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Management

A STUDY ON IMPORTANCE OF USING TECHNOLOGY IN IMPARTING EDUCATION AND ITS IMPACT ON LEARNING RETENTION BY THE STUDENTS OF CBSE SCHOOLS IN AHMEDABAD

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ABSTRACT Education is one of the most essential systems for today's society and growth in life. It provides a better quality of life for any citizen for their living environment.

In the 21st century, technology is playing a major role in transmitting knowledge. Multimedia presentation facilities are a must in any classroom setting. Technology is also needed to provide a bridge between teachers, students, parents and the community in general. Hence, every classroom teacher should use learning technologies to enhance student learning in every subject

This study examines technology implementation practices associated with student learning gains in CBSE schools of Ahmedabad and Gandhinagar. The results indicated that ICT integration has a great effectiveness. Findings indicated that teachers' well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning. .

KEYWORDS : ICT integration and teaching and effectiveness; CBSE schools; Ahmedabad and Gandhinagar cities

INTRODUCTION TO THE RESEARCH TOPIC

Integration of Information, Communication, and Technology (ICT) in education refers to the use of computer based communication that incorporates into daily classroom instructional process. In conjunction with preparing students for the current digital era, teachers are seen as the key players in using ICT in their daily classrooms. This is due to the capability of ICT in providing dynamic and proactive teaching-learning environment (Arnseth & Hatlevik, 2012). While, the aim of ICT integration is to improve and increase the quality, accessibility and cost-efficiency of the delivery of instruction to students, it also refers to benefits from networking the learning communities to face the challenges of current globalization (Albirini, 2006, p.6). Process of adoption of ICT is not a single step, but it is ongoing and continuous steps that fully support teaching and learning and information resources (Young, 2003).

Beyond basic skill training, schools had used a variety of strategies to provide further professional development for teachers. According to Warwick and Kershner (2008) the significance and advantages of ICT should be known by teachers in order to conduct a meaningful lesson with the use of ICT. Indeed, teachers should be sent to attend training courses to learn about integration ICT in teaching and learning process. Nonetheless, many school schools used peer-tutoring systems. A more skillful teacher in ICT would assist and guide another teacher who has less experience with ICT along the preparation work for teaching and learning process. As what has been discussed, there are many factors to enable the use of ICT in classroom teaching and learning. Begin with policy, follows by the supplement of all the ICT hardware and software facilities, continued by readiness and skills of teacher to integrate it into pedagogical process (Agbatogun, 2012). Besides, technical support and continuous professional development in ICT should be conducted from time to time. In short, all parties must cooperate in order to bring the nation to become a country advance in technology.

OBJECTIVES OF THE STUDY

- To study the availability and accessibility of technological gadgets for teaching purpose in primary grade CBSE schools of Ahmedabad and Gandhinagar city
- To identify the effectiveness of using technology for teaching purpose in CBSE schools of Ahmedabad and Gandhinagar city.
- To identify major factors that motivates teachers to use technology for teaching purpose in CBSE schools of Ahmedabad and Gandhinagar city.
- To identify major factors that motivates CBSE school students to use technology for learning purpose

RESEARCH DESIGN

Sample size

The study is based on a convenience sampling of 115 CBSE school teachers in Ahmedabad and Gandhinagar city

Sampling method

Non-probability sampling method: Convenience Sampling

Data collection

The study was conducted by the means of personal interview with respondents and the information given by the respondents was directly entered in the questionnaire.

Collection technique

- Primary Data - Questionnaire method
- Secondary Data - Existing reports / Books / Journals and magazines / Websites

Data Analysis Methods:

- % analysis, tabulation, central tendencies and dispersion indicators
- Chi-Square test of association between two variables
- Factor analysis

DATAANALYSIS

The age group of the respondents

The teachers surveyed happened to be majorly in the age group of 31to 35 years. They constituted of 15.7 % of overall respondents. Closely followed were teachers in the age group of 26 to 30 years and 36 to 40 years each with 15.7 % of overall respondents. 10.4 % of respondents that is 12 in number happened to be in 41 to 45 years age group. It was closely followed by respondents in the age group of 51 to 55 years constituting of 9.6 %.

Gender of the respondents

From the respondents surveyed we can see that female respondents are more in number [71.3 %] as compared to male respondents who were 28.7 % of the total.

Educational Qualifications of the respondents

Most of the respondents surveyed happened to be post graduates in terms of their qualification. They consisted of 54.8 % of the total survey number. Closely followed were graduate teachers who happened to be 21.7 % of the total and teachers who were graduate with B.Ed happened to be 11.3 % of the total.

Teaching experience in terms of years

Respondents who happened to have 10 to 12 years of teaching experience happened to be overall 18 in number whereas respondents who happened to have 4 to 6 years of teaching experience also happened to be 18 in number. Maximum respondents happened to be in the age group of 0 to 3 years who consisted of 25.2 % of the surveyed population. An interesting fact seen was 13.9 % of the survey respondents happened to be in the age group of 21 and above years.

Digital media as a medium to teach/ instruct students

When asked, how frequently do the respondents use digital media as a medium to teach or instruct teachers? A whopping 40.9 % of respondents said that they used it sometimes. 28.7 % of respondents mentioned that they used ICT tools often for teaching purpose. 13 % of respondents said that they used ICT tools all the time for teaching.

