Progressing Education & Difference: Gifted Education, Special Education, Learning Difficulties & Disability Into a New Normal World

Parin Somani, Independent Scholar, United Kingdom

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Abstract
The covid-19 pandemic has impacted higher educational institutions and student learning considerably, particularly as rapid transitions to remote learning platforms were implemented. Traditional education has focused predominantly on progressing the student majority within a class. However, during the pandemic many disparities have been highlighted including marginalising students with learning difficulties, disabilities, and gifted students. This study aims to understand educational differences between students in higher education during the covid-19 pandemic and how education systems have attempted to reduce inequalities. There is an endeavour to progress educational systems towards equality with a focus on gifted education, special education, learning difficulties and disabilities. A framework is devised to ensure students receive the appropriate learning pedagogies to progress towards their educational endeavours within the new normal. A systematic review has been implemented in this study using a well-planned literature search. Results have identified the following factors which are discussed within this study: E-learning, artificial intelligence (AI), importance of communication and appropriate support. This study has deduced that gifted students benefit the most from e-learning with embedded AI software, highlighting knowledge gaps and providing student flexibility to acquire education. In comparison students with learning difficulties, disabilities and in need of special education require a combination of e-learning and physical teaching assistance with frequent communication. Educators with specialised skills are required to imparted knowledge through empathy and understanding of the student as a unique individual, to increase student confidence and progress education in the new normal world.

Keywords: COVID-19, Education, E-Learning, Gifted, Learning Disability

Introduction

Education is a fundamental component of personal and societal development (Somani, Our World Before, During and After the COVID-19 Pandemic, 2020). Students are given the right to education from the age of approximately five to sixteen years within the United Kingdom, after which they can choose to progress towards higher education (Gov.uk, 2022). The age range can fluctuate dependent on student country of residence (Mobbs, 2019). The medium of education was largely through traditional methods before the coronavirus (covid-19) pandemic. This consisted of instructions being imparted by educators to students through face-to-face interaction (Somani, The Role of Education During and After COVID-19, 2021). However, remote learning was not unheard off particularly for students requiring flexibility in their learning, due to work commitments or other responsibilities impinging upon their educational endeavours. Numerous universities provided remote learning courses to facilitate knowledge acquisition for students that were unable to dedicate time to full-time education. Hence, when the covid-19 pandemic resulted in global disruptions social, political, and economical, major disturbances were experienced within the field of education (Somani, TRADITIONAL LEARNING V'S BLENDED LEARNING. , 2021). The covid-19 pandemic has impacted higher educational institutions and student learning considerably, particularly as rapid transitions to remote learning platforms were implemented (Somani, A TRANSITION FROM FACE-TO-FACE TO REMOTE LEARNING DURIN COVID-19, 2020). Traditional education has focused predominantly on progressing the student majority within a class. There was segregation between organised age groups and learning abilities so that teaching pedagogies could be devised accordingly, to facilitate student development. Pre-pandemic, higher educational institutions accepted and enrolled students with learning difficulties and disabilities. Between 2018 and 2019 approximately fourteen percent of students that studied in England declared at least one disability, while 85.7% did not (OFS, 2020). Many higher educational institutions provided these students with the additional care that they required to facilitate their learning needs. In contrast, gifted students have been able to attend the higher educational institution of their choice and have been referred to 'assets'. It was largely because through them, the higher educational institutions would achieve better average passing scores, consequently creating a positive impact upon the educational institution. This contributed towards gaining popularity and attracting students to join their institution. However, despite high test marks, gifted students have unique needs that cannot be met via the conventional education system (Grantz, 2021). During the pandemic many disparities have been highlighted, relating to increased poverty and sustainability in addition to marginalising students with learning difficulties, disabilities, and gifted students.

Background

The covid-19 pandemic has affected a total of approximately 98.6% of learners globally according to the United Nations in two hundred countries (UN, 2020) (Somani, 2021). The realisation of continuing educational development has been vital, hence online platforms were utilised. There was an aim to replicate traditional teaching pedagogies onto online mediums. For example, interactive videoconferencing software and increased social media presence. The rapid transition is believed to have created numerous challenges for students, particularly students belonging to lower socio-economic backgrounds (Kimble-Hill, et al., 2020). Moreover, students with disabilities have had their lives altered significantly in comparison the students without any disability during the covid-19 pandemic. Particularly due to the lockdown measures implemented by national and international governing bodies to limit the spread of the virus. Students have reported a rise in mental health challenges like

