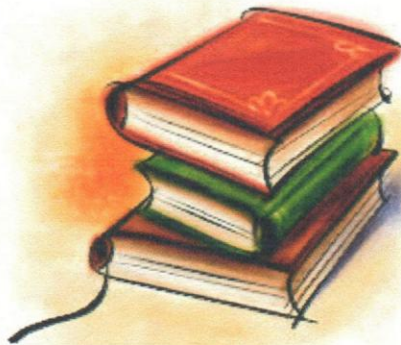


CHAPTER V

SUMMARY AND IMPLICATIONS



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5.0 INTRODUCTION

The present study was designed to investigate the effectiveness of Web 2.0 tools on learning achievement of students of class IX in Physics. In this chapter, discussions on the finding, summary and conclusion is presented on the basis of data and its analysis presented in chapter IV.

5.1 Justification of the Study

Conventional teaching has emphasized content. For many years course have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favouring curricula that promote competency and performance. Curricula are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is. Web 2.0 tools are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies (Oliver, 2000).

The integration of information and communication technologies can help revitalize teachers and students. This can help to improve and develop the quality of education by providing curricular support in difficult subject areas. To achieve these objectives, teachers need to be involved in collaborative projects and development of intervention change strategies, which would include teaching partnerships with ICT as a tool. According to Zhao and Czikowski (2001) three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology, teachers should believe that the use of technology will not cause any disturbances, and finally teachers should believe that they have control over technology.

Hence the researcher has taken up the effort in this direction with a view to come up with methods to make web 2.0 tools moulded into the classroom teaching.

5.2 Statement of the Problem

The study was undertaken to find out the effectiveness of Web 2.0 tools on Physics teaching. Its effectiveness was studied in terms of learning achievement.

The problem of the study was worded as:

“Effectiveness of Teaching Through Web 2.0 Tools on Learning Achievement in Physics in Students of Class IX”.

5.3 Objectives of the Study

The following were the objectives of the present study:

1. To find out the awareness of students of class IX about Web 2.0 tools.
2. To study the effectiveness of Web 2.0 tools on learning achievement of students of class IX in Physics.

5.4 Hypothesis of the study

The first objective was qualitative in nature and hence it needed no hypothesis.

The following hypothesis was formulated keeping in view the second objective which was quantitative in nature.

H_1 : Students of class IX taught Physics through Web 2.0 tools will gain significantly higher scores as compared to their counterparts in the control group.

5.5 Delimitations of the Study

In view of the research constraints under which the study was conducted, it remained confined to the following:

1. The study of awareness was delimited to the tools selected by the investigator only.
2. The study was delimited to the learning achievement of Class IX only.
3. The subject was delimited to Physics only.
4. Entire Physics syllabus was not considered. Only one chapter was taken into account.
5. The study was confined to the use of selected tools of Web 2.0 technology in teaching.

6. The study was delimited to a single school, i.e. Demonstration Multipurpose School, Bhopal.

5.6 Sample

There were two sections of the class namely, IX A and B. A total of 57 students were taken for the experimentation. Purposive Sampling Technique was used.

Group-wise and gender-wise distribution of the sample

GROUP	BOYS	GIRLS	TOTAL
Experimental Group	16	14	30
Control group	10	17	27

5.7 Variables

The independent variables in the present study are the two teaching approaches, that is, Traditional Approach and the Constructivist Approach using Web 2.0 Tools. The Experimental Group was taught using the Constructivist Approach and the Control Group was taught using Traditional Approach.

In the present study, the dependent variable is Achievement in Physics.

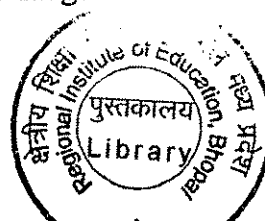
5.8 Tools and Techniques

In the present study, self constructed awareness test, and test for achievement in Physics were used.

5.9 Findings of the Study

The following were the findings from the interpretation of the data:

- i) The most popular Web 2.0 tool among the students of Class IX was found to be **Facebook** (83.58%), a social networking site. The students used it for a variety of purposes, the most prominent of which was sharing photos and communicating.
- ii) The second most popular Web 2.0 Tool was found to be **YouTube** (65.67%), a sharing website exclusively for Videos. Students used it for uploading and downloading videos relevant to them, which ranged from entertainment to educational.



- iii) The third most popular Web 2.0 Tool was found to be **Wikipedia** (61.19%). The students used this website mostly to get materials for their school assignment and also to find out other information not strictly relevant to their syllabus, like the plot of a movie or extended knowledge over a topic. No students were found to indulge in editing materials on Wikipedia.
- iv) Teaching to students of class IX through Web 2.0 tools (M=74.07 with SD 18.309) was found to be more effective in terms of Learning Achievement in Physics than the Traditional approach of teaching (M=63.16 with SD 18.052).
- v) There was a significant effect of teaching through Web 2.0 tools on student's achievement in Physics.

5.10 Implications of the Findings

The findings reveal that Teaching through Web 2.0 is a significantly effective strategy. Students were found to be more involved in the teaching learning process when they were using tools that were in-sync with their interests. They sensed a freedom of self expression, and responsibility towards learning and pushing the boundaries to the set curriculum. It was so because they felt a *need to know more* and strive towards self-set goals.

