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EFFECTIVENESS OF ECLECTIC METHOD IN LEARNING CHEMISTRY AMONG THE STUDENTS OF STANDARD IX

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ABSTRACT

. This article is devoted to the consideration of issues related to the current system of the declaration of the incomes of individuals. In addition, the article represents proposals and practical recommendations based on the results of the research.

Objectives of the study:*1.To find out the significant difference in achievement mean score between the pre test of control group and post test of control group.2.To find out the significant difference in achievement mean score between the pre test of Experimental group and post test of Experimental group. 3To find out the impact of Eclectic method in learning Chemistry.* ***Methodology****: Equivalent group Experimental method was adopted in the study.* ***Participants****: One hundred and twenty students of standard IX were selected as sample from Kerala.* ***Instrumentation:*** *Researcher's self-made achievement test was used as instrumentation for the study.* ***Findings:****Eclectic method is more effective than traditional methods in learning chemistry for the students of standard IX.* ***Educational implications****: It can be implemented in other levels and all other schools in Kerala.*

Keywords: Eclectic method, Control group, Experimental group and Text book of science.

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INTRODUCTION

Teaching is an art and there are born teachers. But there are majority of teachers, who can improve upon by experience of practice and utilization of various methods of teaching science. The basic aim of teaching any subject is to bring about desired change in behavior. The change in behavior of child can be indicated through children's capacity to learn effectively. It is only possible by adopting various methods of teaching. The teacher cannot utilize any method to any type of students in any type of environment. Teachers have to choose and adopt the right method of teaching keeping in mind the capability of the students and the curriculum. Hence, method in a way of presentation of the content in the classroom is more effective. However it is very important to keep in mind that a method is not an end in itself but is used to achieve the set aims of teaching. Teachers have to keep in mind that, same method should not be used at all times but there should be flexibility in using it as for as situations circumstances, and condition in a particular case. Using various methods is depending upon demand of the situation.

REVIEW OF RELATED STUDIES

QaiserSuleman et.al (2016)investigated the effect of eclectic learning approach on the academic achievement and retention of students in English at elementary level. A sample of forty students of 8th grade randomly selected from Government Boys High School Khurram District Karak was used. It was an experimental study and that's why sample subjects were classified into two equal groups on the basis of pre-test scores. For data collection, pre-test post-test equivalent groups designed was used. Descriptive statistics i.e., mean, standard deviation and inferential statistics i.e., t-test were employed for analyzing the data. After analyzing the data, it was come to light that eclectic learning approach has a positive effect on students' academic achievement and retention. Eclectic learning approach was found more productive, effective and successful in teaching of English as compared to traditional learning approach at elementary level. So, eclectic learning approach should be adopted by the teachers for improving students' performance in English at elementary level.

NEED AND SIGNIFICANCE OF THE STUDY

Students of standard IX studying in Kerala faced problems in learning chemistry. Conventional teaching methods practiced in the classroom transactions were not fruitful to achieve the expected scoring of marks of the learners in chemistry. Conventional methods of chemistry class room transactions at standard IX have been created monotony and reduced the interest of the learners. Hence the researcher endeavoured to find an innovative method namely Eclectic method for teaching and learning of chemistry and found out the effectiveness of the Eclectic method in the classroom among the selected students.

STATEMENT OF THE PROBLEM

Students of standard IX studying in four type of schools faced some problems to learn Chemistry by using conventional teaching methods. Conventional methods did not enhance the competency of the learners in Chemistry. Due to the problems of learning chemistry, many students failed to continue their studies in rural area and urban area. Hence the Investigator adopted Eclectic method to eliminate the problems of bloomers, learners of Aided schools and government schools from rural area and urban area.

SCOPE OF THE STUDY

Eclectic method is more lucrative of the students in learning Chemistry. Accelerating students by using different methods namely Eclectic method for teaching hard spots of the learners in chemistry can be a successful task. Learners of government schools concentrates on Eclectic method which endeavours to increase the scope of the learners with enthusiasm. All types of learners are bewitched by Eclectic method in learning Chemistry. It can be extended to all High schools and Higher secondary levels for teaching Chemistry.

