Effect of ICT Integration in Teaching-Learning Process in Present Covid-19 Situation: An Analysis

Chapter · March 2022

1 author:

Priyank Kumar Shivam
The ICFAI University, Tripura
11 PUBLICATIONS **0** CITATIONS

Some of the authors of this publication are also working on these related projects:

Project

A STUDY OF PRE SERVICE TEACHERS PERFORMANCE IN TEACHERS RECRUITMENT BOARD OF TRIPURA View project

18
Chapter

Effect of ICT Integration in Teaching-Learning Process in Present Covid-19 Situation: An Analysis

Priyank Kumar Shivam

Abstract: In this paper researcher has given an analyzed report on the effect of ICT integration in the teaching-learning process in the present Covid-19 situation. Though it was practised from long back, it became one of the alternative ways during Covid-19. In this period school students to college and university students have also adopted the same ways to save their semester and academic session and most of the world-wide institutions have also adopted ICT integration in teaching-learning process as well as in assessment of the students as per the view of student's life and career. In this paper 60 samples were selected on random sampling based for gathering the information about study and collected data was analyzed through descriptive statistics. Its advantages are more than its disadvantages in a student's life. More than 70% students have said ICT integration in the teaching-learning process helped in the present Covid-19 situation while 50% students claimed that its side effects spoil our daily routine and lifestyle. 90% of school and university students said that it made them lazy and the same way 90 % students claimed that it creates interest among them to learn the concept and reflect accordingly. Detailed discussion has been given in the paper.

Keywords: *ICT Inte*gration, Teaching-learning Process and Covid-19

Since January 2020 onwards approximately the entire world has stopped its corporate market, transportation, travelling etc., and in the same way entire educational institutions have been forced to close by the respective Government in the view of Covid-19. In this situation maximum educational institutions have adopted ICT based or integrated teaching-learning processes to avoid Academic session and semester break and in favor of the students. All the teaching-learning process through ICT at institution level it's about new concept though very common for our youths. Previously maximum youths

learn through traditional classrooms where teachers used blackboard, chalk, duster, chart, model and lecture session but in present situations both students as well as teachers wondered to adopt teaching-learning through ICT. In starting maximum teaching-learning process were held through WhatsApp, Facebook, email, and other social media means of communication and gradually teaching-learning moved on different apps based teaching like Extramarks, Byju's, Vedantu, Duo, Google Meet, GoToMeeting, Microsoft Team for teaching-learning process for school students and Central and State governments have chosen local radio and DD TV for teaching-learning process. While higher educational institutions adopted Module based, Google Meet, Google Classroom, Zoom, GoToMeeting, Microsoft Team etc. to use in teaching-learning process and other administrative purposes.

Importance of ICT integration in teaching-learning

Importance of ICT integration in the teaching-learning process is much more valuable than the traditional ways of teaching-learning process. The list of importance of ICT integration in teaching-learning process is as follows:

- It gives us a continuum to keep the teaching-learning process.
- Without any restriction we are getting many related materials free of cost.
- It provides many mediums to learn the same contents like in audio, in video and in audio and video form.
- All the facilities related to teaching-learning are available at home anytime anywhere.
- It saves transportation cost and time.
- It provides Universal Digital Learning materials to all the students of the globe.
- It gives us repetition of the content based on our needs.

Rationale of the present study

From the present situations all the people of society are afraid of this disease and its variants while other tensions are created inside home

by the kids while parents observe their kids along with electronic devices. ICT integration in the teaching-learning process helps a lot and enriches discussion with the students and teachers.

They can create many questions and answers because there is no limit. Students can ask questions or create a list of questions on a page and send them to the concerned teachers to help in a particular subject. By these ways, the effects of ICT integration in the teaching-learning process enhanced the ability and capability in individual students that was not possible in traditional classrooms. Because many slow learners or poor students hesitate to ask questions directly in a classroom. But not over online classes, in this context this topic is relevant and justifies itself.

Review of Related Literature

Dhawan S, (2020) independently studied on "Online Learning: A Panacea in the Time of Covid-19 Crisis" and found that e-learning methods and processes are really strong, flexible and easy to use from anywhere and giving much exploration for both students and teachers.

