E-LEARNING AND USE OF ICT IN THE BACKDROP OF PANDEMIC

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Abstract:

In 21st century world is global rather than local as a result we experiences good things as well as sufferings and one of such issues is COVID-19 pandemic. We all across the globes connected through our better communication system both physically and digitally. Information and communication technology (ICT) act as a boon for human beings for global integrity through different technological innovation system one of such is Web 2.0 technology via Satellite Network communication. Digital revolution in pandemic situation redefines the whole teaching learning system through online or E-learning mode. A paradigm shift in teaching learning system took place with the evolving pandemic situation across the world. Student ,teachers, academician and all other stakeholders associated with educational system get more acquainted to E-learning and online education .Although education institute are closed down but still teaching learning remains continues through online platforms .This paper makes an attempt to explores the E-learning through digital platforms and wide use of ICT with different issues and challenges related to it.

Keywords: E-learning, ICT, COVID-19 Pandemic, Digital Revolution.

INTRODUCTION:

With the sign of COVID-19 pandemic different educational institutes, school, colleges, University and educational institutes got shutdown in March -2020.COVID-19 virus is a Corona virus disease which was first identified in December 2019 in Wuhan city in china and gradually it spread over throughout the globes. It widely affected different sectors including educational sectors. Nowadays technology and internet facility As a result teacher student and all other associated with teaching learning system remains confided in home. In such situation information and communication technology (ICT) plays very pivotal role in catering the online teaching. Starting from primary to higher education institute came up with the use of digital platforms for teaching learning throughout the world. We have built a better, faster developed technology with the satellite communication and Internet facility as a result we have sudden switch over to online

learning through various digital platforms. Nowadays technology and internet facility becomes boon for the whole humankind and the society for communicating, interacting, messaging, teaching and learning, forecasting and entertainment and teaching learning process.

E-learning refers to a set of application and processes including computer based learning, web based learning ,virtual classroom and digital collaboration(WR Hambraecht+Co, 2000) while According to the United Nations Development Programme (UNDP)- "ICTs are basically information handling tools — a varied set of goods, applications. Information Technologies includes Radio, Television, Computer, Internet, Teleconferencing, and Mobile Satellite Based Communication Terrestrial Based Communication Technologies. These different tools are now able to work together, and combine to form our "networked world", a massive infrastructure of interconnected telephone services, standardized computer hardware, the Internet, radio and television, which reaches into every corner of the globe. This broad definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing, e-mail and blogs. This study basically address the following aspects-

- ❖ E-Learning facilitated via different interfaces
- ❖ Digital competency among teacher and students
- ❖ Government Initiatives and effort to promote E-learning
- ❖ Impact of E-learning
- ❖ Issues and challenges in E-learning and use of ICT

E-Learning facilitated across diverse interfaces such as -

- ➢ Smartphone (Mobile)
- ➢ Computer
- ➢ Tablet
- ➢ Laptop
- ➢ Television
- ➢ Projector
- ➢ Radio
- ➢ Audio recorder

- ❖ **Digital competency among teacher and students:**

With the rapid use of Smartphone, computer and other communicating technological devices all the stakeholders especially school, colleges and university students and teacher adopted new skills to use technology in teaching learning processes. Many teachers are not aware and techno friendly with the modern communicating technology in fact many students are also not aware and even doesn't know how to use for teaching learning. Many online learning resources are explores through use of different websites,

YouTube, Wikis, blogs, educational websites. Teaching learning becomes online and it can possible sitting at distance located place or anywhere from the globe provided availability of internet facility , laptop, mobile or computer with good network connection .Students are able interact with their mentor or teacher in online or through videoconference also able get teaching learning material and content and materials. Different webinar, online quiz, and awareness programme all these things are taking place with the use of ICT. Different teaching learning material are prepared by both prospective teacher educator and teacher educators for better understanding and learning of the content and also this teaching learning materials are often very interactive ,good quality and innovative which are very helpful in the teaching learning process. Teacher educator facilitates various content and instruction in the forms of recorded audio –video and then send to the prospective teachers educator and pupil teachers. Different learning materials and E-resources available at the different forms such as word, pdf , ppt, video ,audio, images etc. Teacher educator prepares and sends this material to students for effective teaching and learning sitting at a distant position.

