

Research paper

Online Learning Initiatives and Its Effects on Teaching-Learning Process During the Covid-19 Pandemic

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Abstract

Purpose: Online learning is a technologically facilitated learning process using websites, personal computers (PCs), tablets, cell phones, learning management system (LMS), televisions (TVs), radios, computers, mobile phones, laptops, desktops, etc. from a remote distance. Online learning has changed the learning experience for many learners. Rather than sitting in traditional classrooms and taking notes, learners are taking advantage of online classes and other forms of online learning. Online learning allows the widespread distribution of electronic learning materials to many learners simultaneously anywhere and anytime from a remote location. **Methods:** This is a questionnaire-based study on online learning and its effects on the teaching and learning process during the COVID-19 pandemic. Investigators collated the samples from different teachers and students with regard to their gender, age, community, location, working streams, qualification and, experiences. **Findings:** Based on the results obtained, online-learning has positive effects on teaching-learning process of the learners. **Conclusion:** Overall, traditional learning is expensive and takes a long time, and the results can vary. Online-learning offers an alternative that is faster, cheaper, and potentially better. Online-learning has to be implemented and made available to everyone easily.

Keywords: online-learning, teaching-learning process, learners.

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Introduction

Online learning is a technologically facilitated learning process using web sites, personal computers (PCs), tablets, cell phones, learning management system (LMS), televisions (TVs), radios, computers, mobile phones, laptop, desktop etc. from a remote distance (Somayeh et al, 2016). It is a shift from the traditional chalk and talks teaching-learning process to ICT-based flexible personalized, individualized, self-organized, collaborative learning process based on a community of learners, teachers, facilitators, experts, etc.(Leung, 2002) Online learning is a comparatively new phenomenon around the globe, enhancing the teaching-learning processes (Rosenberg, 2001). Online learning initiatives include incorporating text, audio, video and animation, etc. into study materials and course lectures, retrieving learning materials and information from various online learning platforms such as SWAYAM, VIDWAN, E-PG Pathshala, Shagun Online Junction, MOOCs, SWAYAM PRABHA, NDLI (National Digital Library of India), Virtual Labs and online journals, periodicals and newspapers including simulations and multi-media presentations in the classroom; focusing on innovative and modern scientific ICT based teaching-learning activities among the learners of different places. Online learning is the use of ICT and internet technologies to enhance, information, knowledge and academic performance of the learners (Ruiz et al., 2016; Azliza et al., 2012). Online learning platform offers learner's control over learning materials, content, learning sequence, the pace and time of learning and often allow them to modify their experiences to meet their individual learning objectives (Romero at al., access 2020). Online learning presents tremendous teaching and learning opportunities for students as well as faculties during the COVID-19 Pandemic. Innovations in online learning technologies point towards a revolution in teaching-learning during this coronavirus crisis, allowing the learners to be individualized and help them in making' interactions with others through online learning platform i.e. collaborative learning (Andersson, 2008). The integration of online learning into teaching-learning process can catalyse the shift toward applying self-learning theory where teachers will no longer serve as the providers of content but will become more involved as a facilitator for the learners (Springer, Stanne, & Donovan, 1999)

Online learning is also called internet based learning, electronic media learning, Web-based learning, distributed learning, and computer-assisted instruction, etc. Generally, there are two common online learning methods i.e., computer-based teaching-learning and distance learning (Rupashri, 2015). Computer-based teaching-learning also called Computer-assisted instruction. Computer-based instruction uses computers to aid in the delivery of learning content-along with multimedia packages for teaching-learning (Okon et al, 2008). Nowadays, distance learning uses internet and information communication technologies (ICT) to deliver instruction and learning materials to students who are at remote locations from the educational institution. Another media use for online learning is multimedia. Multimedia uses various media, such as text, graphics, animation, audio, or video, to produce attractive learning materials that learners access via online through the internet. Blended learning, a fairly new term in teaching and learning process but a concept familiar to most learners, is an approach that combines online learning technology with traditional instructor-led training, where, for example, a lecture or demonstration is supplemented by an online tutorial. Teachers, administrators, and students find that online learning enhances both teaching and learning (Thejeswar et al, 2015). These benefits can be characterised as directing either learning transfer or learning enhancement. Transfer of learning is the most often cited the use of previously acquired knowledge and skills in new learning situations and includes increased accessibility to knowledge and information, ease in updating learning materials, individualized instruction, ease of delivery, standardization of learning materials and quality of learning materials. Accessibility refers to the user's capability to find what is needed when it is needed (Jones & Cross, 2009). Updating online learning content is easier than updating traditional printed learning material. Online learning technologies allow learners to revise their learning materials quickly and easily (Jackson, 2009). Students have control over the learning materials, the pace of learning, learning sequence, time, and often, media, which allows them to modify their experience to meet individual learning objectives (Massa, 2006).

