



# Understanding Preservice Teachers' Reluctance to Use of Online Learning Platforms to Teach Individuals with Intellectual Disability

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**Abstract:** This study investigated the reluctance among pre-service to adopt online learning platforms to teach students with intellectual disability. This study consisted of pre-service teachers. The qualitative phenomenological research method was used to examine pre-service teachers' reluctance to adopt online learning platforms to teach students with intellectual disabilities. In-depth interviews were conducted with pre-service teachers at the Faculty of Education, University of Ibadan. Seven respondents selected using a convenient sampling technique participated in the study; respondents were referred to as Participant 1 to Participant 7 for the purpose of anonymity. Collected data were transcribed and analysed using ATLAS.ti version 22, a computer-aided qualitative data analysis software. Based on participants' responses, four major themes were generated on the perception: opportunities to access various learning platforms, no special provision for learners with intellectual disability, the possibility of learning biases, and ineffective learning methods. Based on the evidence presented here, individuals with ID will not be able to access online learning platforms to the same degree as others within society.

## Introduction

The global outbreak of the coronavirus (COVID-19) disrupted academic and economic activities. Considering the severity of the COVID-19 outbreak, transiting to

online learning was the most suitable option<sup>1</sup>. Covid-19 disrupted traditional learning models<sup>2</sup>, resulting in a move to online teaching activities<sup>3</sup>. Due to this abrupt transition, teaching workloads have been significantly increased as due to the need to transition teaching materials to online space and learn the tools necessary to use them<sup>4</sup>. Special education teachers' resistance of this transition may be due to their inability to provide all kinds of services to students under online learning conditions<sup>5</sup>. At the same time, students experienced difficulties and challenges adapting to the abrupt and unplanned shift to online learning<sup>6</sup>. According to Catalano et al. (2021)<sup>7</sup>, students with disabilities face different issues with e-learning because they did not have access to the resources required to access the learning material. Additionally, their caregivers and teachers provided insufficient support for them to learn adequately from their respective educational institutions.

Teachers often resist the use of technology in the classroom despite its benefits. Among the reasons for this is lack of technical skills, inadequate training materials, diminished control, lack of time<sup>8</sup> and feelings of inadequacy<sup>9</sup>. Waight and Oldreive<sup>10</sup> predict that e-learning will positively influence SWD's learning outcomes while equipping faculty with the tools necessary to keep their interest<sup>11</sup>. Platforms for online learning are perceived as being significantly hindered by the online infrastructure, both in terms of availability and accessibility<sup>12</sup>. Almosa has reported that online learning platforms allow students to learn at their own pace, access the information conveniently,

<sup>1</sup> Udeme Samuel Jacob et al., "Barriers To and Benefits Of Online Learning Among Special Education Undergraduates," *Multicultural Education* 8, no. 4 (2022).

<sup>2</sup> David J Lemay and Tenzin Doleck, "Online Learning Communities in the COVID-19 Pandemic: Social Learning Network Analysis of Twitter during the Shutdown" (2020).

<sup>3</sup> David John Lemay, Paul Bazalais, and Tenzin Doleck, "Transition to Online Learning during the COVID-19 Pandemic," *Computers in Human Behavior Reports* 4 (2021): 100130.

<sup>4</sup> Julet Allen, Fowzia Mahamed, and Ken Williams, "Disparities in Education: E-Learning and COVID-19, Who Matters?," *Child & Youth Services* 41, no. 3 (2020): 208–210.

<sup>5</sup> C M Toquero, "Challenges and Opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine Context," *Pedagogical Research* 5, no. 4 (2020);

<sup>6</sup> Ronnie E Baticulon et al., "Barriers to Online Learning in the Time of COVID-19: A National Survey of Medical Students in the Philippines," *Medical science educator* 31, no. 2 (2021): 615–626.

<sup>7</sup> Amy J Catalano, Bruce Torff, and Kevin S Anderson, "Transitioning to Online Learning during the COVID-19 Pandemic: Differences in Access and Participation among Students in Disadvantaged School Districts," *The International Journal of Information and Learning Technology* (2021).

<sup>8</sup> Martin Tallvid, "Understanding Teachers' Reluctance to the Pedagogical Use of ICT in the 1: 1 Classroom," *Education and Information Technologies* 21, no. 3 (2016): 503–519, <https://www.learntechlib.org/p/175860/>.

<sup>9</sup> Comfort Atanga et al., "Teachers of Students with Learning Disabilities: Assistive Technology Knowledge, Perceptions, Interests, and Barriers," *Journal of Special Education Technology* 35, no. 4 (2020): 236–248.

<sup>10</sup> Mary Waight and Warren Oldreive, "Investigating Accessible Information Formats with People Who Have Learning Disabilities," *Learning Disability Practice* 24, no. 3 (2021).

<sup>11</sup> R Babeley, "Review & Critical Study of Content Management System Software," *International Journal of Contemporary Research and Review* 7, no. 12 (2016): 20205–20209.

<sup>12</sup> Yousef Aljaraideh and Khaleel Al Bataineh, "Jordanian Students' Barriers of Utilizing Online Learning: A Survey Study," *International Education Studies* 12, no. 5 (2019): 99–108.

and provide education to remote students that otherwise would not be able to travel to a classroom. Despite this, some students may lack the skills to utilize web-based learning platforms effectively<sup>13</sup> especially individuals with ID due to absence of teachers or instructors. According to List (2019)<sup>14</sup>, students who grow up as digital natives in the internet age should automatically acquire digital literacy. These conclusions may not apply to learners with disabilities. The use of virtual learning spaces can improve the quality of education, learning opportunities, and access to education<sup>15</sup>. A virtual learning space, for example, can be used as an alternative teaching model to ensure that learners with intellectual disabilities are not excluded<sup>16</sup>.

