Impact of ICT Mediated Strategy To Teach Chemical Bonding

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Abstract- *Here the ICT mediated teaching method has been developed to identified the impact of this method on teaching Chemical Bonding in Chemistry of H.S students in Purba Bardhaman. Chemical Bonding Chapter in chemistry is a quite tough for the Chemistry learner. To feel the chapter and too assimilate better comprehension about titration is important for the H.S students. To reach on exact conclusion we have been developed an experimental studies.*

I. INTRODUCTION

Higher secondary education is important stage in a students' life because these are the years before entering the bigger and serious part of education that is CAREER. Higher secondary education gives the student a wider scope and perspective about the education and what career choice to make in the future. They are basically being prepared for the longer run.

H S Chemistry is an important subject for medical point of view which includes identifying different elements, chemical reactions and Laboratory experiments.

Teacher have to accept that the widespread use of ICT in schools and colleges is having an impact on teaching pedagogy and requires a significant thinking of approach. Traditional transmission of instruction assumes that pupil will learn through teacher explanation or reading from text.When ICT is used in lessons, the constructivist approach is more likely to lead to successful outcomes.ICT can be used effectively in science to show video sequences of things that are hard to explain or visualize.

Problems of teaching and learning Chemistry of H.S students-

Chemistry teaching and learning currently faces several critical issues, particularly in the area of teacher preparation. The teaching profession is becoming less and less attractive. The science teachers faces difficulties for comprehension of the Chemistry concept like Acid – Base, Chemical Bonding, solution Chemistry etc. The teacher faced the difficulties like teaching aids are not available ,consuming more time for sketching figure on black board.

To solve the problem

ICTs have brought about the dramatic changes for the educational technologies for acquiring knowledge and obtaining comprehension of the complicated Chemistry concepts. Modern ICTs provide learners with richer information of objects, such as images, videos, complex structures of knowledge, and their combinations available via the Internet or other intelligent computer networks. ICTs radically extend the possibilities for visualisation, including visualisation of invisible, visualisation in changed colours and shapes. Colourful images of structures of different cell organelles and physiological processes enabling a learner to learn more about the systems of living beings.

Conventional method of teaching Chemistry

Several methods teaching Chemistry within the traditional format are: Lectures, Discussion sessions, and laboratories.

- ***LECTURES***

Oral presentations to the groups of passive students contribute very little to real learning. In chemical sciences, standard lectures do not help most students to develop conceptual understanding of fundamental process of plant physiology and anatomy. Similarly, student grades in a general Chemistry lecture do not correlate with the lecturing skills and experience of the instructor.

- ***ASKING QUESTIONS***

Questioning is an important part of guiding students' learning. When students ask questions, they are often seeking to shortcut the learning process by getting the right answer from an authority figure. However, it is the processes of arriving at an answer and assessing the validity of an answer that are usually more important. It involve students in learning process, especially critical thinking.

- ***DEMONSTRATIONS***

Demonstrations can be very effective for illustrating concepts in class, but can result in passive learning without careful attention to engaging students. The teacher can provoke students to think for themselves and are especially helpful if the demonstration has a surprise, challenges an assumption, or illustrates an otherwise abstract concept or mechanism. Demonstrations that use everyday objects are especially effective and require little preparation on the part of faculty. Student's interest is peaked if they are asked to make predictions and vote on the most probable outcome.

- ***DISCUSSIONS***

Small group discussion sections often are used in large enrolment classes to complement the lectures. The main distinction between lecture and discussion is the level of student participation that is expected, and a whole continuum exists. Discussions can be instructor-cantered (students answer the instructor's questions) or student-cantered (students address one another, and the instructor mainly guides the discussion session toward important points). In any case, discussion sessions are more productive when students are expected to prepare in advance.

ICT used method of teaching Chemistry

Information and communication technology in teaching and learning is the mode of teaching and learning that use information and communications technology to support, enhance, and optimise the delivery of information.In this work video and sound, power point, animations, finding information on internet has been used for conducting ICT used teaching method in H S schools of purba-bardhaman.

Computer in the class room improves teaching learning process. It is a tool for integrating ICT in the classroom. Here teachers are able to demonstrate a new lesson, illustrate and show new websites. Mobile devices: Mobile devices like smart phone are used to enhance the learning experience of the students in the classroom. Finally we may get feed-back from them.

Digital video: LCD projector like equipment's equipped our teaching learning process as proper as possible. DVD players also help us instead of LCD projector.Online media: Streamed video websites can be utilized to improve a classroom lesson by using internet. E.g. united streaming, teacher tube.

II. OBJECTIVE OF THE STUDY

- To design some ICT mediated teaching approach in chemistry for Post secondary/ Higher secondary students.
- To implement this Design For teaching Chemistry course of 12th Standard.
- To compare the effectiveness of instructional programmes based on ICT mediated approach of teaching and traditional instructional programme, how far teaching of chemistry course of 12 th standard.

Hypotheses-

- There is significant difference between mean achievement score obtained by the Boys in Chemistry when taught by traditional methodand when taught by Ict Mediated method.
- There is significant difference between mean achievement score obtained by the Girls in Chemistry when taught by traditional methodand when taught by Ict Mediated method.