We are very aware of the fact that nowadays teaching learning is not possible in a traditional manner or sitting in a classroom and learning through chalk and talk method. Since all the colleges and university are closed due to the pandemic of COVID-19, therefore we get an alternatives pathway to progress and update our knowledge domain through the use of ICT. Basically we are positive and enthusiasts towards the use of different online platforms for the exploring the new learning in the field of teacher education. It is true facts that the whole teaching learning process becomes the part and parcel of virtual learning. Virtual classroom and online video conference learning is nowadays becomes quite easy due the good network connection and available of modern gadgets such mobile, laptop, desktop and other technological equipments. All the dissertation works of prospective teacher educators is possible through the use of ICT. Different techniques are learn through the use of various software like SPPS in quantitative research and also various softwarefor qualitative research like MAXQDA,Quirkors.WebQDA etc. So for the purpose of Research in the field of teaching and learning plays very important role .If we see in the guidance and counselling of prospective teacher educators in the pandemic situation ICT can play important role. As we can see in many parts of the country different awareness and guidance programme and Webinar related to the mental health of students .Many students are getting panic and some of them are fall in depression, mental anxiety and other mental health issues due to this pandemic. Therefore teacher educators are providing guidance, counselling and awareness programme. Many discourses and awareness programme are frequently arranged by different teacher education institution to cater the knowledge of wellbeing's and life skills. They also teach how to lead a stress free life and maintain a good health in all respects.ICT also promotes preparation of quality teaching learning material. Through the use of computer and graphics design one can easily prepare various teaching aid .Basically this teaching learning materials includes E-content, Video, Audio-video , PowerPoint and Pdf of different course content of the Teacher education programme. Innovative teaching and learning materials are also prepare by the prospective teacher educators and the pupil teacher. Various Digital platforms access through following ways-

- **Use of various apps**: Different apps are available to conduct online classes and effective teaching learning such as Zoom,Googlemeet, Webex, skype.

- **MOOCs**: Through Massive open online courses various educational courses for student design to facilitate effective learning on varied disciplines. SWAYAM is one of such MOOCs platforms which enables learner to access and learn different courses for diverse learning groups.

- **Moodle:** Moodle is basically a free and learning management system. It is based on the principles of pedagogical aspects and principles used for distance education ,flipped classroom and e-learning. It caters teaching learning during the pandemic sitting at home with internet and network connectivity.

- E**-learning materials on Youtube:**A large no educational videos are available from different tutor, teacher ,expert ,educationist, academician and different educational

- ❖ **Government Initiatives and effort to promote E-learning:**

Govt of India and all other state govt are aware on the facts that since all the academic institutes are closed down due to pandemic, therefore different strategies and alternates ways are find out by the think tank of the nations to accelerate and keeps on teaching learning process. Both in School education and higher education govt took a massive initiative and efforts to execute the online and E-learning. According to India Report Digital Education Report (2020) by Department of School Education & Literacy under Ministry of Human Resource Development Government of India followings are the steps taken –

- **DIKSHA (Digital Infrastructure for Knowledge Sharing**)-
  DIKSHA is a digital and web platform especially for school education. In web platform of DIKSHA different E-text book, study materials, educational videos, teaching-learning materials and e-contents of different subjects are available and this study material used by the students and teachers across the world. DIKSHA can be accessed by learners and teachers across the country and currently supports 18 languages and the various curricula of NCERT, CBSE and SCERTs across India. The platform is being leveraged and developed for school education, foundational learning programs and to support inclusive learning for underserved and differently-abled communities of learners and teachers (India digital Education Repoprt,2020).

- **Swayam Prabha TV Channels –**Swayam Prabha DTH 32 channels promoted by Govt of India to promotes the learning seating at home or in any place. Different subject expert are seating from home through Skype or videoconferences or from concerned studio deliver their subject contents ,live interaction session ,quizzes and various educational talk show were conducted to keep learnings without any detachment from usual teaching-learning system.
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- **MOOCs courses:** There are numbers of massive open online courses was introduced for both school and higher education and SWAYAM (Study Webs of Active learning for Young and Aspiring Minds) is one of such platforms as a result many students enrolled in different courses in due course of pandemic periods and still many are learning well organised courses. Different subject expert, academician, IT expert and many intellectuals in a collective manner design the courses which are very interactive, attracting and interesting to learn for every learner at their own pace.

- **Radio Broadcasting**: For remote teaching learning in different rural and less developed areas rather very remotes area was reached by various audio learning and relevant subject content audio through different radio station. A Podcast called Shiksha Vani of the Central Board for Secondary Education (CBSE) is being effectively used by learners of grades 9 to12. Shiksha Vani contains over 430 pieces of audio content for all subjects of grades 1 to 12.(India digital Education Repoprt,2020).

