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Attitude Of Pupil-Teacher Towards The Effect Of 5e Instructional Model Of Teaching In Relation To Their Demography

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Abstract:

The present study of the investigator is based on the 5E instructional model of teaching. The investigator is trying to study the opinion of pupil teachers with the objectives of the attitude of male and female pupil teachers towards the 5E instructional model of teaching. To study the mean score of Arts and Science pupil teachers towards the effect of the 5E instructional model of teaching. To Study the attitude of urban and rural pupil teachers towards the effect of the 5E instructional model of teaching. The investigator has taken a descriptive survey method for the purpose of studying the research problem .The investigator has taken 500 populations from them and the investigator selected 64 samples randomly. The investigator adopted a self made 5 point rating scale and collected data through the E-form(Google form). And the research used an independent sample t test for analyzing the data. The investigator found that both male and female had a positive attitude towards the 5E instructional model of teaching. Further the research found the difference between the urban and rural pupil teachers on their attitude towards the effect of the 5E instructional model of teaching.

Index Terms - 5E INSTRUCTIONAL MODEL, TEACHING

I. INTRODUCTION

Education is a biological, social, psychological and philosophical process that is capable of promoting unified humanity, development of the personality, providing information and formal knowledge to students regarding the creation of character and person planning. Our community has opened up various types of educational institutions and appointed trained teachers to teach and upgrade information, ideas, creative skills, problem-solving skills, and students' ability. To promote or evaluate all of these factors, teachers find different educational and technical strategies and develop different tools and teaching strategies for easily communicate information with students, that helps understand the students' mind. Like other teaching techniques in teaching the 5E model is one of them.

Teaching tells students about the things they have to know and students can not find out by themselves. Teaching is an interactive process between the students and the teaching sources which is represented by the teacher. Only a resourceful teacher can deliberate content in an effective manner. So he needs the best training at the beginning when an interested person who likes to enter into the teaching profession. There are various teacher training institutions which play a vital role in the field of making effective teachers. From these institutions, the teacher educator trained the pupil-teacher in an effective way. The teacher educator introduces a number of instructional models of teaching to the pupil-teacher then they are able to apply it in their teaching-learning process in their later life.

In educational studies, there are some studies related to the descriptions of learning and the existence of the learning process. Educators are interested in how students can learn and gather their knowledge. Scientists have more knowledge about how learning takes place and how effective learning can be provided; it causes some changes in learning theories. These changes have given rise to a wide range of learning theories to break out. Learning theories handle learning processes from different aspects and explain how people learn and what affects the learning processes.

CONCEPT OF 5E MODEL OF TEACHING:

In the sphere of teacher education and training a number of teaching models and methods are there to make the pupil-teacher competent, effective, efficient and easy to comprehend. Pupilteacher is the students of pre services and in-service teacher education. They have to practice the teaching strategies designed by the different educationists to develop their teaching skill, teaching competency and the effectiveness of their teaching. That's why in the present context pupil-teachers are keeping their practicum in schools and colleges. They apply the models like the Herbertrian,5E, and ICON model. These models are much more effective and put a good impact on the students and their all-round development. The 5e learning cycle is an instructional design model that defines a learning sequence based on the experiential learning philosophy of John Dewey and the Experiential learning cycle proposed by David Kolb. Attributed to Roger Bybee of the Biological Science Curriculum Study(BSCS) the model presents a framework for constructivist learning theories and can be effectively used in teaching science.

The 5E Model

The 5E Model, developed in 1987 by the Biological Sciences Curriculum Study, promotes collaborative, active learning in which students work together to solve problems and investigate new concepts by asking questions, observing, analyzing, and drawing conclusions. The 5E Model is based on the constructivist theory of learning, which suggests that people construct knowledge and meaning from experiences. By understanding and reflecting on activities, students are able to reconcile new knowledge with previous ideas. According to subject matter expert Beverlee Jobrack, ―Educational movements, such as inquiry-based learning, active learning, experiential learning, discovery learning, and knowledge building,are variations of constructivism.‖

In the classroom, constructivism requires educators to build inquiry, exploration, and assessment into their instructional approach. In many ways, this means the teacher plays the role of a facilitator, guiding students as they learn new concepts.

Description of 5e model of teaching:

1. **Engage**

Here the task is introduced. Connections to past learning and experience can be invoked. A demonstration of an event, the presentation of a phenomenon or problem or asking pointed questions can be used to focus the learners' attention on the tasks that will follow. The goal is to spark their interest and involvement.

2. **Explore**

Learners should take part in activities that allow them to work with materials that give them a 'hands-on' experience of the phenomena being observed. Simulations or models, whose parameter can be manipulated by learners, so that they can build relevant experiences of the phenomena, can be provided. Questioning, sharing and communication with other learners should be encouraged during this stage. The teacher facilitates the process.

