class taught ($X^2=2.33; p > .05$).

**Study : 11**

**Investigators :** Mask Dewalt and Donald W. Ball (2011)

**Title :** Some effects of training on the competence of beginning teachers.

**Objective :** To find the relationship between training and 12 dimensions of teacher competence.

**Method :** Measures of these competencies were obtained from actual classroom observation utilizing a law inference instrument. The sample of teachers selected for this study consisted of 230 beginning secondary school teachers who were observed in the fall of 1985 as part of the certification process. These teachers began teaching at the start of the 1985–1986 school years in 108 of Virginia’s 139 school division in grades 7–12. All academic subject areas taught in the secondary schools in Virginia were represented. Fifty Six percent of the teachers were women and 44% were men. Minority teachers comprised 11% of the sample.

**Findings :** (i) Analysis of variance of the 12 competency scores in each group indicated that the mean competency scores in the unprepared group had greater variability than those in the prepared group. (ii) Group 1 ($n = 57$) was compared of secondary teachers who had no professional education courses and no student teaching experience. Group 2 ($n = 173$) comprised of secondary school teachers who
had 12 or more hours of education courses and student teaching. (iii) This study indicated that graduates of teachers’ education programs for secondary school teachers were largely ignorant of these findings. (iv) If graduates of these programmes were to be more effective than teachers who have not benefited from them, research findings must be included in the professional education curriculum.

Study : 12


Title : Teaching Competency Testing Among Malaysian School Teachers.

Objective : This study aimed at investigating the level of teaching competency among school teachers on their teaching skills, effectiveness, professional characteristics and classroom management. The objectives of the study are to investigate teaching competencies dominant characteristics, the relationship between teaching competency and academic achievement and teachers’ demographic background among primary and secondary school teachers from the district of Johor Bahru Malaysia.

Method : The design of study is descriptive based which was used to explain any phenomena that could occur in big population. The population of the study was 309 teachers from primary and secondary schools in Johor State. The distribution of questionnaires was conducted throughout the fourth week of semester II, 2008 / 2009.

Findings : (i) There were testing on teachers’ concern on self development, self management and performance standard. The mean testing on self development is 4.07; 3.95 for self management and 4.13 for performance standard. The concern for self scales which consisted of three sub scales with mean of 4.05 outlines that the
respondents had high competency level in concern for self scales. (ii) Relationship between gender and teaching competency had been analyzed through t-test which is a test to determine the significant difference between mean of gender, the group of male and female. (iii) The mean of female respondents were higher in skills scales, concern for school scales, concern for student scales and concern for self scales than male respondents. (iv) The overall competency scales by female with mean of 4.06 were higher than the male respondents with mean of 4.02. (v) It presented that female had better competency than male in skills scales and the overall competency scales. The significant value in skills scales with .025 and .012 in overall competency with \( p \leq .05 \) showed that there was a significant relationship between skills scales and the overall competency with gender.

**Study : 13**

**Investigator** : M. Haqsud Alam Bukhari (2010)

**Title** : A study on teacher competencies and teaching practices for school effectiveness in Workers Welfare Model Schools (WWMS).

**Objectives** : (i) To evaluate teacher competencies skills for school effectiveness. (ii) To explore elements of school effectiveness. (iii) To observe classroom environment and to assess teachers competence. (iv) To suggest measures to enhance the school effectiveness in WWMS.

**Method** : Worker Welfare fund is running 75 schools all over Pakistan. A sample of 40 schools was selected randomly. Multistage sampling technique was adopted to select the sample. Twenty (20) principals (for focused group discussion), 400 teachers and 80 classrooms (for observations) constituted the population for this
study. Based on related literature review, the instrument of data collection was developed for the focused group. Data were collected through questionnaires, classroom observations, interviews and official documents.

Findings: (i) Teaching competencies in WWMS professionally trained teachers were not fully utilized. The majority of teachers disagreed that they used problem solving methods in teaching; they used undivided teaching methods for individual differences and they also utilized teaching situation effectively. (ii) Majority of teachers were in agreement with the statement that the teacher appreciated students for correct answers. Most of the teachers agreed that the teacher gave hints to students in order to lead them to the correct answers. The results of observations done by the researcher showed that majority of the teachers ‘sometimes’ appreciated their students for correct answers. (iii) Majority of teachers were not using even their personal teaching tools and never used devised teaching tools. It led to the conclusions that teachers in WWMS did not make efforts in making their school more effective. (iv) The teachers were not using evaluation techniques properly.

