

*Developing the ability
of
Writing good lesson plan
among
Physics teacher trainees.*

*A REPORT OF THE
ACTION RESEARCH
BY*

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Chapter 1

THE CONTEXT

Back ground of the CTE.

The Government college of Teacher education Mysore is located on J.L.B Road, the heart of city. It is housed in the first floor of Maharaja's High school, it is considered as a heritage building. The college, a premiere institution in teacher education enjoys facilities like well equipped class room, science laboratory, audio-visual equipments, computer room, a rich library with abundant books on subjects of varied type. In addition this the library gets magazines journals periodicals newspapers and employment news.

During the year 1993-94 the college was up graded as GCTE (Government College of Teacher education) as per the recommendation of national policy on education (NEP) 1986 and program of Action on NEP 1992. In addition to pre-service training two more wings have been added as

(1) In service Training

(2) Action Research

and another wing attached to this college is ELTC (English language teaching center) for High school teacher the college caters to the needs of the high school teachers from Mysore, Mandya and Chamrajnagar districts under in-service training wing and action research wing and ELTC.

It acts as a Nodel center by providing resource support, help guidance and training in the academic field for high school teachers. It also acts as a Nodel center for common entrance test for academic process.

Brief History.

The college is one of the pioneer and esteem institution having glorious history. It is the mother institution of teacher education in our state. It was established in 1914 as government training college, the university renamed the B.T degree (Bachelor of Training) as the B.Ed., degree in 1954. An evening course for the B.Ed., degree was started in 1957-58. The college offered M.Ed., course also from 1956 to 1960. During 1960 the post graduate course was shifted to Department of education, Manasgongothri, Mysore and the administrative control of the institute was taken over by the Director of Public Instruction.

The institution has the honour that educationists like A.C. Devegowda , Siddalingswamy had worked here. This college had produced number of teachers, eminent educationists and administrators.

Present Strength of Students and Staff.

The present strength of the students studying in eight different methods in this college is one hundred. The details of the faculty members working in the college is as follows.

- 1) Principal is of joint director cadre.
- 2) Three Readers of Deputy Director of public instruction cadre.
- 3) Thirteen lecturers of Block education officers cadre.
- 4) One librarian.
- 5) One Physical Education Director.
- 6) One Art instructor.

Apart from this the following are the non teaching staff.

- 7) Three first division assistants .
- 8) Two second division assistants.
- 9) Two clerk cum typists.
- 10) One laboratory assistant.
- 11) One driver .
- 12) Eight 'D' group employees.

In addition to this the ELTC wing consists of three faculty members having undergone training at Regional Institute of Education (English) , Bangalore.

About the Researcher .

I was born and brought up at Chitradurga, historic place surrounded by hills and forts. After completion of my primary education at Chitradurga, I did my secondary education at Sira Tumkur District. Further I completed my graduation with physics, chemistry and Mathematics as optional from First Grade college Sira during 1983.

I got my B.Ed., degree from Government College of Education Chitradurga in 1985 and M.Ed., degree from Regional Institute of education (R.I.E) Mysore during 2002.

Previous Experience Prior to Joint the CTE.

I had an opportunity to serve the education department in different capacities, I started my career in the department as an assistant teacher selected through S.L.R.C (State Level Recruitment Committee) to a Government High School. I worked as teacher from four years in a rural area and the medium of instruction was Kannada. I taught English and mathematics. I used to plan my lessons mechanically without paying much attention to the desirable (attributes) of the lesson.

I got selected as headmistress through the K.E.S (Karnataka Education Service) a competitive examination conducted by KPSC. I had worked as

headmistress for six years at the same institution. As head of the institution, I was having a schedule of institutional planning, inspection or supervision of classes and guide the teachers.

On further promotion, I was posted as block educational officer (B.E.O). I served as B.E.O for a very short period of five months. I tried to plan both administratively and academically to bring about qualitative improvement in education.

Experience as CTE Faculty.

From the past four years I am working as lecturer in CTE Mysore . I had an experience of teaching content cum methodology of physics chemistry and mathematics. Apart from this I had conducted different training programs under various schemes such as,

- 1) An EVG (Educational and Vocational Guidance) training program for High school teachers of Mandya and Chamrajnagar district.
- 2) Orientation program for three days to the science teacher of 25 science centres which come with in the perview of CTE, Mysore.
- 3) Preparing a training module in EVG and also on activity based teaching learning in chemistry for eight standard under SSA.

- 4) Conducting regular annual divisional level quiz program in science and mathematics for high school students.
- 5) Conducted content enrichment program in science under SSA for Mysore and Mandya high school teacher teaching for eight standard.
- 6) Conducted action research workshop in Urdu subject for Urdu teachers.

Duties and Responsibility.

First and foremost responsibility is to teach the teacher trainees of the B. Ed., course to enable them to acquaint themselves in the field of education. In addition to this we conduct training program for in-service teachers of high school apart from these regular activities we participate in the following programs of the department,

- 1) Visiting all the schools in a block or taluk which have secured below 40% results in S.S.L.C and providing resources support, appropriate guidance to the concerned teachers and school to improve the results.
- 2) Taking part in Samudayadatta shale programme of both Primary and High school.
- 3) Visiting science centres to supervise, assist, advice and asses them.

Chapter 2.

THE CONCERN

Dissatisfactions state .

I taught content cum methodology of teaching physics for B.Ed., trainees. I expected all of my students to become competent in writing good lesson plan. In spite of my best and sincere efforts students had not come up to the desired level in writing good lesson plans.

Analysing the situation .

There were thirty student in physics method. Among them 50% of the students failed to become competent in writing lesson plan. It was a matter of great concern.

Perception of the problem .

Developing the ability of writing good lesson plan among physics teacher trainees.

Probable causes .

While analyzing the problem to find out the root cause for their failure , I came across some of the reasons out of the causes identified. I felt, I was also responsible in the following way.

- a) Lack of preparation.
- b) Gave less illustrations .

- c) Time spent on practice was less.
- d) Ineffective transaction.
- e) Failed to motivate the students.
- f) Microteaching skills were not incorporated in lesson plan writing.

Students were also responsible for some of the causes identified. They were as follows.

- a) Application of the said (discussed) knowledge in new situation.
- b) Lack of interest.
- c) Fusion / overlapping of instruction and guidelines of other faculty members leading to confusion.
- d) Inability to follow the component and steps properly.
- e) Inadequate practice of microteaching skills.
- f) Not coping up with the new knowledge of lesson planning.

Developing proposition.

Proposition – 1

Lesson plan was an essential part of B.Ed., training and the performance of the students was not to the satisfactory level. This might be due to may lack of preposition on my part and ineffective transaction with the students.

Student had not achieved competency level due to the fact that the time spent on practice was not sufficient. It could also be due to my improper guidance and lack of support from my part to make them to convert theoretical knowledge into practice.

Proposition - 2

Since the students had to study two methods, the instructions and guidance given by the other method teacher was perhaps created confusion among them to write lesson plan properly.

The planning was not proper due to the inability of the students to apply the knowledge and follow the component and steps of lesson plan in new situation. Probably students were also not interested lacked micro teaching skills.

Since, I could do something to improve the competency level I am prioritizing the first proposition .

Action Hypothesis.

Providing sufficient practice in following the steps enable the teacher trainees to write good lesson plan.

Operational definitions .

Sufficient practice is defined as “ *that opportunity where as a team, all students will get opportunity to see, discuss different kinds of lesson plan*

covering good bad and poor in order to understand the goodness of the lesson plan” hence the individual attempt made by students will be assessed and feed back will be given to them based on which another attempt was made by every trainee teacher to come out with a lesson plan.

Good lesson plan.

