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Online Resources: A Treasure for Online Learning

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Abstract :

As the entire world was hit by the COVID 19 pandemic, so was the field of education. In such a crucial situation education sector adopted the option of online teaching in order to continue education. This sudden shift came with lot of challenges and opportunities. Online resources were one of the opportunities which helped young minds clear their academic doubts using self-learning mode. The present study thus aimed at assessing use of online resources in online teaching. This descriptive study was run into two phases. First phase examined the difficulties of students with respect to online resources. This was followed by a training students' in the use of online resources. Finally, the effectiveness of online resources was evaluated in phase II. At the end, the findings of the study are discussed for further reference.

Keywords: *"I never teach my pupils; I only attempt to provide the conditions in which they can learn."*

- Albert Einstein.

Introduction :

It is a responsibility of a teacher to provide the suitable environment for the pupils to learn. The effective teaching methodologies are essential for enhancing the learning experiences of pupils. The outbreak of COVID 19 pandemic has affected each and every sector of the world. In India, the positive as well as the negative impacts on the education sectors have been observed during the COVID-19 pandemic.[1] The abrupt shift from conventional offline mode of education to the online mode of education during the pandemic has increased the responsibilities of schools and teachers to work for the betterment of online education. Various studies have shown that there are different factors influencing the adoption of online teaching by school teachers.[2] During the online teaching process, the various strategies and methodologies are required to be used by the teachers to facilitate the learning process for pupils. There are various strengths, weaknesses, challenges and opportunities of online learning.[3] The identification of problems or difficulties faced by the pupils is very crucial for a teacher to improve the online teaching process. It is necessary for the teacher to know whether the pupils are able to understand the subjects taught through online mode. This helps teachers to improve the existing method or approach of teaching and plan for the further instructions. The use of online resources for teaching and learning plays an important role in online education. It has become important to make pupils aware about various available online resources for learning. The impact of various online

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resources on online learning has to be determined to understand more about how pupils can adapt themselves to online learning. This study is an effort to understand the effectiveness of online resources in online learning for school students.

Rationale of the Study :

"We are convinced that the disposition to study…the consequences of our own teaching is more likely to change and improve our practices than is reading about what someone else has discovered of his teaching." (Corey, 1953)4 During this time of pandemic situation, it has become necessary to change or modify the traditional teaching practices as per the need of students for online learning. It is the responsibility of a teacher to identify the areas of teaching that need improvement for effective online learning. The need for the use of online resources in online learning is to achieve the learning outcomes of an effective teaching process. The school teachers should be trained for the appropriate use of various online resources. They can make the suitable online resources available to the students as per their age group and learning needs. It is necessary that the teachers should not only incorporate the use of online resources but also determine the effectiveness of the online resources for students. There was a felt need for understanding the effectiveness of the online resources in order to find whether the used online resources are really beneficial for students and are capable for achieving the learning outcomes. Thus, the research aimed at studying the effectiveness of these online resources in online learning with the purpose of creating awareness about the online resources and promoting self-learning among the students.

Statement of the Aim :

Effectiveness of Online Resources in Online Learning for the Students of Standard IX of Maharashtra State Board School.

Variables of the Study :

1. Online Resource - an Independent Variable
2. Online Learning - a Dependent Variable

Operational Definitions :

1. Online Resources - Internet based resources in education used for the students of standard IX of Maharashtra state board school.
2. Online Learning - Learning taking place using online mode among the students of standard IX of Maharashtra state board school.

Objectives of the Study :

1. To determine the adaptation to online learning by the students of standard IX of Maharashtra state board school.
2. To determine the awareness of online resources among the students of standard IX of Maharashtra state board school.

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3. To understand the difficulties in online learning faced by the students of standard IX of Maharashtra state board school.
4. To train the students of standard IX of Maharashtra state board school for using online resources in online learning.
5. To evaluate the effectiveness of online resources in online learning through the module prepared for the students of standard IX of Maharashtra state board school.

Literature Review :

On reviewing different research studies and articles the researcher gained insight on how online learning is beneficial during times of crises as it can play an important role to keep students engaged while they are at home. It also helped the researcher in knowing the usefulness of varied online resources which can be used in subjects like Science, Language and Mathematics. It also made the researcher aware of the fact on the difficulties encountered by the students in online teaching.