Online learning has changed the learning experience for many learners. Rather than sitting in traditional classrooms and taking notes, learners are taking advantage of online classes and other forms of online learning (Christensen et al, 2001). Online learning allows the

widespread distribution of electronic learning materials to many learners simultaneously anywhere and anytime from a remote location (Underwood, 2003). The additional strength of online learning is that it standardizes course materials and delivery; for instance, a lecture will be given to separate sections of the same course for the advance of students. Online reporting, chasing and recording of learners' activities can also be done through online learning. Besides, online learning can be intended to include outcomes assessment to determine whether teaching and learning have occurred or not. Benefits in learning enhancement are not highly recognized but potentially more innovative aspects of online learning than are those related to traditionally learning delivery methods (Balannskat et al., 2006). Online learning technologies offer educators and learners a new paradigm based on adult learning theory, continuing learning and life-long learning, which states that adult learners can learn by relating new learning to past experiences, by linking learning to specific needs, and by practically applying to learn, resulting in more effective and efficient learning experiences (Richardson & Newby, 2006).

Online Learning development allows wider learner's inter-activity and encourages learner's efficiency, inspiration, cognitive effectiveness, and flexibility of learning style. Online learning is a deeply individual experience, we acquire knowledge and experience because we want to acquire knowledge and experience. By enabling students to be more dynamic and active participants, well-designed online learning materials and experiences can motivate them to become more engaged with the content. Inter-active learning changes the focus from a passive, teacher-centred learning method to an active and learner-centred learning method. Online learning interactivity helps to continue the learner's interest and provides a means for personal exercise and reinforcement. It is said that online learning is more competent because students gain experience, knowledge, skills, and attitudes faster than through traditional learning methods (Brandon-Hall., 2001).

During this COVID-19 pandemic, the implementation of online learning could help the learners as well as teachers in doing their assessment more effectively and efficiently. In this pandemic, online learning can also help the learners to access and interact with instructional learning materials in several formats such as text, pictures, sound, video on demand, and so on from anywhere and at

any time. In this critical situation, most of the activities have been stopped but one thing never stops i.e. online teaching-learning activity (Paul, 1990). Now we can say that online learning is the greatest invention of science and technology which never distract the learners as well as teachers from their teaching and learning process.

Significant of the Study

Today's teaching-learning environment is completely different from what it was in the past. Technological advancement, especially after the development of information and communication technology in the field of education, significance of online learning has been increased. People able to know the real power of online learning and its effect on teaching-learning during the COVID-19 Pandemic. During the COVID-19 Pandemic all the educational institutions shut down but online learning removed all barriers and alive the teaching-learning process by providing new and creative ways of teaching-learning and inspiring and engaging the learners of all abilities to attain their educational potential. The findings of the study may help in promoting online learning among the students. Further, the outcomes of the study may help the policy-makers, administrators and curriculum framers to bring in something new in their respective fields.

Methods

This is a questionnaire-based study on online learning and its effects on the teaching and learning process during the COVID-19 pandemic. A total number of 250 participants undertook the survey. Investigators collated the samples from different teachers and students with regard to their gender, age, community, location, working streams, qualification and experiences. A questionnaire consisting of 16 questions were asked to the teachers and students through an online survey link called google forms. The questions were based on online learning aids used, understanding capacity, feasibility, online learning platforms, and online learning app, etc. After the data collection, the results were statistically analysed.

Findings

Among the people who participated in the survey, 80% were students and 20% were teachers. Most of them are aware of online learning which proves that online learning has been growing and has become

more popular during the COVID-19 pandemic. Online learning is a saviour in this COVID-19 pandemic crisis. As a result, education has changed dramatically, with the distinctive rise of online learning, whereby teaching-learning is carried out remotely and on various digital platforms.

