CHAPTER VI

FINDINGS AND DISCUSSION

6.0 Introduction
This chapter presents the discussion of findings of the present study. This is presented in two sections 6.1 and 6.2. The section 6.1 presents the findings in the form of assertions. Section 6.2 presents the discussion on those assertions.

6.1 Findings of the study
The findings of the study are expressed in the form of five assertions. The focus of these assertions is on the role of constructivist approaches on student teachers and learners learning.

 Assertion One
Constructivist classrooms facilitated student teachers and learners to develop better understanding on environmental concepts.

The student teachers and learners were expressing their understanding of environmental concepts during the classroom interactions. They did not have any difficulty in expressing their views. This climate facilitated others to know their misconceptions at occasions. Through the peer interaction or interacting with learning resources the student teacher and learners developed better understanding of environmental concepts. Some occasions it was replacing the misconception and some other occasions it was widening their conceptual understanding. One such situation in the teacher education classroom and at school classroom is presented below

Teacher Education Classroom:

Classroom Interaction on - acid rain … is artificially made

The second two student teachers' conceptions were based on the lack of conceptual understanding. The peer interaction in the whole class situation clarified the misconceptions.

S.T1: Rain also is sometime poured as acid rain, because chemical factories release $H_2SO_4$ (sulphuric acid) gas it mix with rain and becomes acid rain. When it fall on earth plants gets affected and if it rain at sea, living creatures in the sea also affected by this.

S.T2: She said about acid rain. It is artificially made. Naturally rain….

S.T1: (interrupts)

R: Wait, wait, wait… what do you think about acid rain?
S.T2: We are creating that. We can create rain. For that some chemical is there (he wanted to say chemical name but while uttering it sounds as reason) if we put that then we get rain. If we see in cinema there are rain situations; we can produce artificial rain. Natural rain does not contain any pollutants. We can keep it clean and drink that water. We cannot get any effect from that. But the artificial rains there are so many effects.

S.T3: Artificial rain is different and acid rain is different.

S.T2: Then, what is the difference?

S.T2 and S.T1 both wanted to say)

R: Wait a minute mam. (some student teachers laughing in the class)

S.T4: Say S.T3

S.T3: Artificial rain means on dry snow (ularpani when we spray) potassium iodide, we get it. Acid rain means……

R: Wait a minute he wanted to say something.

S.T5: Sir, rain naturally pours. But when the poisonous gas in the air mixes with rain, the natural rain becomes acid rain.

R: Where from the poisonous gas comes?

S.T5: By burning gas

R: You wanted to say something. Say...

S.T1: That type of poisonous gas is present. From chemical factories more chemicals; more CFC from refrigerator comes, because of those ozone layer become a hole. These are all because of chemical reactions. The same way the factories which produces $\text{H}_2\text{SO}_4$ (Sulphuric acid), the gas coming from the factory mixed with air and becomes $\text{SO}_2$ (sulphur dioxide) that becoming acid rain and pour into the earth and sea; plants and aquatic plants and animals gets affected by this. When we see, due to ozone hole the sunrays falls on to human, because of that many skin diseases it makes.

R: What do you think?

S.T2: Initially I thought both are same (acid rain and artificial rain)

School Classroom:

The student teacher interaction with the learners on earthworm is given below.

S.T: Ok, You wrote that, you have seen worm, which worm have you seen?

Chorus: Earth worm

S.T: Earth worm, what did it eat?

S5 & S4: It eats soil
S.T: What else it eats?
S3: Fertilizer

S.T: mm??!! Does it (earthworm) eat fertilizer?
S3: Yes
S1: No miss. It will die

Chorus: Yes miss, it will die.
S2: It will die miss.

S.T: What else do they eat?
S4: The things in the soil, it will take small worms in the soil

S.T: Is it? Earth worm eats small worms in the soil?
S1: No miss. It eats soil, not worms

S.T: Yes. Earthworms won’t eat other worms but it eats maggana ilia (humus) and other minute things
S3 & S4: It keeps the land clean.

S2: Plastic paper.
S3: Those are all it eats.

S.T: mm!! Does it eat plastic paper?
S2 & S3: Yes Miss

S4: No miss. Plastic, it cannot. Even big animals die after eating plastics. In Newspaper I have seen

S.T: Ok. What do you think? (Looking at S3 & S4)
S3: He he…..

S4: If we put a plastic cover inland earthworm will die.

