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Innovative Practices In The Class Room Using Computer Assisted Module In Chemistry At Higher Secondary Level

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Abstract :

Educational Technology can be conceived as a science of techniques and methods by which educational goals can be realized. It is not primarily concerned with the task of prescribing the goals. Although it helps in specifying the goals and translating them into behavioral terms, it is not one particular method of achieving educational goals like that of Montessori or strategy of developing self instructional material, propounded by B.F. Skinner. It is on the other hand a science, on the basis of which various strategies and tactics could be designed for the realization of specified goals of education. Computer Assisted module is a unique median with features of quality audio visual recording and instant feed back. It can be conveniently used to convey well designed information with varying special effects

keywords : Computer assisted module, Chemistry Achievement, Interest**Introduction**

Chemistry is the Central Science that is connected to all other scientific disciplines learning is a challenge and learning chemistry is a big challenge but worth it. Abstract principles can be related every day happenings, abstractions are not understood unless they can be applied. Modern chemical theory evolved through development of models that have continually been perfected through experimental observation. Teaching chemistry is best approached as a process emphasizing critical thinking skills and problem solving skills rather than as the accumulation of memorized information facts, theories and algorithms.

Chemistry is a branch of the physical sciences closely related to physics and extending into a variety of other scientific disciplines from astronomy to zoology.

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Chemistry Definition

A study of the composition of substance and of their effects upon one another. The main branches are inorganic chemistry, organic chemistry and physical chemistry.

Areas of difficulties identified by the students in learning chemistry

Balancing equation figures, Tables and Mechanisms of organic chemical equations. IUPAC Names of organic compounds, molecular formulae of compounds and structural formulae of organic compounds. Solved problems, atomic number, and atomic masses. Compare inorganic and physical, organic much difficult and it is not easy to understandable. Compulsory problems in inorganic, physical and organic chemistry.

Computer Assisted module package

Computer Assisted module is a unique median with features of quality audio visual recording and instant feed back. It can be conveniently used to convey well designed information with varying special effects. Computer Assisted module package developed by the investigator to teach chemistry for XII standard students by using power point slides in Teaching Organic Nitrogen compounds ,Organic Nitrogen compounds is one unit of chemistry in XII standard. Organic Nitrogen compounds are carbon containing compounds. They have classified into Aliphatic Nitrogen compounds, and Aromatic Nitrogen compounds.

Need for the study

Learning of chemistry at higher secondary level play a vital role in designing the future carrier of the students. So that it will remain permanent. So investigator has tried to make an attempt of teaching chemistry through Computer Assisted module package, thus making the concepts more understanding.

Objectives

- ❖ To develop Computer Assisted module package for XII standard. Students and to find out the effectiveness of students and the same in the achievement of chemistry.
- ❖ To find out whether there is any significant difference between pretest scores of control and experimental group students in attainments of achievement scores with respect to gender and locality.
- ❖ To find out whether there is any significant different between post test scores of control and experimental group students in their achievement scores.
- ❖ To find out whether there is any significant relation between attitude towards Computer Assisted module package and achievement scores of the experimental group.

Sample

The investigator has selected Cholan Matric Higher Secondary School in Kanchipuram, kanchipuram District for conducting experiment. Both the control and experimental group students are selected in this school. There were 40 students in each group total number of students were 80 informing the equivalent group design. The sample for the study is selected simple random sampling.

Tool used for the study

Computer Assisted module package developed by the investigator.

Achievement test in chemistry developed by the investigator.

Hypothesis 1

There is no significant difference in the pretest and post test scores of experimental group students.

Table – 1

Group	Number	Mean	S.D	't' value	Result at 0.05 level
Experimental group total pre test	40	42.275	18.7549	7.8767*	Significant
Experimental group total post test	40	71.85	6.1391		

“There is no significant difference in the pre-test and post test scores of experimental group students” is rejected.

Table – 2

Group	Number	Mean	S.D	't' value	Result at 0.05 level
Control group pre test	40	60.45	14.5326	3.5119*	Significant
Experimental group pre test	40	47.28	18.7549		
Control group post test	40	50.83	16.5709	7.5157*	Significant
Experimental group post test	40	71.85	6.1341		
Control group pre test (urban)	22	61.546	15.3615	0.8651	Not significant
Experimental group pre test (urban)	18	41.88	14.7		
Control group post test (urban)	22	50.723	19.0529	4.27*	Significant
Experimental group post test (urban)	18	72.055	12.33		
Control group pre test (Rural)	18	59.111	13.328	1.3841	Not significant
Experimental group	22	51.68	20.42		

pre test (urban)					
Control group post test (Rural)	18	50.944	12.903	4.5512*	Significant
Experimental group post test (Rural)	22	71.6	15.8		
Control group pre test (Male)	17	63.882	15.1575	5.5509*	Significant
Experimental group pre test (Male)	21	39.095	11.616		
Control group post test (Male)	17	49.176	20.3736	3.31182*	Significant
Experimental group post test (Male)	21	67.57	11.6192		
Control group pre test (Female)	23	57.913	13.5033	0.2893	Not significant
Experimental group pre test (Female)	19	56.31	20.8		
Control group post test (Female)	23	52.0434	12.9328	5.5288*	Significant
Experimental group post test (Female)	19	76.578	15.57		

From the above table it is clear that there is significant difference in the pretest and post test scores of control and experimental group.

