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Digital Technologies and Special Education

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ABSTRACT

When COVID-19 first appeared, the international community responded by implementing lockdowns, closing schools to stop the virus's spread, and allowing students to complete their coursework online thanks to digital technology. This allowed them to learn comfortably from home. Though significant learning did occur at this time, our educational system was not prepared to use this medium of instruction, therefore "we witnessed the lack in skills needed to deliver high quality digital lectures. "Because of these reasons, technology has a big influence on learning and education in the modern world. In the future, digital education cannot be ignored. To the greatest extent feasible, we must enhance education by building on these new conditions. In order to maximise the benefits of digital technology use for both teachers and students, this article explores how digital technologies contribute to special education.

1.0 INTRODUCTION

A customised type of education known as special education is created from standard education to meet the needs of students with disabilities who are unable to learn without assistance because of a flaw (structural or biochemical abnormalities) that prevents them from learning easily. Individuals who have impairments in any one of the five senses—hearing, taste, smell, touch, or sight—are considered special education students. People with extraordinary needs can be classified in a variety of ways. As per the Saudi Disability Act, an individual is classified as disabled if they experience any of the following conditions: mental illness, physical or motor impairment, learning difficulties, anomalies in speech and language, behavioural problems, emotional disorders, or vision or hearing impairment. Autism and other disorders requiring specialised care and rehabilitation, as well as double and multiple impairments (Abed & Shackelford, 2020). They are categorised as gifted and talented, emotionally troubled, intellectually retarded, physically and health impaired, hearing impaired, speech impaired, visually impaired, and learning challenged for the purpose of educational remediation. "One in four households has a member with a disability, and over one billion people worldwide—or 15% of the world's population—live with a disability." (WHO/World Bank 2011) and "disability prevalence is higher for developing countries" (World Bank, 2022). Adverse socioeconomic consequences, such as lower levels of schooling, worse health outcomes, fewer employment levels, and higher rates of poverty, are more likely to befall people with impairments. Malnutrition is one way that poverty can raise the risk of impairment (World Bank, 2022), inadequate access to education (World Bank, 2015). In low- and middle-income countries (LMICs), many children with disabilities in the Global South face significant obstacles to receiving an education; estimates suggest that almost one in two of these children did not attend school before the COVID-19 pandemic (Azevedo et al., 2020; UNICEF, 2020a), and less than 1% of children with disabilities attend elementary school in some nations (UNICEF, 2020a). Even when pupils are able to attend school, there is often little knowledge of the requirements of children with disabilities. Due to a lack of knowledge and financial constraints, they consequently receive little to no accommodations, particularly in rural areas or at the secondary and higher levels (Emirie et al., 2020). The corona virus was first discovered in the Chinese city of Wuhan in late December 2019 and was subsequently declared a pandemic by the World Health Organisation on March 11, 2020. Lockdowns and other precautions were implemented globally to stop the virus's spread.

In an effort to stop the COVID-19 virus from spreading, many countries closed their schools in response to the epidemic. It was estimated that at least 1.5 billion pupils and their families were impacted by school closures (UNESCO Bangkok, 2020, Waldman et al., 2020), in at least 188 countries (Waldman et al., 2020). This caused a tremendous deal of anxiety and significant disruption to the lives of many youngsters and their families (Singh, 2020), especially for kids with disabilities who experienced disruptions to their routines and felt confused about their educational futures (Cahapay, 2020; International Disability Alliance, 2020; Majoko & Dudu, 2020; Małachowska et al., 2020). Most countries adopted online learning to suit students' educational needs and make sure they didn't skip school during the lockdown, in contrast to

the conventional face-to-face form of instruction that is common in poorer countries. "Online education is a useful tool for resolving sudden emergencies."(Ayebi-Arthur, 2017). It is regarded as a powerful learning aid that is adaptable, reasonably priced, and capable of providing excellent instruction (Jeffcoat & Golek, 2004; GrattonLavoie & Stanley, 2009; De La Varre et al., 2010). However, a lot of educational institutions and schools tried to still offer some instruction to pupils during the COVID-19 lockdown by using internet resources like social media, messaging apps, television, radio, and distance learning (Majoko & Dudu, 2020; McClain-Nhlapo et al., 2020; Meaney-Davis et al., 2020; Samaila et al., 2020; Toquero, 2020; World Health Organization, 2020). Furthermore, extra time and resources were typically not included in the remote learning that was offered to guarantee that students with impairments received enough help (Sakellariou et al., 2020; UNESCO Bangkok, 2020), and the engagement of children with disabilities in remote learning was not necessarily measured or monitored due to a lack of disaggregated data (Samaila et al., 2020). In a study conducted in Jordan among 942 households with a member with a disability, 42% of the youngsters did not access an online learning platform while under quarantine (Pham, 2020). The COVID-19 has a significant impact on Nigerian education. Some online resources were accessible during the closed schools period, but they were usually aired on radio or television, so not all students with disabilities could use them (UN Women, 2022).