Konig *et al* (2020) worked collaborate on "Adapting to online teaching during Covid-19 school closure: teacher education and teacher competence effects among early career teachers in Germany" and reflected results were limited due to teachers response, survey reliability was limited and it was conducted in Germany so, reliability in other country is again limited.

Khan Arsha*d et al* . (2021) worked in a group on "Students' Perception towards E-Learning during Covid-19 Pandemic in India: An Empirical Study" and found that students' positive perception towards e-learning and thus acceptance of this new learning system.

Covid-19 Report ECLAC-UNESCO (August 2020) and exposed the current Covid-19 pandemic poses significant challenges for education and social systems in the countries of the region that must be addressed in a coordinated manner. Countries consider the best

way to tackle uncertainties and reopen their education institutions safely, this crisis provides an unprecedented opportunity to increase the resilience of national education systems and transform them into equitable and inclusive systems that help to fulfill the collective commitment made in the 2030 Agenda for Sustainable Development.

Chavez *et al*., (2020) worked on "Integration of ICTS and Digital Skills in Times of the Pandemic Covid-19" and results showed that ICT integration and digital skills were highly acceptable and correlated at 0.05 level of significance.

From the above studies researcher can conclude many studies support teaching and learning through ICT but no research found that there is a direct impact of ICT integration in teaching learning process in present Covid-19 situation, that's why it is relevant for the study.

Objectives of the study

◊ To find out the actual involvements of the students with respect to the ICT integration in teaching-learning process in covid-19 situation

◊ To check the effects of ICT integration in teaching-learning process in covid-19

◊ To know the interest of students about ICT integration in teaching-learning process in Covid-19 pandemic

Research Methodology of the study

The present study was based on an online survey method and used on school and university students only. It reflects on the effects of ICT integration in the teaching-learning process in Covid-19 only.

Sample of the Study

There were 60 samples selected randomly from schools and universities of Tripura.

Tools of the study

In the present study researcher has used an online questionnaire based on Google Form which was an appropriate tool to collect the data in this pandemic from the school students and university students. This form was shared and information were collected from the selected sample for data analysis.

Used statistics of the study

In the present study researcher has used descriptive statistics for data interpretation.

Data Interpretation

Collected data were tabulated and analyzed for better understanding of the situation. There are three tables which are based on use of ICT integration in teaching-learning process, effects of ICT integration in teaching learning process and interest of ICT integration in teaching-learning process. It is given below in the table:
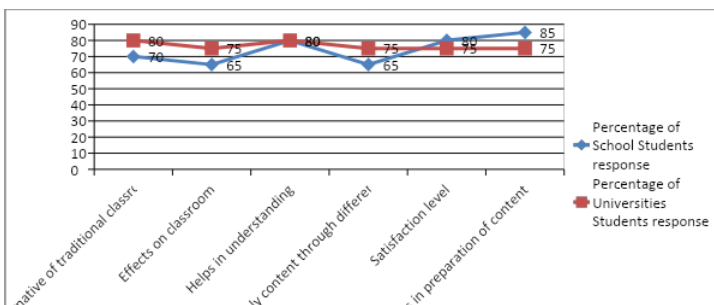
Graph 1: *Use of ICT integration in teaching-learning process*

Graph-1 shows that 70% of school going students have used ICT in alternative use of traditional classroom while 80% university going students used it for alternative base. Very few students from schools and universities have said that it is not effective in the teaching learning process though they are accepting that there are alternative ways in present Covid-19 situation.

65% of school going and 75% of university and college going students have said that the effects of ICT integration in the teaching-learning process has a better impact than that of traditional classroom and again a few students have said that its effects are virtual, not real.

80% students of school and universities have considered that ICT integration in the teaching-learning process helped a lot to understand the concept of contents more easily than the traditional classroom remaining students have not given any opinion over it.

65% school students and 75% university students have expressed their concern about the supply of different mediums by using ICT integrated teaching and learning processes like audio, video and audio and video based materials to make them understand easily.

80% school students and 75% of university students said that they are satisfied with the ICT integrated teaching-learning process and it saves their time and money.