- **National Repository of Open Educational Resources (NROER):** Large number of e-content material is available for students, teachers, teacher educators .These content materials were used many learners, students, teacher and researcher to explore various study materials.

Tables- Different strategy for promotion of E-learning by state and central Govt in India

STATE/UT	Government initiatives for E-learning through different interfaces and platforms
Andaman & Nicobar Islands	National TV channels like Doordarshan telecast ,local TV channel telecast ,different radio stations audio learning and educational Broadcast, Digital learning e-contents in the forms of audio, videos.
ANDHRA PRADESH	TV lessons, Radio lessons, SCERT YouTube channel, Webinars based ICT training, Apps for students and teachers, doubt clearing session through Toll free audio and video calls ,WhatsApp group for question sharing academic contents and facebook live training program.
ARUNACHAL PRADESH	Radio school in tie up with all India Radio, Online classes through TV programmes,Live classes through EDUSAT,Webinars and digital conference through Google meet ,etc.
ASSAM	Digital live classroom (Gyan Brikshya), Biswa Vidya, Tele classes through Doordarshan,Career guidance portal Class IX to XII students, mobile application.

BIHAR	Project Unnayan Bihar-both offline and online clases,lectures, interactive videos and e-content, VIdyavahini Bihar app,Mera Doordarshan mera vidyalaya,TV channel,Bihar Education Project Councils digital platforms.
CHANDIGARH	Project Phoenix access through both mobile app and web portal,online teaching for special children with special needs, Use of DIKSHA web portal, E-pathsala,digital interavctibve classes.
CHHATTISGARH	Padhai Tunhar Duvaar(education at your doorstep) provides good quality e-contents , DIKSHA,Live Youtube channels,Jugaad studio,Motor iskol for remote rural areas learning where teachers uses smartphones and loudspeaker,DiGiDuniya(ICT school).
Daman and Diu &Dadra and Nagar Haveli	"Adhyayan" -E-portal ,E-Gyanmitra, broadcasting on television-notes, Vande Gujrat channel.
DELHI	Online happiness class, Happiness activities, "Parenting in the time of corona" live online classes, Online capacity building programmes, SCERT and DIET launched various webinar, online conferences.
GOA	DIKSHA portal access ,Vidyadaan portal, online training programmes for special educators.
GUJARAT	Virtual classrooms, Video content for Children with special needs. Gyankunj 2.0-digital classroom interactivity,Samarth 2.0 online professional development of teachers,Vanchan Abhiyan,Career counseling portal,QR code textbooks, Science learning portal.
HARYANA	EDUSAT Broadcast, As per need Youtube videos ,live classes through Zoom, Webex, Google Meet,Ghar se padho WhatsApp Campaign, E-mega PTM(Consultaing and talking with parents).
HIMACHAL PRADESH	Har ghar pathshala campaign(online mode of learning), Online inclusive Education for children with special need(Mera ghar meri pathshala),Swayamsidham,Sameeksha(Siksha sathi mobile application), e-Samwad(integrated learning enjhancement program).
JAMMU & KASHMIR	Tele classes through DD Kashmir and local TV cable network,Jammu & Kashmir knowledge netork,Samadhan Artificial Intelligence Based educational chatbot,Radio and tele classes. .
JHARKHAND	DigiSATH(through DIKSHA Apps,WhatsApp),Mohalla schools,'Hamara Doordarshan Hamara Vidyalaya'.
KARNATAKA	EDUTAINMENT Channel inYoutube – MAKKALAVANI,PARIKSHA VANI,Record /live classes through classes,Energized Textbooks etc.
KERALA	AvadhikalaSanthoshangal (Happy Vacation Times), AksharaVriksham (Tree of Letters), SAMAGRA Resource Portal, "First Bell", DIKSHA initiative, Hi-tech lab scheme, etc.