stress, anxiety and depression (Somani, The Impact of COVID-19 on Human Psychology, 2020). This is largely due to worrying about their future in education and attainment levels, in addition to financial worries and health implication including virus contraction. Previous research has indicated that lockdown measures implemented within pandemics is a significant factor contributing towards negative mental health implications (Leung, Ball, Sirl, & Britton, 2018). This can be observed amongst all students including those with learning difficulties, disabilities and students requiring special education. However, in addition to educational worries it is very likely that students with disabilities will be subjected to inadequate residential security and may face being homeless, have food insecurities and find attaining adequate help challenging, when compared to students with no disabilities or learning difficulties (Coleman-Jensen, 2020). These challenges have also been linked to unemployment, particularly as numerous individuals were experiencing redundancies and job losses during the pandemic (Somani, Progressing Organisational Behaviour towards a New Normal, 2021). It is important to understand the differences between students with learning difficulties, disabilities, and gifted students.

When a student has learning disabilities, they have a lower intellectual ability and struggle completing daily activities. This can include all elements of their life including completing mundane household talks, managing their finances or even socialising (Mencap, 2022). There is a notable difference between students with disabilities and those with learning difficulties. The major difference is that the general intellect is not affected in a student with learning difficulties. Examples of learning difficulties include dyslexia, Dyspraxia, and attention deficit-hyperactivity disorder (ADHD). Students with learning disabilities are generally identified from a young age as they are unable to overcome challenges within a traditional education environment. Students requiring special education or special needs education are those who require modifications to the traditional methods of education. They differ from the average student either mentally, physically, or socially. Students requiring special education are usually those with cognitive, emotional, behavioural, or intellectual impairments. They may have disabilities due to impairments in vision, hearing, speech or learning disabilities etc (Brighton-Hove, 2022). In contrast, gifted learners are the opposite, they possess abilities that excel in one or more academic subject areas, or are perceived as talented within music, arts, sports, performing arts or design. Gifted or talented students have the ability to develop skills faster than their peers and excel in specific areas of academia (CCEA, 2022).

Numerous students experiencing learning difficulties and disabilities suffer with underlying health issues, thus it is vital that they stay safe aiming to avoid the virus. Contracting the virus could have an adverse health effect due to the immunocompromising nature of their health conditions (Fung & Babik, 2020). Therefore, with the transition to digital platforms the life of students with learning difficulties and disabilities affected their complete educational experience, including access to course content after educators had imparted their instruction and revealed their expectations.

Numerous individuals with learning difficulties and disabilities had opted to reside in higher education institution accommodations as in many countries that is a legal requirement to ensure a no discrimination policy. However, due to the pressures and constraints on educators to teach different modes of instruction to students, simultaneously supporting them during the pandemic, students with disabilities were largely affected giving rise to further inequalities.

Objectives

This study aims to understand educational differences between students in higher education during the covid-19 pandemic and how education systems have attempted to reduce inequalities. There is an endeavour to progress educational systems towards equality with a focus on gifted education, special education, learning difficulties and disabilities.

Methodology

A systematic review has been implemented in this study using a well-planned literature search. This study has been guided by a measurement tool used to assess systematic reviews, the recommendations for methodological quality has been adapted and utilised. The literature search is initiated through searching electronic and manual databases to identify relevant literature sources. They included Google Scholar, PubMed, Gateway Lexis Nexis, Blackwell Synergy, and other published information sources and grey literature including magazines and Journals. The systematic search comprised of the initial search, identification, extraction, analysis, evaluation and interpretation of existing literature works. The highly sensitive search consisted of using the following keywords: Higher education, COVID-19, Students, Educators, Gifted students, Special education, Learning difficulties, Disabilities.

The inclusion criteria included published studies reporting educational differences between students in higher education during covid-19. Including accepted gifted students, those requiring special education due to learning difficulties and disabilities. This initial search resulted in identifying numerous literature sources, therefore it was important to identify useful sources providing evidence-based knowledge. To categorise the literature sources, titles and abstracts were read, then the full text was read prior to using the study. To aid this process towards the primary study selection the following exclusion criteria has been devised:

- Literature unrelated to higher educational institutions are not used
- Literature focusing entirely on higher education institutions during the COVID-19 pandemic are omitted
- Literature unrelated to gifted students, special education, disabilities and learning difficulties are disregarded
- Literature on languages other than English are excluded
- Older literature with similar information to recent literature are ignored
- Literature that does not provide enough technical information of their approach is overlooked

A total of forty texts have been assessed, however, a total of thirty-five literature sources are shortlisted to aid focus to this study. Upon analysing the papers, two are duplicated and therefore eliminated. After reading the abstracts and introductions another three literature sources are disregarded, leaving thirty literature sources for further investigation. After reading the full text of those literature sources one more is eliminated due to lack of implementation details. Therefore, twenty-nine literature sources have reached the overall criteria and included within this study as primary literature sources.