85% school students and 75% university students have said that ICT integration helps a lot in preparation of contents and prepare homework/assignment and project and it is easily available for them.

Though use of ICT integration is costly, it is very effective for the students and teachers because it is available anytime and anywhere and also the materials can be used again and again which helps in storing and supplying.
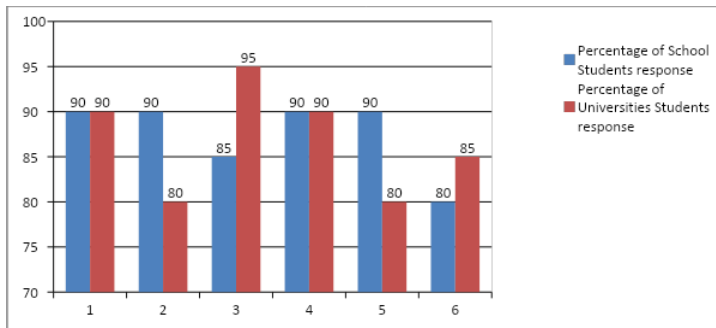
Graph 2: *Effects of ICT integration in teaching-learning process*

From graph-2 researcher found that 90% of students from both schools and universities said that effects of ICT integration in the teaching-learning process made them lazy and they feel laziness is increasing day by day though it has not happened with them before but due to easily available and do not participate in physical work it may affect our activation.

90% school students and 80% students from universities said that effects of ICT integration in teaching learning process made us dependency on ICT previously we were used to calculate and count manually now we are doing with ICT only. It is not good for mental but mechanically it is good because we are getting result immediately.
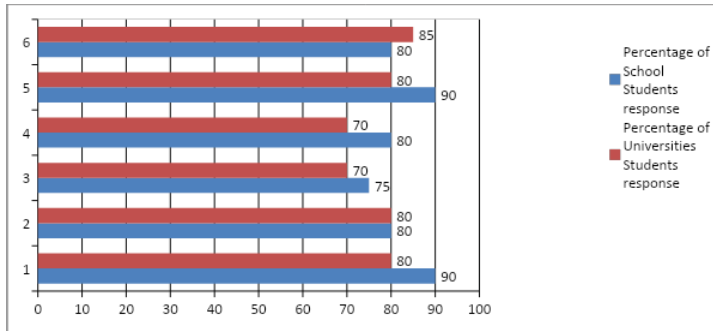
85% school students and 95% universities students said that ICT integration in teaching-learning made alternative of manual textbook and we are not going through the manually directly typing and using ICT for any inquiry.

90% students from both categories said that ICT integration in teaching-learning effects our daily routine and we become lazy, dependent and trying to get readymade answer of the given questions.

90% School students and 80% universities said that ICT integration in teaching learning process made us isolated from the family members because we are trying all the things in readymade.

80% school students and 85% universities students said that its effects on health is not visible directly but it effects much, now we suffer from forgetting, trying readymade though we know the contents etc. and also made us laziness, no physical work, eye problem, using devices for late night and awaking late in the morning etc.

Graph 3: *Interest of ICT integration in teaching-learning process*

From graph no.3, opinion of the school students about 90% said that ICT integration in teaching learning process has create interest among us while 80% universities students said the same remaining students said no idea about this.

80% students from both school and colleges said that we are getting our favorite medium in teaching learning process through various apps and software.

75% school students said that we are getting favorite apps for teaching learning process which creates more interest in teaching-learning process and we are friendly learn with it while 70% students of universities said same about favorite apps.

80% of school students said ICT integration in the teaching-learning process helps in practical use of the contents while 70% of university students said the same. Remaining students they did not use so they do not know.

90% and 80% students of schools and universities have said that assessment through ICT in the teaching learning process has been a nice experience and very creative and useful. It gives us competency among us to do effectively and technically.

80% school students and 85% universities students have highly aware about ICT integration in teaching learning process though they

do not have computer knowledge but now they effectively using the ICT works in a class and class work with their friends.

Finding, Discussion and Conclusion

From the present study, researcher has found after data interpretation which is mentioned below in category wise.