Research Design :

The action research undertaken by the researcher used descriptive research design. The population of the study was the students of standard IX studying in Maharashtra State Board School. The sample selected for the study was consisted of the group of 59 female students of Standard IX studying in Maharashtra State Board School from South Mumbai. The researcher used convenience sampling method, a type of Non-probability sampling technique to draw out sample from the target population. In this descriptive survey research, the researcher prepared two tools. Both were in the form of questionnaires for Phase-I as well as Phase-II survey. The first tool was prepared for a Phase-I survey to understand the perception of students about online learning and the difficulties faced by students in learning school subjects through online mode. The second tool was prepared for Phase-II survey for the study of effectiveness of online resources in online learning. The relevant personal information of students was collected in the start of both the surveys. In the questionnaire of the Phase-I survey, a total 13 questions were asked. It included eight subjective type questions and five objective type questions. In the questionnaire of the Phase-II survey, a total 14 questions were asked. It included 13 objective type questions and one descriptive type questions for students to share their overall feedback of online resources. The data was collected using these tools and then was analysed using percentage and graphical representation.

Procedure :

The descriptive research method was conducted in two phases. The Phase-I survey included the questionnaire to understand the perception of students about online learning and the difficulties faced in school subjects during online mode of learning by the students of standard IX. The following are the results obtained from the Phase-I survey.

*   51.0% of the students felt that the offline lecture was more attentive than online lecture. 40.8% of the students felt that they were not learning anything innovative during online lectures. Among the students who mentioned that they faced difficulties in finding online resources for school subjects, 86.9% students informed about

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Mathematics (60.9%), Science (13.0%) and Marathi (13.0%).

- 59.2% of the students were not comfortable solving Mathematics during school online lectures. 89.8% of the students prefer offline mode to perform Science Practicals compared to online mode. Only 18.4% of the students had heard about virtual labs and simulations and only 2.0% of the students had always used them for Science, the researcher decided to introduce virtual labs and simulations to students.

- Also, as 96.0% of the students wanted to learn about online resoures and 73.5% of the students were really enthusiastic to understand and explore new online resources, the researcher decided to prepare a module for subjects- Mathematics, Science and Marathi to introduce new online resources for the benefit of students. Thus, the researcher selected the suitable online resources for the above three subjects and prepared a module in the form of a video (Total Time 50 minutes) in three parts to train students how to use online resources. Following are the sites/tools explained in the module video.

	Online Site/Tool	**Subject**
1.	Math is Fun (https://www.mathsisfun.com)	
2.	Online Charts (https://www.onlinecharttool.com)	Mathematics
3.	PHET Interactive Simulations (https://phet.colorado.edu)	
4.	OLABS (http://www.olabs.edu.in)	Science
5.	Learn Marathi (http://learn101.org)	
6.	esahity (http://www.esahity.com)	Marathi

The above online resources were explained through in module video so that students could learn in the step by step manner and could practice the above sites/tools. The instructions were given for the students after watching the module video included assignments for their practice. They were also informed about the Phase-II Survey questionnaire to be answered by the students after the training. The researcher conducted Phase-II Survey to study the effectiveness of online resources in online learning of standard IX students. Based on the objectives of this study the data collected after training the students was analysed under the following four dimensions: -

- Awareness created about the online resources in online learning among the students of standard IX.

- Learning outcomes of using online resources in online learning achieved by the students of standard IX.

- Effectiveness of online resources in online learning for the students of standard IX.

- Interest developed for online resources in online learning among the students of standard IX.

Findings of the Study :

The objectives of the present study were divided into two phases.

Phase-I survey objectives :

1. To determine the adaptation to online learning by the students of standard IX of Maharashtra state board school.

2. To determine the awareness of online resources among the students of standard IX of Maharashtra state board school.

3. To understand the difficulties in online learning faced by the students of standard IX of Maharashtra state board school.

Findings for Objective 1 : 51.0% of the students felt that the offline lecture was more attentive than online lecture. Most of the students felt that online lectures were least engaging and they were not able to participate wholeheartedly during online lectures. 40.8% of the students felt that they were not learning anything innovative during online lectures. The students of standard IX were able to spend three hours on average for online studies and learning. The significant number of students (65.3%) found it difficult to complete their schoolwork in online mode. Thus, the students were not completely adapted to online learning.

Findings for Objective 2 : The students were confident about finding online information and videos about History subject. 71.4% of the students agreed that they were always able to find historical information and videos online. 93.9% of the students were comfortable in reading English books or novels online. Most of the students (89.8%) agreed to prefer offline mode to perform Science practical as only 18.4% of the students had heard about virtual labs and simulations and only 2.0% of the students had used them for Science. Thus, even though most of the students were confident about some subjects (History and English), they were not completely aware about online resources for other subjects. But, 96.0% of the students wanted to learn about how to explore online sites independently and 73.5% of the students were really enthusiastic to understand new online tools apart from what they already know.