3. **Explain**

The focus at this stage is on analysis. The learner is encouraged to put observations, questions,hypotheses and experiences from the previous stages into language. Communication between learners and learner groups can spur the process. The instructor may choose to introduce explanations, definitions, mediate discussions or simply facilitate by helping learners find the words needed.

4. **Elaborate/Extend**

Using the understanding gained in the previous stages, now learners should be encouraged to build and expand upon it. Inferences, deductions, and hypotheses can be applied to similar or real-world situations. Varied examples and applications of concepts learnt to strengthen mental models and provide further insight and understanding.

5. **Evaluate**

Evaluation should be ongoing and should occur at all stages, in order to determine that learningobjectives have been met and misconceptions avoided. Any number of rubrics, checklists, interviews, observation or other evaluation tools can be used. If interest in a particular aspect or concept is shown, a further inquiry should be encouraged and a new cycle can begin that builds upon the previous one. Inquiries may branch off and inspire new cycles, repeating the process in a spiralling fractal of interrelated concepts, where instruction is both structured and yet open to investigation.

When choosing an instructional model, teachers seek strategies that help students gain a complete understanding of new concepts. They aim to engage students, motivate them to learn, and guide them toward skill development. One of the ways to do that is by incorporating inquiry-based approaches like the 5E Model, which is grounded in active learning. Research suggests that there is a set order of events that facilitates learning, known as a learning cycle. Educators J. Myron Atkin and Robert Karplus argued in 1962 that effective learning cycles involve three key elements: exploration, term introduction, and concept application. In their scheme, exploration allowed the learners to become interested in the subject at hand, raise questions, and identify points of dissatisfaction with their current understanding. Introduction of new ideas and terms, primarily by the instructor, but negotiated by both instructor and students, followed. Finally, concept application provided learners with opportunities within the classroom to apply their new ideas, try out their new understandings in novel contexts, and evaluate the completeness of their understanding,‖ according to Kimberly. D. Tanner in the article ―Order Matters: Using the 5E Model to Align Teaching With How People Learn.‖

Theoretical Foundations

The findings of Atkin and Karplus directly informed the creation of the 5E Model, which focuses on allowing students to understand a concept over time through a series of established steps, or phases. These phases include Engage, Explore, Explain, Elaborate, and Evaluate.

Application and Effectiveness of the 5E model of Teaching:

The 5E Model is most effective when students are encountering new concepts for the very firsttime because there is an opportunity for a complete learning cycle. According to co-creator Rodger W. Bybee, the 5E Model is best used in a unit of two to three weeks in which each phase is the basis for one or more distinct lessons. ―Using the 5Es model as the basis for a single lesson decreases the effectiveness of the individual phases due to shortening the time and opportunities for challenging and restructuring of concepts and abilities—for learning,‖ Bybee explains. And if too much time is spent on each phase, the structure isn‘t as effective and students may forget what they‘ve learned. The 5E Model allows educators to create a unique learning experience for students. Teachers who can incorporate instructional models like the 5E Model into their classrooms help students build a strong foundation of knowledge through active participation.

Review of related literature

Sari yuger (2018) studied on effects of the 5e teaching model using interactive simulation on achievement and attitude in physics education. Two 11th grade science stream classes with 80students participated in the research and a quasi-experimental design with Pre- and posttest control groups were used. While a traditional method was used to teach the control group, the5E model of teaching model with interactive simulations was used to teach the experimental group by the same teacher. The Quantitative data were collected by using an achievement test and attitude scale and the qualitative data were collected via semi structured interview form. For the analysis of the quantitative data, independent samples t-tests were used and for qualitative data, content analysis was conducted. The findings revealed that interactive simulations integrated 5e teaching model caused significantly better acquisition of scientific concepts related to content taught and relatively higher positive attitudes towards physics than traditionally based instruction. The results have also been supported by the thoughts collected from the students in the experimental group at the end of the study. As a result, the 5e teaching model integrated with simulations had potential to help eleventh graders improve their physics academic achievement and attitude.

Senturk & Huseyin (2017) studied on A New Learning Model on Physical Education: 5E Learning Cycle by developing degree in the process is taken into consideration. In this context, the 5E learning cycle can also be used to teach concepts on physical education and sport teaching as an applied science of education. 5E learning cycle that is being used as a different model can be applied by competent physical education teachers in the course of physical education lessons. As a conclusion, the plans prepared may be applied by authors, teachers or independent researchers who want to study on this model and this study will be a new idea about the constructivist approach to teaching physical education

Erdamar1 et .al (2016) has studied on The Effects of Gender on Attitudes of Pre-service Teachers towards the Teaching Profession: A Meta-analysis Study by It combines the findings of 35 relevant studies comprising a sample of 4,289 male and 6,073 female pre-service teachers. A Group Difference model was used to identify fixed and random effects and to facilitate comparison using meta-analysis methods. A significant effect size (d=0.271) on an insignificant level was identified in favors of the gender attitudes of female pre-service teachers. The location of the research, branch, and class level/educational status were also found to have moderating effects on attitudes.