1. For which purposes online-learning used?

Among 250 participants, about 65 % of participants used online learning platform for teaching, learning, and research purposes. About 16 % of participants used online learning platforms for teaching only, 15 % of participants used online learning platforms for learning only and 4 % of participants used online learning platforms for research purpose only [Figure 1].

Purposes for which Online Learning latforms used

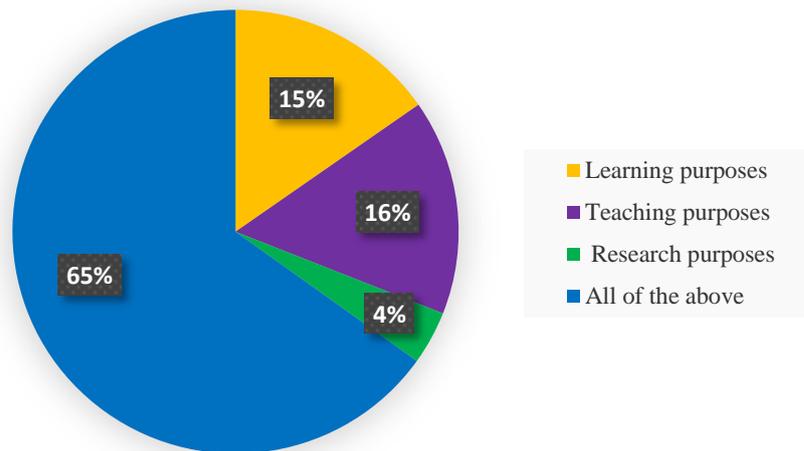


Figure - 1: Showing the purposes for which online learning platforms used

2. Which online learning platform do you use mostly?

When asked about the online learning platform mostly used by the participants, among 250 participants about 31 % of participants claimed that they preferred to used the SWAYAMonline learning platform, 20 % of participants claimed to used MOOCsonline learning platform, 20 % of participants claimed to used NDLI (National Digital Library of India)online learning platform, 15 % of participants claimed to used E-PG Pathshalaonline learning platform, 6 % of

participants claimed to used SWAYAM PRABHAonline learning platform, 4 % of participants claimed to usedVIDWANonline learning platform, 4 % of participants claimed to used Shagun Online Junction [Figure 2].

Mostly used Online Learning Platform.

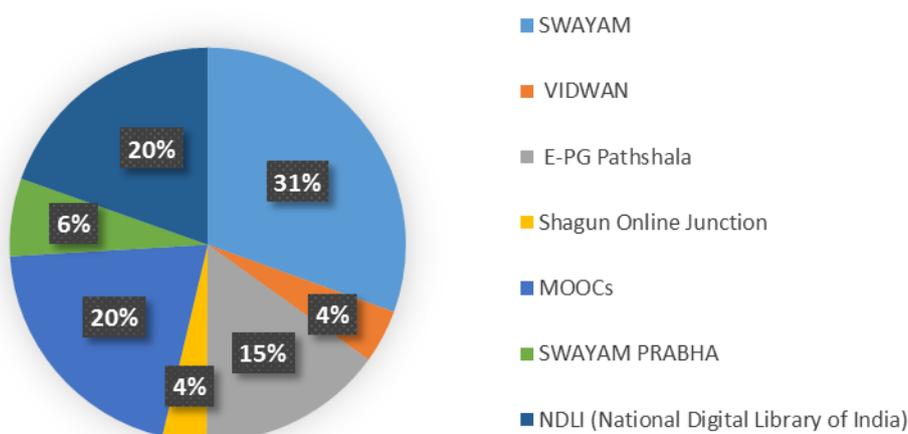


Figure - 2: Showing mostly used online learning platform.

3. How online learning effect on your teaching and learning process?

When asked the participants how online learning effect on your teaching and learning process? Among 250 participants, about 33 % of participants claimed that online learning provides remote access to information which is very helpful for teaching and learning purposes during the COVID-19 Pandemic as well as in normal situation, about 26 % of participants claimed that online learning process is very flexible, about 13% of participants claimed that online learning process helps in developing various teaching skills, about 13% of participants claimed that online learning process helps in improvement of communication skills, about 7% of participants claimed that online learning process is cost-effective, about 7% of participants claimed that online learning process helps in developing various plans for teaching and learning [Figure 3].