To support remote learning, educators must receive training on the best ways to use technology (Samaila et al., 2020, UNICEF, 2020b), however 40% of teachers in OECD (Organization for Economic Cooperation and Development) countries lack expert IT (Information Technology) knowledge and abilities, and there is no data on teachers' digital proficiency in LMICs (Low and Middle Income Countries). (UNESCO Bangkok, 2020). In an international poll, a global study by the World Bank Group with 1,845 educators (McClain-Nhlapo et al., 2020) identified the following as the main challenges to effective instruction: 1. Restricted internet and data access (36%). 2. A deficiency of personal aides for children with impairments (35%). 3. A lack of resources that are readily available (35%). 4. Costs (31%). 5. Of them, thirty percent lack assistive technology. Cost was identified in the survey as a major barrier, particularly in Latin America and Sub-Saharan Africa (McClain-Nhlapo et al., 2020). According to 21% of instructors, they did not receive adequate support to effectively instruct kids with impairments (McClain-Nhlapo et al., 2020). Remote learning was detrimental to both teachers and students with disabilities; this was particularly the case if the teachers' access to internet materials was restricted (Goyal et al., 2020).

The two biggest barriers to remote schooling for families with impaired children residing in low- and middle-income countries (LMICs) were technology accessibility and inaccessibility. Many households in LMICs (Low and Middle Income Countries) suffer from lack of access to the internet and online devices; the impoverished, the disabled, and those residing in rural areas are disproportionately impacted. (Azevedo et al., 2020; Brennan et al., 2020; Castres & O'Reilly, 2020; Goyal et al., 2020; Majoko & Dudu, 2020; National Centre for Promotion of Employment for Disabled People (NCPEDP), 2020; Rohwerder, 2020a; Starts of Hope Society for the Empowerment of Women with Disabilities, 2020). A global poll found that 62% of parents had access to television, whereas just 25% and 31% of parents, respectively, had tablets and computers. But only 18% of parents believed that television and radio programs could be accessed and used to support the learning of children with impairments (McClainNhlapo et al., 2020). For some, the expense of technology and internet connection posed an additional obstacle (Emirie et al., 2020; Krishnan et al., 2020). In Sierra Leone, radios were distributed by an NGO (Meaney-Davis et al., 2020). In households with several children, there may not always be adequate technical equipment for both parents and children, even in cases where it is provided (Azevedo et al., 2020) (Hillgrove & Pryor, 2020). Girls with disabilities in particular were more likely to have their access to school seen as less important and reprioritised as compared to boys and/or children without disabilities (Goyal et al., 2020; Jones et al., 2020; McClain-Nhlapo et al., 2020).

For many students with disabilities, the inaccessibility of remote learning platforms was a major barrier that prevented them from participating in remote education (Abu & Shuayb; 2020, Human Rights Watch, 2020). A global study including 1,628 parents and carers revealed that 58% of respondents were worried about learning loss due to inaccessible remote learning modalities, while 48% of respondents were concerned about the lack of accessible educational materials (McClain-Nhlapo et al., 2020). It was common for educators and parents to lack knowledge about the many accessibility features provided by various programs and devices, as well as how to effectively utilise them to instruct children with impairments (Goyal et al., 2020) (Toquero, 2020), leading to a number of studies and research articles that support the necessity for more in-depth research on digital technology and how kids utilise them (McClain-Nhlapo et al., 2020; Toquero, 2020), & collaboration with global internet companies to include accessibility features in potential educational platforms (Castres & O'Reilly, 2020). For countries with multiple official languages, the availability of radio and television programs in a single language posed difficulties (Emirie et al., 2020; McClain-Nhlapo et al., 2020), and especially for those who use sign language, in settings where sign language was not acknowledged as an official language (McClain-Nhlapo et al., 2020). Sign language Another common issue with accessing online platforms was interpretation (Arab Organisation of Persons with Disabilities) (AOPD), 2020), particularly on a tiny screen where it could be difficult to watch the interpreter and other documents or lip-peruse (Krishnan et al., 2020, Human Rights Watch, 2020). Another barrier to online learning was the lack of subtitles (Arab Organisation of Persons with Disabilities). (AOPD), 2020; McClain-Nhlapo et al., 2020),