Akgunduz & Akinoglu (2016) has studied on The Effect of Blended Learning and Social Media-Supported Learning on the Students‘Attitude and Self-Directed Learning Skills in Science Education by taking this design of the study was pretest-posttest control group design. Control Group is taught by using the traditional face to face approach with the 5E learning cycle, one of the experimental groups received blended learning model (face to face and internet-based learning) with the 5e learning cycle and the other experimental group received social networking supported based on face to face approach and the 5E learning cycle model. Data were collected using the Science Teaching Attitude Scale and the Self-directed Learning Skills Scale. Quantitative data were analyzed by One-Way Anova, t-Tests and Kolmogorov Smirnov-Z Test of SPSS 17 Statistic Program. As a result, while blended learning experimental group increase science attitude and self-directed learning skills significantly than the control group; social media supported learning group has a positive impact on attitude and self-directed learning skills, although this change didn‘t make a significant difference compared with the control group.

D. Manzo et al. (2016) have studied on the impact of the 5e teaching model on changes in neuroscience, drug addiction, and research methods knowledge of science teachers attending California's arise professional development workshops the data for this study evolved from a Four-year NIH funded science education project called addiction research and investigation for science Educators (arise). Findings were

based on pre- and post-test evaluation data from three annual cohorts in June 2010, 2011 and 2012. Researchers found significant improvement in teacher knowledge overall and on all Subscales. Teachers with lower pre-test scores showed the greatest gain in post-test scores. What made this In-service unique was that the 5epedagogical model was used to teach the teachers and demonstrate 5e Instruction in the science classroom. Through the use of the 5e teaching method, we found that teachers in our Cohorts with the least skill had higher rates of gain. A strategy that has been used extensively to teach science to Children, this model moves away from didactic methods of in-service pedagogy. These findings suggest that the 5emodel could be an effective way to teach teachers as well as students, particularly new and or less skilled Teachers, who often tend to have high numbers of English learner (el) students in their classes.

Guzel (2016) has studied on the effect of the brightness of lamps teaching based on the 5E model on students' academic achievement and attitudes by taking Grade 11 physics lesson, on student achievement and attitude according to the 5E model belonging to the constructivist learning theory and the traditional teaching method. The research was conducted on 62 11th grade students in İdil High School during the spring semester of 2009/2010 academic year. The quasi-experimental method was used in the research and the significance level was p=0.05. A meaningful difference($p<0.05$) was observed on the experimental group according to the results of the independent samples t-test related to the post-test scores of the brightness of lamps Achievement Test(BLAT)" of the students in the experimental and control groups. It was concluded that the worksheets applied, cartoons, animation and laboratory activities used while teaching the topic "brightness of lamps " according to the 5E model provided a better understanding for the students, increased the motivation related to the lesson, and created a positive effect on understanding abstract concepts. The results of the attitude scale showed that the differences between the groups were insignificant ($p>0.05$).

Senol & Oskay (2016) has studied on The Effects of 5E Inquiry Learning Activities on Achievement and Attitude toward Chemistry by taking a non-equivalent control group design was used to the quasi experimental research in this study. A total of 34 (8 males and 26 females) undergraduates in Turkey voluntarily participated in the study. The 5E Inquiry Learning Activities were applied to the experimental group and lecture-based traditional activities were applied to the control group. Both two groups were taught by the same instructor and used same books. The Chemical Equilibrium Concept Test (CECT) and the Attitude toward the Subject of Chemistry Inventory (ASCI) were applied to both groups as pre test and post-test. The results of the study revealed that 5E inquiry learning activities were more effective in improving the achievement in chemical equilibrium compared to lecture-based traditional activities. In addition, the results showed that there was no statistically significant mean difference between experimental and control groups with respect to attitude toward chemistry.

Jiuhua Hu (2016) has studied on Study of the 5E Instructional Model to Improve the Instructional Design Process of Novice Teachers by taking Project based on the 5E model for 40 novice teachers, and compared pre-texts of the teachers' teaching process from before the training with post-texts obtained immediately following the training to determine whether the model can promote the teaching design process of novice teachers. In order to explore how the 5E model influenced the novice teachers 'teaching processes, he chose three teachers for an additional three stages of training, then compared the texts resulting from the different stages and interviewed each teacher. Finally, we found that the 5E model had a significant effect on the improvement and further development of the teaching processes among novice teachers. The model influenced the teachers' teaching process through each of the sub-phases, and different sub-phases resulted in different improvements. Each novice teacher also showed different improvements, with the specific improvements also being affected by teachers' personal beliefs.