Effect of Online Learning on the Teaching-learning Process

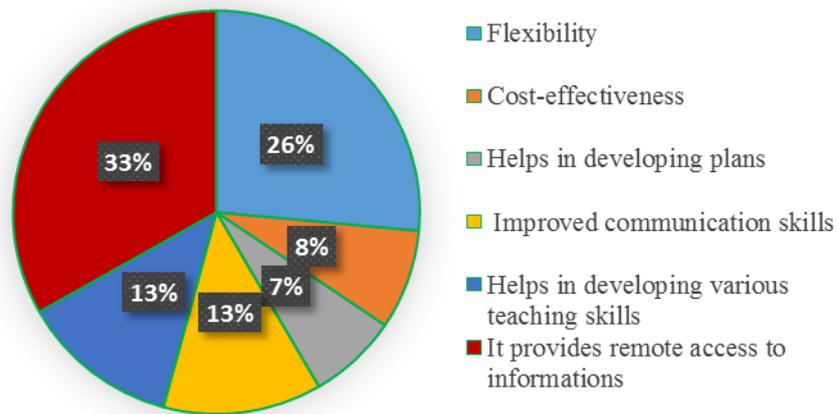


Figure - 3: Showing the effect of online learning on the teaching-learning process

4. Is online learning useful for higher education?

When asked the participants “is an online learning process useful for higher education?” About 73% of participants claimed that online learning process useful for higher education whereas about 6% of participants claimed that online learning process is not useful for higher education and about 21% of participants are not confirmed whether online learning process useful for higher education or not [Figure 4].

Usefulness of Online Learning for Higher Education.

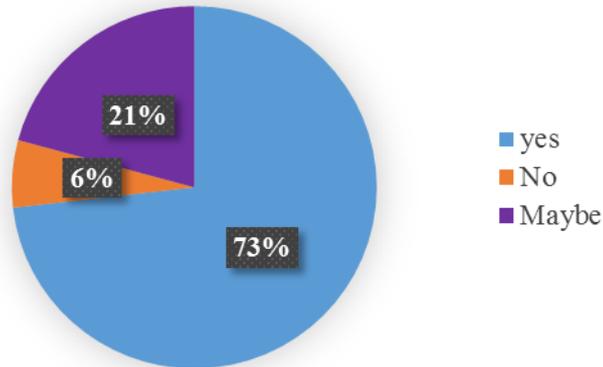


Figure - 4: Showing the usefulness of online learning for higher education.

5. Why online learning is important for teaching and learning?

When asked the participants why online learning is important for teaching and learning? About 26 % of participants claimed that online learning process improves the quality of teaching and learning, about 8 % of participants claimed that online learning process helps in the development of creativity, about 8 % of participants claimed that online learning process enhances the efficacy of knowledge, about 22 % of participants claimed that online learning process can provide an individualize teaching and learning experience, about 16 % of participants claimed that through online learning process all types of learners can share their ideas without any hesitation, about 20 % of participants claimed that online learning process helps the users to find out informations easily. [Figure 5].

Importance of Online Learning for Teaching-learning



Figure - 5: Showing the importance of online learning for teaching-learning.

6. Which online learning platform is most useful for the learning process?

When asked about online learning platform which is most useful for the learning process, about 39 % of participants claimed to used SWAYAM online learning platform, about 3 % of participants claimed to used VIDWAN online learning platform, about 9 % of participants claimed to used E-PG Pathshala online learning platform, about 2 % of participants claimed to used Shagun Online Junction online learning platform, about 17 % of participants claimed to used MOOCs online learning platform, about 7 % of participants claimed to used SWAYAM PRABHA online learning platform, about 17 % of participants claimed to used NDLI (National Digital Library of India) online learning platform, about 6 % of participants claimed to used Virtual Labs online learning platform [Figure 6]

Most Useful Online Learning Platform for the Learning process

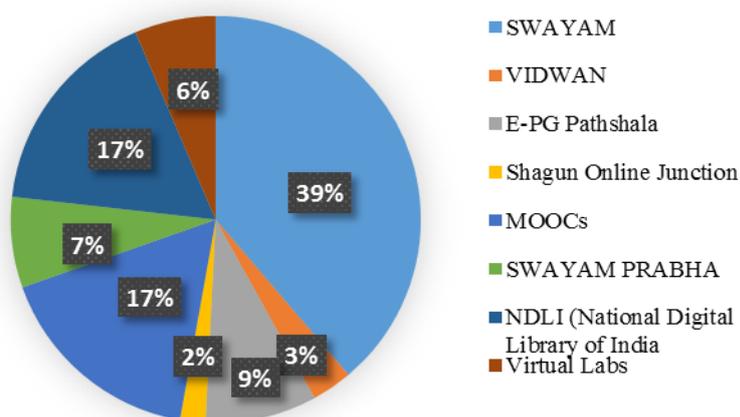


Figure - 6: Showing the most useful online learning platform for the learning process.