S.T: What if we throw a plastic sheet on the ground?
S4: If we put it, when rain comes
S2: Water will stay (above), it won’t be absorbed by plants
S5: For roots water won’t go.

S.T: By putting plastic, the water won’t go to the roots. Why?

Chorus: Plastic covers the root.
S.T: Speak one at a time.
S5: Above plastic cover water is there.
S.T: mm
S5: Due to that water won’t go.

S.T: Ok. How does plastic go into the earth / soil?
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S5: During ploughing?
S4: By carrying waste/manure (to put it on land)
S2: No teacher. We bring rice in plastic cover; later as a waste we dump that plastic cover in waste pit. I.e. due to air/wind it flies and go and fall on the land, when rain comes that water goes to earth and goes to the roots, at that time this plastic cover obstructs the roots of the plant; so water won’t go to the roots that a plant becomes dry and die.

(All the students want to say)

Chorus: We should not put wastes in sort. Due to that pollution happening.
S.T: One at time, not all at a time.
S3: We are also, when we for purchase, we should purchase things yellow (cotton) bag only, if we bring it in plastic cover it won’t be good.
S.T: So, what can we do with plastic bags and other things which already we are using it?

Chorus: We should not throw it on the ground.
S3: We should keep all this in a cover.
S5: We should burn it.
S3: Yes burn it.

Chorus: Yes
S.T: If we burn plastic, does air not get polluted?
S3: Pollution…
S.T: Does air get polluted or not?
S1 & S4: mhoom

Chorus: No. It gets polluted
S.T: For that, what can we do?
S5: How can we eliminate using plastic? We should not insert that anywhere. Whenever we bring plastic (intending plastic cover) we have to keep it in a bucket. We should not put in the waste bin. After closing it, we should not put it on land, but whenever we need we can reuse that (using many times).
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 Assertion Two

Student teacher and learners proposed hypothesis based on certain concepts to explain the occurrence of events.

In the constructivist classroom set up the student teacher and learner proposed hypothesis in the form of question during the discussions. These hypotheses were tested / addressed through discussion and activities. One such situation in the teacher education classroom and at school classroom is as follows

Teacher Education Classroom:

Classroom discussion on – Do plant grow in rocky soil:

In this classroom discussion a student teacher countered the other student teachers view that rocks through natural process become small particle and become soil by raising a question that if we powder the rock and if a (tree) planted will it grow?

The other student teachers responded it stating

“The soil come from rock had to decompose (magganum)”

“The soil come from Rock, has that remained in the same place? No. it has not. During rain it floats from one place to other. When it mixes with soil in that new place it receives nutrients” etc.

The ideas expressed by other student teachers proposing hypotheses other than rock becoming soil over a period of time it also subjected to some other processes which makes it a nutrient soil.

The whole interaction among student teachers and researcher brought the understanding on nutrient presence need for rock to become soil.

This led further discussion and brought the understanding on nutrient present in the rocks.

S.T1: Sir, They are saying that soil came from a rock. If we take a rock and grind it into small small minute pieces and make it as a soil, in that soil if we sow a plant, will it grow or not?

(Few others talking with low voice)

R: Oh! Good question? Listen...

S.T2: Which question sir?

R: If we break rock into soil, will a plant grow or seed germinate in that soil?

S.T3: No it won’t grow.

S.T2: It will grow.
(Some discussion)

S.T1: They are saying that from rock, soil comes, and plants don't grow in that, then, how plants grow in that soil?

R: That is a question!

S.T2: It will grow... From rock also sometimes plant grows.

S.T1: (interrupts) we had an experience. When we put a bore, the soil (rock powder) came out. You know this soil came from a rock. We planted a plant in that soil, but the plant didn't grow.

S.T3: It won't grow sir.

S.T4: It will grow sir.

S.T1: It didn't grow.

S.T4: It will grow.

S.T1: No.

S.T4: Because it is artificial.

S.T3: Whether soil comes from artificial or nature but it had come from the rock only.

(RS – Recording stopped)

R: Just a minute, I think he asked a nice question. Very good. Say mam,

S.T5 & S.T6: The soil come from rock had to decompose (magganum).

(A big laugh in the class)

R: How it decomposes?

S.T7: With bacterial like living creature.

S.T2: The things from water.

S.T6: Plant, tree or creepers after drying, it gets decomposed.

R: Do you say plant came before soil?

S.T6: No sir.

(RS – Recording stopped)

R: The plant did not grow in the soil (rock powder) that came while drilling borewell?

