Distance Learning for Students with Intellectual Disability during the Emerging Coronavirus Pandemic: Opportunities and Challenges from Parents' Perspectives

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Summary
Distance learning for students with intellectual disabilities can prove beneficial, particularly if adjusted to their educational characteristics and needs. This study seeks to identify the views of parents living in Saudi Arabia, regarding the opportunities offered by distance learning for students with intellectual disabilities, alongside their challenges during the Covid-19 pandemic. The research employed qualitative methods using semi-structured interviews with six parents of students with intellectual disabilities. The results revealed a number of both opportunities and challenges, including issues related to the family, in addition, the data highlighted difficulties related to the educational process (i.e. a lack of variety of educational methods) and technical issues related to access to the Internet and the insufficient computer skills of both teachers and students. The findings have several important implications for future practice, including the need for training workshops for parents concerning the online platform, as well as further research to determine students' perspectives of their experiences with distance learning.

Key words:
Intellectual Disability, Distance Learning, Covid-19, Challenges, Opportunities.

1. Introduction

The central importance played by educational technology in developed countries over recent years, particularly as it has formed the basis of economic, political and educational growth (Williamson, Eynon, & Potter, 2020). This has led governments to adopt educational technology to overcome some of the obstacles to efficiency experienced by traditional educational systems (Flac, 2020). Söderström, et al. (2021) also pointed out that educational technology has contributed to the participation and independence of individuals with disabilities, so promoting their participation in society. Modern technology now includes a mobile educational medium, guiding programs offered to those with disabilities along with an increased focus and motivation for teaching and learning. In addition, this has benefited the work of these students, so facilitating their integration into society.

This interest in educational technology, along with its introduction into the educational system, has recently been further enhanced by the interruption of traditional education due to the Covid-19 pandemic. Pather, et al. (2020) noted that the pandemic has forced a change of lifestyle, due to the closure of schools and cessation of everyday activities aimed at reducing the spread of the virus. Kosaretsky, et al. (2021) highlighted the rapid emergence of distance learning, which is expected to remain a vital aspect of education and training in the coming years. This ensures that education can continue even when circumstances prevent students or teachers from physically attending schools, so overcoming obstacles of time and place, as well as the appearance of pandemics and/or other crises (García, & Weiss, 2020).

Saudi Arabia has undertaken considerable effort to advance distance learning, particularly through launching educational platforms to assist both male and female students (Alabdulaziz, 2021). Alsalem, (2021) noted that governments have helped students with disabilities to access educational technology on an equal basis with their peers, in accordance with their right to participate in all aspects of life. In addition, technology has provided programs for all categories of disabilities, thus preventing them from proving an obstacle to the continuation of distance learning.

2. Literature Review

The technological revolution, along with recent developments in information and communication technology and the Internet, has assisted the development of various methods of distance learning. This allows the educational process to be transferred over considerable distances, and provides students with appropriate learning opportunities, so ensuring education is flexible and fulfils current needs, in addition to saving effort and time for both

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students and teachers (Dale, Kubincova, Kerr, & Murray, 2021). There are various definitions of distance learning. The American scholars views it as 'the transfer of educational programs through technologies such as cable or satellite television, video or audio recordings, faxes, modems, video conferencing for learning outside educational institutions' (Okopna et al., 2021, p: 333). Kim & Fienup (2021) highlighted the increase in distance learning due to the Covid-19 pandemic, as educational institutions transferred from traditional face-to-face methods to ensure social distancing.

Almaleki (2021) stated that it is vital for distance learning to recognize individual differences and evaluate students through the use of technological means as well as assist individuals, including those who are working, to study at their convenience; encourage students to overcome any obstacles; address economic, social or geographical issues; provide educational opportunities for all those who wish to learn; and finally, remove obstacles for those with disabilities (Toste et al., 2021). Luhalima & Mulovhedzi, (2021) believed that the goals of distance learning included: covering any shortages in the preparation of educational curriculum; keeping pace with continuous development; and assisting in the scientific and cultural development of members of society. Yoon, Lee & Jo, (2021. considered that distance learning offers many advantages for teachers, students, and the state, including: accurate assessment as a result of continuous tests; increased interaction between learners; and reduced costs associated with the building of schools and educational institutions, along with employee salaries. It is clear that those aspects generally considered beneficial are even more so for those with disabilities. Distance learning is able to attract students with disabilities through its ability to employ more than one physical sense, as well as stimulating motivation through the use of drawings and animations, so providing the opportunity to increase communication and build relationships, as well as breaking down any associated barriers (Montes, Fuentes & Cara, 2021).