Results and Discussion

Results have identified the following factors: E-learning, artificial intelligence (AI), importance of communication and appropriate support with a focus on gifted education, special education, learning difficulties and disabilities.

E-learning

Remote learning using electronic platforms became the dominant method of educating students during the covid-19 pandemic (Somani, Post Covid-19 Effects on the Future of Students in Higher Education. , 2021). Educators were more inclined to favour active-learning courses through which teaching practices differed from traditional teaching pedagogies. Group discussions were carried out using breakout sessions within the interactive video conferencing software, if educators had enough knowledge to utilise it. Short and long answer questions were incorporated to test student knowledge and access to learning materials became challenging. Without sufficient support to ensure students were able to familiarise themselves with the software and hardware, despite their disabilities have been proven to struggle (Somani, Information Technology Challenges Faced during the Covid-19 Pandemic in Higher Education., 2021). Another challenged faced by all students is access to sufficient internet connectivity that would impinge upon communication clarity and educator instruction. Due to insufficient bandwidth or a lack of sufficient hardware and software, e-learning for students was extremely challenging.

Higher education institutions recognised the need for individuals to re-skill and up-skill to continue working and gain adequate skills to progress with the challenges of life. Therefore, numerous higher education institutions, created an array of different courses comprising of long-term and short-term courses. Some of which included Massive Open Online Courses (MOOC) to progress individuals, some courses had no financial implications attached, while other courses were available at a reduced cost (Somani, E-learning in Tomorrow's Age, 2021). Both presented qualifications upon course completion, facilitating student development. In the endeavour to progress students, many students themselves were expected to learn how to navigate through higher education software themselves. This posed problems for students with disabilities and learning difficulties. Research has revealed that students with disabilities experiences exacerbated symptoms of their disability and an increase in stress levels, during examinations with new technology and videoconferences resulting in challenges and skewed results not reflective of their true academic ability (McMaughan, et al., 2021).

Higher educational institutions tried to reduce learning inequalities by offering more time and support to students that require it. However, this resulted in educators being overworked by dedicating long hours to provide the sufficient support to help students through remote locations (Brunsting, et al., 2022). Some higher educational institutions have run specific modules to familiarise students with the use of the new software and access the learning materials to facilitate their progress. Although this is a positive step, it has been dependent upon internet accessibility and that of sufficient hardware to ensure knowledge acquisition. Within traditional settings it was easier for students with disabilities to access course materials due to the support offered by the educator. If there was a misunderstanding within concept transmission, as the student did not hear the educator, then students were able to question their colleague sitting next to them or ask their educator by raising their hands. Alternatively, students were able to ask the educator their query after the class was completed. However, this was not possible through e-learning, although when educators

became familiar with the interactive elements of the video conferencing software they were using within their live streaming classes, an array of tools were then utilised. For example, if a student wanted to ask a question, they used the 'hand raise' function. This allowed the educator to be alerted to a specific student's need. Some preferred to utilise the 'chat' function through which shared questions could be asked and answered. As e-learning continued and blended learning was administered, students had the physical presence of an educator to ask for clarification of subjects. In contrast, gifted students who understand the E-learning process are likely to excel beyond their peers and continue independent learning due to the vast array of tools and information available within the software. Research has suggested that students with and without learning difficulties and disabilities in general have experienced numerous challenges adapting to the transition to virtual platforms for knowledge acquisition. However, it is more noticeable in students with disabilities due to heightened stress levels and mental health concerns (Wang, Zhao, & Zhang, 2020).

Artificial intelligence (AI)

When the rapid transition to online platforms took place, students did not find it as easy as anticipated to access course content. Particularly when knowledge gaps became evident due to poor examination results consisting of short or long answer questions or multiple-choice questions presented during courses. Therefore, when AI was implemented within software, students with and without disabilities were able to accesses course content. The software would identify knowledge gaps and divert them to appropriate learning materials to strengthen knowledge enabling students to pass future examination questions (Somani, Artificial Intelligence in Higher Education Post Covid-19, 2022). Learning materials were generated based on software activity through the use of AI which has facilitated student learning. In addition, due to the nature of remote learning, students have flexibility to choose their learning times, often dependent upon conducive learning environments. When students required assistance out of educator hours, students could consult 'chatbots' which are the AI version of educators that facilitated student learning. These chatbots and virtual tutors utilise AI with the aim of student-robot interaction so that learners can seek instant assistance to challenging question. The electronic human-robot facilitates student educational progression by providing an instant response to specifically engineers answers to questions with the aim of keeping learners motivated and cultivating interest (Somani, Post Covid-19 Effects on the Future of Students in Higher Education. , 2021). It is a solution through which students can seek answers to their burning academic questions at a convenient time for them. Admission within higher education institutions was supported through the utilisation of cryptocurrency as some used this method to provide a most cost-effective form of enrolment to their chosen institution.