STATEMENT OF THE PROBLEM

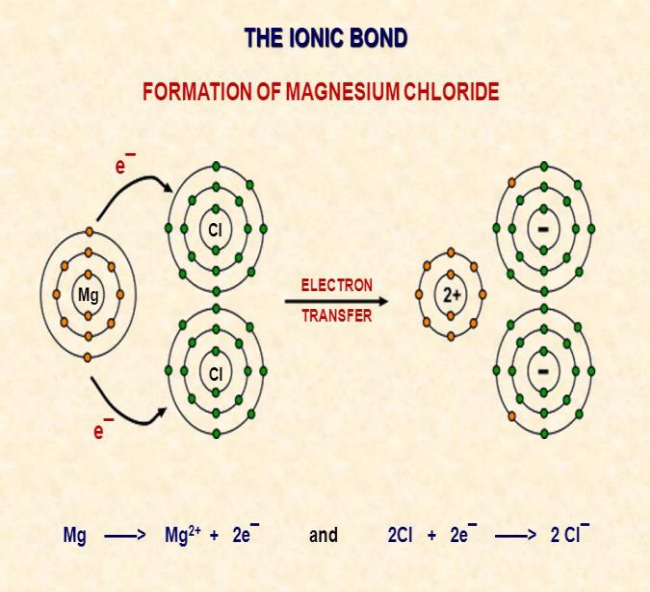
The problem under the study is some of the students felt that Chemistryas a tough subject, specially the theory part of Chemical Bonding .

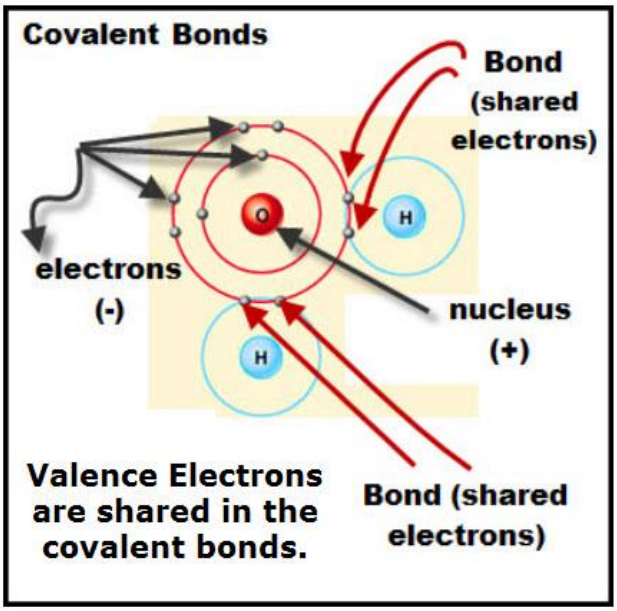
Area- BamuniaHigh School, Radhakantapur High School in Purbabardhaman District of West Bengal.

No of Sample- 64

Design of the study-

Experimental method and statistical analysis will be the procedure in this work. We divide the H S science class in to two random groups each contains 16/16 students. Then one group of students is given conventional method of Chemistry teaching and this is the control group. Another group of student is given ICT used method of Chemistry teaching and this is the experimental group. For Experimental Group We Prepare ten slides in Power point Presentation.





Like this Type of 10 Slides.

Administration of questionnaire and collection of data-

At the end of the session we administer an achievement test containing 25 MCQ type questionnaires each question bear one marks and collect data (scored marks of control group and experimental group).

Presentation of data-

The data is systematically classified and tabulated, scientifically analysed. The first system in presentation is the classification. We in order to study the hypothesis framed for the present study, classified the total 32 samples into *control group* (16 students-given conventional method of teaching) and *experimental group*(16 students- given ICT used method of teaching).

Presentation, analysis and interpretation of data-The result of achievement test from students (boys and girls separately) of Bamunia High School and Radhakantapur High School in Purba-bardhaman district of West Bengal were systematically tabulated and analysed properly.

The result of statistical analysis of the systematically tabulated data show that there significant difference to comprehend the process of Chemical Bonding traditional or conventional and ICT used/based method. The achievement test shows that ICT used teaching method is more effective than the conventional method of teaching among male and female students both.

III. CONCLUSION

For this, the teacher education programme should give more emphasis on ICT training for the student teachers to apply ICT in their instruction. The curriculum of the teacher education programme should be revised by incorporating the innovative technological equipment for the dissemination of knowledge. Future teachers should be through with all appropriate instructional technologies. So, that the learning process is made easier and students will be more benefited. Integrating ICT pedagogy will lead for quality higher education.Learning content through ICT is not only audible but also visual to the girls. Strangely enough the normal attention is transformed into formal motivation with the attractive method. All said and done ,the level of their comprehensibility and understanding seems progressive ,as explicitly transparent from their score of achievement.

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Authors Declaration – WE are submitting the documents which are true. The collected data are first Hand. We did not approach any Journal Before. This is original work.