Distance learning contains a unique set of characteristics distinguishing it from traditional education. Maisyaroh et al. (2021) noted that technological methods enable education to take place in locations appropriate for both teachers and learners, as well as giving the freedom to choose the best time to learn. A number of studies have also demonstrated that distance learning can equal, or enhance, the effectiveness of traditional education. In addition, the fact that it involves little cost acts to increase the interaction between teacher and learner, along with offering solutions to any inequality of provision due to the lack of qualified personnel. Figure 1 (below) summarizes the characteristics of distance learning.

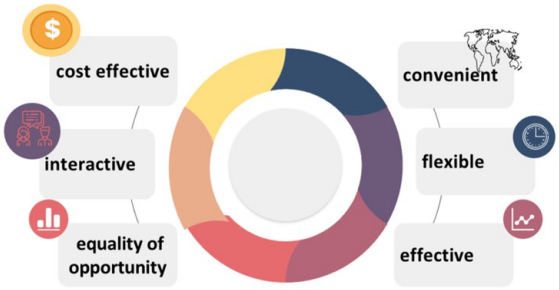

Figure 1: The characteristics of distance education

A number of studies have dealt with the issue of various types of distance learning, with students with intellectual disabilities being considered among a range of other variables. However, there remains a lack of research studies from the Arabic region addressing this subject, particularly during pandemics. Thus indicating an urgent need to conduct additional research in this area. In addition, there is a particular need for studies that are qualitative in nature and research investigating this issue from the perspective of parents.

Ten previous studies have been undertaken between 2015 and 2021, comprised of two Arab and eight international studies. The studies dealing with the issue of distance learning in all its forms varied. Majid and Al-Zahrani (2020) indicated a number of obstacles to the use of augmented reality with students with intellectual disabilities, including technical and material barriers and issues for female teachers and students. In contrast, Joseph et al.'s (2020) study confirmed the development of their participants' speaking skills, and that they maintained performance above baseline when the vocal training was removed. On the other hand, Mirza (2020) found no clear change in the performance of students participating in a virtual reality game, although they appeared to enjoy taking part and there was an increase in their self-efficacy when navigating independently on campus. Furthermore, Cherix et al.'s (2020), evaluation of the use of virtual reality for students with intellectual disabilities, showed a good acceptance after four sessions.

In addition, Kellems et al. (2020) determined the effectiveness of video-based instructions for teaching mathematics-based professional skills, delivered through augmented reality. They observed that their participants acquired the required skills after receiving the intervention, and these were also maintained following its withdrawal. Furthermore, Artursson Wissa and Avdic (2017) undertook similar research to the current study, aiming to identify both challenges and opportunities for distance courses. Their results indicated many challenges, including the lack of opportunities to communicate with other students, as well as positive outcomes, such as increased ease of

adaptation to students' needs compared to traditional courses. The results of Al-Subaie and Al-Khouli's (2016) indicate that presenting activities in a virtual reality environment and enabling children to view them at any time leads to flexibility and reduces the severity of the impact of their disability. Cheek (2016) also examined the benefits of teaching by means of the Internet, finding that it increased children's comprehension, helping them to answer questions correctly. Moreover, Mcmahon et al. (2016) sought to identify the effectiveness of augmented reality for teaching science vocabulary to students with intellectual disabilities and autism, concluding that all were able to classify and define such vocabulary. In the same context, Mcmahon et al.'s (2015) comparison of the impact of three navigation tools (i.e. paper, Google, and augmented reality maps) indicated that the latter proved the most functionally effective.

3. Method

This study aims to identify the views of parents concerning the benefits and drawbacks of distance learning for students with intellectual disabilities. As it examines human and social phenomena, and focuses on understanding behavior in its natural context, it employs a qualitative approach, which is capable of obtaining information difficult for quantitative research to extract. In addition, as noted by Al-Jeddi (2014), this approach provides data that is subjective rather than objective.