OPERATIONAL DEFINITION

Effectiveness –refers to using Eclectic method among the students of standard in learning chemistry in science book of standard IX.**Eclectic method** – refers to combination of Power point presentation, Video clippings, Static and dynamic models, Web-based learning and Blended learning. Adopting all the selected mixed methods as treatment given to the students for enhancing effectiveness in achievement score of chemistry.**Learning –** Learning Chemistry at

standard IX in Kerala .**Chemistry** – Chemistry at standard IX prescribed by the KeralaText Book society.**Students** –Students of IX studying in Government Model Higher secondary school, Kozhikode.**Standard IX-** Nineth standard is considered after passing eighth standard**.**

OBJECTIVES

1.To find out the significant difference in achievement mean score of the students between the pre-test of control group and the post- test of Control group with respect to (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-Urban and (d) Government Higher secondary School,Payambra(Rural)

2.. To find out the significant difference in achievement mean score of the students between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-Urban and (d) Government Higher secondary School,Payambra(Rural)

HYPOTHESIS

1.There is no significant difference in achievement mean score of the students between the pre-test of control group and the post- test of Control group with respect to (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-Urban and (d) Government Higher secondary School,Payambra(Rural)

2.. There is no significant difference in achievement mean score of the students between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-Urban and (d) Government Higher secondary School,Payambra(Rural)

DELIMITATIONS OF THE STUDY

1. The study is confined to conduct Diagnostic test on Chemistry to 200 students of standard IX from two Higher secondary schools , Kozhikode only.
2. This study is confined to conduct Diagnostic test on the syllabus of science only.
3. This study is confined to conduct Experimental study only four schools.
4. The study is confined to adopting Eclectic method only problematic areas in learning Chemistry.
5. The study is confined to ninth standard students belong to Higher secondary schools of Kozhikode district only.
6. The study is confined to ninth standard in Chemistry only.
7. Eclectic method is based on the hard spot of the learners in science especially chemistry through diagnostic test.

RESEARCH DESIGN

Method: Equivalent group Experimental method was adopted in the study.**Sample:** 240 students from four schools: (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-Urban and (d) Government Higher secondary School,Payambra(Rural)**Tools:** Achievement test was used as **Reliability of the tool:** 1.The reliability co-efficient for Achievement testwas established by split- half method and the correlation was calculated as **0.68**. **Validity of the Tool:** After pilot study, both the tools were given to the experts in the field of education to get their valuable suggestions and opinions with regard to construction.

ANALYSIS AND INTERPRETATION

The collected data were screened and grouped. In the present study t testwas employed tomeasures difference between two variablesand the data was analyzed with the help of SPSS. The results and interpretation were tabulated and presented as follows –

HYPOTHESIS 1: There is no significant difference in achievement mean score of the students between the pre-test of control group and the post- test of Control group with respect to

(a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided)-

Table: 1

Mean difference between the pre- test of control group and the post- test of Control group with respect to (a)Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School, Payambra(Rural)

Sl.No	Name of the School	Tests	N	Mean	S.D	't' value	Level of Significant at 0.05 Level
6(a)	Govt.Model Hr. Sec school Kozhikode(urban	Pre-test control group	30	4.10	2.51	**0.368**	**NS**
		Post-test control group	30	4.30	2.65		
6(b)	Malabar Christian college Hr.sec school Kozhikode(urban)	Pre-test control group	30	4.83	3.28	**1.862**	**NS**
		Post-test control group	30	6.13	1.69		
6(c)	KunnamangalamHr.sec school(Rural)	Pre-test control group	30	5.57	2.67	**0.793**	**NS**
		Post-test control group	30	5.03	2.10		
6(d)	Govt.Hr.secscoolPayampara(Rural)	Pre-test control group	30	5.93	2.93	**1.34**	**NS**
		Post-test control group	30	5.30	5.30		

The calculated 't' values are 6(a), 6(b), 6(c) and 6(d), respectively **0.36,1.86,0.79 and 1.34** is less than the table value **1.96** at 0.05 level. Hence the null hypothesis is **accepted.** There is significant difference between the pre- test of control group and the post- test of Control group with respect to (a) Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School, Payambra (Rural).