A good lesson plan is one which is self explanatory and takes care of all the steps spelt out adequately in relation to the content.

Chapter 3.

PLANNING AND EXECUTING INTERVENTIONS

Target Group.

Thirty teacher trainees studying methodology of teaching physics at CTE, Mysore during 2004 – 05 was the target group.

Actions.

A write up on lesson plan was prepared (as given in appendices) in the month of October.

The tool adopted to evaluate lesson plan was a rating scale. It was discussed with faculty member of regional institute of education, Mysore. Then they advised me to make use of their 10 point rating scale of student teaching profile.

A model lesson plan was also prepared (as given in appendices).

Task Grid.

Sl. No.	Task	People	Place	Period	Comments
1.	Prepared a write up enumerating steps and component of a lesson plan.	Teacher educator and	Government college of Teacher Education, Mysore	-	
2.	Orientation on need important and format of a lesson plan.	Teacher Trainees.		2 hrs.	
3.	Demonstration (giving model) how to write a lesson plan for a given topic.			2 hrs.	
4.	Assignment : Asked to write a lesson plan on a topic of their choice .				
5.	Provided individual feed back regarding their lesson plans.				
6.	Group Discussion about common problems and feed back. Summarized the discussion			2 hrs.	
7.	Debriefing. Educated/gave information about the individual components of the lesson plan.			3 hrs.	
	i) Instructional, objectives, discussion and assignments.			10 hrs.	
	ii) Content, learning activities or learning experiences and evaluation, assignment and discussion.			4 hrs.	
8.	II Assignment to write a lesson plan integrating all the components.				
9.	Evaluation, feed back and group discussion.		2 hrs.		

Execution.**Date : 1 – 1 -2005 and from 3-1-05 to 5-1-05.**

Activity: Microteaching workshop and practicing of microteaching skills.

Date : 10 – 1 -2005 and 11 – 01 –2005.

Activity: Lesson plan workshop.

Students got the information and orientation on lesson planning.

Date : 12-01-2005 and 13-01-2005.

Activity : Model lesson plan.

Lesson plan was discussed in detail considering *light as a form of energy* (as given in appendices).

Students had a number of doubts regarding lesson plan and the doubts were classified with respect to the above mentioned model lesson plan.

Date: 15-01-2005 .

Activity : I Assignment.

Students were asked to write an introductory lesson plan.

Date: 17-01-05 and 18-01-05.

Activity : Individual feed back.

Date : 19-01-05.

Students were divided into two groups. The purpose of making two groups, ie., A and B was only to create interest among them and to participate in the discussion actively. Each group consists of nine girls and six boys.

Date : 25-01-05.

Activity : Discussion of a lesson plan of a student from group B .

Eg., : Constellation (lesson plan).

Instructional objectives were not with in terms of behavioral outcome (specification).

- 1) Student know different constellation.
- 2) Student understand direct motion of planet.

Learning experiences were not planned in terms of achieving objectives.

There was no inter relatedness among objectives learning experiences and evaluation .

Reflection .

Student actively participated and concluded that the discussed lesson plan was poor in quality.

Date : 27-01-05.

Activity : Discussion of a lesson plan of a student from Group A.

Eg., : Newton's first law of motion.

Instructional objectives well stated as,

- 1) Infers that a body moves for a distance which varies with the friction offered by different surfaces.
- 2) Reason out some of the events in daily life which involves change in the state of motion of a body.

Content and learning experiences were well planned to attain or achieve the objectives.

Reflection.

Students participated in the discussion and termed the discussed lesson plan as good.

Date : 29-01-05.

Instructional objectives

An objective is said to be clearly stated when it satisfies the following criteria.

- a) i) There is a verb which describes the learning outcome in the pupils in behavioral terms.
- ii) The learner is specified.
- b) Relevant to the content.
- c) Adequate with respect to the content outline.

What to teach – Content.

Why to teach – Objective.

How to teach – Methodology.

Date : 31-01-05.

Activity : Writing of instructional objectives(knowledge).

Two teacher trainees from groups A were made to write instructional objectives on black board and both the teams discussed in detail.

Eg.,: The pupil will be able to

- a) recall the term acceleration, velocity.
- b) recognizes phenomena such as reflection, refraction.

Reflection.

Students expressed their happiness for the clarification of their doubts.

Date : 01-02-05.

Activity : Writing of instructional objectives(knowledge).

Two teacher trainees from Group B were made to write instructional objectives on black board and there was a thorough discussion.

Eg., :

- 1) Recognizes the concave and convex lenses.
- 2) Recalls the definition of refraction and reflection.

Reflection .

Students were at ease in giving examples in knowledge category.

Date : 02-02-05.

Activity : Objectives related to understanding/comprehension.

a) Translation.

- i) From one form (language) to the another.
- ii) Verbal to symbolic and vice versa.

b) Interpretation.

- i) Ability to interpret various types of data.

c) Extrapolation.

- i) To predict the utility of magnets for knowing directions and picking up iron things.

Date : 03-02-05.

Activity : Writing of instructional objectives under understanding category.

Two teachers trainees from Group B were made to write and discuss instructional objectives under understanding category.

Eg., : The pupil will be able to

- 1) Observe the relationship between camera and eye.
- 2) Compares long sight and short sight.

Date : 05-02-05.

Same activity from group B.

Eg., : The pupil will be able to

- 1) Compares dynamo and motor.
- 2) Explain total internal reflection.

Reflection.

Students gave number of examples without facing any difficulty.

Date : 07-02-05 and 08-02-05.

Activity : Instructional objectives under application category.

Eg.,:

Group A :

The pupil will be able to judge that for getting spectrum on a wall a prism is an adequate material .

Group B :

The pupil will be able to predict the color of green grass while looking through a yellow glass.

Reflection.

Students actively participated in the discussion gave illustrations.

Date : 09-02-05 and 10-02-05.

Activity : Instructional objectives on skill.

Orienting and providing information regarding skill about process of performance and skill regarding product of performance.

Group A : Eg.,:

The pupil will be able to make accurate observations of level of a liquid in a measuring jar.

Group B : Eg., :

The pupil will be able to make accurate observation of the mercury level in a thermometer.

Reflection.

Students discussed and clarified their doubts. Later they were giving examples.

Date : 14-02-05.

Activity: Orientation on content analysis learning activities and evaluation.

There is an interrelatedness between objectives (end) learning experiences(means) and evaluation (evidence). Objectives remain central to learning experiences content and evaluation.

Content Analysis.

While analyzing content into teaching points, one has to keep objectives in mind, since the content is already prescribed, the teacher is free to select those objectives from the taxonomies which may suit the content.

Learning activities and Learning experiences.

Learning activities may be explained as activities which include an arrangement of teaching aids, questioning, explanations, observations, visits, handling of apparatus, models, charts and specimens, reading, writing, drawing etc., and which ultimately lead the students to learning.

Learning experience is the interaction of the learner and the situation provided by the teacher. Each of these learning experiences modifies the behavior of the pupil.

Evaluation.

Evaluation involves objectives, content, learning activities and evaluation procedures. Each of these four aspects is related to the remaining three.

Evaluation is a process by means of which changes in the behavior of students are studied and guided towards objectives.

Date : 16-02-05.

Group A:


Activity: Discussion about content analysis, learning activities and evaluation.