The number of participants in this study was determined by the saturation of data, being: six parents of students with intellectual disabilities, who participated in seven interviews, due to one of the participants being interviewed twice. Poles (2020) pointed out that there are generally between six and ten participants in qualitative research, with each interviewed several times. The participants for the current study were chosen in an intentional manner, according to the qualitative approach. Al-Faqih (2017) stated that the purposeful sampling strategy is the common strategy for selecting participants in qualitative research, and is based on the fact that the researcher chooses the participants in his research in a purposeful manner, based on his appreciation and perception that the selected participants will contribute to achieving the objectives of the research, and answer his questions. The selection criteria included: firstly, that the participants' children had undertaken distance learning during the first and second semesters of the academic year 2020, and secondly, that their children were students enrolled in programs for students with intellectual disabilities attached to public education schools affiliated with the General Administration of Education in the Makkah Region of Saudi Arabia.

The data collection consisted of semi-structured interviews with parents of students with intellectual disabilities. Few previous studies have used this tool, which was relevant to the objectives and methodology of the study, as well as being the most effective method of collecting detailed information concerning parents' views of the specific challenges and opportunities facing their children when taking part in distance learning. In addition, semi-structured interviews are the most common type of interview, particularly in social and humanistic research, as they consist of dialogue between the interviewee and interviewer, so offering a greater chance of producing knowledge than the use of previously prepared questions (Leave, 2014). The interviews were conducted individually by phone during March 2021, with the average time being thirty minutes, i.e. the longest took forty-three minutes and the shortest twenty-two minutes. The data was repeated after the third interview, as opportunities and challenges began to be identified and the data reached the stage of saturation, while its features became clear after the completion of the sixth interview. All interviews were audio-recorded following approval from the participants.

This study adhered to the required ethical standards by providing participants with detailed information (i.e. the study title, its objective, and preliminary information about the researcher), and giving additional explanations to those who were unable to fully comprehend the initial information. In addition, the researcher thanked the participants for their participation in the study, and gave them complete freedom to choose the time of the interview. The participants were not exposed to any risks during the study, and they were provided with a complaint protocol, which, in the event of problems or risks, was to have been submitted to the researcher or the researcher's supervisor. The data was stored in a confidential and secure location, with the procedures for maintaining confidentiality of data as follows: firstly, to replace all of the participants' names with symbols, and secondly, all recorded and written records of interviews to be destroyed after the completion of the study. Leavy (2014) emphasized the need to respect participants' privacy and

independence, and their ability to make decisions about their privacy. The current researcher therefore made clear to the participants that their participation in this study was completely voluntary and they could leave at any time they wished, without giving any reason (Creswell & Poth, 2019).

Finally, the data was analyzed through thematic analysis, defined by Al-Duwairi and Al-Kalladeh (2019) as that part of the data description process that deals with the conceptual analysis of information sources, in order to determine their intellectual content, and then use this content to create restricted terms and classification symbols. The data analysis procedures were as follows: firstly, the data was unpacked and written in a Word file; secondly, it was printed and read extensively in detail, and in depth; thirdly, the researcher examined the data, starting with the first interview, giving each sentence an appropriate coding or title, followed by moving on to encode the second interview, until the process was complete. Creswell and Poth (2019) stated that coding is an essential process in qualitative research, and involves an understanding of texts collected in interviews, notes, and from documents, and coding involves the grouping of text or visual data into categories. Small pieces of information, looking for clues to the symbol from the various databases that were used in the study, and then mapping the symbol. Creswell and Poth (2019) stated that, after being encoded, data is classified into main categories or topics, consisting of a set of codes to form a main topic. Al-Abd al-Karim (2012) explained that this stage is at a higher level, during which the encodings are read carefully, with the aim of identifying connections and relationships between them, followed by the researcher being required to clarify these and categorize them into appropriate topics or topics. The current researcher therefore reviewed the extracted articles. Figure 2 summarizes the procedures followed.