Category 1: Use of ICT integration in teaching-learning process

Maximum numbers of school going students and universities going students have used ICT on an alternative base of traditional classroom. More than half of school going students and 2/3rd of university going students have said that the effects of ICT integration in the teaching-learning process has good impact than the traditional classroom.

More than 2/3rd of students from school and universities have considered that ICT integration in the teaching-learning process helped a lot in understanding the concept of contents. More than half of school students and 2/3rd of university students have expressed their concern about the supply of different mediums by using ICT integrated teaching and learning processes like audio, video and audio and video based material to make us understand easily.

Maximum School students and approx 2/3rd of university students said that we are satisfied with ICT integrated teaching-learning process and it saves our time and cost.

The practical use and integration of ICTs is playing a vital role to enhance the knowledge and keep up with modern developments. Here we can get a number of resources such teachers, students and professionals can access and share their research and course materials anytime and anywhere for 365 days and 24 hours (Suarez, Almerich, orellana and Diaz-2018). Use of ICT and its adaptation in teaching and learning process helps in developing the higher order thinking skills such as problem solving, perception, improving understanding and many more(Knezek and Christensen-2016). The adaptation and its implementation in the teaching learning environment offer more

opportunities for students and teachers to work in the digital era along with global people (Lawrence and Tar-2018).

Therefore, researcher can say that the use of ICT integration in the teaching-learning process during Covid-19 has a great impact on students as well as teachers to come forward and understand each other and explore their ideas globally.

Category 2: Effects of ICT integration in teaching-learning process

Most of the students from both school and universities said that the effects of ICT integration in the teaching-learning process made us lazy and we feel laziness increasing day by day though it did not happen with us but due to being easily available and not participating in physical work it may affect our activation.

Approximately all school students and maximum students from universities said that the effects of ICT integration in the teaching learning process made us dependent on ICT. Previously we were used to calculate and count manually now we are doing it with ICT only. It is not good for mental health but mechanically it is good because we are getting results immediately.

Most of the school students and approximately all university students said that ICT integration in teaching-learning made an alternative to manual textbook and we are not going through the manually directly typing and using ICT for any inquiry.

Most of the students from both categories said that ICT integration in teaching-learning affects our daily routine and we become lazy, dependent and trying to get readymade answers to the given questions.

Maximum numbers of school students and most of universities students have said that ICT integration in teaching learning process made us isolated from the family members because we are trying all the things in readymade.

More than 3/4th of school students and maximum universities students said that its effects on health is not visible directly but it effects much, now we suffer from forgetting, trying readymade though we know the contents etc. and also made us laziness, no physical work, eye problem, using devices for late night and waking late in the morning etc.

Effective use of ICTs by teachers in schools and universities is very important for making teaching learning living with ICT integration in the teaching learning process (Moreno, CavaZotte and Alves-2017 and Avendano and Careaga-2016). Access to technological resources is one of the effective ways to apply and implement ICT in education (Florez, Aguilar, Hernandez, Perez and Salazar-2017). Integration of ICT depends upon the availability and accessibility of ICT resources such hardware and software, if teachers cannot access these properly, they cannot use ICT integration in the teaching-learning process (Moreno *et al*.,-2017). Therefore, researcher can disclose on the basis of the above discussion that effective use of ICT depends upon the teacher's willingness and willingness to learn and implement ICT in the teaching-learning process.

Category 3: Interest of ICT integration in teaching-learning process

Approximately all students of school have said that ICT integration in the teaching learning process has create interest among us while more than 3/4th university students said the same and remaining students said no idea about this.

More than 2/3rd students from both school and colleges said that we are getting our favorite medium in teaching learning process through various apps and software.

3/4th of school students said that we are getting favorite apps for teaching learning process which creates more interest in teaching-learning process and we are friendly learn with it while 70% students of universities said same about favorite apps.

More than 3/4th school students said ICT integration in the teaching-learning process helps in practical use of the contents while more than half university students said the same. Remaining students they did not use so they do not know.

Most of the students from schools and universities have said that assessment through ICT in the teaching learning process is a nice experience and it is very creative and useful. It gives us competency among us to do effectively and technically.

A little percentage of school students and university students have denied about awareness of ICT integration in the teaching learning process though they do not have computer knowledge but now they effectively use the ICT works in a class and class work with their friends.