Study: 14

Investigators: Mudasiru, O. Yusuf and Modupe, R. Balagun (2011)

Title: Student teachers’ competence and attitude towards information and communication technology.

Objectives: (i) To find out the attitude of student teachers towards the use of ICT. (ii) To find out the competence of students teachers in the use of ICT. (iii) To find out the influence of gender on student teachers’ competence and attitude towards ICT.

Method: The participants were 382 student teachers randomly sampled from the five departments of the Faculty of Education, University of Ilorin, Kwara State, Nigeria.
The students were undergraduate student teachers enrolled in the concurrent teacher education programmes for secondary school subjects, that is, B.A.,(Ed.) or B.Sc, (Ed.) (Economics, English Language, Health Education, Mathematics, etc.), and education service disciplines B.Ed. (Counsellor Education, Educational Management and Educational Technology). The student teachers were stratified into male and female.

**Findings:** 
(i) There was every indication that responses to the positive statements (items 1-10) showed that over 50% of respondents have a positive attitude towards ICT. It was seen that more respondents believed that ICT could generally provide better learning experience. However, for negative statements (items 11-14) showed that only about 27.75% of the respondents agreed or strongly agreed that they wouldn’t have anything to do with ICT, while about 72.35% disagreed and also strongly disagreed on that statement. Item 12 showed that above 40.06% of respondents agreed that they had phobia for ICT equipment while about 59.04% of the respondents disagreed that they had phobia for ICT equipments. Item 13 showed that about 63.62% of the respondents disagreed that ICT couldn’t address the needs of school system, while the results on item 14 showed that more than half of the respondents (52.28%) agreed that the state of infrastructural facilities discourages them from using ICT. 
(ii) Results showed that the respondents indicated competency in the use of word processing package, items 10 and 11 (over 50 percent). However, for other items, 12 to 19, less than 40 percent were fully competent or were regular and confident users of spreadsheet, presentation, and database packages. Most of the respondents, over 25 percent indicated that they occasionally used these applications/operations but needed further training. These results underscore the need for the student teachers to develop competency in the use of spreadsheet, presentation, and database packages applications. 
(iii) There was no significant difference in the
attitude of male and that of female student teacher’s towards ICT as can be observed from the results on all the items. The chi-square analysis showed that there was no significant difference between the attitude of male and that of female student teachers towards ICT. (iv) There was no significant difference between the competence of male and that of female in eight out of the twelve items. However, significant differences were established in four of the items (23, 24, 36 and 31) more in favour of male student teachers who had higher mean values of 2.56 and 2.59, 2.60, and 2.75, respectively, than in female student teachers who had 2.20 and 2.30, 2.21, and 2.44, respectively. Generally, it could be inferred that no significant difference was established between the competence of male and that of female student teachers in the use of ICT.

**Study : 15**

**Investigators :** Christian Bruhwiler and Peter Blatchford (2011)

**Title :** Effect of class size and adaptive teaching competency on classroom processes and academic outcome.

**Objectives :** To find out the effect of class size on teaching competency of teachers

**Method :** The data set for empirical analyses came from the research project “Adaptive Teaching Competency”. The sample comprised 26 primary and 23 secondary school teachers from seven public schools with their students (N = 898; mean age was 11.6; years-SD = 0.82) for primary school students and 14.5 years (SD = 0.80 for secondary school students). The study took place in the German speaking region of Switzerland in 2004.

**Findings :** (i) A significant effect of class size was found only in primary school, but not in secondary school. (ii) No significant interaction effect between class size and
stage was found. (iii) No significant correlation between class size and ATC(Adaptive Teaching Competency) was found. (iv) ATC(Adaptive Teaching Competency) have significant effects on learning progress in the module. (v) Significant effects of smaller classes and higher ATC(Adaptive Teaching Competency) remained after having controlled for individual and class context-variables. (vi) On the class level, besides class size and ATC(Adaptive Teaching Competency) the average prior knowledge of the class (based on pretest results of the class had a significant effect on learning progress). (vii) The significant correlation between class size and teachers accuracy of diagnosing students’ achievement. It suggested that in small primary school classes teachers were able to diagnose students’ achievements more accurately than in large classes.

II.3.b.(iii).Studies done Abroad Related to Attitude towards Teaching Profession

Study : 1


Title : The perceived status of teachers and their attitude towards teaching as a career.

