SUMMARY AND FINDINGS
## CHAPTER – VI

### SUMMARY AND FINDINGS

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6.1 INTRODUCTION

Education has always been linked with society. It has both a personal and a social dimension, and like the two sides of the same coin, they are inseparable. Accordingly, the goals and priorities of the nation must necessarily be reflected in the objectives of the teaching profession and of the teacher, since these are intrinsically and casually linked. For the same reason, as the priorities and thrusts of a nation undergo a certain amount of change from time to time, so must educational priorities and objectives, to enable education to retain its currency and relevance. The quality of a nation depends upon the quality of its citizens. The quality of the citizens rests upon the quality of their education. The quality of their education depends upon the competence, dedication and quality of school teacher and the classroom, but the dialogues rapport and interactions supported by deeds, between the learners and the teachers, all the time developing within its four walls can make or mar the destiny of the youngsters and in turn that of the nation.

6.2 INFERENCES DRAWN FROM RESEARCH STUDIES

enhancement therapy and neurocognitive development to develop working memory, attention, processing speed, visual memory and multi dimensional approach.


From the literature survey, the researcher observes that only few studies were conducted on teaching competency among teacher education students, but no study was made with neurocognitive therapy related to teaching competence. Hence an attempt was made by the investigator to do up a research on role of neurocognitive therapy in facilitating teaching competence in science among D.TEd students. Hence the investigator decided to take up the study on “role of neurocognitive therapy in facilitating teaching competence in science among D.TEd students in order to fill the research Gap.

6.3 RATIONALE FOR THE STUDY

Considering “teaching as a noble profession” the Indian society calls the teachers as” guru” teachers are considered as the remover of darkness. They enlighten the individual and society using their wisdom coupled and spirituality.
Teachers are capable of leading humanity to divinity (Rajput, J.S. and Walia, K (2002)

The National council for Teacher Education (1998) observes, if teachers acquire professional competencies and realize their commitment, they are enabled and empowered to perform their multiple tasks in the classroom. The teaching profession was starting with a sound teacher performance and culminating in to high quality learning. The performance of the teacher increases the student’s level in cognitive, affective and psycho-motor areas.

According to the Common Wealth Report (1974), “a competent teacher must have knowledge of child development, the material to be taught and suitable methods of teaching and the culture of his students”.

Teaching competency means the right way of conveying the units of knowledge, application and skills to the students and the knowledge of contents, methods and communication. Teacher education is the research based understanding of teachers competencies like contextual, conceptual, content, transactional evaluative and management competencies.

The role of science teachers demands new skills and competencies in addition to the curriculum oriented roles. The science teacher needs to equip them with skills and competencies to meet the challenges in teaching and learning process. The science teaching in its content and methodology needs renewal. The teacher trainees have to identify the requisite skills / competencies and strategies to
teach effectively. The objective of science education is to equip all science teachers with competencies so that a complete transformation will be possible.

There are so many innovative strategies in science teaching, but teachers are not able to bring desired changes among the students. The reasons for that may be many but the investigator thinks that the lack of teaching competency in teaching science is one of the reasons. The improvement of education system depends upon the teacher and their education. In the present education system, the focus is on facilitating learning. The environment is organized to help students to attain personal integration, effectiveness and perception. The teacher’s goal is to help them to understand their own needs. The progress is to be achieved by the teachers when they refine their attitudes and develop their teaching competencies. The Competency in teaching science was influenced by number of variables. The most important variables that the investigator considered are lack of awareness on neurocognitive strategies in teaching science. A science teacher must know both psychological distress and concrete problems in teaching science. The neurocognitive strategies help the teachers to interrelate the thoughts, emotions and behaviours.

Hence, an attempt was made to know to what extent the role of neurocognitive strategies were effective in teaching science among the District institute of education and training (DIET) students. So the investigator has taken an attempt to study the role of neurocognitive therapy in facilitating teaching competency in science for student teachers studying in District institute of education and training (DIET).
6.4 STATEMENT OF THE PROBLEM

Teacher education is one of the most challenging tasks that face the educationists and also all those who are concerned about the quality of educational values and human vision that is implicit in the classroom situation. Teaching is a complex task. For performing this task, a systematic planning is needed. The tasks include preparing lesson plans, arranging equipments, reading sections of a text book and thinking about the aberrant behaviour of a particular student. Teacher (D.T.Ed students) trainees should understand the following general principles of effective explicit instruction.