HYPOTHESIS 2: There is no significant difference in achievement mean score of the students between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School,Payambra(Rural)

Table: 2

Mean difference between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School,Payambra(Rural)

Sl.No	**Name of the school**	**Tests**	**N**	**Mean**	**S.D**	**'t' value**	**Level of Significant at 0.05 Level**
7(a)	Govt.Model Hr. Sec school Kozhikode(urban	Pre-test Experimental group	30	4.03	2.56	**6.04**	**S**
		Post-test Experimental group.	30	6.83	1.14		
7(b)	Malabar Christian college Hr.sec school Kozhikode(urban)	Pre-test Experimental group	30	3.10	2.09	**9.52**	**S**
		Post-test Experimental group.	30	6.97	1.32		

7(c)	KunnamangalamHr.sec school(Rural)	Pre-test Experimental group	30	6.20	1.75	**3.88**	**S**
		Post-test experimental group.	30	7.60	1.16		
7(d)	Govt.Hr.secscoolPayampara(Rural)	Pre-test Experimental group	30	6.37	1.87	**3.20**	**S**
		Post-test experimental group.	30	7.60	1.38		

The calculated 't' values are 7(a), 7(b), 7(c) and 7(d) respectively **6.04, 9.52, 3.88 and 3.20** is higher than the table value **1.96** at 0.05 level. Hence the null hypothesis is **rejected.** There is significant difference between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School,Payambra(Rural).

FINDINGS AND DISCUSSIONS

1.There is no significant difference in achievement mean score of the students between the pre-test of control group and the post- test of Control group with respect to (a)Government Model Higher secondary School, Kozhikode(Urban) (b) Government Higher secondary School, Kozhikode(Rural) (c) Kunnamangalam Higher secondary School(Aided).

2. There is significant difference in achievement mean score of the students between the Pre-test of Experimental group and the Post- test of Experimental group with respect to (a)Government Model boys Higher secondary School, Kozhikode(Urban) (b) Malabar christian college Higher secondary School, Kozhikode(urban)Aided (c) Kunnamangalam Higher secondary School(Aided)-Rural and (d) Government Higher secondary School,Payambra(Rural)

EDUCATIONAL IMPLICATIONS

- The students may be given through orientation on the nature, the functions and effects of different teaching techniques in learning science concepts, which can create interest and involvement among students in learning chemistry.

- The academicians and the authorities may work out the practicability of the Eclectic method for students that may help them to overcome the difficulties faced in learning chemistry.
- Teachers may be trained to prepare Eclectic method for different subjects.

CONCLUSION

This study has revealed that the Eclectic method for teaching and learning of chemistry is more effective than conventional method in the classroom among the selected students . The study confirmed the learning through Eclectic method which helped in improving the achievement scores of students in Chemistry. Hence, it is the need of the day to develop and introduce such Eclectic method that may be suitable for Indian schools, for the betterment of all the students.

REFERENCES

- **Suleman, Qaiser; Hussain, Ishtiaq(2016)***Effects of Eclectic Learning Approach on Students' Academic Achievement and Retention in English at Elementary Level*, *Journal of Education and Practice*, v7 n16 p32-37
- **Emendu, N.B. P, Okoye, C.M(2015)***Identifying Problems Associated with Studying of Chemistry in Anambra State*, Nigeria Emendu, N.B. PhD , Okoye, C.MInternational Journal of Scientific and Research Publications, Volume 5, Issue 6, ISSN 2250-3153
- **Gerido, Leona; Curran, Mary Carla(2014)***Enhancing Science Instruction through Student-Created PowerPoint Presentations*, American Biology Teacher, v76 n9 p627-631.