Objectives : (i) To determine teachers’ perception of their occupational prestige. (ii) To examine how satisfied teachers are with teaching as a career. (iii) To examine what proportion of teachers would close teaching as a career if given the opportunity to choose from among other jobs and to determine whether male teachers are more likely to leave the teaching profession than their counterparts when given the opportunity to choose from among jobs.
**Method**: Survey method was adopted for this study. 514 secondary school teachers from randomly selected secondary schools from the fourteen government areas of Rivers state participated in the study.

**Findings**: (i) The teachers of Rivers state secondary schools were not satisfied with the prestige associated with teaching as a career. (ii) There were a number of barriers preventing the realization of teaching as a full profession in Nigeria. (iii) Majority of the teachers would like to quit their job to take up another outside teaching, if given the opportunity to do so.

**Study**: 2

**Investigator**: Emine Ferda Bedel (2008)

**Title**: Interactions among attitude towards teaching and personality constructs in early childhood pre-service teachers.

**Objective**: To ascertain whether relationships existed among early childhood pre-service teachers’ attitude toward teaching, locus of control orientations, sociotropy autonomy orientations, and demographic characteristics such as highest educational level of parents and a time frame for deciding to choose early childhood education as a profession.

**Method**: The study included 180 Turkish college students, all majoring in early childhood education. The scope of this study is limited to only three universities (Hacettepe University, Gazi University and Ortadogu Teknik University), located in Ankara. These institutions were selected for this study, due to: (a) convenience of their locations for the researcher, (b) adequacy of their student populations in the numbers and the demographic cross-sectional of the students and (c) positive reactions and supportive attitudes of the contact persons in these universities whose
approval and cooperation were crucial for the study. Furthermore, these three universities are considered to be deeply rooted and esteemed educational institutions in Turkey, especially in comparison to the more recently established institutions.

**Findings**: (i) Internal locus of control was not significantly related to attitude towards teaching ($p > .05$). To measure the relationship between attitude towards teaching and overall external locus of control, and relationship between attitude towards teaching and each sub-factor of external locus of control came from computing Pearson Product Moment correlation. Attitude towards teaching was negatively related to overall external locus of control $r = .197$ ($p < 0.01$). (ii) The first sub-factor (belief in chance) of external locus of control scale was negatively related to attitude toward teaching $r= .241$ ($p < 0.01$). The second sub factor (meaninglessness of the effort) also showed a negative relationship with attitude towards teaching $r = -.165$ ($p < 0.01$). (iii) Therefore, students who possessed a tendency to believe that an event results from outer sources such as luck, chance, or powerful others were likely to have less positive attitude towards teaching.

**Study**: 3

**Investigators**: Sehnaz Ceylan, Ilkay Ulutas and Essa Omeroglu (2009)

**Title**: Examination of the relation between view points of pre-school teaching students towards children and their attitude towards teaching.

**Objective**: To examine the relation between the view points of pre-school teaching students towards children and their attitude towards teaching.

**Method**: Workgroup of this research includes sophomore and senior students who continue pre-school education teaching program in vocational education faculty of
Gazi University in the education period of 2007 – 2008, selected using the method of random sampling 46.8% of the workshop consists of sophomore students and 53.2% consists of senior students. It was determined that 95.9% of the students were female and 71.2% were successful in their courses. Age of the students ranged from 18 to 24 (M = 20.80).

**Findings**: (i) There was a significant difference for sub-scale of cultural viewpoint in favour of the sophomores (P < 0.05). There was not a significant difference between classes related to teaching (P > 0.05). (ii) A positive relation could be found in the correlation results between attitudes towards teaching and viewpoints towards children. (iii) It was also found that there was a relation in the positive direction (r = 0.247, 0.187, 0.319, 0.153, P < 0.01) between total and sub-scales of cultural viewpoint and attitude towards teaching and viewpoint of values, a relation in the positive direction (r = 0.194, P < 0.01) between visual viewpoint and value sub-scale and a relation in the positive direction (r = 0.139, 0.198, P < 0.01) between total and sub-scales of viewpoint of values and attitude towards teaching.

**Study**: 4

**Investigators**: Welku Tomic(2009)

**Title**: Teaching behaviour and student learning outcomes in Dutch Mathematics classrooms.

**Objective**: To find teaching behaviour and student learning outcomes in dutch mathematics classrooms.
**Method** : The direct systematic observation method was adopted for this study. The investigator employed a pre and post correlation design and observed 50 mathematics teachers during eight lessons each for 8 months.