- Perceiving the size of the class,
- Diagnosing the needs of the learner
- Fixing up goals
- Sequencing appropriate means and ways
- Designing the appropriate strategies
- Implementing the teaching strategies
- Assessing the suitability of the objectives

Successful teachers are not simply charismatic and persuasive presenters. Rather they change their students in robust cognitive and social tasks and teach the students how to use them productively. Teaching and learning should be inseparable, in that learning is a criterion for the product of effective teaching. Science teaching requires attention to both the content of the course and the process of moving students from their initial level. In fact, teaching is a part of a
whole that comprises the teacher, the learner, the disciplinary content, the teaching / learning process, and the evaluation both the teacher and the learner.

Effective teaching depends on the evolution of innovative strategies and also the methodology of teaching. Teaching is a process by which the teachers and students create an interactive environment, in such a way that the students become effective and productive learners. Designing neurocognitive therapy that focus on both cognitive and behavioural development is a practical challenge.

Hence, the problem in the present study is stated thus, “Role of neurocognitive therapy in facilitating teaching competency in science among DT.Ed students”.

6.5 OBJECTIVES

➢ To assess the level of competency in teaching science among the student teachers.

➢ To develop neuro cognitive strategies and neuro cognitive therapy (NCT) to enhance the competency in teaching science among student teachers.

➢ To implement the neuro cognitive therapy to enhance the competency in teaching science among student teachers.

➢ To find out the effect of neuro cognitive therapy in facilitating teaching competency in science among student teacher.
6.6 ASSUMPTIONS

- The level of teaching competence among student teachers is low.
- The level of teaching competence among student teachers could be developed.
- Neurocognition and teaching competence in science are correlated.
- Student – teacher could be given therapy towards developing the competence in teaching of science.
- Student teachers in DIET need neurocognitive awareness while teaching science.
- The student - teachers can facilitate the teaching competence in science by acquiring neurocognition therapy.
- A model based on neurocognitive therapy with brain compatibility framework enhances the teaching competence in science.

6.7 HYPOTHESES

- There will be significant mean difference between the pre-assessment and progressive assessment scores on teaching competence in science among the student teachers.
- There will be significant mean difference between the progressive assessment and post assessment scores on teaching competence in science among the student teachers.
➢ There will be significant mean difference between the pre and post assessment scores on teaching competence in science.

6.8 DELIMITATION

The following are the delimitations of the present study.

➢ The study related to “teaching competence of science education” is applicable only to diploma in teacher education (DTEd) students and the conclusions cannot be extended beyond this population.

➢ The experiment was spread over for a period of three months.

➢ This experimental study was confined to District institute of education and training (D.I.E.T), Kalayarkoil, Sivagangai District.

6.9 RESEARCH DESIGN

For the present study, single group experimental Design was adopted. Experimental designs are unique to the experimental method. They serve as positional and statistical plans to designate relationship between experimental treatments and the experimenter’s observations or measurement points in the temporal scheme of the study. :

➢ Testing the group

➢ Introducing the intervention

➢ Giving the treatment

➢ Testing again

➢ Noting the gains
6.10 VARIABLES OF THE STUDY

The dependent variable of the study is “Teaching competency in science education” and the independent variable is “Neruo cognitive therapy” in teaching Science Education among the District Institute of Education and Training students (DIET).

6.11 LOCATION

The present investigation was conducted in District Institute of Education and Training (DIET), Kalayarkoil, Sivagangai District.

6.12 SELECTION OF SAMPLE

The investigator being a teacher educator in the District Institute of Education and Training in Sivagangai District, selected the same institute for the Study. All the 45 student teachers of first year ‘B’ section formed the sample for
the study. Hence the investigator selected 45 student–teachers of (2008 to 2010) batch for the sample.