S.T7: Soil has to break. (Here he intended to say decompose, but he used the word break)

R: For decomposition what we should need do?

S.T7: We don’t need to do anything. It naturally happens through decomposition by a living creature.

S.T1: From (He begins, meanwhile Shali interrupts)
S.T6: *The soil comes from Rock, has that remained in the same place? No. it has not. During rain it floats from one place to other. When it mixes with the soil in that new place it receives nutrients. That is how plants grow.*

R: Yes mam. So you are saying that the soil is already present?

S.T6: No sir, Plants might have been destroyed. Those nutrients mixed with the soil. So that is how plants grow.

R: For soil formation, do you want to say, already at that place plant might be present in dry and decomposed form?

S.T6: No sir, (laughing)

S.T2: She says how plants decompose that she explained.

S.T8: Sister, how plant decomposes?

S.T1: (says something in a low voice)

R: (with a smile and little laugh), another person want to say, let us listen,

S.T9: Sir, it was said that soil had come from Rock. The soil which came from Rock, if we plant a seed immediately will it grow? or has it grown? Does anybody know that?

R: Look, here he had an experience of his own. It didn’t grow.

S.T1: *After soil formation, several thousand years later only living creature come into existence. If we see that way, the soil which just formed from rock, if you take that soil and we plant the plant, in that case no plant grow.*

S.T1: We planted only after 10 months.

(There are a noise and discussion in the class)

S.T8: It requires several thousand years.

S.T2: (laughing loudly) ha ha ha…

S.T1: If rock breaks, whether plant grow or not?

(Again noise, everybody answering)

S.T2: Sir, you take land soil (Kollamannu) and rock soil (Paaraimannu). See which one has more salt (she intended to say nutrients).

R: Rise your hand, if you want to say something (towards student teachers)

S.T1: Do the soil that we get from rock have high / low water holding capacity? When you see it

(A word from class comes low – before he completes)

S.T5: Low

S.T2: Low.
S.T1: Why? You are saying that soil has more water holding capacity. Why did which came from rock soil have less water holding capacity?
S.T8: The decomposed soil has more water holding capacity (Padhapaduthapattamnuikkueerappathamaathigam)
S.T1: Why? What do you mean by decomposed soil?
S.T2: Yes. How many times it rains in the soil and how many living creatures (jeevarasigal) dies that become fertilizer.
(Continues)
S.T2: Due to that minerals are obtained in the soil and by that plant grows.
S.T1: (interrupts)
R: It is a very good discussion. Good.

School Classroom:
Here is a situation where student teacher and learner interaction shows how a learner makes some hypotheses to clarify one’s own doubt. The learner itself could see the difficulty in explaining the hypothesis and changing his conception. The student teacher and learner interaction is given below.

S1: Is cycle is living? Miss
S.T: How it looks like?
S1: It is big and circular in shape.
S.T: What do you think?
S1: In triangle is there, those are (not) living, (her voice very low)
S.T: What is living?
S1: mm……..
S.T: Are we living?
S1: Yes, miss.
S.T: For us to live, which are the things necessary?
S1: Water, Sappadu (food), mat for sleeping, house
S.T: Then,
S1: Varanda (Vasal)
S.T: Without mat, house and veranda can’t we live?
S1: We can, but little difficulty.
S.T: But we can live. Does paper, cycle? And all required food for living?
S1: No, miss
S.T: Then, do you think it is living?
S1: No, miss.

 Assertion Three
Student teachers and learners showed willingness to change ideas in the light of evidence
In the constructivist classroom set up the student teacher and learner changed their understanding of environmental concepts from their initial pre-existing ideas. Through the interactions with peers, teacher (researcher at a teacher education classroom and student teachers in school classroom) and through activities their change in ideas took place. Below which one such situation in the teacher education classroom and at school classroom is presented.

Teacher Education Classroom:
Classroom Interaction on - geographically proximal places have similar nature of water
Here is a situation where researcher and student teacher interaction shows the student teacher raised a question. When it was countered by peers the student teacher stated the reason on which the idea was built. The further discussion clarification was made and student teacher shown willingness to change his earlier idea.

