

EDUCATIONAL TECHNOLOGY AND ICT

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Week-04

Lecture-20

Module-20: Technological Trends in Communication

Hello dear learners, welcome to the SWAYAM and NPTEL course on Educational Technology and ICT. I am Dr. Sarita Anand from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal, India. I am the course coordinator for this course, and today is the day of Module 20 on technical trends in communication. This is Lecture 20 based on the technical trends. Before that, we will talk about the concepts covered. We have already covered classroom interaction: concept, meaning, and definitions; types of classroom interactions; strategies to enhance classroom interaction in teacher training; and the Flanders Interaction Analysis System or Classroom Verbal Interaction Analysis, which has also been covered before this lecture.

So now, we will talk about today's lecture on technological trends in communication. We know that communication is the basis for human interaction, enabling individuals, businesses, and societies to share ideas, information, and emotions. Over the past few decades, technological advancements have revolutionized the way we communicate, making it faster, more efficient, and increasingly accessible to all.

In this module, we will explore the major technological trends in communication in detail as follows. The first one is the rise of social media platforms. As we know, social media platforms like Facebook, Twitter, Instagram, LinkedIn, ResearchGate, and Academia have transformed communication by creating virtual spaces for people to interact and share their content. These platforms allow individuals to connect globally in real time, breaking the geographical barriers.

For example, Twitter has become a powerful tool for real-time news dissemination. While LinkedIn and academia has refined or redefined the professional networking in higher education especially. The integration of multimedia features such as live streaming on Instagram live or Facebook live and short term or short form video content like TikTok

and YouTube shorts has, enrich the communication experiences enabling users to share their stories visually and interactively.

So, these social media platforms perform facilitates teacher training in many ways like professional learning communities. These professional communities where trainees and teachers can join groups to share resources and experiences. Live question and answer session. Trainees can engage with the trainers and the trainees in real time through live events. Resource sharing.

Links to articles, videos and case studies can be shared instantly with the learners. Social media enhances the networking and promotes the collaboration and learning and provides trainees with the access to diverse perspectives. The second one is messaging applications and instant communications. We all know that the messaging applications such as WhatsApp, Telegram and Signal and other also have popularized instant communication, especially the WhatsApp. Features like end-to-end encryption ensure secure exchanges while multimedia supports allow to send the video, images, documents, audios seamlessly.

For example, during the COVID-19 pandemic, WhatsApp and Telegram became the primary mode of communication for many families, businesses, facilitating group chats, video calls and information sharing and the whole education system was also running behind this WhatsApp and Telegram apps. The instruction of AI and introduction of AI and chatbots within these applications further enhances the communication by automating customer supports and providing real-time responses whenever it is asked.

The third one is video conferencing and virtual meetings. Video conferencing tools like Zoom, Microsoft Teams, Google Meet have become the essential especially in the context of rural remote work and online education. These tools enable face-to-face interaction over the internet, promoting collaboration among the geographically dispersed teams or the members of the community.

For example, during the pandemic, educational institutions leveraged depend on the Zoom and Google Meet to conduct the virtual classroom, ensuring uninterrupted learning at the time of the classroom or interaction in the class virtually. The incorporation of features such as breakout rooms, live classrooms, captioning and screen sharing has enhanced the quality of virtual communication, making it more interactive and acceptable. The fourth one is artificial intelligence in communication. Definitely you all are utilizing this artificial intelligence in the communication.

It has significantly influenced the communication through applications like natural language processing, speech recognition and predictive text. Virtual assistants such as Siri, Alexa, Bixby and Google Assistant exemplify AI's role in facilitating hands-free communication and information retrieval. AI-driven tools are reshaping communication in teacher training by personalizing the learning experiences. Moreover, AI-powered tools like Grammarly, ChatGPT, and Google Gemini have improved written communication by providing suggestions for grammar, style, and content creation. Businesses also utilize AI-driven customer support systems such as chatbots to handle the queries and complaints efficiently.

You all are doing the shopping on the Myntra, Amazon or Flipkart. These all apps are having their own AI to support their customers. AI is being utilized in the teacher training as it reduces the workload of trainers and enhances the efficiency and offers a wonderful learning experiences such as the AI powered mentors, Platforms like Coursera and Khan Academy uses AI to provide personalized suggestions and track the progress of the student. Chatbots.

AI chatbots facilitate instant communication, answering the trainee's query and guiding them through the course material. Automated assessment tools. These tools analyze trainee's performance and provide constructive feedback. The fifth one is augmented reality and virtual reality. This AR and VR are transforming communication by creating immersive and non-immersive experiences. AR applications such as Snapchat filters and interactive advertisements enhance the visual communication to the customers. The VR platforms like AltspaceVR and Metahorizon enables users to interact in 3D virtual spaces simulating the real-world meeting in and events. The companies like IKEA use AR to allow the customers to visualize furniture in their home before making a purchase while VR is utilizing in training programs to provide the realistic simulations.