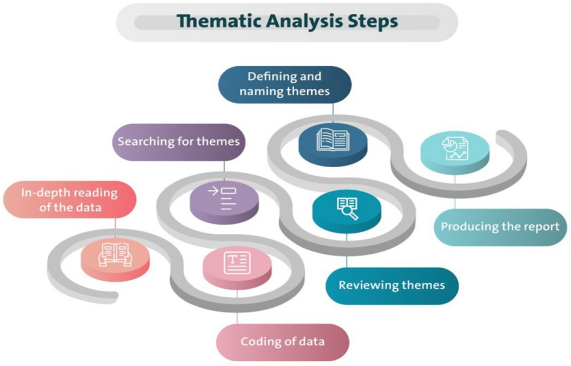

Figure 2: The analysis procedures

4. Findings and Discussion

This study focused on establishing the views of parents of children with intellectual disabilities in Saudi Arabia, regarding the opportunities and challenges of distance learning during the Covid-19 pandemic. In order to achieve a deep understanding of the data, the researcher examine a range of aspects, namely: issues related to the family; any difficulties arising related to the educational process; technical problems; self-development; and student attitudes. The researcher addressed each major topic with its sub-themes, followed by writing them up in detail. In order to clarify the conclusions, these are now presented and discussed in a simultaneous manner. It should be noted that the main topics emerged after a large amount of similar data were collected from various sources.

Opportunities

The analysis of the data resulted in a further key focus, concerning the fact that distance learning has been shown to contribute to the development of students' self-reliance in preparing for lessons, as well as increasing their spatial readiness, helping them take responsibility, and increasing their motivation. Remote education can therefore have a positive impact on students' self-confidence, helping to break the barriers of shyness and fear of failure. In this regards, one informant reported that: My daughter has changed and she is now interacting a lot with the teacher. And has even became involved in the lessons, unlike before. She was once shy, and I have noticed how this has improved. Maybe because she is far away from everyone, she has even started talking to her friends. She has changed a lot, where she was previously reserved, now she's calling her friends on the platform and chatting to them. This study therefore found that distance learning appears to have increased self-confidence among some students and reduced their shyness. Being behind a computer screen appeared to help evolve their skills of speaking and self-expression, along with an active and

positive engagement with the teacher. This may be one of the most important positive aspects of distance learning for students with intellectual disabilities. The current finding is consistent with the study of Al-Dhafiri and Anzi (2021), which also noted the impact of distance learning on reducing shyness and anxiety among students.

The data from the current research also reveal that distance learning created a spirit of cooperation between parents and teachers, leading to partnerships between the two groups, with female teachers helping mothers to learn useful teaching methods, and to follow the lessons and educate their children. This has resulted in considerably greater communication between parents and teachers than during learning process, which may result in a positive impact. This result is consistent with the study of Abu Zaytoun, Abu Hammour and Baddah (2021), which stressed the need for constant communication between teachers and parents to achieve the required educational goals when taking part in distance learning. During the analysis of the data, one interviewee expressed gratitude for the efforts of teachers in their cooperation with parents and their humanity, which was not limited to the education of students, stated that: I appreciated the teachers' honesty when making efforts with our daughters, and they communicated with us what we should be doing and how to go about it. They taught us what to do with our daughters, especially when we were sitting with them to get through the lessons. Teachers, all of them, and God, helped us a lot. This view was echoed by another informant who thanked teachers for collaborating with parents and responding to their inquiries in order to improve the level of the students, stating: God is a word of thanks enough for teachers, who were also collaborators, and helped us as parents if we needed to know something or if we have a problem with the platform they were using. They helped us, not just the students, and thank God for these teachers.

It also found a number of positive aspects, particularly in the efforts of teachers to compensate for the spatial gap, and the use of methods to encourage students to learn and to enhance their enthusiasm. This is in line with the study of Bulls Poles (2020), which noted the need to use effective strategies to help address barriers and gaps in distance learning. One informant elucidated her point of view regarding the method of teaching used during distance learning, confirming the diligence of some teachers and their honesty in teaching, stating: Some of the teachers succeeded in communicating their ideas and lessons to the students. Frankly, I did not expect something like this to exist in distance learning. The teachers even use videos and similar things, so the children are motivated! They also make sure that they repeat the words a lot to the students and compensate for the students all being at a distance.