Content analysis	Teaching activities learning experience	Evaluation
<p>* Lens A lens is a piece of transparent material that has at least one curved surface.</p>	<p>Activity 1: The teacher asks the students the following questions. Tr: Students do you know transparent and opaque material? St : Yes. Tr : What are transparent materials ? St : Material which allow light to pass through them. Tr : Give some examples for transparent materials. St: Glass, water. The teacher then shows the lens and explains that a lens is a piece of transparent material that has at least one curved surface and gives concave and convex lens as examples. Tr: What are the types of lenses ? St : Concave and convex</p>	<p>* What is a lens ?</p>

Date : 17-02-05 :

Group B :

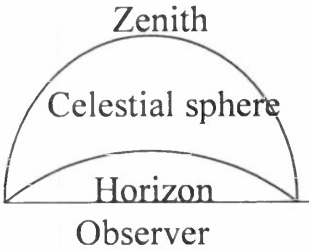
Activity : Convex lens discussion about content analysis learning activities or learning experience and evaluation.

Content analysis	Teaching activities learning experience	Evaluation
<p>* Convex lens : In a convex lens the central portion is thicker than the edges. Convex lens is converging lens.</p>  <p>Convex lens</p>	<p>Activity- 2 :</p> <p>The teacher shows the lens to the students and asks the student to touch the lens. Tr: What is the shape of the lens ? St : The central portion is thicker.</p> <p>The teacher then explains the convex lens with the help of a chart. In a convex lens the central portion is thicker than the edges. A convex lens is a converging lens. Plano convex lens concavo convex lens are some of the types of convex lens. Tr : What type of lens is a convex lens ? St : A convex lens is a converging lens. Tr : Give two types of convex lens St : Plano convex lens and concavo convex lens.</p>	<p>* What is a convex lens?</p>

Date : 19-02-05 :

Group B :

Activity : Convex lens discussion about content analysis learning activities or learning experience and evaluation.

Content analysis	Teaching activities learning experience	Evaluation
<p>* Celestial sphere. The imaginary sphere called celestial sphere, appears to meet the ground along a circle. This is called horizon. The point directly above the observer is called zenith</p>  <p>The diagram shows a semi-circular arc representing the celestial sphere. The top point of the arc is labeled 'Zenith'. The arc itself is labeled 'Celestial sphere'. A horizontal line across the middle of the arc is labeled 'Horizon'. Below the horizon line, the word 'Observer' is written, indicating the position of the person looking up at the sky.</p>	<p>Activity -1 :</p> <p>The teacher asks the student the following questions</p> <p>Tr : Students when you go to play in an open field when you observe from a far away place, how would the ground and the sky appear ?</p> <p>St : The sky appear to meet the ground.</p> <p>Tr : What do you call this edge ?</p> <p>Student does not answer. Teacher explains that, this imaginary sphere is called celestial sphere. The teacher also explain the terms horizon and zenith by showing a chart. Then the teacher asks the following questions.</p> <p>Tr : What is horizon ?</p> <p>St : The imaginary circle along which the sky appears to meet the ground.</p> <p>Tr : What is zenith ?</p> <p>St : The point directly above the observer on the celestial sphere is called zenith.</p>	<p>* Explain the terms celestial sphere, horizon and zenith.</p>

Reflection :

Students were able to clearly understand the components of a lesson plan.

Date : 21-02-05

Activity : A second assignment on lesson plan on the topic of their choice was given.

Date :22-02-05, 26-02-05, 28-02-05.

Activity : Individual feed back

Duration.

A total of 23 hours were spent on execution.

Chapter 4.

DATA ANALYSIS AND INTERPRETATIONS

Reporting

The data collected was subjected to qualitative analysis and description of the teacher trainees who became competent/not competent in writing good lesson plan was discussed in detail. The tool adopted to assess the competency in writing good lesson plan was the ten point rating scale of Regional Institute of Education, Mysore about Student Teaching Profile. The data was analyzed in four different components of the lesson plan and the average rating of these four component was considered along with overall lesson plan.

A rating of seven on the ten point scale for a lesson plan by a teacher trainee was considered as reaching the competency level and the rating below seven was not considered as the competency level.

Note : - The rating scale and the format of that master table was given in the appendices.

TABLE SHOWING COMPARITIVE RATING OF STUDENTS IN I AND II
ASSIGNMENT

GROUP A:

Sl.No.	Name of the student	I component		II component		III component		IV component		Overall	
		First	Second	First	Second	First	Second	First	Second	First	second
1.	Anitha B.J	2	6	2	6	3	5	2	5	2	5
2.	Anupama H.S	4	8	4	7	4	7	3	7	4	7
3.	Arahanth Kumar S.P	2	7	2	7	2	7	2	7	2	7
4.	Ayesha Siddiqa S.	2	5	2	6	1	6	2	6	2	6
5.	Dayananda H.M	2	7	3	7	3	7	3	7	3	7
6.	Geetha T.J	6	9	6	9	6	9	4	8	6	9
7.	Hemavathri H.S.	2	8	2	7	2	7	2	7	2	7
8.	Jyothri H.K	2	7	3	7	2	7	3	7	3	7
9.	Madhu S.D.	3	7	2	7	3	7	3	7	3	7
10.	Mamthn D	2	8	2	7	2	8	2	7	2	8
11.	Menaka S	2	6	2	6	2	6	2	6	2	6
12.	Prabhu Kumbar	2	8	2	7	2	7	2	8	2	8
13.	Prashanth Kumar H.B	5	8	3	7	2	7	2	7	3	7
14.	Ravikumar Patil	3	7	2	7	2	7	3	7	3	7
15.	Rudraswamy H.S	2	8	2	7	2	7	2	7	2	7

Note : The scores in the table are given according to the 10 points scale of competency .

GROUP B:

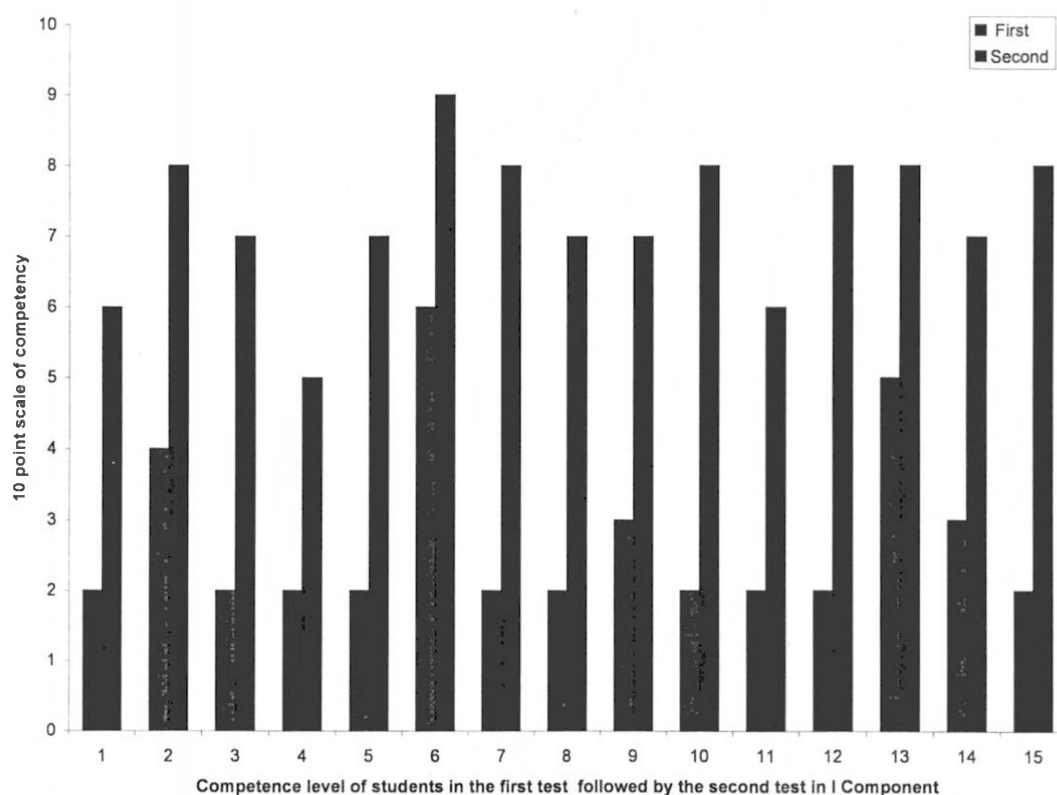
Sl.No.	Name of the student	I Component		II component		III component		IV component		Overall	
		First	Second	First	Second	First	Second	First	Second	First	second
16.	Ramya N	2	7	2	7	2	7	2	7	2	7
17.	Rekha H.N	4	8	3	7	2	8	3	7	3	8
18.	Savitha R	2	7	2	7	2	7	2	7	2	7
19.	Siddappa Nayakar	1	5	2	5	2	5	2	5	2	5
20.	Sumithra	2	5	2	5	2	6	2	7	2	6
21.	Suresha M.H	4	7	4	6	3	5	3	5	4	6
22.	Usha L	2	8	2	7	2	8	2	7	2	8
23.	Zareena K	2	5	2	6	2	7	2	6	2	6
24.	Girish B	4	8	3	7	3	7	3	7	3	7
25.	James Sunil	2	5	2	5	2	6	2	6	2	6
26.	Nagarajn N	3	8	5	8	3	7	4	7	4	8
27.	Roopashree	5	7	5	7	3	7	4	7	4	7
28.	Seema Y	2	8	3	7	2	7	3	6	3	7
29.	Shiva Kumar	2	7	2	6	2	5	3	6	2	6
30.	Shwetha R	2	7	2	7	2	7	2	7	2	7