an absence of Braille provision (Azevedo et al., 2020; Goyal et al., 2020; McClain-Nhlapo et al., 2020), and a dearth of understanding on how to make online documents and graphics screen reader-friendly (Goyal et al., 2020; Human Rights Watch, 2020). People with certain impairments may also need to pay closer attention during online lessons, such as when lip reading (Krishnan et al., 2020), in addition to impairing motor abilities because typing is required (Krishnan et al., 2020), and excessive stimulation for those who have sensory problems (Goyal et al., 2020). since of these barriers to entry, some children and adolescents with disabilities felt even more anxious since they could actually have to drop out of school (Jones et al., 2020; Rohwerder, 2020b).

Even with the restrictions on virtual education that students with disabilities faced during the lockdown, some learning did take place; the importance of virtual learning was emphasised, and it is crucial to pursue it in addition to the traditional in-person instruction that is customary in poor countries. We now live in a culture where technology has a big influence on education because of these factors. In the future, digital education cannot be ignored. Building on these new conditions, we must improve education to the maximum extent possible. Thus, this paper will address the following questions: What are digital technologies? What benefits may digital technologies provide to the special education field? Which digital tools, and how, can be used in special education? What applications of digital technology in the classroom will children with disabilities see in the future?

1.1 Digital Technologies

Digital technologies, which include computers, mobile devices, social media, online games, and multimedia. These are electronic tools, resources, and apparatuses that generate, store, or handle data. Digital learning is the process of using various tools to learn. (education.vic.gov.au, 2022a) or digitalized education which is the education that deploys “the use of desktop computers, mobile devices, the internet, software applications, and other types of digital technology to teach students of all ages” (Siemens, 2020). "Educational technology," or "edtech," is the term used to describe digital technology used in education. It involves using digital technologies to improve educational activities like teaching and learning (Facer & Selwyn, 2021). The "e-learning" medium facilitates the use of digital technologies in the teaching and learning process. Conversely, "formalised instruction supported by electronic resources, such as computers and the internet" is the definition of e-learning. (Collins, 2020; Zimmer et al., 2021), includes all instructional activities conducted by individuals or groups using a network, standalone computer, or other electronic devices, whether they are functioning synchronously or asynchronously, online or offline (Tulasi et al., 2013).

The terms "e-learning," "virtual learning," "distributed learning," "online learning," and "network and web-based learning" are all interchangeable. Because it can be tailored to each learner's unique pace, e-learning is individualised. Additionally, it can be both group-based and simultaneously directed towards a specific target group. When studying requires internet connectivity, it is online; when learning resources don't, it is offline; and when students communicate simultaneously, it is synchronous as opposed to asynchronous, which allows them to work at different times (Naidu, 2006).

1.2 Digital Learning Tools

Here are a few simple digital technologies that Australian instructors can use to improve student learning in the classroom: (education.vic.gov.au, 2022b):

- Arc is a virtual education system. It provides access to professional development opportunities, instructional tools, and student learning events to improve teaching and learning.
- FUSE is an assortment of educational resources and teaching materials. It includes traditional text, multimedia, interactive, and video elements. By logging onto FUSE, educators can create resource packages or upload and share information. In order to access learning resources, students can log in using their school's eduPass accounts.
- Online Meetings. Students can interact and learn with people outside of the classroom by using the department's online learning materials and video conferencing tools. The department offers Cisco Webex as a safe virtual conferencing tool to all Victorian Government schools. For schools that use M365 and Google Workspace for Education, department instances offer video conferencing capabilities as well.
- Digital Learning Software. These are software and digital solutions that help with curriculum implementation.
- Collaborative Learning. surrounds Google Apps for Education and Microsoft Office 365 online services provide schools with access to contemporary digital teaching tools and support for BYOD (Bring Your Own Devices), with services that operate with Windows, Apple, Android, and Chromebooks. Among the digital tools from Microsoft 365 are Microsoft Teams, Forms, PowerPoint, Sway, OneNote, Word, and Excel. Google Classroom, Docs, Slides, Sheets, and Forms are all part of the Google Workspace for Education package.
- Mine craft Education Edition. Teachers can use this flexible and cooperative platform to promote 21st-century abilities in a variety of academic areas.
- Adobe Creative Cloud. This consists of a set of Adobe Creative Cloud products that instructors,

students, and staff can use to assist teaching and learning across a variety of curriculum areas. Over 20 products and instruments total are included in the complete collection, including:

- Acrobat Pro DC
- Photoshop
- Spark
- Aero
- In Design

- Click View. Thousands of professionally produced interactive videos from studios and content from paid and free television stations make up Click View, an extensive collection of educational tools that enhance learning and teaching in all subject areas. Click View Content lets teachers assign and evaluate students' responses to customised learning activities while also allowing them to view and connect the content to the curriculum.
- Education Perfect Science. This resource offers interactive lectures and practical exercises that stimulate students' interest in and understanding of science.Lessons give scientific events and discoveries a real-world perspective while adhering to the curriculum. Science instructors using Education Perfect can:
    - To suit the needs of each student, the scientific curriculum's many levels of content can be used to customise and diversify instruction.
    - combine online and offline learning assignments with flipped and blended learning techniques. To increase student engagement and interaction, include Click View's top-notch material into your classes. You may use it to build differentiated lessons or to add to the platform's content by importing text, audio, and video content.
    - When constructing assessment tasks to monitor learning, make use of the integrated analytical tools to monitor learning growth at the student and cohort levels (e.g., use the integrated assessment for learning tools like pre- and post-testing, automated marking, and extended responses).
- Stile. It offers more than 70 science units, each of which combines classroom activities, experiments, projects, formative and summative assessments, career profiles in STEM, and content delivery. Each unit of study is contextualised with actual scientific discoveries and events to show pupils how applicable the material they are studying is. Because each lesson is fully customisable, teachers can adjust the questions and content to meet the needs of their particular pupils or the curriculum of their school. If they're feeling very inventive, teachers can even design their own Stile lessons.
- Sibelius. This is a composition and orchestration software for notation. By using Sibelius in their lessons, music educators may illustrate composition and theory ideas, and students can compose original works of music as they gain a grasp of these ideas.
- LinkedIn Learning. Thousands of online courses are available through LinkedIn Development to advance professional growth and get senior secondary pupils ready for their future careers. All teachers and students in secondary schools have access to this resource. With more than 5,000 courses and tailored recommendations, educators and learners may explore, complete, and keep track of courses pertaining to hobbies and professional development. Subjects covered in on-demand classes include:
    - Management and Leadership
    - Microsoft 365 and Google Workspace for Education tools
    - Animation and Illustration
    - Coding and software development
- Board maker Online. It is accessible to all employees who work in special education programs as well as regional staff that assist schools serving students with special needs. It provides a multifaceted method for producing interesting print and interactive resources for students with special education needs. By customising the curriculum to each learner's unique needs and offering improved, user-friendly features, it broadens the scope of learning. By enabling interactive print activities on computers, tablets, smart boards, and communication devices, it also raises engagement.
- Comic Life 3. Comic Life may be used to make comics and storyboards for a range of subject areas, and it is available to all instructors and students. Furthermore, this program is especially important to teaching and learning in the fields of the arts, technologies, and critical and creative thinking.
- ePotential. Teachers can incorporate ICT (information and communication technology) into their lessons with the help of this resource on ICT capabilities. It gives educators:
    - an ICT capabilities framework
    - an online survey

- a range of useful tools for teaching and learning, such as professional development materials, work samples from teachers and students, and starting point guidance.

1.3 Educational Software

Online education software has become an essential instructional tool for educators. When these methods are used in the classroom, both teachers' and students' performance has improved. There is an abundance of educational software available for a wide range of subjects. However, businesses that create educational software have started to create educational apps that teachers and students can use as a tool for instruction. An educational institution should use the following kinds of instructional software: (elearningindustry.com, 2022):