**Findings** : There were no results for behaviour that fall within the category opportunity to respond, because they explained less than 1% of the variance in mathematics achievement.

**Study : 5**


**Title** : Attitude of secondary school teachers towards teaching profession.

**Objective** : The main aim of study was to measure the attitude of secondary school teachers towards their teaching profession (ASTTP).

**Method** : This study was descriptive in nature and conducted to measure the attitude of secondary school teachers towards teaching profession. All the secondary school teachers, teaching at secondary level in district Multan constituted the population of the study. It was not possible for the researcher to visit all the respondents individually. Therefore the sample was drawn from the population.

**Findings** : (i) It was revealed that the scores of females on ASTTP (M = 201, SD = 12.9) was significantly higher than male teachers (M = 187, SD = 16.3). (ii) It was found that the scores of public sector teachers on ASTTP (M=213, SD= 41.8) was significantly higher than private sector teachers (M=175, SD=13.6). (iii) It was found that the scores of rural teachers on ASTTP (M = 227, SD = 45.8) was significantly higher than urban secondary teachers (M = 161, SD = 23.4).
Study : 6


Title : Attitude of student teachers towards teaching practice in the University of Port Harcourt, Rivers State, Nigeria.

Objectives : (i) To determine the attitude of the student teachers towards teaching practice. (ii) To identify the problems facing practical teaching and its related activities in Nigerian universities. (iii) To identify strategies for improvement in the attitude of the student teachers.

Method : The design of the study was a descriptive survey which attempted to collect data from members of a population in order to determine the current status of the population.

Findings : (i) It revealed that the mean ratings of the student show that the respondents scored up to 2.50 and above, showing that all the respondents agreed that all the listed items were the problems faced during teaching practice. (ii) It revealed that the mean responses of the 300 and 200 level students reached to the acceptable mean of 2.50 and above. This was an indication that all the designated strategies should be adopted for improvement in the attitude of the students on teaching. (iii) There was no significant difference in the mean ratings of the two groups.

Study : 7

Investigators : Omer Engin Akbulut and Fatih Karaku (2011)

Title : The investigation of secondary school science and mathematics pre-service teachers’ attitude towards teaching profession.

Objective : To determine how pedagogical content courses taken during teacher education programs affect the pre-service teachers’ attitude towards teaching profession.
**Method** : This study was carried out with the survey method to collect pre service-teachers’ attitudes towards the profession. Because, the survey method studies were carried out in order to determine current situations and they prepare the required background for the case studies.

**Findings** : (i) The means of the scale were so close according to the type of programs regardless of class level, and it could also be seen that the minimum attitude score was 3.72 and the maximum attitudes score was 3.96. But, some differences had been seen when comparing the fourth and fifth levels of classes. (ii) A significant difference between attitude scores was found according to the level of classes. The one way ANOVA(Analysis of Variance) was applied in order to compare attitude scores of teacher candidates for each class among their programs. (iii) There was no statistically significant difference found about pre-service teachers’ attitudes among the programs regardless of the level of their classes. Also there was no significant difference found among scores of the fourth class pre-service teachers’ attitudes according to their programs. (iv) A significant difference was found between Physics and Biology, and also between Chemistry and Biology. However, a significant difference was not found between Mathematics and other programs, and also between Physics and Chemistry.

**II.4. Review of the Studies Reviewed**

The investigator reviewed 76 related studies and presented them as 39 Indian studies and 37 foreign studies. Each study has been presented under different captions such as Study No., Investigator(s)’ name(s) with the year of investigation, Title, Objectives, Methods and Findings. It is understood from the review that, in some research, the attempts have been made in related to general aspects of metacognition (Verma and Mishra (2002) and David whitebreed (2009)).
awareness of metacognition among different people were found by Mahesh Narayanan Dixit (2010), Zakaria et. al. (2007) and Sevgi Tunani et. al. (2009). Some experimental studies were also conducted to find out the effectiveness of metacognition on teaching and learning of different subjects and other personality traits by Rajagopal Ponnusamy (2001), Savithiri (2006), Leutwyler (2009), Coutinlo, Antonette and Savia ((2007), Noronha Nemmo and Alda (2008) and Cosken (2010). A few studies relating metacognition and mathematics are also reviewed and recorded (Rajagopal Ponnusamy (2001), Bracha Kramarski, Zemira Mevarech and Marrel Arami (2002) and Wyre, Hentry and Steven (2008)). Metacognition on prospective and practicing teachers are also studied in some researches done by J.A.Begam (2004), S.Ushaparvathi and S.Rasul Mohaideen(2009) and C.Krishnaveni (2011). Metacognition are correlated with some variables such as motivation (Suraya et.al. (2008)), complexity (Annalakshmi Narayanan (2009)), self esteem (S.Emimah (2011)), ProblemSolving(EstherKapa (2001)), achievement(Ibe(2009)), attitude (Ozsoy et.al.(2009)) and critical thinking (Magno(2010)).