Özgür & batdi(2015) studies on a comparative meta-analysis of 5e and traditional approaches in turkey by taking the goal of the review was to determine the efficacy of the 5e instructional modeling terms of academic achievement, retention and attitude scores. The treatment effect method was used in the data analysis and the comprehensive meta-analysis (CMA) statistical program, the met win and Microsoft excel 2010 office programs were employed for the effect size calculation. The effect size values resulting from the analysis were interpreted according to Cohen classification (1992). When academic achievement, retention and attitude scores in the studies implementing the 5e instructional model were calculated according to the random-effects model, effective size values were found to be academic achievement=1,132, retention:1,417 and attitude=0,552, respectively. In regard to academic achievement and retention, it can be inferred that these effect sizes of the 5e learning cycle were large and medium with respect to attitude, while both were positive and significant. It can, therefore, be said that the 5e model has a

positive effect on academic achievement, retention and attitude scores.

HIRÇA(2013) has studied on Using an animated case scenario based on constructivist5e model to enhance pre-service teachers' awareness of electrical safety by taking The objective of this study is to get pre-service teachers to develop an awareness of first aid knowledge and skills related to electrical shocking and safety within a scenario-based animation based on a constructivist 5e model. The sample of the study was composed of 78 (46 girls and 32 boys) pre-service classroom teachers from two faculties of education at two Turkish Universities. For the purpose of this qualitative study, an open-ended "Electrical Safety Awareness Questionnaire" was used to assess the participants' acquisition, retention and awareness levels in the beginning, at the end and five weeks after the implementation of the intervention. A one-group pretest-posttest design was adopted to measure the outcomes. The interpretative analysis was used to analyze the data. Results showed that when the subject was electricity, using an animated case scenario based on a constructivist 5E model was effective in teaching first aid knowledge and helping pre-service teachers acquire and retain technical skills about the electric shock.

Tuna & Kascar (2013) conducted a study on "The Effect of 5E Learning Cycle Modelin teaching trigonometry in 10th-grade students of elementary mathematics educationon the students' academic achievement and on the permanence of their trigonometryknowledge". The students in the experimental group were taught by the researcher inan environment where the 5E learning model was used. The students in the control group took the same course from their mathematics teacher in an environment wherethe activities of the official mathematics curriculum were used. The statistical findingsof the research showed that the scores of the experimental group students onacademic achievement and permanence of trigonometric knowledge are higher than that of the control group.

Akcay (2013) designed an imaginary insect model to help fourth-grade students toidentify basic insect features as a means of promoting student creativity. The 5Es (Engage, Explore, Explain, Extend and Evaluate) learning cycle teaching model is used. The 5Es approach allows students to work in small groups. It gives students anopportunity to think more creatively about different insects as they demonstrate their creativity in developing an original insect model.

Walia (2012) conducted a study to examine the effect of the 5E instructional model onmathematical creativity of 8th-grade students. The control group was taught bytraditional approach and the experimental group was taught by the teaching approachbased on the 5E instructional model. Mann's Whitney Test indicated that the experimental group has higher post-test scores. then the control group. The results ofthe study indicate the effectiveness of the 5E instructional model on mathematical creativity.

Çepni1 and şahin (2012) studied on the effect of different teaching methods and techniques embedded in the 5e instructional model on students' learning aboutbuoyancy force by taking the teaching strategy based on the 5e instructional model isderived from a constructivist view of learning. The sample group consisting of forty- eight students (control group=23; experiment group=25) is selected from two different eighth grade classes in giresun, turkey. Four two-tier questions are used to collect data, and data are analyzed both qualitatively and quantitatively. The findings suggestthat using different teaching methods and techniques embedded in the 5e instructionalmodel enables students to remedy some misconceptions about the buoyancy force, but does not completely eliminate them.

Sibel A.T (2011) studied on Effects of the 5E learning model on students' academic achievements in movement and force issues, the materials were developed by the researcher, based on the ―Movement and Force‖ unit's objectives. The quasi-experimentalresearch designincluded 60 students (30 experimental, 30 control group). Control group students were given experiment booklets, which were prepared for each experiment in accordance with the5E learning model. To determine whether any differences exist between the two groups' academic achievements, Achievement Tests on Movement and Force Issues were applied to the groups, both at the beginning and at the end of the semester as pre- and post-tests. Pre- andpost-test results were compared, using a t-test in SPSS packet program. Results showed a meaningful difference between groups in favor of the experimental group.