7. What are the barriers to using online learning platforms?

When asked to the participants about the barriers to using online learning platforms, about 11 % of participants claimed that using online learning platforms is expensive, about 22 % of participants claimed that there is network problems while using online learning platforms, about 9 % of participants claimed that they have understanding problems while using online learning platforms, about 8 % of participants claimed that the online learning content is not appropriate according to the needs of learners, about 7 % of participants claimed that there is lack of time flexibility while using online learning platforms, about 8 % of participants claimed that there is lack of lack of advance software, about 14 % of participants face technical problems while using online learning platforms, about 8 % of participants face security problems while using online learning platforms, about 13 % of participants claimed that they have lack of knowledge about online-learning platform, course choice etc. [Figure 7].

Barriers to Using Online Learning Platforms

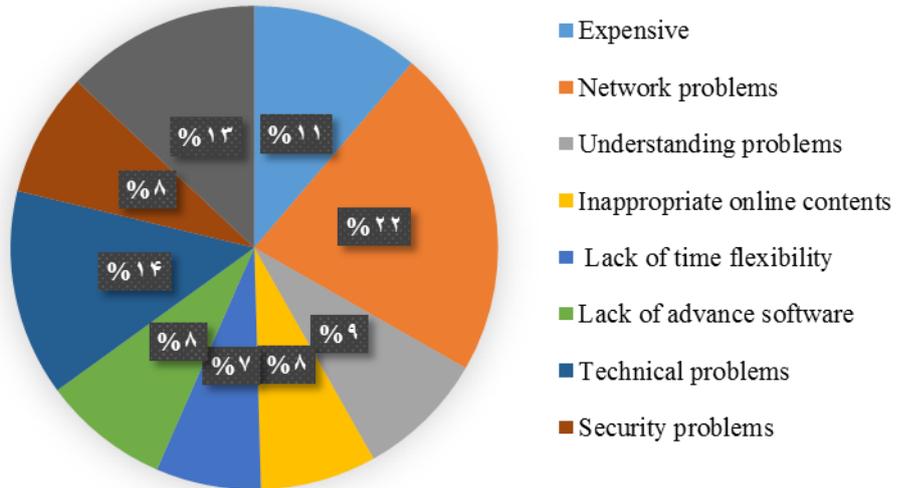


Figure - 7: Showing the barriers to using online learning platforms.

8. Has online learning decreased the value of traditional teaching and learning methods?

When asked to the participants that “has online learning decreased the value of traditional teaching and learning method?” About 30 % of participants strongly disagree with this, about 21 % of participants disagree with this, about 15 % of participants have no decision on it, about 20 % of participants agree with this and about 14 % of participants strongly agree with this [Figure 8].

Online Learning Decreased the Value of Traditional Teaching and Learning Method

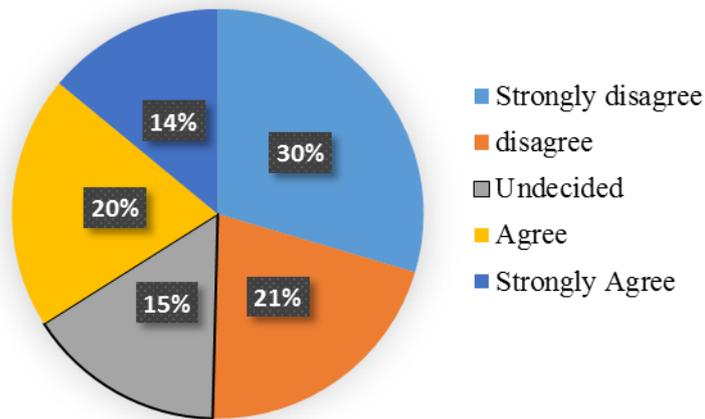


Figure - 8: Showing online learning decreased the value of traditional teaching and learning method.