5.10.1 Implications for learners

One of the best outcomes of this study seems to be its results being very Learner-Centred. Web 2.0 is the new way of learning and one should keep in mind its extreme popularity with the teens, as the results of Objective 1 show. The implications of the findings for Learners are as follows:

- Web 2.0 increases the creativity. Any student can write, record and publish a video or an audio. YouTube and Google video are used by our students' every day. They watch more videos on YouTube than they watch on T.V. or cinemas.
- It promotes student centered learning. It allows users to become the producers of the knowledge. It enables us to share our work with other audience. For example, E-pals project is considered to be the world's largest online classroom.

- It provides many opportunities for language practice. Students can play with language and the context and it is more informal. They can get involved in the writing process by posting blog entries, editing to other pages, creating their own e-portfolios.
- It engages students. In fact, technology is always engaging. When we use these tools in classes, it doesn't seem like a required assignment for students. It also helps us to motivate our shy students to participate more in our lessons and the willingness to create and share is a great opportunity to learn and participate.
- It creates freedom and independence in learning which we can't find in our traditional education systems. Internet is available 24/7 and this encourages our students to share information to a greater extent which is not available in our classes. It also reminds us that learning is not only limited to school boundaries.
- It helps the learners to become familiar with technology by engaging.

5.10.2 Implications for Teachers

The teacher has now moved from the sage on the stage to the aide at the side, though her role remains an important one. She is the facilitator, the one who doesn't steer the ship, but is rather the first mate, concerned only with the captain's decision, confusions and doubts. The captain of the ship is the learner, who is in the focus of the teacher's every gesture, every strategy, and Web 2.0 is just the technological evolution in education that she needed. What is now required is for the teacher to make herself acquainted with it.

Implications of the findings of this study for the teacher are as follows:

- Rather than dictating each and every movement of the learner, a Web 2.0 friendly teacher can ask the students to steer their own ship, advising at appropriate situations, as was done in this study. The students are always a better searcher of branched out knowledge than the teacher, as they do not limit themselves within the confines of the syllabus.
- Web 2.0 can also become a very rich source for the teacher to get ideas and inspiration, for example, on website like **Classroom 2.0** and **Pinterest**. She can

virtually meet and chat with teacher from all over the world, get constructivist lesson plans, share their own lessons, and get solutions from experts whenever and wherever they feel the necessity to.

- A sense of collaborative learning is developed when learners work in groups to specialize over different dimension of a larger topic, and present them combined to the class. Teachers can easily create social networks and communities of interneters. Wikipedia and Ning are the best examples for this and they are all free.
- We can find more authentic audience. When students do paper work, teachers or other students can see it but when it is online, many other people can read, comment and contribute, so Web 2.0 improves communication skills because students have a wider audience

5.10.3 Implications for curriculum developers

What to teach or what not to teach is the question which concerns the curriculum developer. It is after all, her decision which affects the knowledge of whole generations. The recent advent of Web 2.0 technology in education means a lot of changes to be made according to the mode of learning by the learners.

- According to the procedure in which the learners were taught, they tended to search about a topic more deeply than what is usually prescribed in the present syllabus. The curriculum developer should design the curriculum keeping in mind the free and ever inquisitive intellect of the child.
- Rather than fixed guidelines, topics should be introduced with no fixed boundaries as to when to stop enquiring about it. This will enable the learner a sort of mastery over the topic by surfing, adding their own thoughts and exhibiting their views through web 2.0 tools to the world. This should be kept in mind by the curriculum developer while choosing topics to be studied for a particular academic session.

5.10.4 Implications for Parents

Parents have a lot to gain when it comes to teaching their wards using Web 2.0 Technology.

- In the world of constant competition, it is of prime importance to every parent that their wards strive to stay at the top of the food chain. This is possible only if the child is provided with every opportunity to grow, and all the resources to learn. For a parent, the best way to do so is through Web 2.0, economically, and comprehensively.
- Rather than spending their money and their ward's precious time in going for coaching, their child can, for a small amount, access online classrooms and tutorials where subject experts are live at all times.
- Mentoring is not an easy task, and neither is finding a mentor to see to the needs of a gifted child. But Web 2.0 has made it possible. Mentors from all around the country and even the world, are available to the child if she shows promise in a particular field. It just requires the parent's attention and awareness.
- Online chat rooms to solve problems faced by one's ward and their diagnoses are possible if one is a member of online sites like Pinterest and certain Facebook pages.
- Certain schools have constructed websites which are only available to the parents of the school and are password protected. These websites alert parents to coming exams, presence or absence of the ward in real time by alerting through SMS, and it also has an activity box which features scholastic activities to be conducted in the school. These websites allow parents to suggest changes in the school without being summoned, as the PTA meetings demand at times. This is an instance of Web 2.0 coming to the aid of concerned but busy parents to keep tabs on their wards without being too interfering in their progress.

5.11 Suggestions for Further Studies

- i) The study can be conducted on a larger sample for precise results.
- ii) Rural environment can be consolidated with an urban one for a wide scope.
- iii) Different grade levels can be selected.
- iv) The study can be conducted on different subjects as well.
- v) The study can be conducted with Government and Private schools, and their comparison can be done.
- vi) Gender-wise there are differences in the use of Web 2.0 tools. Ties can be undertaken in terms of their effect on achievement.