- Authoring System. This helps teachers make their own instructional software. They might use index cards to make electronic flash cards that teach children certain topics. Using multimedia content, they might also produce lectures, tutorials, and reviews.
- Graphic Software. Using visual tools, students can take, create, and modify images that are accessible online, within the software, or on the internet. It is very useful for making web presentations.
- Reference Software. Thanks to reference software, students can access dictionaries, encyclopaedias, atlases, and thesaurus while working on projects.
- Desktop Publishing. Desktop publishing software is used in the design and creation of flyers, brochures, and handouts. The program could be used by teachers to inform parents and children about events or activities taking place at the school. desktop publishing with Adobe Creative Suite and Microsoft Office.
- Tutorial Software. By using tutorial software, educators may provide students with new material to study at their own speed. This includes providing them with practice opportunities and performance evaluation tools so they can improve their learning.
- Educational Games. For younger kids, there is a plethora of instructional gaming software that works wonders as it encourages learning.
- Simulations. With the use of simulation software, educators can instruct pupils virtually. Students could utilise this program, for instance, to get experience piloting an aircraft.
- Drill and Practice Software. Instructors can use drills and practice tools to help students improve their existing skill set. When teachers use this software to help pupils get ready for examinations and exams, it is advantageous.
- Math Problem Solving Software. With the help of this type of software, math teachers may help their students become more adept at solving problems. Additionally, this software could be used by scientific instructors to conduct science experiments.
- Utility Software. Teachers can use utility software to create examinations, quizzes, and even a grading book. This software is straightforward to use and learn for non-technical teachers.
- Special Needs Software. Online education software also includes specialised software created to fulfil the needs of a student with special needs. When paired with assistive software, the system offers special needs pupils a productive learning environment. Multimedia software that focusses on specific learning difficulties, computers that read texts aloud, and speech synthesisers are a few examples.

1.4 Benefits of Digital Technologies to Special Education

It is essential to incorporate digital technologies into the education of children with disabilities. They improve instruction and learning, help students achieve mastery, and enable students with disabilities to learn without difficulty in spite of the constraints imposed by their conditions. However, elearningindustry.com (2022) states the following as the relevance of digital technologies to special education:

- More offline and online educational software providers are responding to the need for more customised, interactive learning experiences for educators and students. These systems have several advantages, but the main one is that educational software is an affordable option for institutions of higher learning that need to organise and manage student data and information.

- Software for teaching incorporates multimedia material and provides a high level of user interaction. These two features set them apart from traditional instructional approaches. Teachings are more engaging for pupils when they use multimedia elements including graphics, photos, and sound. In the context of studying history, for instance, students could view old videos or other relevant web information. Online education software also helps teachers by improving their ability to interact with students and maintain their

attention in a course. And lastly, it fosters a positive learning atmosphere.

- Currently available software even gives parents the ability to view their child's progress in the classroom from above.

- A learner can become more independent and cease needing constant direction from a teacher by using customised technology. Since a student can choose the learning pace that suits him best, learning becomes more individualised as a result. When a student does not obstruct the group's ability to learn, anxiety can be reduced, and anxiety has a significant effect on education. When technology is employed in special education, students with impairments can communicate more freely and perform better academically.
- According to Edmentum, a business that specialises in developing e-Learning solutions, utilising technology in special education has the following benefits:
  "Technology makes it possible for a classroom to be enhanced with individual learning events, allowing instructors to provide greater flexibility and differentiation in instruction. Teachers can use technology to offer a variety of learning opportunities and approaches that engage, instruct, and support special education students with a myriad of tactics designed to appeal to individual learners. No longer are students stuck in a classroom they don't understand, trying to learn at a pace they can't keep up with or participate in."

- Power School, Another influential figure in the creation of e-Learning systems is also in agreement:
  "Technology can help school staff improve IEP (Individualized Educational Programme) compliance necessary for state and federal guidelines as well as ensure adequate and timely funding is procured. Solutions for special education management can confirm that the right services are recorded and reported on to optimise compensation, in addition to being provided to all eligible instances. Using business principles and intuitive guided actions that are in line with IDEA and other federal and state requirements, educators may create and maintain high-quality, compliant special education papers with the help of the appropriate technology. By displaying deadlines and showing which teachers are behind schedule and which are on track, reporting features can aid in the management of compliance. Technology can also help educators run required state and district reports, and if allowed, send data directly to relevant government agencies."
- There are numerous ways that special needs students can benefit from technology. For instance, a key component of "traditional" education is handwritten text, which some infirmities prevent pupils from using. Students can eliminate using paper and pen in class by using technological tools designed for human speech recognition and synthesising. Students suffering from diseases that impair their ability to correctly process visual information would likewise benefit from such technology. By using digital tools, adaptive computing technology allows one to avoid challenging tasks. With the use of Braille keyboards and screen reader software like JAWS, students who are visually challenged can utilise computers. Through the use of augmented communication tools, students with speech difficulties can overcome communication barriers. To promote more effective communication, these systems include graphic charts, books, and specialised computers that can predict words.
- web-based instrument for virtual learning. Students with special needs may have difficulties during long-distance relocation because of a variety of disabilities. Web-based learning solutions make it possible to provide educational services while taking students' and educational institutions' demands into account. It is the responsibility to offer easy-to-use interfaces to students so they can plan, pay for, and keep track of their online course progress.

