Research Project 2023 -2024

Name of the DIET : DIET Padalur, Perambalur

Name and designation of the researcher : P. Varatharaj, Senior Lecturer

Tittle : Effectiveness of Video Lessons in Science subject among Upper Primary students in Perambalur District

1. Introduction :

Learning Science is something students, do, not something that is done to them. In learning Science Students describe objects and events, ask questions, acquire knowledge, construct explanations of natural phenomena , test those explanations in many different ways, and communicate their ideas to others. The Latin term 'Scientia', which means knowledge, is the root of English word 'Science'.

2. Need and Significance :

Learning science develops knowledge, problem solving skills, boost critical thinking , authenticate a passion for learning , uplifts many disciplines, holds the key of feature and technology, science also involves a lot of communication with other people and develops patience and perseverance among children.

A Significant way in which educational video is having an impact on students learning is the benefits it provides in the changing university landscape (eg) with the emergence of " Flipped classroom teaching" and also in how it is having a direct influence in changing practices in teaching and learning more generally.

Video provides great benefits to teachers and learners stimulating stronger course performance in many contexts and affecting student motivations, confidence and attitudes positively.

3. Objectives :

- To measure the present level of understanding of 8th standard students on video lessons in science subject.
- To identify the level of understanding of 8th standard students on video lessons on the basis of gender.
- To measure the level of understanding of 8th standard students on video lessons through innovative activities.
- To identify the difference between pre test and post test score of experimental group and control the group through achievement test.
- To find out the effectiveness of video lessons in Science subject among 8th standard students

4.Hypotheses :

- The present level of understanding of 8th standard students on video lessons in science subject is normal.
- There is a significant difference between boys and girls on understanding video lessons in Science subject.
- There is no significant difference between the scores of pre test and post test of controlled group.
- There is no significant difference between the scores of pre test among boys and girls.
- There is a significant difference between the scores of pre test of experimental group.
- There is a significant difference between the scores of boys and girls in pre test and post test of experimental group.

5. Methodology :

a. Method : Experimental method was used in this study. Before starting this method a pre test was conducted by the investigator by using achievement test questionnaire containing 20 multiple choice questions.

b. Sample : Government High School Paravai (boys 15 students , girls 17 students, total 32 students were used and selected as sample)

c. Intervention : Video lessons were prepared by the investigator and displayed to the students in classroom.

d. Tool :Achievement test questionnaire consists of 20 multiple choice questions was used as a tool. This questionnaire was prepared by the investigator.

e. Data analysis: The major Statistical Techniques used in the study were the following:

i)Descriptive analysis :

A. Mean , B. Median, C. Standard deviation

ii). Differential analysis:

T test

6.Major findings:

- The mean score of the pre test of the control group is 41.
- It reveals that there should be a training given to the students.
- The mean score of the pre test of experimental group is 41.
- It reveals that the students were in need of training through demonstration and videos.
- The mean score of the post test of the students in control group is 50.
- It concludes that the traditional method of teaching is less effective in Science subject.
- The mean score of the post test of the students in experimental group is 82.5.
- It concludes that the innovative practices made an impact on understanding the content in Science subject.

- The boys and girls in their achievement in post test is 81 and 83 respectively.
- There is a difference in the scores of the post test of experimental group as well as controlled group.
- It concludes that both the boys and girls of that school were achieved equally in learning science through videos.

7. Conclusion :

The researcher found that most of the students were needed some more training on video lessons in Science subject. Because the pre test achievement is low.

So, the researcher prepared some videos in Science subject in order to make clear understanding of the scientific concepts in Science subject. He displayed the videos in classrooms and explained the experiments directly to the students. Also the researcher offered chances to all the students for doing the experiments by the individual activities and group activities. After that the researcher conducted post test to the students. He found that mostly all of the students in experimental group had achieved higher score than their pre test score. It reveals that teaching of science subject especially experiments in Science subject must be taught through hands on experience or learning by doing method. It results high performance of the students.

8.Educational implications :

The researcher found that learning of science is easy and joyful work. Because Science is being learnt by the students at any level through experiments when the students are involved in doing experiments they behave as scientist. Here this research was done by the students at Government High School for science learning. The learning of science was enhanced among upper primary students especially 8th standard students. This technique may be extended to other level of students i.e preparing and displaying video lessons for science subject may be applied to other classes. The video lesson preparing and displaying technique may be utilised to other subjects also. So, the researcher found out that this study is very useful to all classes and all subjects in all places.