The perspective of the new educational training for the educating and preparing students, allowing them to appropriate themselves with new ICT knowledge, tools that serve and explore about ICT knowledge and creating interest among the learners (Levano, Sanchez, Guillen, Tello, Herrera and Collantes-2019). The amalgamation of new technologies, teaching strategies, evaluating process and transferring skills and approaches to teaching and evaluating students with ICT, for observing the progress of the students and also developing planning and organizational skills in education which aids the construction of new knowledge, using technologies as tools in new scenario (Jimenez and Gijon-2016). ICT gives different areas like digital skills, social media; e-learning and online learning etc., when these things are growing with skills to adaptation means generating interest among the learners and it provides the ability to express oneself in different programming languages and the capacity for social interaction, integrating new technologies (Guarro-2012).

Therefore, researcher can say that ICT integration in the teaching-learning process develops interest among the students to develop their ideas and skills and develop with the technology.

Conclusion

From the above discussion and finding of the research, researcher can conclude that ICT integration in the teaching-learning process may enhance the student's ability to perform, develop new skills and interpersonal skills while doing any task at any place. They can also express the use of ICT integrated for betterment, problem solving and creating interest and effective use of the contents among others.

References

1. https://journals.sagepub.com/doi/full/10.1177/0047239520934018

2. https://www.tandfonline.com/doi/full/10.1080/02619768.2020.1809650

3. Khan, M.A.; Vivek; Nabi,M.K.; Khojah, M.; Tahir, M. (2021) Students'Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study. MDPI, Sustainability, 13, 57. https://dx.doi.org/10.3390/su13010057

4. COVID-19 Report ECLAC-UNESCO (August-2020) Education in the time of COVID-19, *Santiago Office, Regional Bureau office, Latin America and the Caribbean*

5. Area, M., & Guarro, A. (2012). La alfabetización informacional y digital: fundamentos pedagógicos para la enseñanza y el aprendizaje competente. *Revista española de documentación científica, 35*(Monográfico), 46-74. https://doi.org/10.3989/redc.2012.mono.977

6. Jiménez, N., & Gijón, J. (2016). Las TIC en los países andinos: programas escolares y papel del docente. *Ensayos, Revista de la Facultad de Educación de Albacete, 31*(1), 165-181. https://doi.org/10.18239/ensayos.v31i1.1036

7. Lévano-Francia, L., Sánchez Diaz, S., Guillén-Aparicio, P., Tello-Cabello, S., Herrera-Paico, N., & Collantes-Inga, Z. (2019). Competencias digitales y educación. *Propósitos y Representaciones, 7*(2), 569-588. http://doi.org/10.20511/pyr2019.v7n2.329

8. Flórez, M., Aguilar, A., Hernández, Y., Salazar, J., Pinillos, J., & Pérez, C. (2017). Sociedad del conocimiento, las TIC y su influencia en la educación. *Revista Espacios, 38*(35), 39-50.

9. Careaga, M., & Avendaño, A. (2016). Estándares y Competencias TIC para la formación inicial de profesores. *REXE-Revista de Estudios y Experiencias en Educación, 6*(12), 93-106. Retrieved from https://bit.ly/3b8Vido

10. Moreno, V., Cavazotte, F., & Alves, I. (2017). Explaining university students' effective use of e-learning platforms. *British Journal of Educational Technology, 48*(4), 995-1009. https://doi.org/10.1111/bjet.12469

11. Suárez-Rodríguez, J., Almerich, G., Orellana, N., & Díaz-García, I. (2018). A basic model of integration of ICT by teachers: competence and use. *Educational Technology Research and Development, 66*(5), 1165-1187. https://doi.org/10.1007/s11423-018-9591-0

12. Knezek, G., & Christensen, R. (2016). Extending the will, skill, tool model of technology integration: Adding pedagogy as a new model construct. *Journal of Computing in Higher Education, 28*(3), 307-325. https://doi.org/10.1007/s12528-016-9120-2

13. Lawrence, J., & Tar, U. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International, 55*(1), 79-105. https://doi.org/10.1080/09523987.2018.1439712