- Easy to use video chat for online learning that is straightforward. Easy-to-use, visually appealing web chat systems make it possible to create online classes that let teachers and students with disabilities communicate. Teachers and students can participate in live education from anywhere in the world with the aid of these virtual classrooms. The low cost of this instructional approach is one of its main advantages. Students don't have to be concerned about the expense of their travels. All you need is an internet-connected laptop or tablet. A simple web-based chat application that facilitates text and audio/video chats, XB Chat, is an example of a solution for each of these issues.Chat rooms that accommodate five individuals can be used by small groups of students to read lectures. If more than one person-to-person session is needed, either the teacher or the student

can initiate the interaction. Using the screen-sharing feature, the instructor can project the class presentations. The software allows for the recording of the lessons as well. It indicates that the content is still available after delivery.

- An online tool to assess each student's academic performance. Special education software enables students with disabilities to reach their maximum potential. The Individualised Education Programme (IEP) software facilitates the work with children who have learning problems resulting from intellectual disabilities, developmental delays, or brain traumas. Software designed to respond to intervention provides the tools required to assess students' understanding. This type of system makes it easier to monitor learning progress and displays it in a series of charts. It also makes reporting easier.
- web-based approach to workflow automation and standard compliance. Creating a single database containing all of its students and automating workflows are two ways that an educational institution might reduce paperwork and boost productivity.It provides a variety of ready-made forms that may be completed. Furthermore, features for exporting and importing data were introduced. You can create documents with this module that can be saved as PDF files or printed.
- Technology makes teaching easier!Educators grow weary of imparting knowledge to children who lack theoretical understanding, don't they? Teachers simply can't seem to find out how to simplify complex concepts so that every student in the class can understand them. That is the technology's power! The audio-visual presentations will help students understand the precise application of the knowledge in practice. With projectors and computer presentations, teachers can deliver any type of lesson and increase the level of comprehension in the class.
- Technology helps teachers keep an eye on their students' progress! Instructors are no longer limited to merely keeping a journal and taking notes on every student. That would just make them confused. Teachers now have access to tools and resources that enable them to keep track of the individual achievements of every student. Not only may schools design custom software for that goal, but teachers can also accomplish it with the aid of great internet services like MyStudentsProgress and the TeacherCloud Progress Tracker.
- Technology used in education benefits the environment! Teachers, can you imagine how much paper and how many trees we could save if every school used digital textbooks? Naturally, that objective is now unachievable, but educators have the power to change things when they begin with their own students. Teachers can direct their pupils, for instance, to turn in their papers and homework via email and to take online assessments. Instructors can also urge students to read the books you assign on e-readers.
- Students love learning because of technology! From a very young age, students become addicted to websites such as Digg, Facebook, Pinterest, Instagram, and others. Although the internet can divert students from their studies, they can also take advantage of their propensity to spend time online to enhance their learning experience. Teachers can use touch-screen technology and online presentations to create a more engaging learning environment. Instructors can also use technology to get students involved in class discussions. For their class, they ought to create a private Facebook group to encourage fruitful discussions!
- Distance education is now more accessible than ever thanks to technology! People could not obtain any kind of knowledge at any time they wanted to without the marvels of the internet. One of the most popular teaching strategies available today is distance learning. Virtual training is progressively taking the role of traditional lectures. Students may easily learn the subjects they are interested in and schedule their time whichever best fits them.For example, let's say that despite having a keen interest in astronomy, one of the students is dissatisfied with the material covered in the required curriculum. Teachers might advise him or her to sign up for an introductory course on Coursera, Udemy, or any other website that offers top-notch online lectures.
- Information is always available to instructors and students! Possibly the most evident advantage of technology is this. Old-school teachers had to spend hours searching the library for the knowledge they required when they were students. Today, everything is simpler and different thanks to technology integration. Newspapers, research studies, scholarly publications, and any other kind of online content are all readily accessible to students. Because they have more data to back up

their claims, they are able to create deeper, more persuasive academic papers.Students who are having trouble understanding lectures from lecturers can use a quick Google search to obtain clearer instructions and information.

