Chapter V
SUMMARY, CONCLUSIONS AND RECOMMENDATION

Introduction

Today the expectations about teachers by community is increasing when the effective teachers are less and the number of students is large then the educational system must be pressurized No From has succeeded against teacher or without their participation (Delores Jacques 1996)

From effective teaching teachers must have different abilities as like content comprehension abilities, content association abilities content enrichment and simplification abilities. Teachers’ knowledge gets enriched when these abilities developed within themselves.

With various abilities teacher must have used many skills, these include cognitive skills, psycho motor skills and that skills which are essential for the development of human relationship. In the sense of teachers responsibilities the tradition of given training for teacher is going on in India and other countries also. For that various committees had given their contribution At national level the N.C.T.E (1978,1988,1998) N.C.E.R.T (1998), at state level S.B.T.E(1990) framed the Teacher – Education program Teachers should know the various methods according to various subjects at school level. In 12978 NCTE thought about this aspect in the curriculum framework. To do able for pedagogical analysis of teaching methodology is most important objective in the teacher education program at secondary level pedagogical analysis

Pedagogical analysis is a process that reveals the logic behind synthesizing all the educational activates into one thread and illustrates the rational base of selecting these educational activates. Pedagogical analysis is a study that attempts to scrutinize the educational objectives,
curriculum framing tasks, syllabus designing methods and class room teaching of particular subject. It makes the teacher familiar with the minute aspects of the subject and exposes him with the ways of conveying to the recipient i.e. the students. Because of PCK teacher trainees attitude must be changed about content. His/Her attitude changed in analytical view. Teacher trainee can decided proper method for specific training activities.

From the basic concept of content cum methodology, hill today there are many. So it is very need fill to do research work on this concept because the relationship between PCK and teaching performance scientifically planning PCK. Effect of modular training in PCK, its relation with teaching performance and pupil achievement is very important so the researcher select the problem.

5.1 Summary

5.1.1 Statement of the problem

EFFECT OF TRAINING FOR ENRICHING TEACHERS’ PEDAGOGICAL CONTENT KNOWLEDGE ON TEACHING PERFORMANCE OF TEACHER TRAINEES - A STUDY

5.1.2 Objectives of the study

1. To find out the status of teachers pedagogical content knowledge (PCK).
2. To develop training modules with reference to i) subject content knowledge ii) general pedagogical knowledge iii) Specific pedagogical content knowledge iv) curricular knowledge.
3. To study the effect of training in PCK on teaching performance of Hindi teacher trainees.
4. To study the effect of training in PCK on teaching performance of Marathi teacher trainees.
5. To study the effect of training in PCK comparatively among Hindi and Marathi teacher trainees.

6. To study the effect of training in PCK in pack on pupils achievement.

5.1.3 Review of related literature

Researcher reviewed the literature and researches related this study as follows –

1) Literature related with teaching performance in India.
2) Literature related with teaching performance in Abroad.
3) Literature related with Pedagogical content Knowledge in India.
4) Literature related with Pedagogical content Knowledge in Abroad.
5) Researchers related with Teaching Performance in India
6) Researches related with Teaching Performance in Abroad.
7) Researches related with Pedagogical content Knowledge in India
8) Researches related with Pedagogical content Knowledge in Abroad.

As mentioned in chapter II, it is found that the most studies are correlation. Joshi A.N.(1984), Mohanty S.B.(1984), Kimball (2002), John schacter (2007) correlated teaching performance to planning, teaching preparation, evaluation procedures, accountability. All the correlations are positive.

Singh umesh (1995) and Lipping mas (1999) have developed packages for teaching environmental awareness and promoting understanding of the knowledge required for teaching.


5.1.4 The experimental method

The purpose of the study was to study the effect of training on PCK on teaching performance of teacher trainees. To ensure such verified functional relationship experimental study is the best method in educational research.
5.1.4.1 Experimental Design

The researcher selected the pre-test and post-test equivalent group design of true experiment design. In this design subjects are assigned to the experimental and control group by random procedure and administered a pre-test ($T_1$) as a measures of the dependent variable. The researcher includes the treatment to the experimental group for a specified period of time. At the end of the experiment the experimental and control groups are administered the post-test ($T_2$) as the means of dependent variable.