R: Yes S.T1, you want to say something.
S.T1: Is Hokenekkal water is salty?
S.T2: No. No. There the water is in good condition.
S.T1: If the water is good and drinkable in Hokenkkal means it is also to be good in Dharmapuri.
R: Why?
S.T1: Because it is near to Dharmapuri.
S.T2: The water not yet brought to Dharmapuri. The people use the water which was already there. Hokenekkal water is well sir. Because it is river water and it comes from different places and it is ‘Mooligai’ (a water contains mooligai – Ayurvedic content) water, so it is good. If it is filtered and used, it will be good.
R: Hmm, I see. Do you think (S.T1), the ground water in Dharmapuri and river water are of similar nature?
S.T1: No sir. I got it.
R: mm.

School Classroom:
The initial student teacher interaction with learners group indicated learners viewed that the leaves won’t perspire (transpiration). The student teacher proposed the activity and asked learners' views in a whole class discussion.

(Whole-Class Discussion)
S.T: We have some transparent polythene cover and thread. Can you think of an activity where we are able to find out whether leaves give out water vapour or not?
S1: mm…
S.T: What will happen if we cover a twig with this polythene bag and tie it with thread for two hours?
S2: Leaves will get a little bit dry
S.T: Within two hours?
S3: No sir
S.T: Then
S3: Nothing will happen
S.T: Can we check it?
S3: Ok.
S.T: Ok. Each group takes a (transparent) polythene bag and a piece of thread. Each group will a covering twig with a polythene bag and tie using thread. We will meet once again after lunch.
Activity
The learner groups took polythene bag and inserted a twig inside it and tied it with the thread. The student-teacher assisted them in getting into different parts of the plants and cross checked whether they tied it well.
Post-activity Observation
During the lunch (after one and half hour) students’ groups observed polythene bags on plants which they used to cover the twig.
Whole Class Discussion after the observation
S.T: Did you observe anything in the cover?
Chorus: Yes. Water droplets are there on the cover.
S.T: Where did they come from?
S1: It sweats sir, in that, water... water is there (in plastic cover water drops were formed)
S.T: Which one sweats?
S1: Plant
S.T: Which part of plant?
S2: Twig
S.T: Twig?!!
S3: Leaves, sir
S.T: Is it?
Chorus: Yes, sir
S.T: Initially you all said that the leaves won’t give out water vapour?
S1: We thought like that, sir.
S.T: Ok. So, do you agree that all plants release water vapour through the leaves?
Chorus: Yes sir
S.T: We call this process it as ‘transpiration’. So by this, can you see any relation between rain and trees?
S3: Yes sir. If we have more trees, we will get a good rain.
S.T: Good

 Assertion Four

Student teachers’ belief on constructivist approach – a key factor to become a constructivist teacher

During the practice teaching session, it was observed that the student teachers who had positive view and belief on constructivist approach could facilitate the classroom better. They could appreciate the students’ views and help the learner to construct their understanding of various environmental concepts. Those student teachers who adopted constructivist based classroom but did not completely believe in the constructivist approach struggled to facilitate or taken the role of responding students' doubts, questions or misconceptions immediately instead facilitating discussion or helping learners to engage some activity on which the learner can get an understanding. One such situation in the school class room is presented below:

The student teacher interaction with the learners group is presented below.
S.T: What do you mean by living things?
S2: Stone, soil
S.T: Living thing (stress)!!?
S3: Hey, plants, animals, birds, water, robot (doubtful – slow voice)
S.T: Ok. What are non-living things?
S4: Stone, soil, trees, plants.
S.T: Is it so? What is the difference between living and non-living things?
S4: Living things sir, move from one place to another place.
Chorus: Non – living things are in the same place sir.
S.T: Ok, What else?
S4: Plants….. (Thinking)
S.T: Ok, Which are all non-living things?
S4: Non – living things are plant, creepers, and trees
S.T: Hey, those are all living things, vengayathaleiya (abusing student – by saying one who having an onion kind head)
S4: mm
S.T: Ok, what are all living things?
S4: Living things…. (Thinking -avoiding answering)
S.T: Ok, which are non-living things?
S3: Deer, goat, cow
(Researcher calls the student teacher and interacts with him personally and informs him that the need for patience and about potential of wrong responses to understand learners misconception. The next ten minutes were spent on planning to carry out the task in whole-class discussion). Also see the appendix D5.

 Assertion Five

Organisation of learning resources is important for successful constructivist classrooms

The teacher education classroom as well as school classroom organisation of learning resources helped or hampered the constructivist classroom learning.