6.13 TOOLS USED

Teaching competence in science (TCS) developed by the investigator was used to measure the variable taken for the study. The questionnaire consists of six dimensions – Transactional, Developing and presenting TLM, content, context, management and evaluation.

6.14 SCHEME OF DATA ANALYSIS

In the present study, the relevant data obtained from assessment scores on the pre, progressive and post – assessment on teaching competency in science secured from 45 students teachers have been analyzed by follows.

A) DESCRIPTIVE ANALYSIS

It provides the information about the nature of a particular group of individuals. Mean and SD was calculated for pre, progressive and post-assessment on teaching competency in science.

B) DIFFERENTIAL ANALYSIS

It provides inferences involving determination of statistical significance of difference among the students with reference to selected variables.

> Teaching competence in science.

> Neurocognitive therapeutic strategies.
C) MULTIPLE REGRESSIONS

The influence of a number of independent variables over dependent variable was assessed through this technique. Step-wise multiple regressions were calculated to predict the effect of the independent variable on developing competency in teaching science.

6.15 FINDINGS OF THE STUDY

1. The mean score of the student teachers in progressive assessment on teaching competence in science is higher than the mean score of pre-assessment.

2. The mean value in post-assessment on teaching competence in science after the treatment of Neurocognitive therapy (NCT) is greater than the progressive assessment.

3. The mean value of the student teachers in post assessment on teaching competence in science is greater than the mean score of pre-assessment.

4. The mean score of the student teachers in progressive assessment assessed by the investigator on teaching competence in science is higher than the mean score of pre-assessment.

5. The mean value in post-assessment assessed by investigator on teaching competence in science after the treatment of Neurocognitive therapy (NCT) is greater than the progressive assessment.
6. The mean value of the student teachers in *post assessment assessed by investigator* on teaching competence in science is *greater* than the mean score of *pre assessment*.

7. The mean score of the student teachers *in progressive assessment assessed by the self* on teaching competence in science is *higher* than the mean score of *pre-assessment*.

8. The mean value in *post-assessment assessed by self* on teaching competence in science after the treatment of Neurocognitive therapy (NCT) is greater than the *progressive assessment*.

9. The *mean value* of the student teachers in *post assessment assessed by self* on teaching competence in science is *greater* than the mean score of *pre assessment*.

10. The mean score of the student teachers in *progressive assessment assessed by the peer* on teaching competence in science is *higher* than the mean score of *pre-assessment*.

11. The mean value in *post-assessment assessed by peer* on teaching competence in science after the treatment of Neurocognitive therapy (NCT) is *greater* than the *progressive assessment*.

12. The *mean value* of the student teachers in *post assessment assessed by peer* on teaching competence in science is *greater* than the mean score *pre assessment*.
13. Teaching competence of the student-teacher in *progressive-assessment* assessed by *peer* is in the following order of importance, viz, *context and TLM (Teaching learning material) management* competencies respectively.

14. Teaching competence of the student-teacher in *progressive-assessment* assessed by *self* is in the following order of importance, viz, *context, TLM (Teaching learning material and content)* competencies respectively.

15. Teaching competence of the student-teacher in *progressive-assessment* assessed by *investigator* is in the following order of importance, viz, *TLM (Teaching learning material) context, and content* competencies respectively.

16. Teaching competence of the student-teacher in *post-assessment* assessed by *peer* is in the following order of importance, viz, *context, TLM (Teaching learning material) and content* competencies respectively.

17. Teaching competence of the student-teacher in *post-assessment* assessed by *self* is in the following order of importance, viz, *context, TLM (Teaching learning material), and content* competencies respectively.

18. Teaching competence of the student-teacher in *post-assessment* assessed by *investigator* is in the following order of importance, viz, *context, content and management* competencies respectively.
19. There is a significant mean difference between pre and progressive assessment scores of the student teachers in teaching competence.

20. There is a significant mean difference between pre-assessment and post-assessment scores of the student-teacher in the teaching competence in science. It is revealed that the student teachers teaching competence is enhanced by the neurocognitive strategies and neurocognitive (NCT) therapy in the classroom.

21. There is a significant mean difference between progressive assessment and post assessment scores of the student teacher the teaching competency in science assessed by peer.