9. Do you prefer online learning over conventional teaching-learning methods?

When asked to the participants that “Do you prefer online learning over conventional teaching and learning methods?” About 47 % of participants preferred online learning over conventional teaching and learning methods, about 34 % of participants are not preferred online learning over conventional teaching and learning methods, about 19 % of participants are confused whether online learning process preferable over conventional teaching and learning methods or not [Figure 9].

Preference of Online Learning over Conventional Teaching-learning Methods

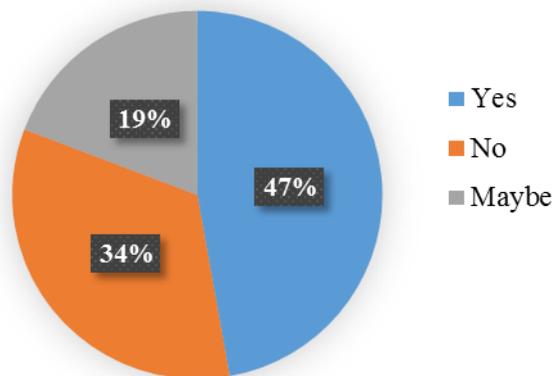


Figure - 9: Showing the preference of online learning over conventional teaching-learning methods.

10. Do you think online learning course is a better way for the future of Indian education system?

About 48 % of participants believed that online learning courses will be a better way for the future of the Indian education system, at the same time, about 30 % of participants feel that online learning courses may not be affordable for every learner and about 22 % of participants are confused whether online learning courses will be a better way for the future of Indian education system or not [Figure 10].

Online Learning Course is a Better way for the Future of Indian Education System

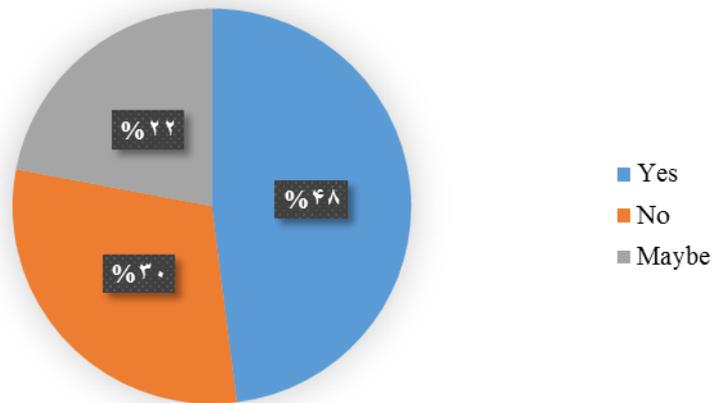


Figure - 10: Showing online learning course is a better way for the future of Indian education system.

11. Do you think your academic performance has improved with the initiative of online learning method?

When asked to the participants that “Do you think your academic performance has improved with the initiative of online learning method?” About 58 % of participants claimed that online learning method had helped to improve their academic performance, at the same time, about 21 % of participants stated that online learning had not helped to improve their academic performance and 21 % of participants are confused whether online learning method had helped to improve their academic performance or not [Figure 11].

Academic Performance has Improved with the Initiative of Online Learning Method

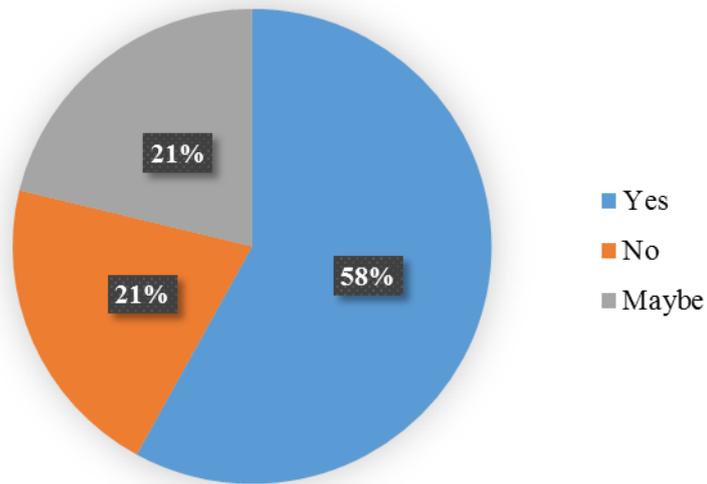


Figure - 11: Showing improvement of academic performance with the initiative of online learning method.