5.1.5 Variables In Research

Dependent variable
1) Teaching Performance in simulated lesson.
2) Teaching performance in real class rooms
3) Achievement of pupils in Hindi and Marathi Teacher Trainees.

Independent Variable
1) Traditional training in pedagogical analysis.
2) PCK modular training programme developed by researcher.

5.1.6 Population

The population of this research is all the teacher trainees who are admitted in the colleges of teacher education in Ratnagiri. District affiliated by Mumbai University.

In Ratnagiri District there are 3 colleges of teacher education. The number of teacher trainees is 300.

5.1.7 Sample

The size of sample of the study was of 83 teacher trainees. This total sample was again divided in two groups as Control and Experimental. This allocation of the treatment was also done randomly using lottery technique. In this study, a group of 43 teacher trainees from the college of Education, Sawarda was a control group and a group out 40
teacher trainees from the college of Education, Ratnagiri was an Experimental one.

### 5.1.8 Tools of Research

The tools was used for this study is as below

4) Modular training package of PCK (developed by the researcher)
5) Test for measurement of teaching performance PASTE (Developed by Dr. Bhalwankar A. G and Dr. Joshi A. N.)
6) Pupils achievement test (Developed by researcher)

### 5.1.9 Research Procedure

The study was completed through the following phases

1. Preparatory phase.
2. Experimental phase

   Pedagogical analysis is compulsory part of the practical curriculum in the syllabi of method. As per the instruction given in the syllabi this practical is usually conducted in the month of August, for two weeks. As the control group of this study was under the traditional treatment of pedagogical analysis, the researcher has decided to conduct the experimental work somewhat in the same period. The traditional training was of two weeks, however the experimental training was a systematic one using modular approach, the time required was of six weeks. Hence the experiment was scheduled in the month of September 2011. Both the groups initiated their training on the same day.

### 5.1.10 Data analysis

After the administration of performance test researcher scored it. Then data analysis the data by using statistical techniques of ‘t’ test, ‘z’ test and graph.

### 5.2 Conclusions of the study

On the basis of the findings and their interpretations the following objective wise conclusions were drawn.
**Objective No 1** : To find out the status of teachers pedagogical content knowledge.

For knowing the PCK of the teacher trainees researcher had administrate the test. The analyzed data interpreted following conclusions

I It was found that Hindi and Marathi teacher trainees has poor pedagogical content knowledge.

II Teacher trainees has poor knowledge of PCK even though they are completing their graduation.

The following studies were supportive in the objective of the study.


Mcneil (1986), mclaughlin and talbert (1993), rafocoffe, are (2004), recommended that teacher with the PCK promising student that it will not be difficult the representation of the knowledge in instructional activities and skills.

**Objective No 2** To develop training modules with reference to content knowledge. General pedagogical knowledge, pedagogical content knowledge and curricular knowledge.

For the fulfillment of this objective researcher developed the modular training package.

The following studies were supportive in the objective of the study.


**Objective No 3** To study the effect of modular training in PCK on teaching performance of Hindi teacher trainees.
The analyzed data interpreted following conclusions

i. Positive significant correlation was found between the modular training of PCK and the general teaching performance of Hindi teacher trainees.

ii. The training provided to the Hindi teacher trainees in PCK was found to be effective in improving their general teaching performance.

**Objective No 4** To study the effect of training in PCK on teaching performance of Marathi teacher trainees.

The analyzed data interpreted following conclusions

i. Positive significant correlation was found between the modular training of PCK and the general teaching performance of Marathi teacher trainees.

ii. The training provided to the Marathi teacher trainees in PCK was found to be effective in improving their general teaching performance.

The following studies were supportive to the outcomes of above 3rd and 4th objectives.


Pawar, A.(2011) had done an experiment on impact of teacher training on teaching competencies. These studies were supportive to the third and fourth objectives to the study.
**Objective No 5** To study the effect of training on PCK comparatively among Hindi and Marathi teacher trainees.