Graphs and Interpretation.

The level of competence of two groups of 15 students in different components shown in the graphs given below with the interpretations.

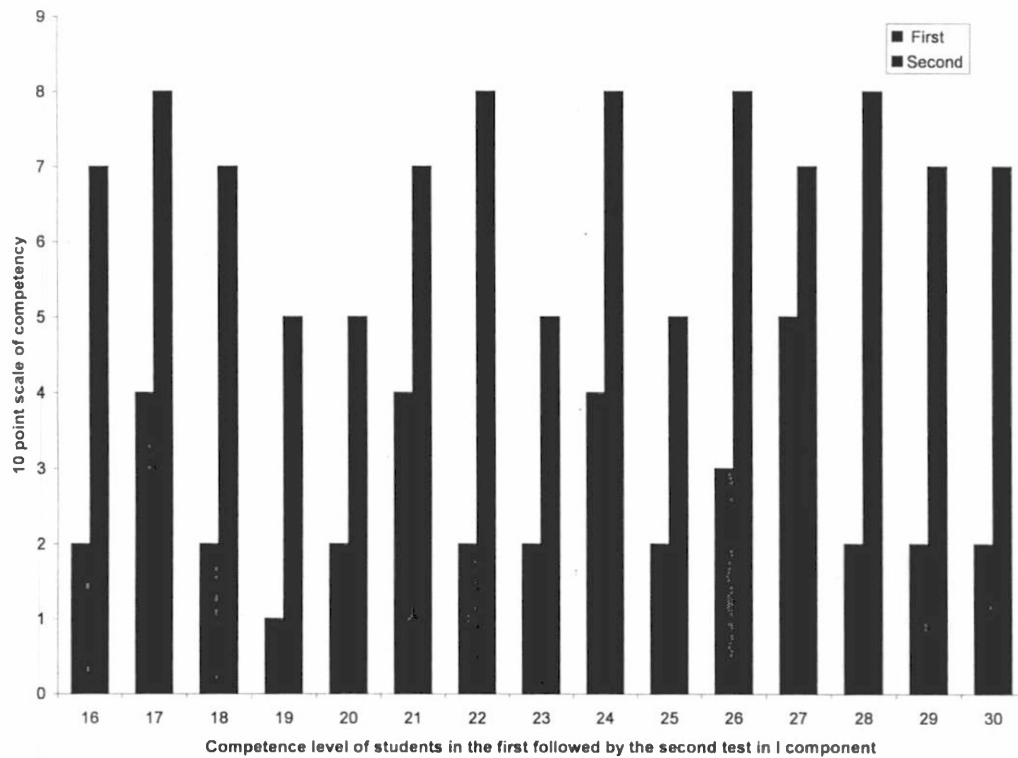
Component - I

Group A(students from 1 to 15)



Out of 15 students 12 students have reached the competency (acquired competency) in the first component. This shows that intervention given to the group A students was being successful in this component .

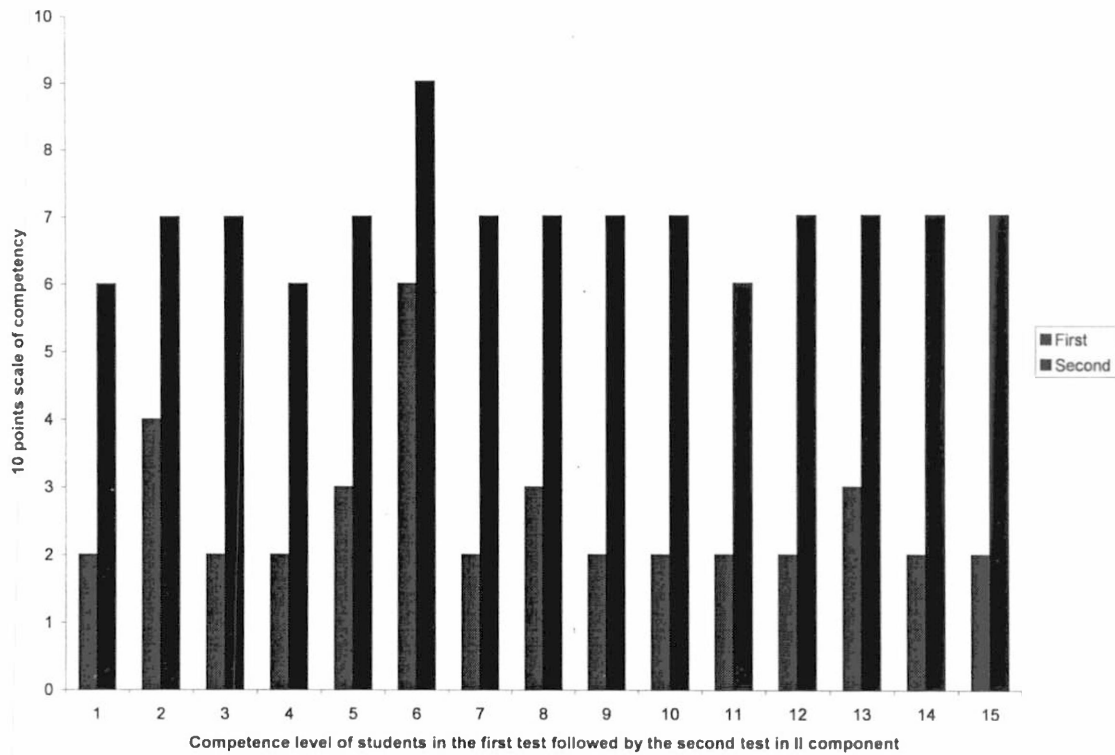
Group B (students from 16- 30)



11 students out of 15 students have reached the competency in the first component. This shows that the intervention given to the group B students was being successful in this component.