22. There is a significant mean difference between the pre-assessment and post-assessment scores of the peer assessment of the student teachers the teaching competence assessed by peer.

23. There is a significant mean difference between the pre-assessment and progressive assessment scores of the peer assessment in teaching competence of the student – teachers. It is concluded that the teaching competence of the student teachers is enhanced by the application of neurocognitive therapy in the classroom.

24. There is a significant mean difference between the progressive assessment and post assessment scores of the peer in teaching competence of the student teachers assessed by self.
25. There is a **significant** mean difference between the *pre – assessment and progressive assessment* scores in teaching competency of the student teacher assessed by the *self*.

26. There is a **significant** mean difference between the *pre assessment and post assessment* scores of the student teachers assessed by self in teaching competence assessed *by self*.

27. There is a **significant** mean difference between the *progressive and post assessment* of the student teachers assessed by *self*. It is identified that the teaching competency of the student teachers is enhanced by the application of Neuro cognitive therapy in the classroom.

28. There is a **significant** mean difference between the *pre assessment and progressive assessment* scores of the student teachers in teaching competence assessed by the *investigator*.

29. There is a **significant** mean difference between *pre assessment and post assessment* assessed by the *investigator* on teaching competence in science by the application of Neuro cognitive therapy.

30. The *post assessment score* was *significantly higher* on the teaching competence in science than the *progressive assessment* score assessed by the investigator. It reflected that the effectiveness of treatment given before post and progressive assessment on teaching competence in science.
31. The ‘r’ values are significant between pre, progressive and post assessment in teaching competence in science.

32. The ‘r’ values are significant between pre, progressive and post assessment in teaching competence in science assessed by peer.

33. The ‘r’ values are significant between pre, progressive and post assessment in teaching competence in science assessed by self.

34. The ‘r’ values are significant between pre, progressive and post assessment in teaching competence in science assessed by investigator.

35. In peer’s pre-assessment of teaching competence, it was found from the standardized beta co-efficient, that the TLM competence followed by Management and Context competence influence more in teaching science.

36. In self’s pre-assessment of teaching competence, it was found from the standardized beta co-efficient, that the management followed by context and Evaluation influence more in teaching science.

37. In investigator’s pre-assessment of teaching competence, it was found from the standardized beta co-efficient, that the management followed by context and TLM influence more in teaching science.

38. In self’s progressive-assessment of teaching competence, it was found from the standardized beta co-efficient, that the Evaluation competence followed by TLM competence and content competence influence more in teaching science.
39. In peer’s progressive-assessment of teaching competence, it was found from the standardized beta co-efficient, that the *content competence followed by TLM competence and context competence* influence more in teaching science.

40. In investigator’s progressive-assessment of teaching competence, it was found from the standardized beta co-efficient, that the *management competence followed by TLM competence and evaluation competence* influence more in teaching science.

41. In peer’s post-assessment of teaching competence, it was found from the standardized beta co-efficient, that the *TLM competence followed by context competence and management competence* influence more in teaching science.

42. In self’s post-assessment of teaching competence, it was found from the standardized beta co-efficient, that the *TLM competence followed by context competence and management competence* influence more in teaching science.

43. In investigator’s progressive-assessment of teaching competence, it was found from the standardized beta co-efficient, that the *context competence followed by content competence and TLM competence* influence more in teaching science.
44. The pre-assessment of peer inferred that the content competence and TLM competence are highly correlated and seemed to affect the teaching competence to a large extent and the context competence is the least correlated with tested teaching competence. Management competence is highly correlated than the evaluation competence and the transactional competence is to affect tested teaching competence to some extent.

45. The progressive assessment of peer indicated that the content competence and TLM competence are highly correlated and seemed to affect the teaching competence to a large extent. The context competence is the least correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The management and evaluation competence are highly correlated and seemed to affect tested teaching competence to a same extent.

46. The post-assessment of peer indicated that the TLM competence and context competence are highly correlated and seemed to affect the teaching competence to a large extent. The content competence is the moderately correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The management is highly correlated then the evaluation competence and seemed to affect tested teaching competence to a greater extent.
47. The pre-assessment of self indicated that the context competence is highly correlated and seemed to affect the teaching competence to a large extent and the content competence and TLM competence are the least correlated with tested teaching competence. Management competence is highly correlated than the evaluation competence and the transactional competence is to affect tested teaching competence to some extent.