Since when have they been using ICT tools

37.4 % of respondents mentioned that they have been using ICT tools for imparting education for the past 3 years. 26.1 % of respondents mentioned that they have been using ICT tools for imparting education from 4 to 6 years. 16.5 % of respondents cited that they have been using ICT tools for teaching purpose for more than 6 years

Is ICT training compulsory in schools?

86.1 % of respondents mentioned that their schools had ICT training compulsory for the teachers whereas only 13.9 % of respondents cited that ICT training was not compulsory in schools but the schools expected the teachers to have the necessary ICT knowledge

Whether students find ICT tools useful in learning

69 % of respondents admitted to the fact that students found ICT tools useful for learning whereas only 9.6 % of respondents mentioned that students didn't find ICT tools useful for learning

tatements	Mean	Std. Deviation	Factor Loadings
Increases academic achievement	1.7478	.66019	0.468
Is effective because I believe I can implement it successfully.	1.8522	.59594	0.728
Promotes student collaboration.	2.0000	.62126	0.697
Promotes better presentation skills in students	1.8087	.67402	0.833
Is a valuable instructional tool	1.6870	.64025	0.801
Easy to prepare for the sessions	1.9565	.77676	0.511
Makes it interesting for the listeners	1.6174	.73249	0.759
Helps in conducting enriching sessions	1.7043	.66192	0.868
It helps in better retention of concepts	1.6783	.62895	0.800
Makes one feel more competent as educators	1.8696	.64239	0.553
Useful in conducting exams	2.1565	.70824	0.797
High accurate in statement/ paragraph presentation	1.8348	.66134	0.725

Cronbach's alpha coefficient

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.881	0.881	12

We can see that Cronbach's alpha is 0.881, which indicates a high level of internal consistency for our scale with this specific sample.

To what extent the respondents agreed or disagreed with the following statements

Statements	Mean	Std. Deviation	Factor Loadings
Makes managing students in classrooms more difficult	3.2783	.92288	0.808
Results in students neglecting important traditional learning resources (e.g., library books)	2.8783	.82874	0.484
Is successful only if teachers have access to a computer at home	2.7130	1.12207	0.809
Shortage of ICT equipment in all class rooms	2.7043	1.07584	0.790
Is too costly to implement and maintain	2.4348	.93781	0.844
I find it difficult to teach using ICT tools / lack of adequate skills	3.2870	1.01537	0.599
My subject doesn't require me to use ICT tools	3.5826	.94574	0.627
Insufficient technical support for teachers	3.0957	1.03427	0.616
Insufficient pedagogical support for teachers	3.1826	.86433	0.682
Lack of adequate content/ material for teaching using ICT	3.4696	.93021	0.518
Too difficult to integrate ICT use in curriculum	3.5391	.92040	0.650
Most parents not in favour of teachers using ICT to teach	3.5652	.88981	0.602
Most teachers not in favour of using ICT to teach	3.4087	.90705	0.810
Lack of interest in using ICT as teaching aide	3.3826	.91366	0.819
No or unclear benefit of using ICT as teaching aide	3.6348	.93029	0.651
Using ICT as teaching aide not being a goal in our school	3.6522	1.10059	0.560
I have concerns about the security of information shared using ICT tools	2.9565	.94953	0.807

Cronbach's alpha coefficient

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.888	17

We can see that Cronbach's alpha is 0.886, which indicates a high level of internal consistency for our scale with this specific sample.

CONCLUSIONS

- The results of this study show that technology-based teaching and learning is more effective in compare to traditional classroom.
- Most of teachers in this study agree that ICT helps to improve classroom management as students are well-behaved and more focused.
- Moreover, this study proved that students learn more effectively with the use of ICT as lesson designed are more engaging and interesting.
- ICT helps students to be more creative and imaginative as their knowledge paradigm expand
- Beginning with the teaching process, firstly when teachers have the interest in continuous professional development, they are likely to start seeing ICT as a better tool to enhance their pedagogic practices.
- The possibility for teachers to start extending their knowledge on ICT and experiencing learning about affordance of technology applications are necessary.
- Successful integration of ICT in the teaching and learning process will demand some changes in the national curriculum.
- Teachers' individual effort to integrate ICT seems to be a brilliant effort taken by teachers to influence the teaching and learning process.
- To enhance teachers' pedagogic use of ICT, it is further recommended that; sufficient time per lesson should be allocated to encourage teachers to use other pedagogical practices especially ICT.
- More investment should be directed to moving ICT tools to classrooms instead of building multimedia centres
- Making access to ICT possible for all teachers despite their subject area
- When teachers become competent enough to use ICT tool, the way they deliver their lessons changes. This study clearly indicates that teachers have to re-think their positions the classroom.
- It can be seen that students become more engage in collaborative ICT classroom practices that improve their learning outcome.
- ICT can become a vital educational tool under proper conditions- where teachers are confident, and fairly skilled and competent in using ICT themselves, where the daily class schedule allocate enough time for teachers to use ICT, where there are sufficient ICT equipment made available for teachers
- Finally, the integration of ICT in classroom needs serious consideration in order to increase the competency of the country's education system.
- This will help in increasing the world ranking of the national education and produce the better future work force.
- School principals have to start seeing themselves as technological leaders making sure that teachers are motivated, trained, resourced, enforced, and guided to use ICT in the pedagogy.

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