Component – II

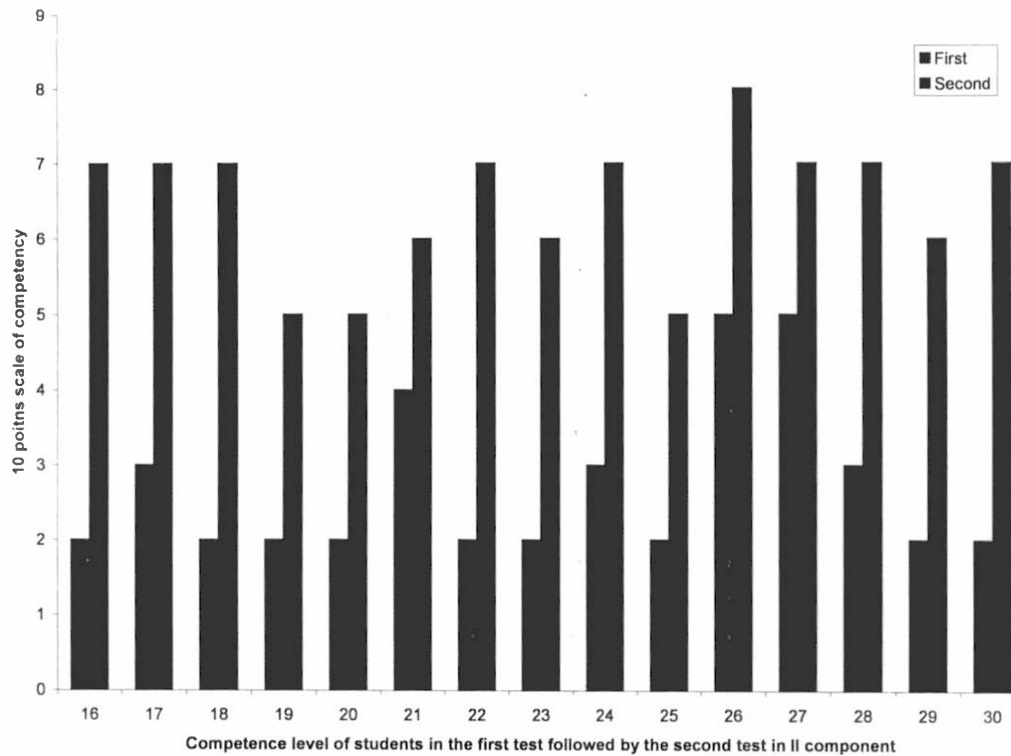
Group A(students from 1- 15)



12 students out of 15 students have reached competency in the II component.

This shows that the intervention given to the group A students was being successful in this component.

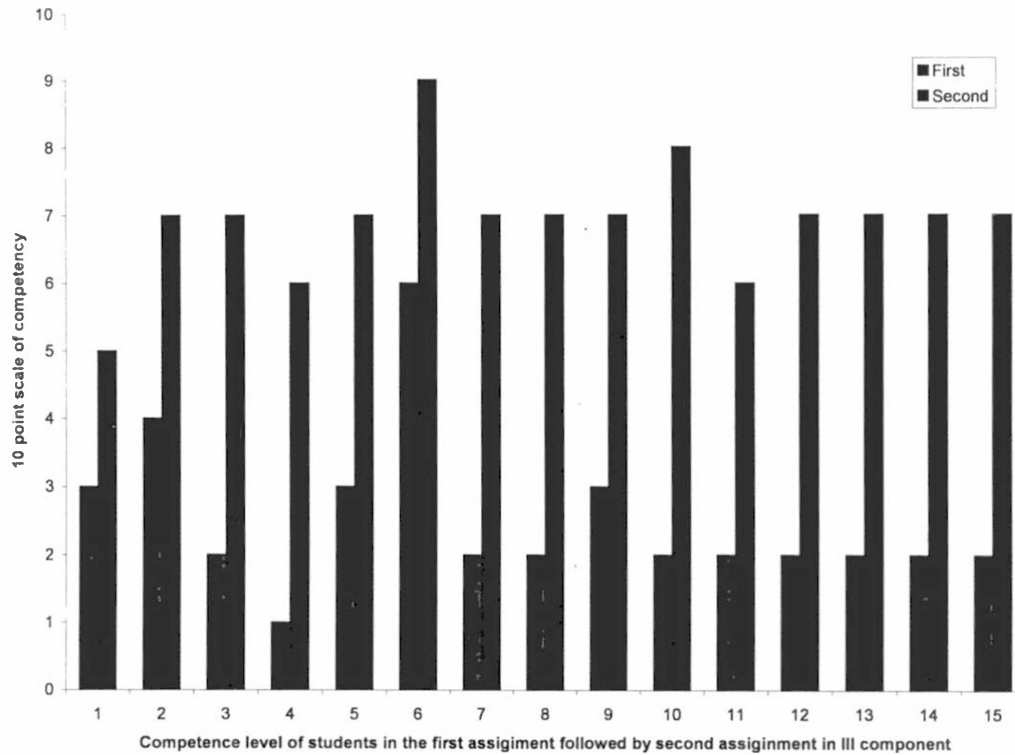
Group B (students from 16- 30)



9 students out of 15 students have reached the competency in the second assignment of II component. This shows that the intervention given to the group B students was being average successful (60%) in this component.

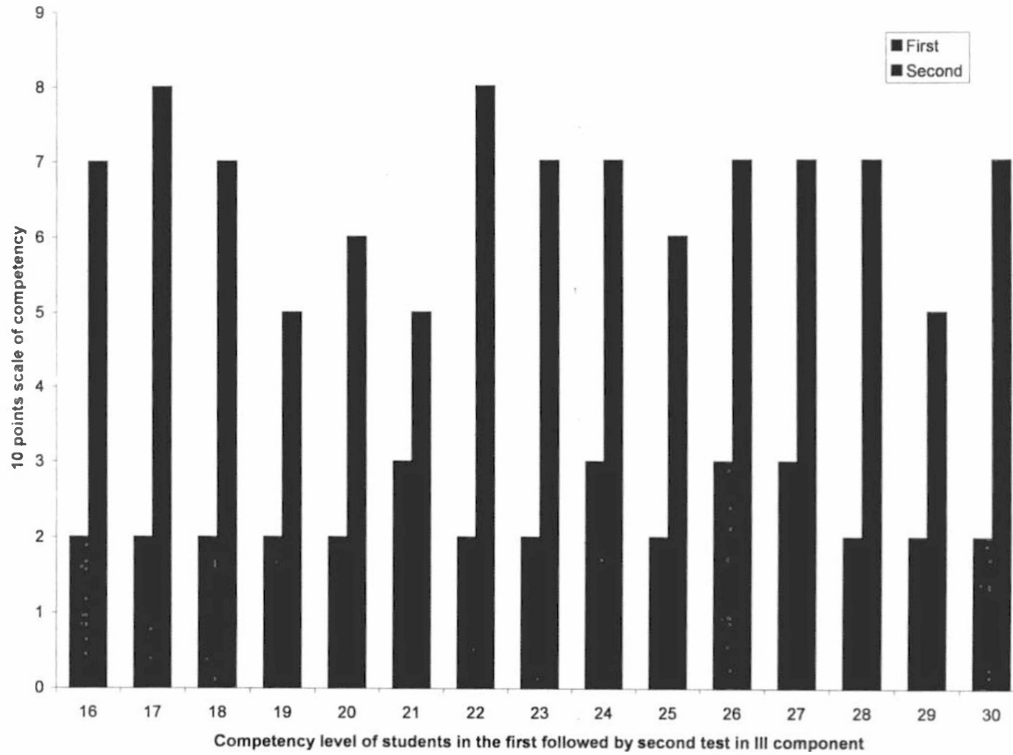
Component – III

Group A (students from 1-15)



12 students out of 15 students have reached the competency in the III component. This shows that the intervention given to the group A students was being successful in this component.