Hokkanen (2011) investigated whether the implementation of the 5E learning cycle model in lesson planning and lesson presentation could improve student academics, interest and confidence in science. Within this research project, it was determined that the 5E model has the potential to improve student academics, interest and confidence in science when implemented properly with dedication and fidelity.

Su, Chiu & Wang (2010) conducted a study on the development of SCORM Conformant learning content based on the learning cycle using participatory design. This study incorporates the 5E learning cycle strategy to design and develop a Shareable Content Object Reference Model (SCORM) conformant materials for elementary education. The results of this study provided a concrete recommendation for how to incorporate the 5E Learning Cycle and how to develop effective e-learning materials for elementary science instructions.

SUMMARY OF REVIEW OF RELATED LITERATURE:

Effects of the 5E teaching model using interactive simulation on achievement and attitude in physics education and founds that interactive simulations integrate 5e teaching model caused significantly better acquisition of scientific concepts related to content taught and relatively higher positive attitudes towards physics than traditionally based instruction (**yuger)2018.** A New Learning Model on Physical Education: 5E Learning Cycle, and it founds that the maximum number of teachers used this as a different model and can be applied by competent physical education teachers in the course of physical education lessons (**Senturk, et .al)2017.** The Effects of Gender on Attitudes of Pre-service Teachers towards the Teaching Profession: A Meta-analysis; he founds that the location of the research, branch, and class level/educational status were also found to have moderating effects on attitudes (**Erdamar1 et .al), 2016**. The Effect of Blended Learning and Social Media-Supported Learning on the Students'Attitude and Self-Directed Learning Skills in Science Education; and he founds that social media supported learning group has a positive impact on attitude and self-directed learning skills, although this change didn't make a significant difference compared with the control group (**Akgunduz),2016.** The effect of the brightness of lamps teaching based on the 5E model on students' academic achievement and attitudes and he founds that increased the motivation related to the lesson, and created a positive effect on understanding abstract concepts. The results of the attitude scale showed that the differences between the groups were insignificant ($p>0.05$) (**Guzel),2016.** The Effects of 5E Inquiry Learning Activities on Achievement and Attitude toward Chemistry; as a result he founds that the results showed that there was no statistically significant mean difference between experimental and control groups with respect to attitude toward chemistry. (**Oskay)2016.** has studied on Study of the 5E Instructional Model to Improve the Instructional Design Process of Novice Teachers and he found that the model influenced the teachers' teaching process through each of the sub-phases, and different sub-phases resulted in different improvements. Each novice teacher also showed different improvements, with the specific improvements also being affected by teachers' personal beliefs. (**Jiuhua Hu) 2015.** Using an animated case scenario based on constructivist5e model to enhance pre-service teachers' awareness of electrical safety; he found that when the subject was electricity, using an animated case scenario based on a constructivist 5E model was effective in teaching first aid knowledge and helping pre-service teachers acquire and retain technical skills about the electric shock. **(HIRÇA),2013.** Examine the effect of the 5E instructional model on mathematical creativity of 8th-grade students. The results of the study indicate the effectiveness of the 5E instructional model on mathematical creativity. The effect of different teaching methods and techniques embedded in the 5e instructional model on students' learning; the findings suggest that using different teaching methods and techniques embedded in the 5e instructional model enables students to remedy some misconceptions about the buoyancy force, but does not completely eliminate them. **(Walia),2012.** Effects of the 5E learning model on students 'academic achievements in movement and force issues, results were compared, using a t-test in SPSS packet program. Results showed a meaningful difference between groups in favor of the experimental group. **(Sibel) 2011**. The implementation of the 5E learning cycle model in lesson planning and lesson presentation could improve student academics, interest and confidence in science. Within this research project, it was determined that the 5E model has the potential to improve student academics, interest and confidence in science when implemented properly with dedication and fidelity **Hokkanen,(2011).** The development of SCORM Conformant learning content based on the learning cycle using participatory design. This study incorporates the 5E learning cycle strategy to design and develop a Shareable Content Object Reference Model (SCORM) conformant materials for elementary education. The results of this study provided a concrete recommendation for how to incorporate the 5E Learning Cycle and how to develop effective e-learning materials for elementary science instructions (**Wang),2010**

JUSTIFICATION OF THE STUDY:

In this era of glaring digital technologies traditional chalk and talk method of teaching with voluminous books in most of the schools are no more effective for school children. Hence they tend to get distracted from the teaching and learning systems. The 5E model of instructional teaching is based on the constructivist theory of learning, which suggests that people construct knowledge and meaning from their own experiences. In many ways, this means the teacher plays the role of a facilitator, guiding students as they learn new concepts. As it is a part of the modern method of teaching I want to know how it works on the field of teaching and learning process. For a teacher method of teaching is more important because he is the source of all knowledge if he or she can‘t deliver it in a proper way then the learning process becomes meaningless. So for meaningful learning, the teacher can apply this method in a proper way without any doubt. As it is a new method of teaching I need to know how much it is effective on the part of pupil-teacher because they are the future of our country how they imbibe this method for their teaching-learning process. This is an important method of teaching through which the student can construct their own knowledge. The present study is an attempt to study or to perceive the attitude of pupil-teacher towards the effect of the 5E instructional model of teaching.