- Collaboration is more productive thanks to technology! Consider what cooperation looks like in a conventional classroom. Instructors set up groups, assign homework, and then all of a sudden there is chaos in the classroom. While some students voice their ideas too strongly and loudly, others are not given the chance to be heard. With the aid of software and internet resources, students can collaborate on group assignments in a different setting. The team's web connection enables them to operate remotely, and the focused environment inspires everyone.
- Never undervalue the influence of technology! There will never be a teacher who continuously ignores the use of educational technology in the classroom who is called "the cool teacher." He ought to be persuaded by the advantages of technology integration in education, which include the following benefits for both instructors and students:

  -It offers a greater assortment of easily available materials. Thanks to the wide range of educational technology available today, students can choose the best option for their learning needs from among so many available options. This facilitates their acquisition of the skills and knowledge required to succeed as professionals in their chosen industry.
  - It improves students' communication skills and achievement in both academic and professional settings. Students who are more skilled at utilising technology for communication will also do better in the classroom and at work, as effective communication is crucial for teachers to share their ideas with their students.
  -Pupils gain from an engaging and entertaining learning environment. Today's pupils have two requirements: they have to have fun while learning. Thanks to instructional technology, students can learn while having fun, which will keep them interested in and motivated for their studies.
  - Students can use it to access the internet from anywhere at any time. These days, it is hard to find someone who does not use the internet every day because it has become such a necessary part of life. In today's world, students need unrestricted access to the internet in order to finish their projects and conduct research without having to go to multiple sites or wait for specified hours. Students gain from adopting educational technology in this way because it allows them to access the internet from both home and the classroom.
  -It helps pupils acquire new skills and information. Acquiring new knowledge and abilities are two vital aspects of life that students should find enjoyable. Students can engage in a range of online programs to increase their knowledge and gain these skills via the use of educational technology. Students can learn about a wide range of topics that are interesting and useful for their chosen fields of study or career with the aid of these programs.
  -It helps students to grow in terms of both their physical and mental health. Another benefit of implementing technology in the classroom is the improvement of students' mental and physical health. With the use of these tools, students can improve their cognitive and learning capacities, which enhances both their academic performance and physical health.

  - It helps students stay up to date with new technological advancements. Students who are able to stay up to date with the latest technological advancements will have the opportunity to broaden their knowledge in many different areas and acquire new skills that they may find useful in the future. Since these students will be knowledgeable about the latest advancements in a variety of industries and will be able to help firms increase their efficiency by understanding the different applications of developing technology, they will also have a higher chance of finding employment.

  -It supports pupils' motivation. Students are frequently well-motivated by technology. They find it enjoyable to be able to use technology for learning, and they are extremely comfortable using it. The majority of kids find that typing is far more efficient and comfortable than writing, and they struggle with pen and paper writing for a variety of reasons (OT, sensory, etc.), but when utilising a keyboard, they can keep up with their peers.
  -It meets the individual demands of every student. When teachers incorporate technology into the classroom, they will find that it is much easier to provide personalised instruction that fits the needs of each individual student. Teachers can assign connections to different games or centres to different student groups, provide links to articles authored by different writers for different reading levels to their students, and much more with ease. With each student having a personal device, teachers won't have to worry about making students share resources. In this way, if a student needs a little extra time to do an assignment, one student won't prevent the other from using the computer to complete their work.
  -Students are encouraged to ask questions and get prompt responses. In a similar vein, if every

student has access to a piece of technology, teachers can set up a system where students can email you questions that they are uncomfortable asking in front of their friends. Teachers may use a number of approaches to this, depending on the children's ages. When sending emails with questions to their lecturers, students may also consider using a secure chat room or messaging app. Teachers can also use technology as a sort of all-pupil response. Making polling questions for students to respond to during a whole-group session is an excellent way to provide every student the opportunity to respond to a question rather than just the teacher's selected student.

-It ensures that learners participate actively in their education. Making sure every student is participating in the lesson and paying attention is easier for teachers to do. Instead of merely watching you present a resource to the class or conduct a simulation on your whiteboard, students can engage in these activities on their own device. By making them more focused on the task at hand, this will enhance what they take away from the experience and boost their learning.