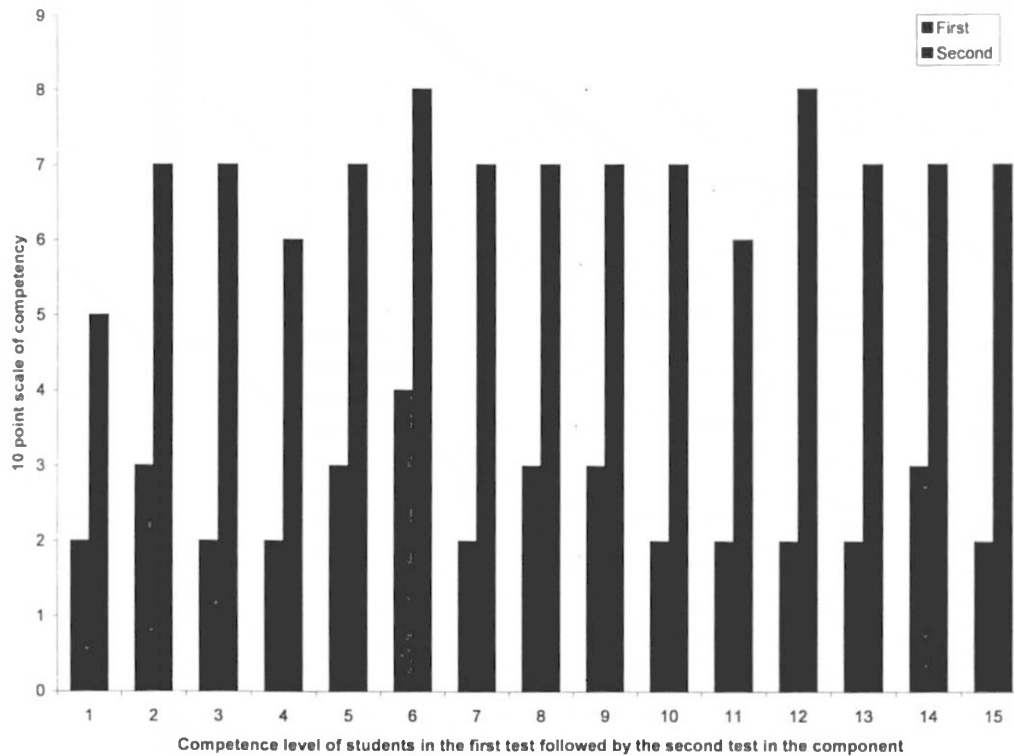
Group B (students from 16-30)



10 students out of 15 students have reached the competency in the III component. This shows that the intervention given to the group B students was being successful in this component.

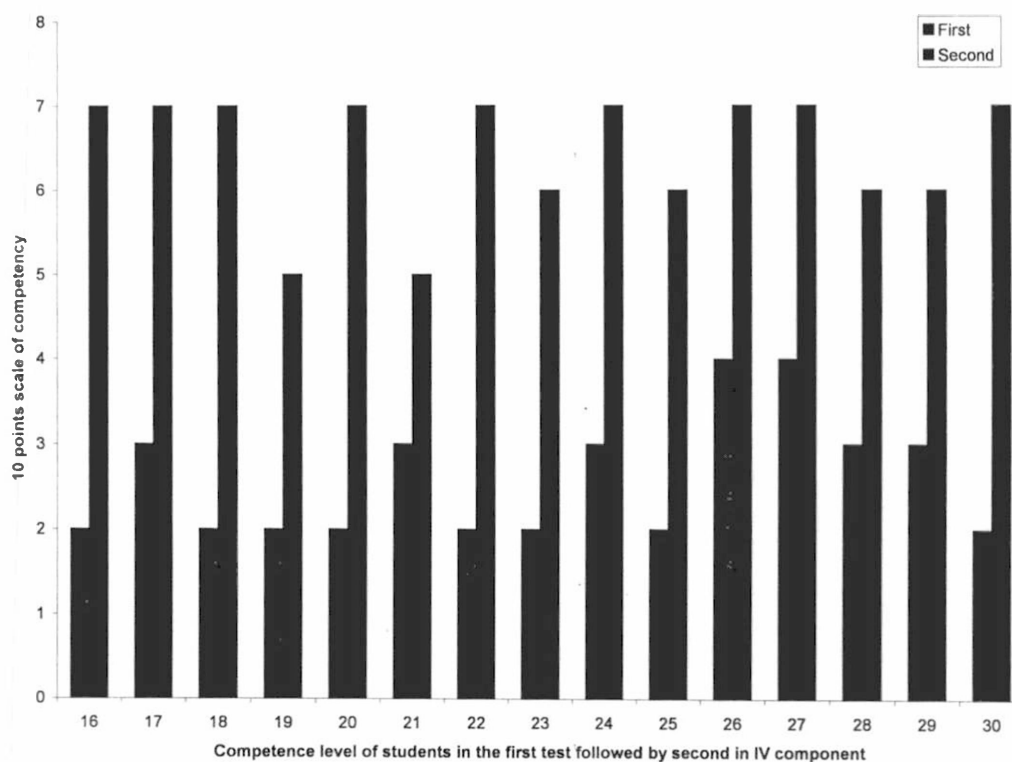
Component – IV

Group A (students from 1- 15)



12 students out of 15 students have reached the competency in the IV component. This shows that the intervention given to group A of students was being successful in this component.

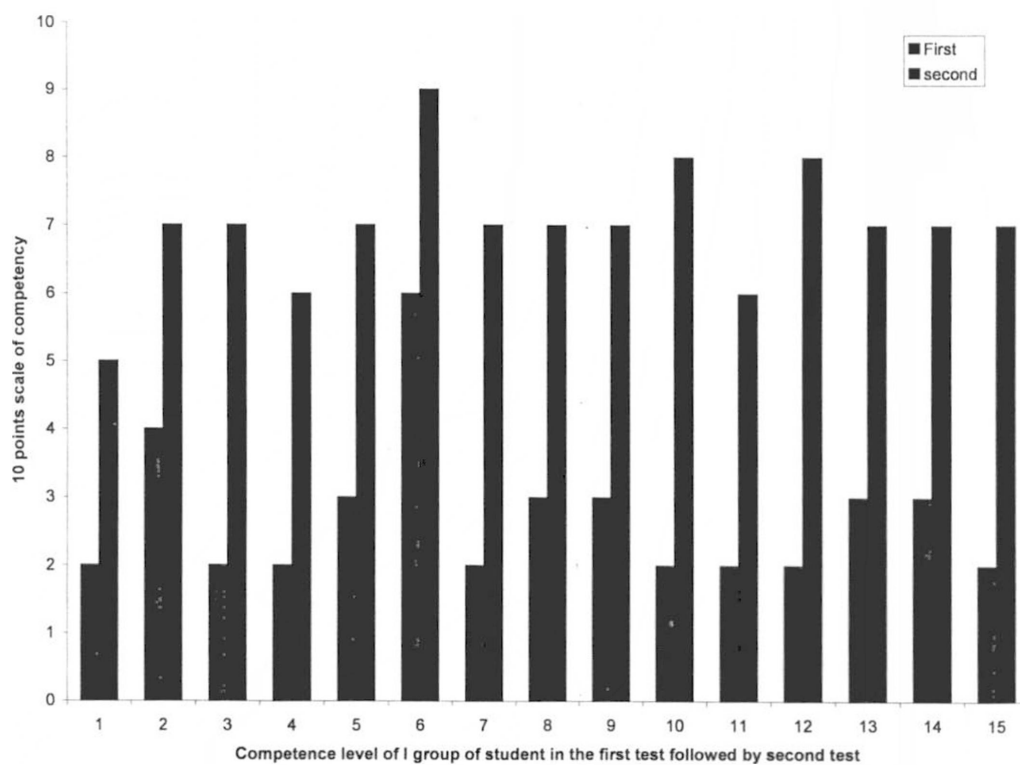
Group B (students from 16 – 30)



9 students out of 15 students have reached the competency in the IV component. This shows that the intervention given to the group B students was being average successful (60%) in this component.