Challenges

The Covid-19 pandemic has generally had a significant economic impact on families, reducing the ability of parents to meet the requirements of their children, accompanied by a growing demand to purchase devices and access to communication networks. In addition, this total reliance on distance learning has resulted in many families with more than one student experiencing a negative impact on the learning process. The current finding is consistent with Abdullah and Hamad's (2020) study, which indicated that many students do not have devices to allow them to learn remotely. It also accords with Al-Qarini and Al-Harthi (2020), in identifying the lack of insufficient funding for computers as one of the challenges facing students during distance learning. Moreover, it concurs with Al-Otaibi (2020), who identified the challenges of distance learning during the Covid-19 pandemic as being the lack of sufficient equipment available for all students, in addition to its high cost.

There was a negative comment about the significant impact of the social, cultural and economic status of the family on the implantations of distance learning. In particular, it highlighted an increased burden on the families of students with disabilities. This result is consistent with the Bayoumi Study (2021), which noted the increased pressure and social burden on families during distance learning. This study found that distance learning not only gave parents additional responsibility for educating their children, but also that they lacked sufficient knowledge of appropriate methods, particularly those whose children had an intellectual disability requiring specific methods to simplify and facilitate lessons and so demanded extensive teaching experience. This current study also identified one of the drawbacks of distance learning as the fact that it added new material costs to families, with interviewee expressing concerns at the expense, particularly when the family had other financial burdens: We have moved house and our material situation is a little weak, and I cannot provide my daughter with a special device for her sole use. I give her my mobile phone to use the educational platform, which she also shares with her sister, and thank God that each of them has enough time.

As noted in the data from this study, the teachers did not focus on using educational methods that engaged the students and increased their motivation to learn, noting: Some teachers lack the ability to teach by themselves in front of the camera, some just turn on the camera to face them and keep it static. It would be better if they used their hands to make a better kind of video. Although all methods are shown in a video and watched from afar, the students only understand it is their teacher talking when they can see the teacher, which is very sweet, same as the Ain channel. This study found that distance learning has both advantages and disadvantages, which are clearly

influential in the course of the educational process and the efficiency of the curriculum, as does face-to-face teaching. The current finding supports Kent's (2016) conclusion of a lack of diversity in education strategies and methods to suit each student's needs. In it are things that my daughter learned from attending school, for example, before she entered, she knocked on the door, and when she wanted something she asked. Another participant confirmed the benefits of direct interaction with the teacher and face-to-face communication as follows: When teaching about pronunciation, I build direct communication with the students, and you can see each other's faces, so they can try to imitate me. But now she does not see anyone and has lost her ability to communicate. This indicates that distance learning tends to be limited to teaching academic subjects and lacks modelling and imitating the actions of the teacher. This result supports the Bulls Poles (2020) study, which cited the disadvantages of distance learning as the lack of any direct interaction with teachers.

The data analysis led to the emergence of a further key theme concerning distance learning, i.e. poor technological infrastructure and lack of Internet availability. This is consistent with Akçayir and Akçayir (2017) and Al-Qarini and Al-Harthi (2020), who noted technical and Internet problems as limiting the maximum use of distance learning. Furthermore, the participants recognized the length of lessons as posing a significant challenge. One informant wished it would be reduced, due to the negative impact of such frequent use of devices on her daughter, stating: "I wish the class time was shorter." However, some opposed modifying the length of classes from that of traditional education, as one interviewee put it: The picture appears quickly when teaching them to read. Students comprehend the topic needs over a long period of time. This is what annoyed me about the subject, and the pupil has only thirty minutes to finish quickly, unlike school, when it was forty-five minutes.

It therefore appears that one of the disadvantages of distance learning is the reduction in the time allotted to cover the curriculum, resulting in an inability to take account of individual differences. This finding is consistent with Kent (2016), who identified a lack of class time during distance learning. Moreover, an analysis of the data showing the impact of infrastructure on distance learning supported participant's statement concerning the lack of reliable Internet in her village: It has been difficult living in a new area, and the Internet is weak and is always cutting us off. Originally the Internet was weak and a problem everywhere, and all it takes is for the electricity to go off and the internet goes off too.

Talking about this issue another interviewee also expressed her concern about the congestion on the Internet limiting distance learning: The internet is always cut off, and at times it's too slow for a particular platform, which is very annoying. As distance learning is primarily dependent on the Internet, any issues, including being slow or unavailable, can have a negative impact on students. This finding is consistent with those of Al-Hawiti and Al-Balwi (2019) and Al-Otaibi (2020) concerning challenges facing the optimal use of the technology, including the difficulty of using it in villages and remote areas.