STATEMENT OF THE PROBLEM:

After the review of the researcher literature‘s, the problem undertaken by the investigator is studied as ―A study on the attitude of pupil-teacher towards the effect of 5E instructional model of teaching. In this study, there are two variables one is the independent variable (5E Instructional Model) and another variable is dependent(Attitude of pupil-teacher) Here the attitude of pupil-teacher depend on the 5E instructional model. The investigation proceeds towards his research finding on the basis of these two variables.

The present proposed study is titled as **―Attitude of pupil-teacher towards the effect of the 5E instructional model of teaching.**

OPERATIONAL DEFINITION OF THE STUDY OR KEY TERMS:

Attitude: A predisposition or a tendency to respond positively or negatively towards a certain idea, object, method, person, or situation. Attitude influences an individual's choice of action, and responses to challenges, incentives, and rewards. In the present study, an attitude refers to the settled way of thinking and feeling about the effect of the 5E instructional model of teaching in the teaching-learning process.

Pupil-teacher: A young person who plans to be a teacher and who spends part of his or her time in preliminary education undertaking teaching duties under the supervision of the head teacher. She or he was an experienced student; in fact, a pupil-teacher is one who is entered into a teacher training institution to be a teacher in his or her future.

5E instructional model: The widely established 5E instructional model – which includes the progressive stages Engage, Explore, Explain, Elaborate, and Evaluate – is helpful for informing the design of contents, units, and lessons. The researcher desires to study the attitude of pupil-teacher towards the effect of the 5e instructional model of teaching.

OBJECTIVES OF THE STUDY :

1. To study the attitude of pupil-teacher towards of 5E instructional model of teaching.
2. To study the mean score of Arts and Science pupil-teacher towards the effect of the 5Einstructional model of teaching.

HYPOTHESES OF THE STUDY:

1. There is no significant difference between the attitude of male and female pupil teacher towards the effect of the 5E instructional model of teaching.
2. There is a significant relationship between the means score of Arts and Science pupil teacher towards the effect of the 5E instructional model of teaching.

RESEARCH METHODOLOGY

Population and Sample:

The entire group from which the sample has been selected is called as population. That group may consist of persons, objects, attributes, qualities, the behavior of people and animals, cities, families, answer to various items of a test and the like. In the present study, the investigator has taken pupil-teachers from different teacher training institution and Integrated B.Ed-M.Ed of North Orissa University, Baripada, Mayurbhanj, as the population. In the present study, the researcher followed the random sampling method in order to select the sample. Sixty-four (64) pupil teachers selected as the sample from different teacher training institution and Integrated B.Ed-M.Ed of North Orissa University was selected as the sample of the study

Data and Sources of Data

For this study secondary data has been collected. From the pupil teachers the investigator has collected data personally by using the E-technique (goggle form) tools. Before the collection of data, she took permission from the Principal, School of Education, North Orissa University. Then created a goggle form of questions as an attitude scale. After that data has been collected from the pupil-teachers then administrating their attitude towards the 5E instructional model of teaching.

Tool and Techniques Used:

In this present study, the investigator used the descriptive survey method. For the collection ofdata, Study E-technique as google form attitude scale, as developed by the Investigator is used.This is a five-point Likert type scale consists of 35 items having both positive and negative type. The scale is a five-point scale viz. Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Reliability of the tool was 0.88

Procedure of Data Collection:

In the present study, the investigator has collected data personally by using the E-technique (goggle form) tools. Before the collection of data, I took permission from the Principal, School of Education, North Orissa University. I created a goggle form of questions as an attitude scale. After that data has been collected from the pupil-teachers then administrating their opinion.

Statistical Technique Use:

The main purpose of the study was to find out the attitude of pupil-teacher towards the effect of the 5E instructional model of teaching. After the collection of data, the same was put into a tabular form to make the process of analysis and interpretation of the data. The investigator was analyzed data with the help of statistical techniques such as mean, SD and t-test and ANOVA to find out the difference between two groups on a particular variable of study and investigator also used bar diagram for graphical representation of data'

Analysis And Interpretation Of Data :

Analysis and interpretation of data are the most important steps in the research work. Itmeans studying the tabulation materials in order to determine inherent facts. It involves breaking down the existing complex factors into simple parts and putting the parts into a new arrangement for the purpose of interpretation. The following analysis was done with respect to the gender, stream and locality after collecting data from 64 pupils. To compare their meant-ratio is calculated.