The application of new technologies must be consistent in development but simultaneously, it must provide a humanised approach. Students with disabilities and learning difficulties often require assistance on an emotional level and learn solutions to their challenges enhancing their development, quality of life and social progression. The covid-19 pandemic has accelerated the development of AI, the use of the internet, data processing and the use of social media and as a result they have become dominant parts of daily life of students. However, as education progresses it is vital to link digital and technological knowledge with human traits that are social and emotional. The complete emphasis should not be on technology and goal orientation. A combination is vital to ensure the development of all students in higher education. During the pandemic, immense emphasis what placed upon knowledge in instruction, increased speed, and accuracy. All students and particularly those

with learning difficulties and disabilities require a more humanised approach to learning which amalgamates social and emotional abilities, thus improving health and safety.

Communication and appropriate support

Communication is key towards ensuring student understand the different modes of instruction and changes in learning pedagogies (Somani, EFFECT OF THE COVID-19 PANDEMIC ON COMMUNICATION, 2020). During the pandemic and the transition to remote learning from traditional environments, students with disabilities were unable to access many of the accommodations as they would perhaps have done during face-to-face situations. Conducive learning environments and proper accommodation are very important for ensuring student success in higher education (Gin, Guerrero, Brownell, & Cooper, 2021). The major challenges experienced by students with learning difficulties and disabilities included access to accommodation, a reduction in distraction testing environments, challenges with increased test time and availability of comprehensive notes from live streaming lectures. Students with difficulties also required closed-captioned video lectures, in addition to an adaptation in test proctoring (Logan, Gin, Guerrero, Brownell, & Cooper, 2021). Collaboration is required to find conflict resolutions and improved communication towards enhancing student engagement. A combination of technology and humanised approaches must be used to improve communication between students and educators, faculty members and higher educational institutions in general. Interpersonal relationships are more difficult for students with learning difficulties and disabilities to cultivate, hence communication with such students require additional tolerance and empathy. This was vastly difficult during the covid-19 pandemic as physical interaction was impossible, although an attempt was made to replicate it through video conferencing.

All students require adequate support and motivation to ensure progression and facilitation towards reaching their educational goals (Somani, UNDERSTANDING THE CONCEPT OF MOTIVATION AND LIFE SKILLS THROUGH LITERATURE, 2021). Although the world is gradually returning to a 'new normal', students with learning difficulties and disabilities require more support than students without disabilities particularly in finding the correct accommodation to reside in. In addition to support in: taking notes, sufficient interpreters for those who may have sensory impairments, transcriptionists and access to appropriate services through which examinations can be taken. Unfortunately, research has revealed that numerous undergraduate students are unaware of services available to them. This could be due to a lack of communication between the higher education institution and the students. Gifted students may not require as much communication and support as other students due to improved comprehension abilities to achieve the goals of an average student. However educators need to be mindful that gifted students are not neglected and require additional instructions through enhanced communication and support to progress towards reaching their full potential. It is possible that gifted students may reach a plateau in their learning as they wait for their peers to catch up, therefore educators must encourage gifted students to progress in their educational endeavours and provide sufficient motivation and support for this to occur.

Conclusion

This study has deduced that gifted students benefit the most from e-learning combined with embedded AI software, highlighting knowledge gaps and providing student flexibility to acquire education. In comparison students with learning difficulties, disabilities in need of

special education, require a combination of e-learning and physical teaching assistance with frequent communication. It is evident that students with learning disabilities take longer to learn new skills and during the process they require the additional appropriate support. This enables them to disseminate complex information into simple comprehendible information which can be converted into knowledge. They also require extra time to interact with people that are new to them. Educators with specialised skills are required to imparted knowledge through empathy and understanding of the student as a unique individual, to increase student confidence levels and progress education in the new normal world. Simultaneously, to facilitate talented students to flourish, there is a need to present them with challenges that will enhance their strengths and facilitate personal development. They will be able to activate their ability to bridge gaps between new and existing ideas through which their intellectual capabilities will strengthen. Gifted students thrive from new opportunities to work independently and engage in their specific areas of interest. Unfortunately, traditional classroom environments deprive gifted students of opportunities to excel.