5. Conclusion

In conclusion, this study suggests that distance learning for students with intellectual disabilities can prove beneficial, particularly if adjusted to their educational characteristics and needs. The current research consisted of interviews conducted with six parents of students with intellectual disabilities attending educational programs attached to public education schools in Saudi Arabia. The aim was to obtain their views concerning their children's experience of distance learning and establish both the developmental opportunities and challenges faced by students with intellectual disabilities. Two participants praised the teachers' solidarity with parents when facilitating the educational process for their children, while another expressed gratitude for the teachers' efforts to select teaching methods to encourage and motivate their children to learn. The majority of participants also appreciated the developments achieved by distance learning for their children, particularly in terms of: firstly, increasing self-confidence; secondly, promoting a sense of responsibility; thirdly, increasing the motivation for learning; fourthly, helping them acquire computer skills; and finally, improving their ability when it came to self-learning.

However, there were also a number of challenges, as pointed out by one of the participants, including the high costs involved, which made it difficult to provide special computers to enable children to access the educational platform. Three participants also highlighted the difficulties of helping their children when they were undertaking distance learning, as, when they were busy, their children did not commit to attending. Moreover, the results showed that the parents tended to lack familiarity with technology, particularly as their children are more dependent on them to initially enter the platform, as well as complete any homework. It was also clear that there had been little consideration of appropriate individual learning methods for these students, or the use of continuous assessments to determine their progress, in addition to the loss of direct contact with teachers, and problems related to the length of these lessons. The participants also noted that this kind of education tended to promote boredom for their children, in addition to the difficulties experienced due to isolation from interaction with peers.

References

[1] Abdel-Fattah, M, and Al-Qahtani, H. (2015). The effectiveness of using teaching by playing at the level of education and academic achievement of students with disabilities. Journal of Scientific Research in Education, 2 (16), 635-657.

[2] Abdullah, I, and Hamad, N. (2020). Problems faced by secondary school students from the e-learning program in East Jerusalem. Research Journal, (37).

[3] Abu Zaytoun, S, Abu Hammour, A, and Baddah, R. (2021). The role of the attitudes of parents of students with learning difficulties towards education after the coronavirus pandemic. Ramah Journal for Research and Studies, (52), 140-121.

[4] Akçayır, M., & Akçayır, G. (2017). Advantages and challenges associated with augmented reality for education: A systematic review of the literature. Educational Research Review, 20, 1-11.

[5] Al-Abdkarim, R. (2012). Qualitative research in education. Scientific publishing and printing presses.

[6] Alabdulaziz, M. S. (2021). COVID-19 and the use of digital technology in mathematics education. Education and Information Technologies, 1-25.

[7] Al-Dahshan, J. (2020). The future of education after the Corona pandemic: forward-looking scenarios. International Journal of Research in Educational Sciences, 3 (4), 169-105.

[8] Al-Dhafiri, A, and Al-Anazi, S. (2021). Having listened in maturity from childhood to the next stage of continuing education in the middle stage of general education. Journal of Reading and Knowledge, (234), 59-15.

[9] Al-Duwairi, K, and Al-kalladeh, A. (2019). Reality of objective analysis in Jordanian university libraries - a field study. The Egyptian Journal of Information Sciences, 4(2), 233-272.

[10] Al-Fahad, S. (2018). The reality of the new support services provided to people with disabilities (intellectual - visual) at the Al-Noor Institute for the Blind from the teachers' point of view. Journal of Scientific Research in Education, 14 (19), 280-237.

[11] Al-Faqih, A. (2017). Designing qualitative research in the educational field with a focus on Arabic language teaching research. International Journal of Educational and Psychological Studies, 2 (3), 354-368.

[12] Al-Hamad, N, and Samarrai, R. (2020). Obstacles to classroom management in distance learning: the experience of the Jordanian University of Science and Technology and Al-Hussein Bin Talal University. Mutah for Research and Studies - Humanities and Social Sciences Series, 35(6), 203-228.

[13] Al-Hawiti, H, and Al-Balwi, A. (2019). For the idea of teaching mathematics in the city of Tabuk. Arab Studies in Education and Psychology, 122, 238-197.