LADAKH	"Department of School Education UT Ladakh", "DIKSHA", etc.
LAKSHADWEEP	KITE - VICTERS Educational channel,
MADHYA PRADESH	Digital Learning Enhancement Program (DigiLEP), Online Lectures/ Broadcast through TV/VC, Top Parent App, CM RISE Digital Teacher Training, Gyan Pitara, etc.
MAHARASHTRA	Bookybo, Radio programmes, learning from home packages ,e-learning App-Balbharati, BolkiBalbharati audiobook, Career portal for guidance in Careers.
MANIPUR	Lairik app, "BOSEM eBook", etc.
MEGHALAYA	E-Learning Portal, Free Online Course for Teachers, e-scholar portal, etc.
MIZORAM	Online Edu-Challenge 2020, Tutorial Class on TV, DIKSHA Mizoram, etc.
NAGALAND	Pre-Telecast Preparations, 'DoSE Nagaland', 'School Education, Nagaland', IEC materials, etc.
ODISHA	Odisha siksha sanjog,Video lesson through Doordarshan,Madhu (E-learning App)
PUDUCHERRY	Community Radio,DTH TV channel,Vetri Nichayam(local cable TV),Virtual classrooms through local TV channel,Capacity development online programmes for teachers,Online E-textbooks.
PUNJAB	EDUSAT Content through satellite network,Swayam prabha DTH TV channels for educational purpose,Edusat Punjab,Online platforms etc.
RAJASTHAN	SMILE program(Social media interface for learning engagement),Shikshadarshan(Educational content via TV),Shikshavani, kala utsav,E-content invited via shalaDarpan, YouTube live session for career and guidance.
SIKKIM	SIKKIM EDUTECH APP, SAMVAAD TV, Facebookprograms, etc.
TAMIL NADU	TN-DIKSHA, Tamil Nadu Teachers Platform (TNTP), KalviTholaikatchi, TNSCERT YouTube channel, Student Mental Wellbeing in Partnership with UNICEF, Tamil Nadu VagupparaiNokkin, etc.
TELANGANA	Digital online interactive classroom, E-content repository/learning portal,VidyaDaan, SCERT Youtube channel,Web TV channel,Webinars.
TRIPURA	State Repository of Open Educational Resources (SROER), "EmpowerU Shiksha Darpan", etc.
UTTAR PRADESH	DIKSHA, Digital resources,TV Channel and Radio initiatives, Partnership with civil society,

| UTTARAKHAND | Sampark didi mobile App,Whatsapp classes,Gyandeep programme,community radio,use educational web portal of state Government. |
| WEST BENGAL | Online classroom through separate web portal, Youtube channel,E-learning portal,TV channel collaboration with ABP and 24 Ghanta channel. |

Source: India Report Digital Education, MHRD, 2020 and Sharma, D., and Singh, A.(2020). E-Learning in India Duringcovid-19: Challenges and Opportunities. *European Journal of Molecular & Clinical Medicine 7(7), 6199-6206* https://ejmcm.com/pdf_6027_499903fdff168f76468d675b6ee90d97.html

❖ **Impact of E-learning:**

- Students and teachers are more engaged in developing 21st century digital skills.

- Social interaction and connectedness through different digital and online platforms.

- Exploring more global e-resources including lecture series, e-book, online documents and journals.

- Increase IT skills in all the stakeholders related to teaching learning system.

- Flexible learning for all.

- Enhanced research collaboration with global institutes.

- Wide global conference, webinar, conclaves, meeting and discussion in digital platforms.

- Connecting large no of people in a single digital platform within a very short intervals of time.

- Economically disadvantage students, physically challenged and all other get benefited through these digital platforms.

❖ **Issues and challenges in E-learning and use of ICT:**

- Authentic and more interactive E-learning materials

- Lack of infrastructure

- Support of technical team

- Traffic overload on internet and digital platforms

- Lack of proper monitoring in online class.

- Interaction and maintain self disciplines

- Lack of digital competent and skilled teachers

- Lack of well designed instructional material

- Internet and connectivity problems

- Internet data cost for accessing internet connectivity

Concluding remarks:

E-learning and use of ICT in present scenario is a digital revolution all over the world. There is a paradigm shift in teaching learning process across the globes. In severe pandemic we all remain connected across world the through the technology. At the same time teaching learning process goes on with the aid of web based learning and use of ICT .Government of India and all state government took many initiatives for online learning with the aid of information and communication technology. Online classes become integral part of formal education while various E-resources acts like a digital library where any information can be accessed easily by any user. During pandemic although everyone do not have the source of access for digital platform but still learning with difficult sources like television ,Radio, Smartphone ,computer and other electronic devices which are associated with web based learning. Economically disadvantage group, children with special needs, students from very remote rural areas all are benefited with the digital platforms, online platforms ,radio broadcast, YouTube channel ,live interaction class, Audio-video toll free calls. Digital competency, techno-savvy, and techno-friendly skills of all the stakeholders especially teachers and students have enhanced. Momentum of digital literacy and competency among all stakeholders in teaching-learning systems got new shape and will be more in coming days.

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