formal system of education and trained through the distance education system (Faral(2006) and B.Ed. students in distance education(C.Ramesh(2010)) are also done. Some researches are done on teaching competency in different disciplines such as English (Muhammed Arshed (2007)), mathematics (Reyanaldo Legasca Duran (2004)), chemical experiments (Fethiye Kassli, Fatima yaman and Alipasa Ajas (2010)), STM(Alice E. Asim, Iroha M. Kalu, IdakaE, I Daka sam W and Bassey (2010)). A few studies related teaching competency of the student teachers and teacher educators (Natasa Pantic and Theo wubbels (2008)), Mudasiru, O, Yusuf and Modupe, R. Balagun (2011)).

A few experimental studies were done by Franziska vogt and Marion Royalla (2009), Arzu Tasdelen Karckey and seyala Sanli (2009) and Mask Dewalt and Donala W. Ball (2011). Attitude towards teaching profession has been correlated with some variables such as job satisfaction (B.B.Panda(2001) and A.M.L.Puspam(2003)), teaching competency(Jeya Jothi (2005)), teachers’ personality (Ramesh H.Naik(2006)), emotional Intelligence(I.Priscilla(2009)), metacognitive awareness (Simon Philip(2009)), academic achievement(R.Sahaya Mary and Manorama Samuel (2011)). Experimental study was done related to attitude towards teaching profession and personality (Harpreet Kaur (2007)). Some studies were done on the attitude of the pre - service and in-service B.Ed. trainees (Meena and Rokade (2011)), non teaching staff (A.Jeronsia (2010)), university teachers (Anil Ambasana (2011)), women teachers (V.Sumangala and V.K.Ushadevi (2010), secondary school teachers(Shaukat Hussian, Riaret Ali, Saced Khan. M, Muhammed Ramzan and Zgham, M (2011)), pre-school teaching students(Sehnaz Ceylan,likay Ulutas and Essa Omeroglu(2009)), student teachers (Wanekezi, A Okali. J and Sam A. Mezeobi
and secondary school science and mathematics pre-service teachers (Omer Engin AKbulut and Fatih Karaku (2011)) towards teaching. Some studies are related to attitude towards teaching profession and different subjects such as mathematics (Jeyanthi Alwan (2008)) and Physical Science (I. Pricilla (2009)).

II.5.Critical Analysis of the Studies Reviewed

In some studies, the standardized tools are used and for the rest, the investigators have developed their own tools. The investigator used various methods such as discourse analysis, experimental method, survey method and quasi experimental method. The simple random sampling technique and different random sampling technique have been adopted. The statistical techniques applied normally were ‘t’ test, ‘F’ test, chi-square and correlation.

II.6.The Gaps Identified

From the studies reviewed by the investigator, the following gaps have been identified. Metacognition has hardly been found out in the dimensions such as planning, monitoring, memory, evaluation and achievement. Metacognition of prospective mathematics teachers have not been correlated with their teaching competency and attitude towards teaching. Only a few studies have been undertaken to find out the metacognition of mathematics prospective teachers.

II.7.The present study

In order to bridge the gap mentioned above, the present study is undertaken to find out the metacognition, teaching competency and attitude towards teaching profession of prospective mathematics teachers. Besides, the researcher endeavors to
correlate metacognition, teaching competency and attitude towards teaching profession in the present study. The present study includes different background variables such as gender, age, educational qualification, type of management, medium of instruction, syllabus followed by the school and locality of the institution.

II.8. Conclusion

This chapter starts with introduction and purpose of the review followed by the literature relating to metacognition, teaching competency and attitude towards teaching profession. The chapter concludes with the inferences of the study and identifies the gap. The ensuing chapter describes the plan and procedure of the study.