Next is VR and AR which provide immersive and non-immersive learning experiences that are especially beneficial for teacher training. These technologies bridge the gap between theoretical knowledge and practical application, preparing teachers for real-world challenges. For example, classroom simulations. Tools like TechLive simulate real-world classroom environments, enabling trainees to practice teaching skills. Though these technologies have not yet been adopted in our country, these facilities are available.

AR content: Trainees can explore interactive teaching aids to enhance subject delivery by using apps like ePathshala AR. Previously, its name was PM eVidya AR; now, it has been

changed to ePathshala AR. Its app is available on the Play Store. You can download and utilize it for the 9th and 10th-class science subjects from the prescribed book of LCRT.

This ePathshala AR provides hands-on experiments in augmented reality format. We can use smartphones to access this ePathshala AR. Skill development VR scenarios help trainees learn classroom management techniques in a risk-free environment. Upcoming or existing smart devices like smartphones, Amazon Echo, and Google Nest facilitate seamless communication between users and their home systems.

These days they do not close the door by keys but they order to the AI or smart devices to use or close the door and open the door. For example, a user can give voice command to their smart assistant to control the appliances, check weather updates or send messages. AI has also enhanced communication in industries such as healthcare where wearable devices communicate patients' data to healthcare providers in real time ensuring the timely interventions. Next one is 5G technology and high-speed connectivity, further 5G or 6G.

These advent 5G technology or 6G upcoming technology has revolutionized the communication by enabling faster data transmission and low latency. This has enhanced the quality of video calls, streaming services and real-time gaming. For example, telemedicine has benefited significantly from 5G, allowing the doctors to conduct the high-quality video consultation and even more strategies. The next one is online learning platforms and learning management system.

The online platforms like Moodle, Google Classroom and the Blackboard have transformed how teacher training programs are conducted. These platforms promote flexibility, allowing trainees to access the resources and interact with their trainers at their own pace and convenience. These systems enable seamless communication between instruction and training by providing the tools such as Course content delivery. Trainers can update lectures, videos and notes and accessible to the trainees anytime.

Discussion forums. These forums foster peer-to-peer and teacher-trainee interaction, promoting collaboration and problem-solving. These forums help learners solve their confusion or any doubts they face in the content. The feedback mechanism. Teachers can provide personalized feedback, enabling effective two-way communication between the learner and the teacher.

Gamification in communication. Gamification involves integrating game-like elements into training programs to make learning more engaging. Gamification promotes active

participation and enhances communication by creating a fun and interactive learning environment. For example, gamification in communication includes point-based systems. Trainees earn points for completing tasks and participating in discussions.

Leaderboards encourage healthy competition among learners and trainees. Badges and rewards. Motivation for participants comes from badges and rewards for achieving specific learning goals. The tenth point is collaborative tools for communication. This is very important for both the teachers and the learners. Collaboration tools like Google Docs, Trello, or Slack enhance teamwork and communication in teacher training. These tools foster teamwork, ensure accountability, and streamline communication. Their main functionality includes real-time editing. If you are using Google Docs, then trainees and trainers can collaborate.

They can work on their lesson plans, projects, unit plans, or any project they are working on, collaborating in real time on the same file. Task management tools help organize assignments and track progress. Instant messaging. These facilities enable quick communication, helping participants learn better. The next one is digital assessment tools.

Digital assessments like Kahoot, Google Forms, Quizzes, and EduPuzzle help evaluate trainees' understanding and encourage interaction. Digital assessments ensure active communication and keep trainees motivated. Uses of these tools include formative assessment, feedback tools, and interactive assessment. Tools like Kahoot also fall under gamification tools, where assessment occurs, but participants or learners enjoy the process through features like leaderboards, etc.

So, what about the assessment, formative assessment? Frequent quizzes and polls keep trainees engaged. Instant feedback fosters continuous improvement and the case studies and scenario-based assessment enhance the critical thinking in interactive assessment. But every concept or every facility has its own challenges and limitation. Here also there is challenges in technological integration like despite the benefit many challenges are there these are like digital divide.

Unequal access to technology among the trainees is the biggest digital divide. Technical issues, connectivity problems, software glitches and disrupt communications are the challenges towards the technical integration or technological integration of the communication. Training requirements, both trainers and trainees may need additional training to use those tools effectively in their classes. We can conclude that technological

trends in communication continue to evolve. They are changing day by day, bridging the gaps and creating new possibilities.

These new trends have revolutionized the teacher training, communication, making it more interactive and accessible and efficient. From online platforms and AI tools to AR, VR simulation and gamification, these advancements cater to diverse learning needs and prepare future educators to excel in modern classrooms. However, to fully use these technologies, teacher training programs must address the challenges like digital literacy and equitable access to these gadgets. As technology advances, the emphasis will likely shift towards the more immersive, secure and efficient communication solutions shaping the future of interpersonal and organizational interactions and communication. These are the references for further readings. You can go through it.

Thank you.