In the teacher education classroom during the ‘Health and Hygiene’ theme the student teachers had adequate learning resources which facilitated better learning. On the contrary, during the theme imaginary lines in the teacher education classroom the researcher struggled to get the learning resources which hampered the classroom discussion as well as facilitating learning (refer imaginary lines theme, appendices A7). Similar such situations were experienced by student teachers during their practice teaching session. For example PBL problem of energy resources at Puthagarm school the
learners work (portfolio) completely relied on the only textbook as a source which impacted the learners' understanding of the theme (refer energy resources (appendices E, E1)). Those student teacher who were using PBL experienced this difficulty.

6.2 Discussion:
The intent of this thesis was to understand (i) the student teachers change in perspective on environmental concepts during constructivist classroom experience at teacher education classroom (ii) the extent to which student teachers engage the school learners on environmental concepts through constructivist approach (iii) the learners change in perspective on environmental concepts during constructivist classroom experience and (iv) the student teacher and learners perception about constructivist approach to environmental education.

The findings of this study suggest that constructivist classroom experiences facilitated student teachers and learners to develop better understanding on environmental concepts. This was due to the student teacher and learners’ interaction with the peers, teacher and learning resources. Similar such findings were observed by earlier researches (Ross (2008), Liang (1999), Jimarez (2006), Trundle (2000), Zinicola (2003), Marshall (2010), Ramkumar (2003), Muller Dahlberg (1999) and Ibrahim (2002)). Cognitive change often results from interactions with other learners who may hold different understandings (von Glasersfeld, 1989). These social interactions may challenge our current views as well as allow us to test our current understandings to see how well they help us make sense of and function in our world (Savery & Duffy, 1995). Student teacher and learners proposed hypothesis on concepts and process related to environment. The student selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Conceptual change was visualised when showed a tendency of proposing hypothesis based on their day-to-day experiences and what they come to know from other sources (Ramkumar, 2003).

The finding of the present study shows student teachers and learners showed willingness to change ideas in the light of evidence brought out through interaction among peers and learner and teacher in school and student teacher and researcher in the teacher education classroom. Similar such findings were observed by Soanes (2007) and Ramkumar (2003). Ramkumar study indicates that students expressed autonomy in learning through interactions with teachers and fellow peers; proposed hypothesis based
on certain concepts to explain the occurrence of events during the context of scientific investigation, and showed willingness to change ideas in the light of evidence.

Another finding of this study indicates that student teachers belief on constructivist approach – a key factor to become a constructivist teacher. Smith (2000) study also indicates that the participation in constructivist classroom does positively affect pre – service teachers’ attitude toward mathematics teaching and learning as well as beliefs about the classroom environment. Eick (2000) study revealed that, one of the major factors consistently influencing use of constructivist practices is personal history informing beliefs and practices. Similar findings observed in Akcay (2007), Ji (2003) and McCaughan (2010). However, Savasci (2007) study findings revealed that teachers generally reported that they held constructivist teaching and learning beliefs. However, they had difficulty in incorporating their beliefs into classroom practice. Only one teacher could implement his beliefs related to constructivist teaching and learning into classroom practice; as such, his expressed beliefs were consistent with his observed classroom practice. Personal Relevance and Student Negotiation were the most frequently preferred constructivist components and Critical Voice was the most perceived constructivist component in science classrooms. Shared control was one of the least preferred and was the least frequently perceived and implemented constructivist component in science classrooms. Whole- class activities were frequently observed in all science classrooms. A similar finding was observed by Lew (2001).

The other finding of the present study is that organisation of learning resources is important for successful constructivist classrooms. Hierlmeier (1999) study indicate that teachers made adjustments to their pedagogical thinking focusing more on several constructivist principles: personal relevance and learning styles, student initiative, daily discrepancy resolution, and appreciation for primary sources. MeGlynn (2002) study revealed that firstly, most faculty – educators teach as they were taught, developing constructivist pedagogy requires a process of activity reflection, and dialogue for authentic change to occur. Secondly, planned change is successful when outcomes are identified, and conditions and resources are in place, which support the phases of the change. Gejda (2006) study indicated that participants reported practicing the 5Es (engage, explore, explain, elaborate, and evaluate) in inquiry – based instruction in their
secondary science classrooms. Time, resources, the need to cover material for mandatory assessments, the science topics of concepts being taught, and professional development on inquiry – based instruction were reported to be important considerations in participants’ decisions to practice inquiry – based instruction in their science classrooms.