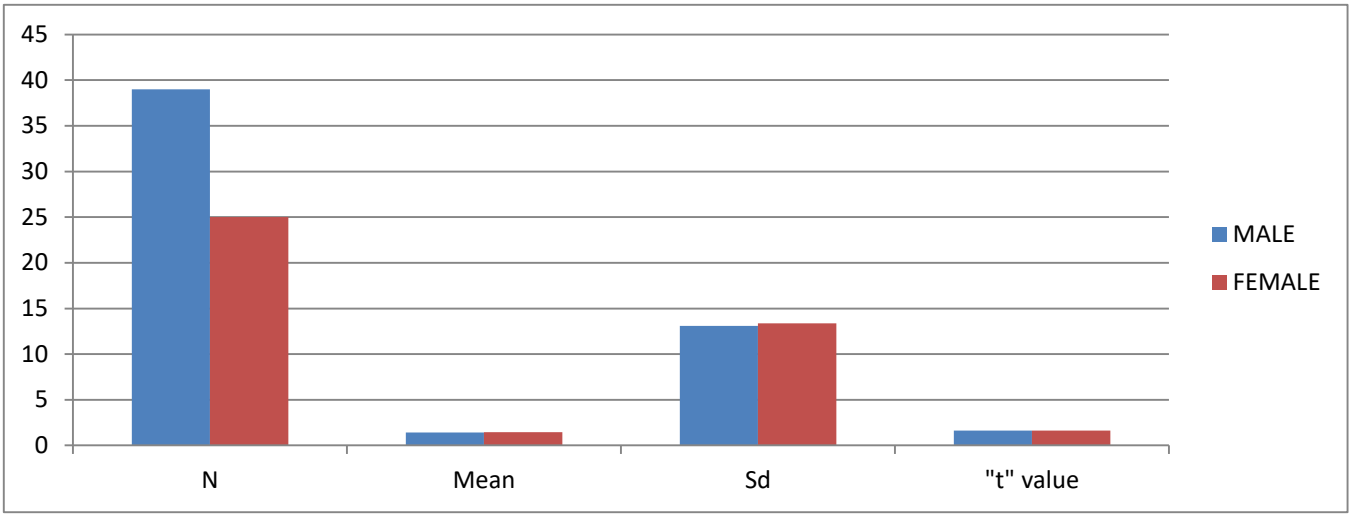
Objective 1 To study the attitude of pupil-teacher towards of 5E instructional model of teaching.
Hypothesis :

There is no significant difference between the attitude of male and female pupil-teachertowards the 5E instructional model of teaching.

Table 4.1.1 group wise Comparison of N,MEAN and ,SD score between male and female pupil-teachers

GROUP	N	Mean	Sd	"t" value	df	Level of Significance
MALE	39	1.41	13.1			
FEMALE	25	1.47	13.38	1.63	62/2	Not Significant

{FIG1. group wise Comparison of N,MEAN and ,SD score between male and female pupil-teachers}



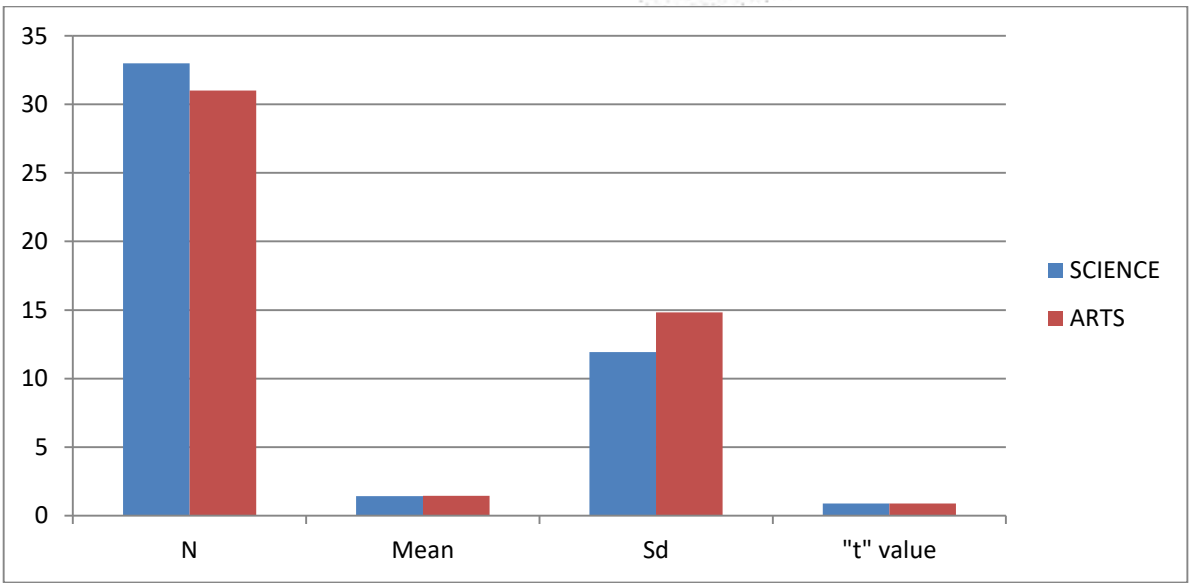
The objective was to compare the means score of male and female pupil-teacher towards 5E instructional model of teaching, the mean score of female pupil-teacher was 1.41 with standard deviation 13.10 and mean score of male pupil-teacher was 1.47 with 13.38 it is evident that the _t' value is 1.63 which is significant at both 0.01 and 0.05 level with the df 62. It is revealed that the null hypothesis is accepted and resulted from that there is no significant difference between the attitude of male and female pupil-teacher towards the 5Einstructional model of teaching.