48. The Progressive assessment of peer indicated that the context competence and TLM competence are highly correlated and seemed to affect the teaching competence to a large extent. The content competence is the moderately correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The evaluation competence is highly correlated than the management and seemed to affect tested teaching competence to a greater extent.

49. The post-assessment of peer indicated that the TLM competence and context competence are highly correlated and seemed to affect the teaching competence to a large extent. The content competence is the moderately correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The management is highly correlated then the evaluation competence and seemed to affect tested teaching competence to a greater extent.
50. The pre-assessment of investigator implied that the context competence is highly correlated and seemed to affect the teaching competence to a large extent and the content competence and TLM competence are the least correlated with tested teaching competence. Management competence is highly correlated than the evaluation competence and the transactional competence is to affect tested teaching competence to some extent.

51. The progressive assessment of peer indicated that the content competence and TLM competence are highly correlated and seemed to affect the teaching competence to a large extent. The context competence is the moderately correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The management competence is highly correlated than the evaluation and seemed to affect tested teaching competence to a greater extent.

52. The post-assessment of peer indicated that the context competence and content competence are highly correlated and seemed to affect the teaching competence to a large extent. The TLM competence is the moderately correlated with tested teaching competence. The transaction competence is highly correlated and to affect tested teaching competence to greater extent. The evaluation competence is highly correlated then the management competence and seemed to affect tested teaching competence to a greater extent.
6.16 SYNTHESIS OF THE RESEARCH FINDINGS

From the descriptive analysis it was found that the progressive assessment score assessed by the peer, self and investigator was greater than the pre-assessment with regard to the Transactional, TLM, Content, Context, Management and Evaluation competence. Similarly the post assessment score assessed by peer, self and investigator was higher than the pre-assessment and progressive-assessment with regard to the teaching competence - Transactional, TLM, Content, Context, Management and Evaluation.

Gain score of the post-assessment was significantly higher than the progressive and pre-assessment assessed by the peer, self and investigator, even with reference to the teaching competence - Transactional, TLM, Content, Context, Management and Evaluation.

The comparison of mean score earned on each dimension in peer, self and investigator assessment revealed that the very close relationship between the scores in pre, progressive and post-assessment. The teaching competence in pre-assessment assessed by peer and investigator were in the following order of competence viz management, context and evaluation.

The teaching competence in progressive assessment assessed by self and investigator were in the following order viz., context, TLM and content. The competence was assessed by self and investigator were in the following order viz context, TLM and content. The competence was assessed by peer was in the following order context, TLM and management.
The teaching competence in post assessment assessed by peer, self and investigator were in the following order context, TLM, content and management.

The inferential analysis revealed analysis that the post-assessment assessed by peer, self and investigator differ significantly than the pre-assessment and progressive-assessment, with reference to the teaching competence Transaction, TLM, context, content, management and evaluation.

The relational analysis revealed that there is a significant difference in the teaching competence of the pre, progressive and assessed by post-assessment, self, peer and investigator, so it was inferred that the newly teaching technique neurocognitive therapy enhance the teaching competence in science was reliable.

The multivariate analysis explored that there is an improvement in progressive assessment assessed by peer; self and investigator showed competence was enriched. It is also inferred that there is an improvement in post assessment assessed by peer; self and investigator showed that the teaching competence was enhanced through Neurocognitive therapy.

More over the post-assessment scores assessed by peer, self and investigator were significantly higher than the pre and progressive assessment scores, which was shown that the treatment with the help of Neurocognitive therapy facilitating the teaching competence.
6.17 INTERPRETATIONS

Interpretations for the findings of the present study are presented below.

The mean score of the teaching competence in science in progressive assessment by self is greater than the pre-assessment. There is significant difference between pre-assessment and progressive assessment on teaching competence in science among student teachers. The increase in the mean score is due to the role of implementing Neurocognitive therapy.