There is significant difference in the pretest scores of male students in control and experimental group.

There is significant difference in the post test scores of urban, rural, male and female students in control and experimental group.

Table – 3

Group	Number	Mean	S.D	't' value	Result at 0.05 level
Experimental group pre test (Urban)	78	41.88	14.7	1.7613	Not Significant
Experimental group pre test (Rural)	22	51.68	20.42		
Experimental group post test (Urban)	18	72.055	12.33	0.102	Not Significant

Experimental group post test (Rural)	22	71.6	15.8		
Experimental group pre test (Boys)	21	30.095	11.616	3.1860*	Significant
Experimental group pre test (Girls)	19	56.31	20.80		
Experimental group pre test (Boys)	21	67.57	11.619	2.0564*	Significant
Experimental group post test (Girls)	19	76.578	15.57		

There is significant difference in pre test and post test scores of experimental group students with respect to their gender.

Table – 4

Group	Number	Mean	S.D	't' value	Result at 0.05 level
Experimental group Urban gain	18	30.166	11.1592	2.8697*	Significant
Experimental group Rural gain	22	20	11.1314		
Experimental group Boys gain	21	28.4761	11.6030	2.2511*	Significant
Experimental group Girls gain	19	20.263	11.1314		

There is significant difference in the gained scores of experimental group students with respect to their locality and gender.

Table – 5

Group	Number	Correlation	Result at 0.05 level
Experimental group total pre and post test scores	40	0.7579*	Significant

There is significant relation between pre and post total scores of the experimental group students.

Findings

- ❖ There is significant difference in the pre test and post test scores of control and experimental group.
- ❖ There is significant difference in the pre test scores of male students in control and experimental group students.
- ❖ There is significant difference between post-test scores of Urban, Rural, Male and Female students in control and experimental group students.
- ❖ There is no significant relation between attitude towards Computer Assisted module package and achievement scores of the experimental group.
- ❖ There is significant relation between pre and post test total scores of the experimental group.
- ❖ There is significant difference in the gained scores of experimental group students with respect to their locality and gender.
- ❖ There is significant difference in the attitude scale scores of experimental group students with respect to their gender.

Recommendations

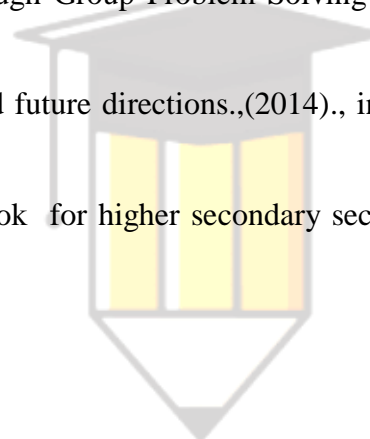
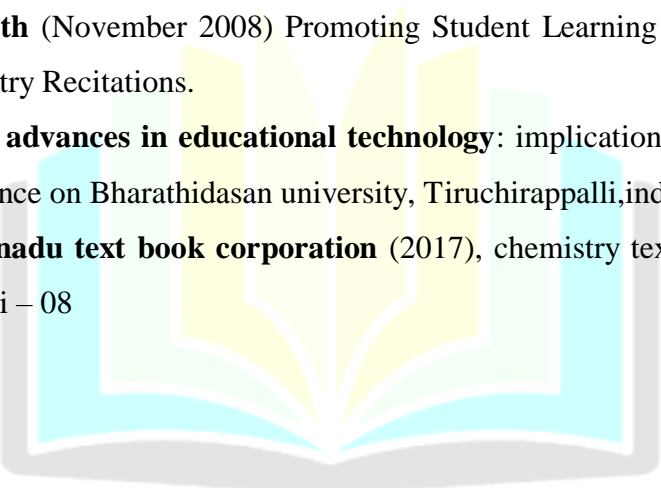
On the basis of the findings, the following suggestions are offered. Educational Institutions can use Computer Assisted module package for teaching chemistry. Computer Assisted module package must be used to teach the organic chemistry mechanisms, stereo chemistry topics in chemistry. The teachers may be trained to prepare Computer Assisted module package for teaching chemistry. Computer with LCD panel can be used in the class in the schools. Students may be encouraged to use computer in the school. The teacher may motivate the students also to prepare Computer Assisted module package individually.

Conclusion

Computer Assisted module package is useful for enhancing teaching ability of teachers and also learning ability of students. This method of teaching can be made more interactive between teacher and learner. Computer Assisted module package instills more confidence and teaching interest in the teacher. This can be implemental to all the subjects for making the students to learn subjects for making the students to learn interestingly. The influence of Computer Assisted module package can be used to improve the achievements of the students. This Computer Assisted module package when used in higher secondary school students is very effective to get high achievement scores in public examination. The high achievement scores of the higher secondary students will be helpful for their further studies.

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