Objective 2 :To study the mean score of Arts and Science pupil-teacher towards the effect of the5E instructional model of teaching.

Hypothesis : There is a significant relationship between the means score of Arts and Science pupil-teacher towards the effect of the 5E instructional model of teaching.

Table- 4.2.1 Group wise Comparison between the mean score of arts and science pupil-teachers

GROUP	N	Mean	Sd	"t" value	df	Level of Significance
SCIENCE	33	1.422432	11.9217	0.88	62/2	Not Significant
ARTS	31	1.451932	14.83109	0.88	62/2	Not Significant



[FIG. 2 Group wise Comparison between the mean score of arts and science pupil teachers]

The objective was to compare the means score of arts and science pupil teachers towards 5 Instructional model of teaching, the mean score of arts pupil teacher is 1.45, Standard deviation 14.83 with standard error mean 2.66 and mean score of science pupil teacher is 1.42 standard deviation of 11.92 with the standard error of mean2.07. It is evident that the t'value is 8.80 which is significant at both 0.01 and 0.05 level with the df 62. It is revealed that the alternative hypothesis is rejected and the null hypothesis is accepted. Resulted in there is a significant difference of means between pupil-teacher towards the 5E instructional model of teaching.

MAJOR FINDINGS OF MY STUDY:

The pupil-teacher of teacher training institution are able to produce the best teacher in their future. They are very efficient in applying the methods according to the nature of the topic and mode of the students. After successfully observing and analysing the collected data the following major findings are studied.

1. There is no significant difference between the attitude of male and female pupilteachertowards the 5E instructional model of teaching.
2. There is a significant difference of means between pupil-teacher towards the 5Einstructional model of teaching.
3. There is no significant difference between male and female Pupil-teacher towards theeffect of the 5E instructional model of teaching.

EDUCATIONAL IMPLICATIONS:

5E instructional model of teaching is a fantastic method of teaching for making lessons moreinteresting and interactive. The educational implications are:

- The pupil-teacher teacher uses this innovative teaching method by using different learning task and games in classrooms to transform traditional classroom learning.
- 5E model of teaching helps the students to understand the topic very quickly and clearlywithout any doubt.
- Through this model of teaching students to get the opportunity to make the experimentwith the object related to their studies.
- Use of this model in the regular classroom provides the first-hand experience to the students. The overall favourable attitude found in the study among the pupil-teacher. The investigator found that students acquire enough knowledge though this model of teaching in comparison to the traditional method of teaching.
- 5E instructional model of teaching is a learning approach that involves a sense of fun happiness comfortable of the parties who are in the learning process.

CONCLUSION

When a child starts his journey towards getting an education , his mother is thefirst teacher but she doesn't adopt any type of professional method of teaching but sheknows how to impart knowledge to a little child. Gradually when he grown-up he goesto school for getting an education. There are a number of trained teachers who transfertheir knowledge to students whether he or she does not have any knowledge on the instructional model of teaching then how they impart knowledge. To make them competent and Efficient

teachers in their life the maximum number of experiences should be gain from their institution where he or she made up. There are a number ofinstructional model of teaching which is most essential for Learning. In the present situation, 5E and ICON model has a great significance in teaching. Though pupil- teacher is future generations of our teaching profession who makes the destiny of thestudents in his hands. Whether it plays an important role in shaping the destiny of students that's why I want to study the attitude of pupil-teacher towards the 5E modelof teaching and which type of effect it puts on the pupilteacher while they prepare a plan for imparting knowledge.

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