The mean score of the teaching competence in science in post assessment by self is greater than the pre-assessment and progressive assessment. There is significant difference between pre-assessment. Progressive assessment and post assessment on teaching competence in science among student teachers are increase in the mean score in due to the effect of implementing Neurocognitve intervention strategies and Neurocognitive therapy (NCT).

The mean score of the teaching competence in science in progressive assessment by peer is greater than the pre-assessment. There is significant difference between pre-assessment and progressive assessment on teaching competence in science among student teachers. The increase in the mean score is due to the role of implementing Neurocognitive therapy.

The mean score of the teaching competence in science in post assessment by peer is greater than the pre assessment and progressive assessment. There is significant difference between pre-assessment. Progressive assessment and post assessment on teaching competence in science among student teachers are increase
in the mean score in due to the effect of implementing Neurocognitive intervention strategies and Neurocognitive therapy (NCT).

The mean score of the teaching competence in science in progressive assessment by investigator is greater than the pre-assessment. There is significant difference between pre-assessment and progressive assessment on teaching competence in science among student teachers. The increase in the mean score is due to the role of implementing Neurocognitive therapy.

The mean score of the teaching competence in science in post assessment by investigator is greater than the pre-assessment and progressive assessment. There is significant difference between pre-assessment. Progressive assessment and post assessment on teaching competence in science among student teachers are increase in the mean score in due to the effect of implementing Neurocognitive intervention strategies and Neurocognitive therapy (NCT).

There were significant variation on progressive assessment in the teaching competence – transaction, TLM, content, a management and evaluation. It indicates that the treatment namely Neuocognitive intervention strategies enhanced the Transactional, TLM, Content, Context, Management and Evaluation.

It shows that the treatment namely Neurocognitive Transactional, TLM, Content, Context, Management and Evaluation. There is higher positive correlation between post assessment and pre-assessment scores in teaching competence assessed by peer, self and investigator. This clearly proves that the
influence of using Neurocognitive therapy in facilitating teaching competency enhance the teaching ability.

6.18 OVERVIEW OF THE RESEARCH FINDINGS

The student teachers who received the treatment of neurocognitive therapy showed better achievement in post-assessment on teaching competence in science assessed by peer, self and investigator. The findings of this research study was supported by similar findings of the studies in Neurocognitive therapy carried by Vaskinn A, Sundent K and others (2008), Green N, Heekeren HR (2009) and kolb & wishaw (1990). Other findings of the studies related to Neurocognitive therapy are as follows. Daffner K.R & Scinto L.F. (2000) found that the frontal lobe leads the learner to reach the mastery learning is visual attention to novel events. Bell, Fiszdon J (2007) found that the Neurocognitive enhancement therapy (NET) in combination with work therapy (WT) showed improvement on working memory and executive function. Westerberg H. Klinberg.T. (2007) found that the effect of training of WM changes in the functional map observed in primate studies of skill learning. Aquado Aquilar L. (2001) found that the two main long-term memory considering the semantic / episodic and implicit / explicity memory dichotomies.

Winters, clyde A. (2001) found that the brain learns that through repetition, the emotionality of experience influence retention and the brain allows instructions of improving students memory.
Rocha. N and Queiros (2009) found that the neurocognitive therapy construct the quality of life and also develops the social and environmental domain.

The studies on teaching competence in science showed higher achievement in post-assessment than the pre-assessment and progressive-assessment assessed by peer, self and investigator. This indicates that the treatment of Neurocognitive therapy influence the student teachers considerably to achieve higher performance. The findings of this research study was supported by similar findings of the studies in teaching competence was carried out by Edl, Heather M (2008), Cristina M (2004) and Moran, Anne (2009). Better achievement in teaching competence was supported by the studies of Fleming, Linda (2007), Ding, Cody (2007) Malm, Birgitte (2006) perceived the teaching competence was supported by Baggett (2003) Cheng, May Hung (1997) Yadav (1983) and technologies improved teaching competence was supported by Gooler (2000), Welford, A.G. (1999) Kumar (1983) Sonia (2005) and Morris B (1994).