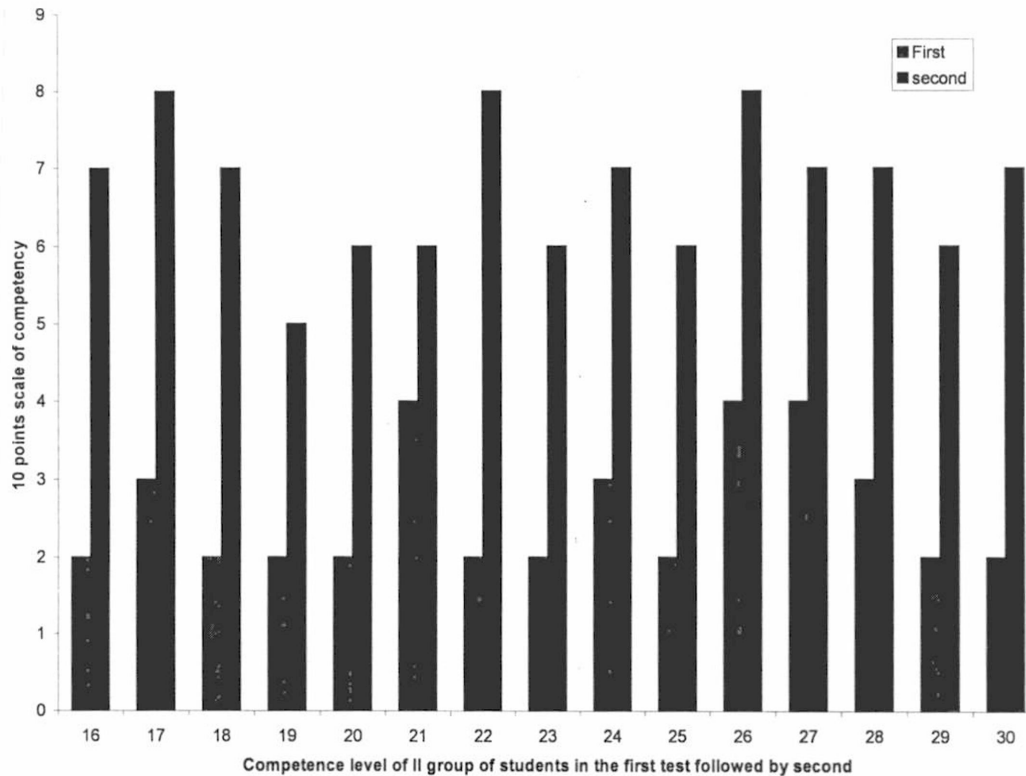
Overall view of Acquisition of competency in the two groups : The level of competence of two groups of 15 students was average of all components is shown in the groups given below.

Group –A



12 students out of 15 students have reached the competency in almost all components. This shows the intervention given to the group A of students was being successful.

Group B



9 students out of 15 students have acquired the competency. This shows the intervention given to the group B students was being average (60%) successful.

Findings and Evaluation.

The following were the findings resulted from the analysis of the data. In the first group twelve students out of fifteen had reached the competency in almost all components. In the second group nine students out of fifteen have acquired the competency.

Chapter 5.

REFLECTION DECISION AND CONCLUSION

Reflection.

Lesson plan was an important aspect of teaching learning process. Group of activities along with practice and feed back was provided to the target group. Two group were made to enhance interest and develop the skill of lesson planning specially, group activities and heated discussion played an important role in achieving competency among the student. The intervention of providing sufficient practices had improved the performance of students in attaining the competency in writing good lesson plans.

Decisions.

Different group activities and discussion created interest among the teacher trainees and enhanced their ability to become competent. This intervention, I would follow and made as my regular practice.

Conclusions.

The study revealed that the interventions had made for of the teacher trainees to become competent. This spiral had helped only 70% of the students and the remaining 30% of the students needed more time and practice to achieve the competency in writing good lesson plans.

Special coaching was undertaken and following suggestions were recommended for these students to achieve competency in writing good lesson plans.

Refer science text books of Karnataka and also CBSE books to have mastery over the subject. Mastery over the subject build confidence in planning effectively.

APPENDICES

1. Lesson Plan.

Proper planning of the lesson is key to effective teaching, good teaching doesn't just happen. It requires adequate and extensive planning so that the objectives, the specifications the teaching strategy to be employed, the textual material and the evaluation procedure are all related in some meaningful fashion or manner. It is a vital tool in the hands of every teacher. Lesson planning is essentially an experience in anticipatory teaching. It is teachers mental and emotional experience in advance. A teacher can never do justice in his teaching without his preliminary preparation.

J.K.Davis is very right when he observes "*Lesson must be prepared in advance, for there is nothing so fatal to a teachers progress as unpreparedness*".

Carter. V. Good defines a lesson plan as a teaching outline of the important points of a lesson arranged in order in which they are to be presented, it may include objectives, points to be taken, questions to be asked, reference to materials, assignments etc., .

So a lesson plan is teachers action plan for carrying out various teaching learning activities in a way that aims and objectives of teaching are realized. It reflects his working philosophy, knowledge of the subject matter,

understanding of the objectives of teaching, personality skills, intelligence, interest and ability to use various teaching strategies.

Significance and Importance of lesson planning.

- 1) Planning helps to avoid needless repetition.
- 2) Planning helps the teacher to overcome nervousness and insecurity. It gives him confidence to face the class.
- 3) It delimits the field of work of the teacher as well as of the students and provides a definite objective for each days work.
- 4) It tends to prevent wandering from the subject and going off the way. It serves as a check on the possible wastage of time and energy of the teachers and students.
- 5) Planning helps the teacher to organize and systematize the learning process. The activities in the lesson are well knit, interconnected and associated. The continuity of the education process is ensured.
- 6) Lesson planning gives opportunities to the teacher to think out new ways and means of making the lesson interesting and to introduce thought provoking questions.
- 7) Lesson planning ensures a proper connection of the new lesson with the previous knowledge.

- 8) Lesson plan enables the teacher to prepare a suitable scheme of selection and organization of subject matter, materials and activities, pivotal questions and illustrations.
- 9) Lesson plan makes it possible to provide for individual differences in pupils.

Features (Components).

While planning a lesson the following factors should be borne in mind.

Features	Description
Objectives	All the cognitive objectives which are intended to be fulfilled by the lesson should be listed in behavioral terms.
Content	The subject matter for the lesson should be limited to be covered within the prescribed time. The matter should be interesting and related to students previous knowledge and daily life situations .
Methods	Out of various methods of teaching physics, the teacher must choose most appropriate and suitable to the subject matter under consideration. Also, teacher must identify the suitable teaching aids and supplementary aids to make his lesson effective.

Evaluation

The teacher must by to ascertain the extent to which his lesson has resulted into leaning one way of evaluating is the recapitulation of the subject matter of the lesson through suitable questions.

Essentials of a lesson plan.

- 1) It should be written and should not remain at the oral or mental stage. Sometimes memory process as a treacherous servant especially when the attention is diverted.
- 2) It should have clear aims in lesson plan. Clearly state the objectives i.e., general and specific to be achieved .
- 3) It should provide activity, show routine things and provide for the individual differences.
- 4) Assignment to students should be given preferably in the form of activity.