12. What types of online learning methods do you prefer?

When asked the participants about the types of online learning, 63 % of participants claimed that they preferred interactive online learning method, about 17 % of participants preferred Text-driven online learning and about 20 % of participants preferred Stimulation online learning [Figure 12].

Preference of Online Learning Methods

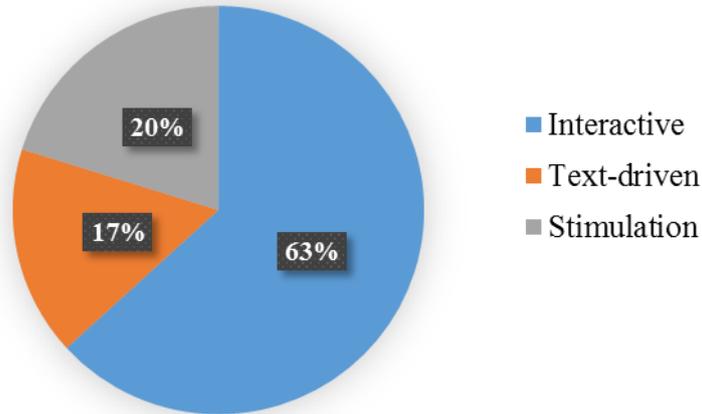


Figure - 12: Showing preference of online learning methods.

13. Does your school/college/university/institution provide training for online learning?

When asked the participants whether their school/college/university/institution provides training for online learning? About 66 % of participants claimed that their school/college/university/institution provides training for online learning whereas about 26 % of participants claimed that their school/college/university/institution does not provide training for online learning and 8 % of participants are confused whether their school/college/university/institution provides training for online learning or not [Figure 13].

School/College/University/Institution Provide Training for Online Learning

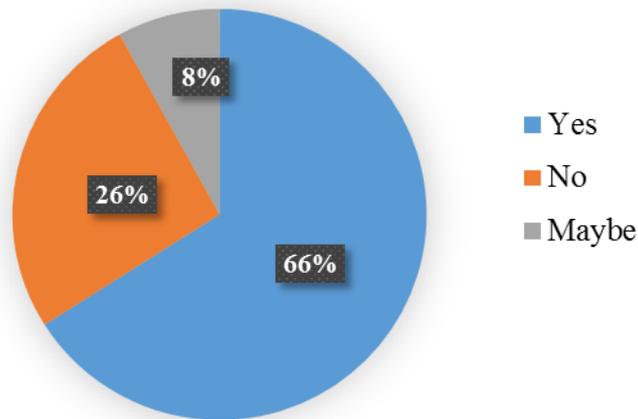


Figure - 13: Showing the school/college/university/institution provides training for online learning.

14. Does your school/college/university/institution produce online learning materials?

When asked the participants whether their school/college/university/institution produces online learning materials? About 77 % of participants claimed that their school/college/university/institution produce online learning materials whereas about 16 % of participants claimed that their school/college/university/institution do not produce online learning materials and 7 % of participants are confused whether their school/college/university/institution produce online learning materials or not [Figure 14].

School/College/University/Institution Produce Online Learning Materials

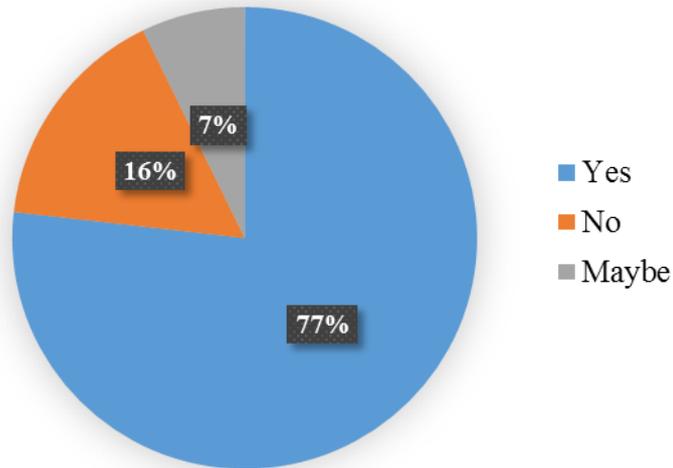


Figure - 14: Showing the school/college/university/institution produce online learning materials.