6.19 EDUCATIONAL IMPLICATIONS

Researches have proved that Neurocognition is the important component of working memory, Attention duration, divided attention, multitasking, processing speed, audio visual processing and visual blending. Neurocognitive intervention strategies play a significant role in the teaching field.

The role of cognitive process of learning is activated only through Neurocognitive intervention strategies. Learning is two fold; one is learning of skill, another one is learning new knowledge. The teaching competency of a teacher is determined by six components. The teaching competency in science is characterized by various dimensions like transaction, TLM, content, context, management and evaluation. Practicing these competencies in pre service teacher education is the urgent need to improve teaching-competency of a science teacher.

The findings revealed that it is possible to increase the components under teaching competency by making use of Neurocognitive intervention strategies and Neurocognitive therapy such as Attention duration, Selective attention, Working memory, Sequential processing, multitasking, Processing speed, sensory motor coordination, Visual processing, Auditory processing, Audio-visual coordination and Visual blending. Thus, brain compatibility process may be activated to enhance teaching competency. The investigator suggests that the following recommendation for NCTE, NCERT and educational bodies to improve the teaching competency of D.T.E student teachers.
• Theoretical aspects of Neurocognitive science can be introduced as a unit of the core subject in the D.T.E. curriculum (core subject-teaching-learning process)

• The practical inputs regarding Neurocognition should be taken up through subject specific programmes such as lesson plan writing, observation classes and practice teaching.

• The same can be tried at various levels and also in in-service teacher programmes.

6.20 SUGGESTIONS FOR FURTHER RESEARCH

To extend the scope of the research findings of this study, a few suggestions are given below for further research.

• The present study was confined to the sample, of first year DIET students, kalayarkoil. It is suggested that the above study may be undertaken with second year DIET students of the diploma course.

• The present investigation was carried out to find out the role neurocognitive intervention strategies and neurocognitive therapy on teaching competency in science. It could be replicated with other variables such as teaching competency in social studies, mathematics etc. And also, it could be replicated with other variables namely personality, motivation and emotion of learning etc.,
• The applicability of neurocognitive intervention strategies on improving teaching competencies of teachers can be investigated.

• The present investigation was carried out to find out the role neurocognitive intervention strategies and neurocognitive therapy in teaching competence for DIET students. It is suggested that the above study may be conducted for B.E.d, trainees.

• The study may be carried out to compare the impact of neurocognitive therapy on hyperactivity disorder student–teachers.

• This kind of study may also be extended to intrinsic motivation, neurocognition and psychosocial functioning of student-teachers.

6.21 CONCLUSION

In the present study, the investigator developed teaching competency on five dimensions namely, Transaction TLM, Content, Context, Management and Evaluation.. The findings revealed that there is a continuous improvement in all the dimensions of teaching competency. It further shows that every teacher needs to review / update his/her potential in all possible novel/new/ innovative strategies, so as to modify and improve his/her teaching competency in accordance with the changes envisaged in the educational system. The recent trends in school education such as common school systems, activity based learning, Activity oriented experiential learning etc, need some innovative practice of Neurocognitive intervention strategies with brain compatible functions.
The investigator has implemented Neurocognitive strategies during the experimentation period. After the implementation of Neurocognitive intervention strategies, the researcher found that there was a notable positive change in the teacher and teaching competency of D.T.Ed student-teachers. By implementing this strategy the Student-teacher was able to internalize their ideas to bring out the concept perfectly due to working memory, a component of Neurocognitive therapy.

In the present study, the investigator found that scores on the component of teaching competency gradually increased, due to the Neurocognitive process like processing speed, attention duration, divided attention, multitasking.

Teachers today have to ‘Manage’ rather than ‘control’ their classrooms. They have to ‘facilitate’ learning rather than ‘instruct’ their students. They have to ‘Motivate’ rather than ‘discipline’ the learners. For this, a range of Neurocognitive therapy has to be explored in the light of providing tomorrow’s solutions for today’s young. The investigator suggests that, this experiment will definitely help the future teachers to take their roles confidently by enhancing their teaching competency in the classroom situation. Hence, there is an urgent need to steer our efforts towards the implementation of Neurocognitive intervention strategies to enhance teaching competency at all levels of Teacher Education.