Steps of lesson planning.

Generally for lesson planning in physics the Herbartian steps are being practiced (in our institution) by most educators as,

1. Preparation or introduction.
2. Presentation or development.
3. Comparison or association .

4. Generalization.
5. Application .
6. Recapitulation .

Steps

Description

Introduction. It pertains to preparing and motivating students to receive new knowledge (lesson content) by linking to their previous knowledge by arousing curiosity and by appealing to their senses, which leads to the aim of lesson.

This can be done.

- 1) By testing of the previous knowledge of pupil, and introducing the lesson with an explanation.
- 2) By asking questions that may reveal their ignorance, rouse interest and curiosity to learn the new matter.
- 3) Through the use of charts, maps or picture.
- 4) Through skillful conversation.

It should however be noted that this step should be brief and to the point and should not in any case take more than five minutes.

- Presentation** Presentation involves stating of the object of the lesson and segmentally exposing students to new information use of different teaching aids should be made during presentation of learning material along with students participation in the lesson through questions.
- Association** Associate the learning material to daily life situations by citing examples and by drawing comparisons with related concepts.
- Generalization** The learning material presented to students must lead to generalization. In other words, the students must realize that they have got new knowledge and are able to apply it.
- Application** This step of lesson is applying the new learning to certain situations. This should result in reinforcing the new knowledge on students.
- Recapitulation** Recapitulation is assessing the effectiveness of your lesson by asking students the questions on the lesson contents. The understanding and comprehension of the subject matter taught by the teacher can be tested by putting suitable questions on the topic to the students.

2. Lesson – light.

Major concept / principle : light is source of energy

<p>Teaching points / content outline.</p> <ul style="list-style-type: none"> - Definition of light - Source of light - Classification of sources of light - Importance of light 	<p>Objectives :</p> <ol style="list-style-type: none"> 1) Able to define the term light 2) Able to classify the different sources of light 3) Able to judge the importance of light <p>Instructional objectives : Pupil will be able to</p> <p>K .</p> <ol style="list-style-type: none"> a) Define the term light b) Recognize the various sources of light <p>U.</p> <ol style="list-style-type: none"> a) Classify the different sources of light b) Judge the importance of light <p>A.</p>
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	<p>a) Collect more information on the application of light as a source of energy</p> <p>b) Read more books / magazines on various effects of light</p> <p>c) Decide natural source of light as an alternate form of energy</p> <p>S.</p> <p>a) Draw a picture to depict the energy crisis</p>
<p>Learning aids.</p> <ul style="list-style-type: none"> - Heating coil, switch board, torch - A chart showing different sources of energy / light - A bundle of cards containing terminologies related to light 	<p>References</p> <ul style="list-style-type: none"> a) A source book on physics for teachers b) CBSE text book on general science and physics

Teaching methodology / strategy / techniques.

- Inquiry method
- Activity based method

Introduction.

After creating a learning atmosphere in the class, teacher address the students and narrates an incident.

Children while coming to school, I saw a blind man repeatedly requesting passersby to help in crossing the road. I wanted to help him, suddenly a small boy of your age, took him and helped him to cross the road. See how much sight is essential to all sighted animals! O.K children I have some doubts.

What is blindness ?

Person who is unable to see

O.K. what makes us to see ?

Eyes

Only eyes, suppose you are in a darkroom, will it be possible for you to move freely ?

No, light is not there

Fine light is very much essential for us then.

What is light ?

Light is a form of energy

Light is something that makes us to see.

Statement of aim : “ Fantastic children today let’s learn the meaning of light, its sources and its importance.”

Development.

	Content analysis	Specification	Teaching learning activities / experiences	Evaluation
1	Definition of light - Light is form of energy	Observers carefully	Teacher asks the students to cover all the windows of the room with screen, then switch on an electric coil / heater and asks the students to observe carefully and asks the following questions <ul style="list-style-type: none"> - What is happening to the coil ? - Can you see the red hot condition of the coil ? - Why does a coil becomes red hot ? - Electric current converts the coil into red hot will you agree ? - Then how do you convert light energy into electric energy ? Students with the help of teacher defines the term light .	Define light
2.	Sources of energy	Recalls Recognizes Classifies	By displaying the chart on some sources of light, teacher draws the attention of students through questions By looking at the chart name the different sources of light Classify the sources of light into natural and artificial sources	Which sources of light is a continuous source ?

3.	Importance of light. Light energy is used for many purposes	Lists	Activity 1 : List out any other sources of light by discussing in pairs	
	Photoelectric effect		Activity 2 : Group works – divide the class into 5 groups of 8 students each teacher by distributing cards on various light mediated terminologies. Teacher made the students to think discuss. They discuss the following terms and the supplementary reactions associated with them. Photosynthesis Photochemistry Photoelectric effect Photography	
	Photosynthesis	Interprets	Activity : Teacher make the students to presents their discussed materials in groups and stimulates by asking questions on each discussed topic	
	Photochemicals		Which synthesis of food by the plant is called photosynthesis.	
Photograph	Interprets	Why certain chemicals are called as photochemicals ? What is the role of light in traffic signals / street light ? How does light help in taking a photograph ?		

Why photo electric effect is used in street light ?

Which part of plant cell is responsible for the absorption of sunlight ?

Give examples for photochemicals

Recapitulation	B. B Summary
<p>1. What do you mean by the term light ?</p> <p>2. What the major sources / type of light ?</p> <p>3. Give examples for both natural and artificial sources of light</p> <p>4. What is the importance of light as a source of energy ?</p>	<p>- Light is a form of energy which makes the things visible</p> <p>- There are two major sources of light, natural and artificial sources</p> <p>- Sun stars and reflected light rays of moon are the natural sources.</p> <p>- Battery cells, electric power, oil lamps are the artificial sources (bulbs) of light</p> <p>- Light plays an importance role in providing food lighting houses, traffic signals, street light in automobiles, in heating water and so on.</p>

Home assignment.

- Define the term light and photosynthesis
- Collect information about plants which bloom during daytime and night time
- List out the instruments that use light as a source of cenergy.

Regional Institute of Education, Mysore – 570 006

Name of the course : Subject :
 Name of the co-operating school : Topic :
 Name of the student teacher : Period & Time :
 Standard : Lesson number :

Aspects / Components (Criteria / Teacher Behavior)	Comments and suggestions with reference to criteria shown under each aspect	Rating scale	
		Excellent	Very poor
I) LESSON PLAN			
1. Instructional Objectives <ul style="list-style-type: none"> • Stated in terms of pupils observable behaviors • Relevant to the content • Adequacy w.r.t learners abilities and time 		10	9 8 7 6 5 4 3 2 1
2. Content <ul style="list-style-type: none"> • Accuracy and clarity of content • Adequacy w.r.t instructional time and objectives • Logical organization of content 		10	9 8 7 6 5 4 3 2 1
3. learning activities <ul style="list-style-type: none"> • Appropriateness w.r.t content and objective • Appropriateness to the level of the learners • Adequacy w.r.t objectives • Effectiveness to attain objectives • Variety and originality 		10	9 8 7 6 5 4 3 2 1
4. Evaluation : Formative and summative <ul style="list-style-type: none"> • Clarity, overall coverage, appropriateness w.r.t objectives • Distributed over the entire lesson • Review to check overall achievement/ integration of language skills • Assignment provides scope to practice and apply knowledge and skills 		10	9 8 7 6 5 4 3 2 1

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- 1) Taxonomy of Educational Objectives – Benjamin. S. Bloom
- 2) Education Evaluation Theory and practice - R.N. Patel
- 3) Becoming Better Teacher Microteaching Approach - B.K Passi
- 4) Perspective in Science Teaching - Mishra