Research Project 2023 -2024

Name of the DIET : DIET Padalur, Perambalur

Name and designation of the researcher : R. Srirangan, Lecturer

Tittle : Impact of Formative Assessment in improving teaching learning process among VI standard students in Perambalur District

1.Introduction :

In their influential review of effects of formative assessment Black and Wiliam (1998) demonstrated that large-scale student achievement gains are possible when formative assessment is employed in classroom practice. They defined formative assessment as "encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (Black & Wiliam, 1998, pp. 7–8). This definition affords several different foci in carrying out formative assessment, and accordingly Black and Wiliam's review included studies examining different strategies for carrying out formative assessment. Some of these strategies were researched using the term formative assessment, while some carried denotations such as feedback.

2. Need and Significance :

Formative assessment is any assessment task designed to promote students' learning. These tasks give both teachers and students feedback, so that teaching and learning activities can be altered according to the results. Formative assessment is different from summative assessment, the goal of which is to measure mastery. Research indicates the following conclusions:

Formative assessment produces greater increases in student achievement and is cheaper than other efforts to boost achievement, including reducing class sizes and increasing teachers' content knowledge.

3. Objectives :

This study has been undertaken with the following objectives in mind:

- To find out the difference between genders with respect to formative assessment in improving teaching learning process.
- To find out the difference between aided and government schools with respect to formative assessment in improving teaching learning process.
- To find out the difference between English and Tamil medium students with respect to formative assessment in improving teaching learning process.
- There is no significant difference between VI Standard School students from joint family and nuclear family with respect to formative assessment in improving teaching learning process.

4.Hypotheses :

The following hypotheses have been framed to attain the above said objectives.

- There is no significant difference between genders with respect to formative assessment in improving teaching learning process.
- There is no significant between aided and government schools with respect to formative assessment in improving teaching learning process.

- ❖ There is no significant between English and Tamil medium students with respect to formative assessment in improving teaching learning process.
- ❖ There is no significant between VI Standard School students from joint family and nuclear family with respect to formative assessment in improving teaching learning process.

5. Methodology :

a. Method : Normative Survey Method

b. Sample : The study is limited to six schools.

- ➢ The sample is restricted to 150 VI Standard school Students.
- ➢ The study is made only in the Perambalur districts.
- ➢ The samples were taken only from Government and Aided Schools.

c. Intervention : Teaching learning process scale contains 40 statements whose response can be used to measure the individual's teaching learning process. Against each statement, there are five alternatives representing the five possible ways in which one can respond to these statements. They are 1.Agree, 2. Disagree, 3.Undecided. The 40 items fall under three dimensions based on the areas of teaching learning process.

d. Tool : 3 Point Rating Scale

e. Data analysis: Mean and Standard Deviation

6.Major findings:

It was found that there is no significant difference between boys and girls with respect to problem solving ability of high school students.

- ➢ It was found that there is significant difference between boys and girls with respect to formative assessment in improving teaching learning process. Girls have more improving learning process than boys at VI standard student's level.
- ➢ It was found that there is significant difference between government and aided school with respect to impact of formative assessment in improving teaching learning process among VI standard school students. Aided school students have more improving teaching learning process than the students of government students at the VI standard school level.
- ➢ It was found that there is significant difference between English medium and Tamil medium Students with respect to impact of formative assessment in teaching learning process. English medium students are more capable in

  Improving in teaching learning process when compared to Tamil medium schools at VI standard school level.
- ➢ It was found that there is no significant difference between students from joint family and nuclear family with respect to problem solving ability

7. Conclusion :

In general there is impact of formative assessment in improving teaching learning process among VI Standard students in Perambalur district: Critical Analysis. This study is sure to find usefulness in the field of education and findings of the study can serve as a data base for further research.

8.Educational implications :

The present study denotes the impact of formative assessment in improving teaching learning process among the VI standard school students. These both play an important role in their field of education and in their future too. Therefore it is to be improved among the students. The following are some of the major recommendations to improve the creativity and problem solving ability among the students.

- The teachers too have a great responsible in creating such situations among the students to sharpen their improving teaching learning process.
- Parents should also motivate and encourage their children in developing such improving teaching learning process.
- Programmes should be conducted in such a manner in order to give more importance to improving teaching learning process.
- Curriculum should be constructed in such a way which gives importance only for the syllabus, but also for improvement of improving teaching learning process.

Research Project 2023 -2024

Name of the DIET : DIET Padalur, Perambalur

Name and designation of the researcher : K. Tilagam, Lecturer

Tittle : OPINION TOWARDS BLENDED LEARNING AMONG SECONDARY STUDENTS AT PERAMBALUR DISTRICT.

1.Introduction :

The rapid advancement in information technology (IT) has made remarkable changes in the traditional educational systems. It adopts modern technology and pedagogical techniques in teaching-learning process and creates a learning environment that motivates the students for better learning. Such a system of learning is mainly based on internet services which facilitate active learning. It disseminates different types of information needed for the holistic development of an individual. Blended learning has emerged as an effective method of learning to meet the needs of students' learning style. The growth of blended learning environments in education has emphasized the need for better ways of describing and recognizing good teaching that promotes students learning in this environment. Blended learning combines online components with the conventional face-to-face components that optimize best practices in teaching and learning through synchronous and asynchronous learning environments.