[14] Al-Jeddi, M. (2014). The effectiveness of using the qualitative method in social research. Al-zaytoonah University of Jordan Journal, (9), 262-241.

[15] Al-Mafarrej, M, and Al-Muaiqel, I. (2020). Access of pupils with intellectual origins to general education curricula. Journal of the College of Education, 36(9), 271-252.

[16] Almaleki, D. A. (2021). Challenges Experienced Use of Distance-Learning by High School Teachers Responses to Students with Depression. International Journal of Computer Science and Network Security, 21(5), 192-198.

[17] Al-Otaibi, R. (2020). Challenges Facing Saudi Families in the Light of Poverty Corona (Covid-19), The Arab Journal for Scientific Publishing, (22).

[18] Al-Qarini, T, and Al-Harithi, H. (2020). The nature of the challenges facing universities in Saudi universities to benefit from education. Journal of Educational Sciences, 6 (1), 19-52.

[19] Alsalem, M. A. (2021). Towards New Disability Paradigms: Generating Equality in Saudi Arabian Policy in Light of the Convention on the Rights of Persons with Disabilities. International Journal of Disability, Development and Education, 1-15.

[20] Al-Subaie, M, and Al-Khouli, M. (2016). The Effect of Using Video Modeling in Virtual Learning Environment Based on Theory of Mind on Simple Mentally Disabled Children's Expressive and Receptive Language Skills. Journal of Educational Sciences, 28 (29), 252-280.

[21] Artursson Wissa, U., & Avdic, A. (2017). Flexible study pace, mental disabilities and e-Learning: Perceived problems and opportunities. In 16th European Conference on e-Learning, Porto, Portugal, October 26-27 2017 (pp. 527-534). Academic Conferences Limited.

[22] Bayoumi, M. S. (2021). Distance learning and its impact on family stability in light of the Corona 19 pandemic: A study of the light of the formal theory on a sample of families in the Emirate of Sharjah. Journal of the College of Arts, 13(2), 1374-1321.

[23] Cheek, A. E. (2016). Effects of online module ecoaching on comprehension instruction for students with significant intellectual disability. The University of North Carolina at Greensboro.

[24] Cherix, R., Carrino, F., Piérart, G., Abou Khaled, O., Mugellini, E., & Wunderle, D. (2020, July). Training pedestrian safety skills in youth with intellectual disabilities using fully immersive virtual reality-A feasibility study. In International Conference on Human-Computer Interaction (pp. 161-175). Springer, Cham.

[25] Creswell, J. W., & Poth, C. N. (2019). Qualitative Inquiry and Research Design. SAGE Publications.

[26] Dale, V., Kubincova, E., Kerr, J., & Murray, J. A. (2021). Lessons learned from being BOLD: Staff experiences of an institutional strategic project in Blended and Online Learning Development. Journal of Perspectives in Applied Academic Practice, 9(2), 29-38.

[27] Flack, Farida. (2020). Educational technology and its contributions to the educational process. The Scientific Journal of Technology and the Science of Science, 2(2), 249-221.

[28] García, E., & Weiss, E. (2020). COVID-19 and Student Performance, Equity, and US Education Policy: Lessons from Pre-Pandemic Research to Inform Relief, Recovery, and Rebuilding. Economic Policy Institute.

[29] Ghandoura, Morouj Hassan Ahmed, and Al-Zaraa, Nayef bin Abed bin Ibrahim. (2020). Knowledge of experienced students of integration strategies at the primary stage in Makkah Al-Mukarramah. Journal of Special Education and Rehabilitation, 11 (39), 242-205.