6.3 Researcher’s Reflection:

My journey as a researcher in engaging research work on constructivist approach to environmental education at primary pre-service teacher education institution and as an observer at various schools was mixed with joyful and difficult moments. The joyful moments were the institutional administrations initial cooperation on allowing me to engage the student teacher with as much time I required. The principal of teacher education institution was very supportive throughout the research work. On occasions he requested the colleagues to provide required time for me to engage my research. This is after principal’s observation on my engagement with student teacher on orientation of constructivist approaches and he liked it.

I also enjoyed the moments of interacting with student teachers who were very enthusiastic in engaging themselves in research work. Their ideas drove the research in many occasions. Similarly I enjoyed observing learners ideas when they were interacting with student teacher, among themselves and during field visits with curiosity.

I had to face so many challenges during my research work. To start with, in teacher education classes the student teachers took lot of time to complete groups work first problem. I was becoming restless due to the paucity of time as I had nearly three months before practice teaching and after orientation and first problem I had only one and half month and practice teaching was approaching. I started requesting student teacher to work hard to complete the tasks.

After the first problem some of the teacher educators in the college were not happy with the group process. The reasons cited were: (1) it makes lot of noise in the classroom (2) in group work both boys and girls were sit together and discuss as normally it was not allowed in the institute (3) (perceived) it will lead to indiscipline in the institute. So researcher changed individual group presentation into researcher facilitated discussion to avoid teacher educators’ wrath as well as to complete each theme in a little shorter time. However, this had an implication in terms of potential misconceptions which were observed during the first presentation of first year.
I took multiple roles as facilitating the classroom interaction, taking photographs, audio recording simultaneously. As a researcher I find it difficult in managing my responsibilities of multiple roles as facilitating the classroom interaction, taking photographs, audio recording, and interacting with each student teachers groups’ simultaneously. Apart from this classroom task I need to create learning situation through PBL problem contextually so that student teacher feel learning context is relevant and understand the problem easily. Creating PBL problem required more time to contextually making it.

During the classroom interaction the student teachers tend to ask many questions to may due to lack of resources in the institution, which made drove me to locate information for the student teachers. At occasions the student teachers required some information which the researcher did not know it and they need to have it immediately. This created an additional work for me in locating some information everyday from internet sources and making it printed and sharing it with student teachers. In most occasions I need to explain the information in Tamil as they were available in English. So it became an everyday practice for me. I tried to persuade student teacher to use internet for information access and took some student teachers to internet café to collect information few days. But it could not be continued for a long, because student teachers had to commute from their home to institute every day. So they did not have time spend time in the evening.

During the practice teaching student teachers experienced similar situation. The contextual questions raised by the learner may not be the textbook oriented. In such a situation, the student teachers needed additional resources. Most of the occasion the teacher left with text book as the only source. I moved from one school to other school every day and occasions two schools in a day I was not able to help everyone in a required time.

To enrich oneself and learning situation it is necessary to have a very good library and internet access / sources for any teacher to take constructivist spirit and practice into the classroom. So there is a lack of enthusiasm I could observe among some student teachers during the research.

The classroom interaction in the school were planned by the student teachers and discussed with me during the visit before the class begin in most occasions. At times it became difficult where the student teacher had class in the first period and most of the student teachers who participated in the research process were commuting from nearby
villages. In such situation even if they had to seek some clarification, it remained as doubt only.

I could see the progress of becoming constructivist teacher has some difficulty through this research work at school.

- Development of a constructivist teacher itself is a slow process. Those student teachers who actively engaged their teaching learning process through constructivist approach took lot of time in repeating answers during discussion on same content for longer time. The student teacher failed to avoid repeated talk of the same while interacting with the learner. Some of the student teachers could able to perceive this after few classes and some others were informed. Then they tried to avoid such situation to a certain extent. The second set of student teachers could not able to do this for a long because the late relation. So, it is observed that, developing oneself as a constructivist teacher itself need to be probed as a further research. It applies to me also.

- The other issue is utilizing the time more appropriately for learning. Even though constructivist classroom provided interactive classroom situation for better understanding of learning content it took much more time to discuss on an issue when one compare with traditional teaching. Thus time management is a bigger challenge and it can be actualised.

- The involvement of the student teacher is varied over a period of time. Generally those who just completed their schooling found to be more interested in participation as they were in touch with the system as well as found to be inclined to learn new things. Those who come after 5 to 10 years of gap found it difficult in overall classroom experience and felt it was a additional burden especially second year student teacher. On the contrary first year married women’s were more inclined to participate and they show a kind of competition cum cooperation with the younger peers.