15. Have you done any online courses?

When asked the participants whether they had done any online course? About 74 % of participants claimed that they had done the online course previously whereas 26 % of participants had not any online course [Figure 15].

Online Course Done by Participants

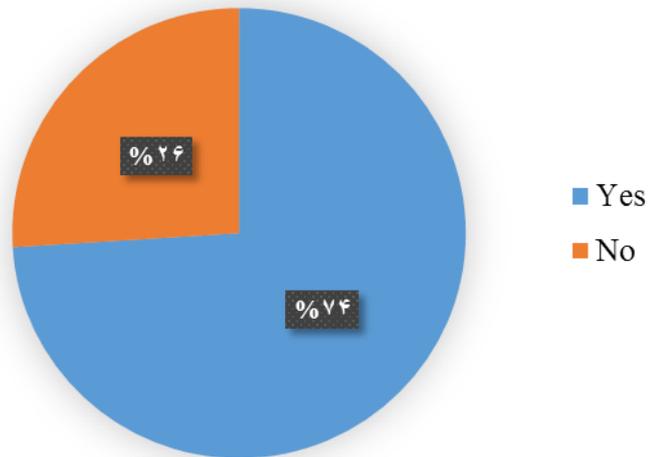


Figure - 15: Showing online course done by participants.

16. Which online learning app is most useful for the teaching and learning process?

When asked the participants which online learning app is most useful for the teaching and learning process? About 31 % of participants claimed that Zoom app is most useful for the teaching and learning process, about 20 % of participants claimed that Google Meet app is most useful for the teaching and learning process, about 10 % of participants claimed that Go To Webinar app is most useful for the teaching and learning process, about 5 % of participants claimed that Webex Meet app is most useful for the teaching and learning process, about 9 % of participants claimed that Qurio app is most useful for the teaching and learning process, about 10 % of participants claimed that Microsoft Teams app is most useful for the teaching and learning process, about 7 % of participants claimed that Skype app is most useful for the teaching and learning process, about 8 % of participants claimed that Conference call app is most useful for the teaching and learning process [Figure 16].

Online Learning App is most Useful for the Teaching-learning Process

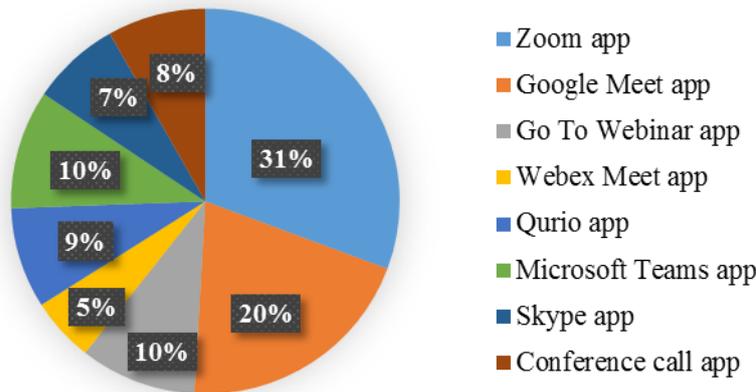


Figure - 16: Showing online learning app is most useful for the teaching and learning process.

Conclusion

Online-learning is a large and growing learning platform with great potential in teaching learning process. In this study, it is concluded that learners using online learning platforms performed better than learners who did not use online-learning platforms during this COVID-19 pandemic. From the above discussion, it is clear that online learning process provide ample opportunities for the learners during this critical situation. In order to maximize this potential, online-learning implementations should endeavor to satisfy the needs and concerns of all learners as much as possible. Overall, traditional learning is expensive and takes a long time, and the results can vary. Online-learning offers an alternative that is faster, cheaper, and potentially better. Online-learning has to be implemented and made available to everyone easily.

Suggestions for making online teaching-learning more effective

- Faster Internet connectivity and solve network problems
- Developed high-quality software
- Implementation of appropriate security policies favouring online learning

- Provision of technical support for online learning at schools, colleges and university
- Provides appropriate content inappropriate languages
- Create awareness about the value and importance of online learning
- Provision of training for teachers in online learning at all levels.

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