Findings for Objective 3 : Most of the students faced connectivity issues, network issues and issues related to electronic devices during online lectures. They also felt that most of time they were not able to interact individually with teachers in the online lectures. 59.2% of the students were not comfortable solving Mathematics during school online lectures. The geometry section of Mathematics was difficult for them to understand through online mode. Among the students who mentioned that they faced difficulties in finding online resources for school subjects, 86.9% students informed about Mathematics (60.9%), Science (13.0%) and Marathi (13.0%).

Phase-II survey objectives:

4. To train the students of standard IX of Maharashtra state board school for using online resources in online learning.

5. To evaluate the effectiveness of online resources in online learning through the module prepared for the students of standard IX of Maharashtra state board school.

Findings for Objective 4: The researcher introduced two online resources (sites/tools) for each subject mentioned in the module video after Phase-I survey and trained students to use the online resources for online learning. The assignments were given to students after the module so that students could practice online resources on their own. About 89.0% of the students felt that all the online resources explained through module were convenient to use in

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online learning. Among all the online resources explained, students required more practice for virtual labs and simulations for Science subject in online learning. The overall experience of students for using these online resources was good and the significant number of students agreed to explore and use similar online resources for practice in future as well.

Findings for Objective 5 : The data collected from questionnaire-II after the training of students was analysed under four dimensions to study the effectiveness of online resources in online learning. The findings of the study are given below as per the four dimensions.

Dimension 1: Awareness

Findings : The questions based on the content of module video in questionnaire-II indicated the awareness of students about online resources explained in the module. 76.3% of the students were aware about online chart tool and 66.1% of the students were aware about Math is Fun site. 67.8% of the students were aware about esahity site for Marathi. 35.6% and 50.9% of the students were aware about OLABS and PHET respectively. This indicated that the significant number of students (59.3%) had become truly aware of the online resources explained during their training.

Dimension 2 : Learning outcomes

Findings : 45.8% of the students thought that their difficulties in online learning for school subjects (Mathematics, Science and Marathi) were reduced or eliminated. 45.8% of the students thought that the online sites/tools explained were effective for their online learning. 62.7% of the students thought that their learning experience were enhanced due to online sites/tools. This indicated that the significant number of students (51.4%) achieved the learning outcomes of training.

Dimension 3 : Effectiveness

Findings : About 89.0% of the students felt that all the online resources explained through module were convenient to use in online learning. 56. 2% of the students agreed to the affirmative statements about their online learning using the online resources explained through module. The overall experience of using online resources was good for 61.0% students. This indicated that the significant number of students (68.7%) found the online resources effective for them.

Dimension 4 : Interest

Findings : 55.9% of the students were found to be interested in using similar online resources for learning and 50.8% of the students were found to be interested to continue the use of online resources even during the offline lecture mode. This indicated that the significant number of students (53.4%) developed interest in using online resources after the training.

Conclusion :

The sudden shift in the conventional mode of teaching-learning process to online mode during COVID-19 pandemic has demanded the essential adaptation from teachers, students, parents as well as the school. The survey conducted

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in Phase I indicated that the students were not completely adapted to online learning mode. They were facing various difficulties during the online lectures. They were not completely aware about the online resources available for school subjects. Thus, there is a strong need for the training students about using online resources for the school subjects in which they have difficulties. After the training, students were found to be more confident in the use online resources. But in order to become efficient in using online resources sufficient practice is of great importance. The online resources have a positive impact on the online learning of students. The use of online resources has shown significant effectiveness in online learning for the students of standard IX. The online resources studied for the school subjects- Mathematics, Science and Marathi in all the four dimensions indicate that the online learning has been enhanced for significant number of students. They have also developed interest in the use of online resources. Thus, it is necessary that students should be provided with necessary guidance and training about online resources. School teachers can plan their online lectures with the effective use of online resources. The students should be encouraged for self-learning through the use of online resources. Thus, collective efforts of schools and teachers can help students to progress in their educational journey. For this purpose, the researcher has put forth a few suggestions:

1. The school curriculum should be adapted for including the use of online resources in the online learning mode. The government and school can also arrange pre service and in-service training programmes for teachers so that they can further train students.

2. School teachers should do a proper instructional planning for incorporating the suitable online resources in teaching-learning process as per the need of learners.

3. The students should be encouraged by the school, teachers and parents for exploring more online resources for all the subjects.

4. The online resources can also be a part of formative and summative assessment of students.

5. Online resources can be used as one of the teaching aids in remedial teaching as well.

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