[30] Hoshin, Y. (2020). The Algerian experience in the field of education after. The Arab Journal of Literature and Human Studies, (15), 408-383.
[31] Joseph, B., Kearney, K. B., Brady, M. P., Downey, A., & Torres, A. (2021). Teaching Small Talk: Increasing On-Topic Conversational Exchanges in College Students with Intellectual and Developmental Disabilities Using Remote Audio Coaching. Behavior Modification, 45(2), 251-271.
[32] Kellems, R. O., Cacciatore, G., Hansen, B. D., Sabey, C. V., Bussey, H. C., & Morris, J. R. (2020). Effectiveness of Video Prompting Delivered via Augmented Reality for Teaching Transition-Related Math Skills to Adults with Intellectual Disabilities. Journal of Special Education Technology, 1, 13.
[33] Kent, M. (2016). Access and barriers to online education for people with disabilities.
[34] Kim, J. Y., & Fienup, D. M. (2021). Increasing Access to Online Learning for Students with Disabilities During the COVID-19 Pandemic. The Journal of Special Education, 0022466921998067.
[35] Kosaretsky, S., Zair-Bek, S., Kersha, Y., & Zvyagintsev, R. (2021). General education in Russia during COVID-19: Readiness, policy response, and lessons learned. In F. Reimers (Ed.), Primary and secondary education during Covid-19. Springer
[36] Leavy, P. (Ed.). (2014). The Oxford handbook of qualitative research. Oxford University Press, USA.
[37] Luhalima, T. R., & Mulovhedzi, S. A. (2021). The Role of School Management Teams in Managing Curriculum Delivery During and After COVID-19. Investigating the Roles of School Management Teams in Curriculum Delivery, 15.
[38] Majid, R. A., and Al-Zahrani, S. (2021). The Obstacles of Using Augmented Reality to Develop Social Skills of Students with Intellectual Disabilities in the Elementary School Level from the Point of View of Their Teachers in Jeddah. The Arab Journal of Disability and Talent Sciences, (15), 262-235.
[39] McMahon, D. D., Cihak, D. F., Wright, R. E., & Bell, S. M. (2016). Augmented reality for teaching science vocabulary to postsecondary education students with intellectual disabilities and autism. Journal of Research on Technology in Education, 48(1), 38-56.
[40] McMahon, D. D., Smith, C. C., Cihak, D. F., Wright, R., & Gibbons, M. M. (2015). Effects of digital navigation aids on adults with intellectual disabilities: Comparison of paper map, Google maps, and augmented reality. Journal of Special Education Technology, 30(3), 157-165.
[41] Mirza, H. B. (2020). An Exploration of the Usefulness of Virtual Reality as an Approach to Helping Students with Intellectual Disability Navigate Campus Transit Systems (Doctoral dissertation, University of South Alabama).
[42] Montes, C. D. P. G., Fuentes, A. R., & Cara, M. J. C. (2021). Apps for people with autism: Assessment, classification and ranking of the best. Technology in Society, 64, 101474.
[43] Okopna, Y., Fadyeyeva, K., Karpliuk, S., Shevchuk, A., & Kosarieva, H. (2021). Distance learning as an open educational system in the information society. Laplage em Revista, 7(3), 330-337.
[44] Pather, N., Blyth, P., Chapman, J. A., Dayal, M. R., Flack, N. A., Fogg, Q. A., ... & Lazarus, M. D. (2020). Forced disruption of anatomy education in Australia and New Zealand: An acute response to the Covid‐19 pandemic. Anatomical sciences education, 13(3), 284-300.
[45] Poles, K. I. (2020). A Qualitative Phenomenological Study into Online Accessibility for Disabled Students in Higher Education (Doctoral dissertation, Northcentral University).
[46] Söderström, S., Østby, M., Bakken, H., & Ellingsen, K. E. (2021). How using assistive technology for cognitive impairments improves the participation and self-determination of young adults with intellectual developmental disabilities. Journal of intellectual disabilities, 25(2), 168-182.
[47] Toste, J. R., Raley, S. K., Gross Toews, S., Shogren, K. A., & Coelho, G. (2021). "Eye Opening and Chaotic": Resilience and Self-Determination of Secondary Students with Disabilities Amidst the COVID-19 Pandemic. Journal of Education for Students Placed at Risk (JESPAR), 1-27.
[48] Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. Learning, Media and Technology, 45(2), 107-114.
[49] Yoon, M., Lee, J., & Jo, I. H. (2021). Video learning analytics: Investigating behavioral patterns and learner clusters in video-based online learning. The Internet and Higher Education, 50, 100806.
[50] Maisyaroh, M., Juharyanto, J., Bafadal, I., Wiyono, B. B., Ariyanti, N. S., Adha, M. A., & Qureshi, M. I. (2021). The Principals'efforts In Facilitating The Freedom To Learn By Enhancing Community Participation In Indonesia. Jurnal Cakrawala Pendidikan, 40(1).

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