-It facilitates group education. Technology in the classroom can also help students work together. Apart from being willing to help each other access a particular assignment or technological resource, students can work together on individual assignments that are part of a larger project. Instructors can assign group projects where students collaborate on completing an organiser or research tool on their computers using tools like Google Docs.

-It helps to increase the students' understanding of the material (Mastery Learning). Another significant benefit of giving every student a tablet is that teachers may use technology to make learning more engaging and guarantee that students understand the content. In order to accommodate a variety of learning styles, teachers can insert additional images, animations, videos, and topic explanations into their e-learning courses and resources, which can aid students in understanding the material more thoroughly. It could be especially beneficial for more reserved students who might be afraid to raise questions in front of the class. In the end, there is no denying that technology is becoming more and more important in the globe. It's highly likely that future work for students will demand digital literacy. Teachers can help students develop many of the abilities they'll need to succeed in the future by incorporating technology into the classroom now.

2.0 FUTURE TRENDS OF DIGITAL TECHNOLOGIES

Future educational outcomes for children with impairments appear to be greatly promising due to digital technology's many benefits and the ongoing breakthroughs being made to improve teaching and learning. According to Teräs et al. (2020), "the 2020s are so far proving to be characterised by continued talk of digital technologies as'ready-made, top down solutions'." There are compelling arguments, for example, that COVID-19 remote learning represents a "tipping point," after which the explosion of online learning in the wake of the pandemic will present a "unprecedented opportunity to transform education across whole systems." (Fullan et al, 2020). Similarly, enthusiasm is growing for the application of artificial (AI) technology to education (Facer & Selwyn, 2021). According to Dan Ayoub of Microsoft (2020), Artificial intelligence (AI) has far-reaching implications and is significantly affecting education. Artificial intelligence (AI) holds great promise for transforming our educational system, boosting institutional competitiveness, and empowering teachers and students across the board. The following three categories of cutting-edge educational technologies serve as the foundation for these passions: (Facer & Selwyn, 2021):

First, there are a number of post-COVID technology-based reconfigurations of traditional classroom settings, as well as the ongoing use of "learning management systems" to promote resource sharing and group communication. Additionally, there is a growing institutional interest in "blended," "hybrid," and "hyflex" approaches that involve hosting classes (at least partially) online. Not to be overlooked are online social learning environments (like Noon Academy) where students can collaborate on coursework after school and receive peer evaluations. For example, online tutoring services like GSX and Out School that charge extra for after-school tutoring are prime examples of how the shift to remote learning is often linked to the entire transfer of educational services to for-profit platforms. Nevertheless, as students gradually return to traditional classroom settings across the world, excitement in the prospect of a widespread shift towards online learning and integrated classrooms is growing.

The second is the ongoing emergence of personalized—or, perhaps more appropriately, customised learning environments that use cutting-edge data-driven analytics to steer each student's interaction with online course materials. It is stated that every student here gains from the enormous amounts of data being examined, which some manufacturers claim enable these systems to know more about each individual student's learning than a "real-life" teacher could possibly hope to.

Third, there are several more AI-driven technologies, most of which are intended to help institutions, educators, and students make automated decisions. Using AI-driven modelling, this incorporates "automated education governance" for the entire system (Gulson & Witzenberger, 2020), and institution-specific use of AI-driven recruitment, procurement and predictive 'business analytics' (Yates & Chamberlin, 2017). Apart from these institutional uses of AI, a range of other AI-powered tools

can now carry out tasks that were before done by teachers. This includes live facial and neurological detection systems to assess students' emotional and attentional states, as well as automated essay evaluation, or "robo-grading." It also incorporates AI-based "language stylometrics" and essay assessment (Facer & Selwyn, 2021).

3.0 CONCLUSION

All things considered, special education benefits from the use of technology since it lowers obstacles and gives individuals with disabilities access to the most appropriate curriculum. Thanks to thoughtfully created technology and software, students with special needs can obtain any required content online and enjoy a modern education. Teachers can attain more flexibility and differentiation in their teaching approaches and provide their students with individualised learning experiences by utilising technology. Thanks to modern technology, teachers may instantly adapt to a student's ability level and choose from hundreds of learning tactics that are customised to meet the needs of each individual student (elearningindustry.com, 2022). It is hoped that these and other questions, including challenges affecting digital technologies, will be addressed by concerned educators and researchers in order to help students with disabilities benefit as much as possible from digital technologies and easily achieve mastery learning despite the limitations placed on them by their disabilities.

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