The analyzed data interpreted following conclusions

The training provided to the teacher trainees in PCK was found to be effective in enhancing general teaching performance among Hindi and Marathi teacher trainees equally.

Jagtap H. N. (1986), Shulman, L. (1987) In their articles presented the importance of pedagogical content knowledge for successful teaching.

Gudmundsdottir (1987) Studies PCK of two Secondary teachers purposed to how these teachers characterized their knowledge about their discipline and how they restructured that knowledge for the purpose of teaching it.

Mathew (2011) focuses the idea of PCK. PCK is consistent with knowledge of pedagogy that is an applicable the teaching of specific content.

These studies and views were supported to the above objective No.5 of study.

**Objective No 6** To study the effect of training in PCK on pupils achievement.

The analyzed data interpreted following conclusions

The training in PCK provided to the teacher trainees was found to be significantly superior in improving the pupil achievement than the traditional one.

The following studies were supportive to find out the pupils achievement.


Schacter John (2007) stated the teacher quality is important variable in increasing student achievement.

Lowell Milken, (2000) Stated teacher quality levels are related to student achievement.

These outcomes are supportive to the objective No. 6 of the present study

5.3 Discussion of results:

1. Content Knowledge in general pedagogical knowledge, Pedagogical content knowledge and curricular knowledge is important in teacher education. Enhancing of PCK is necessary for effective teaching. So this study is useful for increasing the teachers’ knowledge.

2. It was found in the study that traditional training is also effective in enhancing in PCK. However, when the effect of training was measure in terms of pupil achievement in content, it was found that modular training was more effective. Therefore training is benedictional only when it is used for enhancement of the pupil’s academic achievement.

3. Traditional training of PCK is monitories; where major emphases given in writing work, whereas this modular training program was consist of self-learning of 24 hours. This can save face to face training in college of education.

4. There are different modules in this program. Any teacher educator or teacher-trainee can select one or many modules as per their requirement and can arrange the required training. This facility is not available in traditional training.

5. Present study put a common package dealing with pedagogical content knowledge that is functional for all teacher educators and teacher trainees.

5.4 Recommendations

Recommendations based on main findings are made for teacher trainees, teacher educators and Colleges of education, as follows
1. Teacher trainees should select proper and relevant knowledge representations during teaching of content.
2. Teacher trainees should apply Pedagogical content knowledge in classroom teaching.
3. Teacher trainees should analyze the content of textbook with respect to Pedagogical knowledge.
4. The teacher educators should be resourceful, enthusiastic and conduct innovations in their training programmed reacted to pedagogical content knowledge during classroom teaching.
5. Teacher educators should provide plan evaluation scale related to teaching performance.
6. For the effective teaching performance the teacher educators should give proper training to teacher training related to Pedagogical content knowledge.
7. As planning is important task related to teaching performance; the colleges of education should organized workshops for planning Pedagogical analysis.
8. Colleges of education should organize innovative practices for the development of teaching performance.
9. Feedback of preserves student teachers should be taken about the implementation of Pedagogical content knowledge Package during actual classroom.

5.5 Summary

Teachers do many fictions for the cognitive, emotional and psycho mother development of students for the various functions teacher must have many abilities and skills also. For the Devolvement of these skills the training is must for the teachers. The concept of content cum methodology is included in the secondary teacher training programme the
pedagogical analysis is intellectual process. For this process the knowledge stricter of the teacher should be strong.

The process of pedagogical analysis is done by teacher training colleges. Can these processes do most effectively and scientifically? Is there any relationship between teaching performance and PCK? For the PCK the modular training program can be developed? Is any effect of training in PCK on teaching performance? In the thinking of these questions this study is going on. The finding of the training in PCK can be developed effectively and scientifically. The effect of modular training program in PCK is most effective for the teaching performance training in PCK for the B.Ed. teacher trainees is most effective than the training in pedagogical analysis. The training performance developed in teacher trainees and most effective teacher can developed for the all round development of the pupils.

Present study was exercise to develop teaching performance based on pedagogical content knowledge package for training of teacher trainees. As a result of study, Pedagogical content knowledge package has succeeded to enriching teaching performance and enhance the achievement of the secondary school pupils.