2. Need and Significance :

Most of the traditional class room teaching-learning process fails to engage the young learners actively to construct the knowledge. The knowledge is transferred monotonously and their needs, interests and attitude have never taken into account. With the advancement of technology, it is possible to revolutionize the way people learn and to present the information to them. Most of the traditional instruction, students learn from the instructor-led approach. Some students prefer an individualized or less structured environment. In other words, they need self-paced learning material. At the same time, educators are now facing with the challenges of integrating traditional and emerging technology as to balance various students learning styles. Teachers experience difficulties in teaching their students since they have to understand the interest and mood of the students. In certain cases, they need to visualize the picture when applying some hard subject matters. Studies have shown that attitude to be one of other reasons why teaching in traditional method is so difficult. Most of these experimental methods of teaching have not shown that traditional methods can affect students' attitude towards learning various subjects. It also mentioned that technological aids such as computers have improvement effects on students' attitudes towards education. With the help of the technology, blended learning (BL) makes it easy for students to study and be able to change their attitude towards education. So the investigator selected the topic "Opinion towards Blended Learning among Secondary Students at Perambalur District.

3. Objectives :

The objectives of the study are given below:

- To measure the level of opinion towards blended learning among secondary students at Perambalur district.
- To find out the significant difference between the mean values of opinion towards blended learning among secondary students based on their gender.

- To find out the significant difference between the mean values of opinion towards blended learning among secondary students based on their locality of the school.
- To find out the significant difference between the mean values of opinion towards blended learning among secondary students based on their parent's income.

4.Hypotheses :

Keeping in view the objectivities of the study the following hypotheses have framed as follows:

- The level of opinion towards blended learning among the secondary students at Perambalur district.
- There is no significant difference between the opinion towards blended learning among secondary students based on their gender.
- There is no significant difference between the opinion towards blended learning among secondary students based on their locality of the school.
- There is no significant difference between the opinion towards blended learning among secondary students based on their parent's income.

5. Methodology :

a. Method : The investigator has followed the survey method for the present study.

b. Sample : The sample of 100 Secondary Students was collected.

c. Intervention : Blended learning is a term increasingly used to describe the way e- learning which is being combined with traditional classroom methods and independent study to create a new hybrid teaching methodology. It represents a much greater change in basic techniques than simply adding computers to classrooms; it represents in many cases, a fundamental change in the way teachers and students approach the learning experience. It has already produced an offshoot- the flipped classroom that has quickly become a distinct approach of its own. Teaching being a demanding profession requires multi-dimensional skills, Patience, commitment and continuous growth to face the challenges of the present era. Therefore, preparation of highly competent teachers became the priority and concern of all the level of schools.

d. Tool : 'Opinion towards Blended Learning among Secondary Students at Perambalur District' the tool was constructed by the investigator under standardized by the guide and subject expects. The tool is four-point scales. The investigator has developed tool which is a hand-held item that aids is accomplishing a task in a systematic and scientific manner. The selection, of

suitable research tool gives vital important for collection of data and to investigate the study successfully.

e. Data analysis: Data was collected by administering the selected tools. Master Table was developed and suitable statistical techniques like Mean, Standard Deviation, T-test, Correlation and other appropriate techniques were used.

6.Major findings:

The following are the findings of the study.

- The level of opinion towards blended learning among secondary students is high.
- There is no significant difference in the level of opinion towards blended learning among secondary students with respect to their Gender. Male and Female teacher educators are having similar level of opinion towards blended learning.
- There is a significant difference in the level of opinion towards blended learning among secondary students with respect to their Locality of the school. Secondary students studying in Rural Schools are having significantly higher than the Secondary students studying in Urban schools.
- There is no significant difference in the level of opinion towards blended learning among secondary students with respect to their Parent's Income. Below Rs.10,000 and Above Rs.10,000 parent incomes of secondary students are having similar level of opinion towards blended learning.

7. Conclusion :

The present study has investigated about the opinion towards Blended Learning among Secondary Students at Perambalur district. The results provide evidence that the opinion towards Blended Learning among secondary students is high. It should implement in all type and levels of schools. So that the students and teachers would get more knowledge through internet, multimedia and other teaching aids in order to get clarity about the conceptual learning.

8.Educational implications :

- Enhance the Blended Learning classes in teaching and learning and make it compulsory for irrespective of the levels.
- The usage of Internet facilities should be increased for the secondary students, to improve the level of blended learning.
- Innovations in Blended Learning should be encouraged by the Government sector at different level of education.
- State level study can be taken for further research.