Framework

A framework is devised to ensure students receive the appropriate learning pedagogies to progress towards their educational endeavours within the 'new normal' world. Educators should be equally responsible as students in highlighting when gifted students are ready to progress towards a more challenging syllabus and additional attention is required by students with learning difficulties and disabilities. The ability of gifted students exceeds the average student thus require more support in providing knowledge to students. However, due to a lack of time and constraints within educational institutions, providing students with heightened stimulating knowledge becomes challenging. Particularly due to time and constraints imposed upon educators.

To reduce discrimination in Higher educational institutions and provide an all-inclusive learning environment for their students the following steps within the framework have been recommended to higher education institutions:

1. Evaluate higher educational institution structure
    - This includes ensuring consistent statements within policies regarding students with disabilities, learning difficulties and special education. They must reflect the higher educational institution's mission and objectives.
    - Available Campus literature on equal access and it must be reviewed prior to distribution so that all students follow a unified process to apply for services.
    - An accessible administration office with a department designated to disability services and special education should be created. This will ensure effective reporting systems and the correct support is provided to students that require it.

2. Design and implement policies for students
    - Ensure all student information is kept completely confidential
    - For students including those with learning difficulties, disabilities and gifted students, it is important that the formation of written policies and procedures are implemented and include the whole educational process from admission, protecting personal documents, accommodation, teaching pedagogies, technological support ensuring correct use of e-learning, modes of communication and appropriate support.

- The whole student community within the higher educational institutions must be educated on expectations, handbooks and course schedules should be available in a variety of diverse formats ensuring student inclusivity.
- Advance instruction to gifted students within exceeding areas, simultaneously provide additional support to students with learning difficulties and disabilities.

3. Create awareness
    - Students and educators need sustainable mechanisms through which information about learning disabilities and difficulties can be passed to them. This will create an understanding between the fraternity ensuring all members of the higher education institution including, students, educators, professional services, administrative staff, and faculty members are all educated and possess the same knowledge to act in unison and eliminate discrimination.
    - All higher education staff and students should be equally aware about the services available so that support is readily available to all students.
    - All staff, faculty members and the administration teams must be familiar with the laws surrounding student accommodation so that students with learning difficulties and disabilities can be supported.
    - A separate team must be appointed to ensure well informed decisions can be made for diverse students that attend that higher educational institution. This will minimise disputes and enable correct processes to be followed.

4. Collaboration
    - By working with multidisciplinary teams, the student experience will evolve, and discrimination will gradually be minimised particularly as they have heightened during the covid-19 pandemic.
    - University accommodation should be built through specialist consultation ensuring needs of all students are met.
    - A designated team of higher education staff and service providers must be involved in decision making processes.
    - Ensure knowledge remains up-to-date as policies and research is continuously advancing.
    - Financial assistance may be organised through collaboration between governmental and non-governmental organisations to support students that require additional assistance taking their socio-economic status into account.

Within an everchanging diverse world where covid-19 has caused major disruptions in student learning, it is vital that higher educational institutions build a community that responds to needs of their diverse student population. This includes students with learning difficulties, disabilities and gifted students. It is evident that everyone has specific educational strengths and weaknesses, this is true also of students with learning difficulties and disabilities. They also have academic preferences to teaching pedagogies. Therefore, students particularly those identified by educators require a tailormade approach to their learning needs. Higher educational institutions need to plan prior to student admission. They must have the capabilities of educating students that they are accepting into their institution. It is possible to help students with learning difficulties and disabilities in general to flourish within higher education, however this is only possible when different departments work together ensuring policy development and continuous refinement of legislations, teaching pedagogies reflecting modifications in the curriculum. In addition, higher educational

institutions are required to invest in sufficient technological tools including the appropriate hardware, software and good make provisions for stable and fast internet connectivity. Improved teaching pedagogies and administrative systems are also required to progress student knowledge and the educational institution. Investing appropriate time and resources into training educators towards ensuring effective student learning by re-skilling, up-skilling and changing attitudes towards the diverse students attending the higher education institution. It is important for all students that have gained academic admission not only to possess technical competencies but also ensure soft skill development. Therefore, although technology is an important facet of education, it should be used as a tool to provide value to education and improved efficiency. Societies must change their culture and practice towards implementing provisions to facilitate the elimination of discrimination within higher educational institutions. It must also be highlight that, working towards a shared goal of inclusivity is a shared responsibility.

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