Research Project 2023 -2024

Name of the DIET : DIET Padalur, Perambalur

Name and designation of the researcher : K. Revathi, Lecturer

Tittle : Development And Validation Of Flipped Learning On Achievement In Mathematics Among Upper Primary School Students.

1.Introduction :

Flipped learning, an innovative pedagogical approach, has gained significant attention in recent years due to its potential to enhance student engagement and learning outcomes. This research focuses on the development and validation of flipped learning methodologies specifically tailored for upper primary school mathematics education.

2. Need and Significance :

By investigating its development and validation, this research aims to contribute to the advancement of effective teaching practices and the promotion of academic success in mathematics education .

3. Objectives :

- To find out the significant difference between the pre- and post-tests of the control group among upper primary students.
- To find out the significant difference between the pre- and post-tests of the experimental group among upper primary students.
- To find out the significant difference between the pretests of the control group and the experimental group among upper primary students.
- To find out the significant difference between the post-tests of the control group and the experimental group among upper primary students.
- To find out the significant relationship between the pre- and post-tests of the control group among upper primary students.
- To find out the significant relationship between the pre- and post-tests of the experimental group among upper primary students.

4.Hypotheses :

- ✓ There is no significant difference between the pre- and post-tests of the control group among upper primary students.
- ✓ There is no significant difference between the pre- and post-tests of the experimental group among upper primary students.
- ✓ There is no significant difference between the pre- tests of the control group and the experimental group among upper primary students.

- ✓ There is no significant difference between the post-tests of the control group and the experimental group among upper primary students.
- ✓ There is no significant relationship between the pre- and post-tests of the control group among upper primary students.
- ✓ There is no significant relationship between the pre- and post-tests of the experimental group among upper primary students.

5. Methodology :

a. Method : In this study, an Experimental Method with a Parallel Group design was employed to investigate the Development and Validation of Flipped Learning on Achievement in Mathematics Among Upper Primary School Students.

b. Sample : The researcher selected 40 students for the experimental group and another 40 students for the control group. This selection process occurred at GHSS Kilumathur School in Perambalur District

c. Intervention : Implement flipped learning(Experimental Group). Implement Traditional Teaching (Control Group)

d.Tool : Achievement test (Pre-test and Post test) consisted 25 Multiple choice Questions was used.

e. Data analysis: Descriptive Analysis,Differential Analysis,Correlation Analysis,Effect Size

6.Major findings:

- The mean scores of post-test of control group 41.7 is higher than the mean scores pre-test 28. The calculated 't' value 19.36 is greater than the table value 1.98 significant at 0.05 level. It is concluded that there is significant difference between the pre- and post-tests of the control group among upper primary students.
- The mean scores of post-test of experimental group 56.72 is higher than the mean scores pre-test 30.70. The calculated 't' value 22.02 is greater than the table value 1.98 significant at 0.05 level. It is concluded that there is significant difference between the pre- and post-tests of the experimental group among upper primary students.
- The mean scores of pre test of experimental group 30.70 is higher than the mean scores control group 28. The calculated 't' value 6.74 is greater than the table value 1.98 significant at 0.05 level. It is concluded that there is significant difference between the pre-test of the control and experimental groups among upper primary students.
- The mean scores of post test of experimental group 56.72 is higher than the mean scores control group 41.7. The calculated 't' value 5.45 is greater than the table value 1.98

significant at 0.05 level. It is concluded that there is significant difference between the post test of the control and experimental groups among upper primary students.

- The 'r' value 0.14 is less than the table value 0.19. It is concluded that there is no significant relationship between the pre- and post-tests of the control group among upper primary students.
- The 'r' value 0.50 is greater than the table value 0.19. It is concluded that there is significant relationship between the pre- and post-tests of the experimental group among upper primary students.
- The mean scores of pre test boys is 26.36 greater than the mean scores of girls 26.32. The calculated 't' value is 0.04 less than the table value 2.01 significant at 0.05 level. It is concluded that there is no significant difference between the pre-tests of the control group among upper primary students with respect to gender.
- The mean scores of post test girls is 42.64 greater than the mean scores of boys 41.28. The calculated 't' value is 1.06 less than the table value 2.01 significant at 0.05 level. It is concluded that there is no significant difference between the post-tests of the control group among upper primary students with respect to gender.

7. Conclusion :

These findings collectively underscore the potential of flipped learning as an effective instructional strategy to improve academic outcomes in mathematics education for upper primary school students.

8.Educational implications :

The educational implications was the integration of flipped learning methodologies into mainstream educational practices, offering a promising avenue for educators to engage students more actively and effectively in their learning journey. Additionally, policymakers can use these findings to inform decisions on curriculum enhancements that leverage innovative teaching strategies like flipped learning to optimize learning outcomes across diverse student populations.