However, having a disability has been strongly correlated with non-use of the Internet<sup>17</sup>. Studies show that people with disability have less access to devices<sup>18</sup>. They use the Internet less to pay bills and feel less included in the digital society<sup>19</sup>. Individual differences, societal attitudes, and technological accessibility prevent people with ID from participating fully in digital society<sup>20</sup>. These barriers may include financial restrictions associated with devices and data<sup>21</sup>, technical challenges associated with

<sup>13</sup> A Almosa, "Use of Computer in Education," *Future Education Library: Riyadh, Saudi Arabia* (2002).

<sup>14</sup> Alexandra List, "Defining Digital Literacy Development: An Examination of Pre-Service Teachers' Beliefs," *Computers & Education* 138 (2019): 146–158.

<sup>15</sup> Nwachukwu Prince Ololube, "Appraising the Relationship between ICT Usage and Integration and the Standard of Teacher Education Programs in a Developing Economy," *International Journal of Education and Development using ICT* 2, no. 3 (2006): 70–85; Udem Samuel Jacob and Jace Pillay, "Impact of Virtual Learning Space in Teaching Learners with Moderate Intellectual Disability," *Psychology and Education Journal* 57, no. 9 (2020): 1120–1126.

<sup>16</sup> Udem Samuel Jacob and Jace Pillay, "Impact of Virtual Learning Space in Teaching Learners with Moderate Intellectual Disability,"

<sup>17</sup> Ellen J Helsper and Bianca C Reisdorf, "The Emergence of a 'Digital Underclass' in Great Britain and Sweden: Changing Reasons for Digital Exclusion," *New media & society* 19, no. 8 (2017): 1253–1270.

<sup>18</sup> Stefan Johansson, Jan Gulliksen, and Catharina Gustavsson, "Disability Digital Divide: The Use of the Internet, Smartphones, Computers and Tablets among People with Disabilities in Sweden," *Universal Access in the Information Society* 20, no. 1 (2021): 105–120.; "The Internet and the Pandemic," *Pew Research Center*, last modified 2021, <https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/>.

<sup>19</sup> Johansson, Gulliksen, and Gustavsson, "Disability Digital Divide: The Use of the Internet, Smartphones, Computers and Tablets among People with Disabilities in Sweden."

<sup>20</sup> Darren D Chadwick, Melanie Chapman, and Sue Caton, "Digital Inclusion for People with an Intellectual Disability," in *The Oxford Handbook of Cyberpsychology*, 2019.

<sup>21</sup> Kristin Alfredsson Ågren, Anette Kjellberg, and Helena Hemmingsson, "Access to and Use of the Internet among Adolescents and Young Adults with Intellectual Disabilities in Everyday Settings," *Journal of Intellectual & Developmental Disability* 45, no. 1 (2020): 89–98. Priscilla Chadwick, "Strategic Management of Educational Development," *Quality Assurance in Education* 4, no. 1 (1996): 21–25.; Darren Chadwick, Caroline Wesson, and Chris Fullwood, "Internet Access by People with Intellectual Disabilities: Inequalities and Opportunities," *Future internet* 5, no. 3 (2013): 376–397.

getting online<sup>22</sup>, accessibility issues with websites<sup>23</sup>, and lower literacy levels<sup>24</sup>. The other significant barrier is understanding how others behave online<sup>25</sup> and interpreting social behaviours when using the Internet<sup>26</sup>. These barriers manifest in access to Internet-enabled devices<sup>27</sup> and how people with intellectual disabilities use the Internet<sup>28</sup>. This study investigates preservice teachers' reluctance to use online learning platforms to teach individuals with intellectual disability.

### **Concept of Online Learning**

The informatization of society is one of the brightest and most stable trends in its development. As an institution pillar of modern society, the phenomenon affects the education system. Introducing digital technologies into the educational process and, consequently, the transition from traditional classroom learning systems to online education is known as the 'informatization of the educational system.' Students and teachers use the internet as one of the most critical tools for sharing and acquiring information<sup>29</sup>. An organization can use technology-based e-learning to produce learning materials, teach learners, and manage courses<sup>30</sup>. Defining e-learning as a standard has been a matter of extensive debate. Dublin (2003)<sup>31</sup> argues that existing definitions tend to reveal the specialization and interests of researchers. As a concept, e-learning covers various applications, learning methods, and processes.

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<sup>22</sup> Dany Lussier-Desrochers et al., "Bridging the Digital Divide for People with Intellectual Disability," *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 11, no. 1 (2017).

<sup>23</sup> Carmit-Noa Shpigelman and Carol J Gill, "How Do Adults with Intellectual Disabilities Use Facebook?," *Disability & Society* 29, no. 10 (2014): 1601–1616.

<sup>24</sup> Sue Caton and Melanie Chapman, "The Use of Social Media and People with Intellectual Disability: A Systematic Review and Thematic Analysis," *Journal of intellectual and developmental disability* 41, no. 2 (2016): 125–139.

<sup>25</sup> Ibid.;

<sup>26</sup> Lussier-Desrochers et al., "Bridging the Digital Divide for People with Intellectual Disability."

<sup>27</sup> Alfredsson Ågren, Kjellberg, and Hemmingsson, "Access to and Use of the Internet among Adolescents and Young Adults with Intellectual Disabilities in Everyday Settings."; Nenad Glumbić et al., "Characteristics of Mobile Phone Use in Adolescents Identified with Mild Intellectual Disability Who Attend Special Schools in Serbia and Their Non-disabled Peers in Mainstream Schools," *British Journal of Learning Disabilities* 49, no. 2 (2021): 217–229.

<sup>28</sup> Alfredsson Ågren, Kjellberg, and Hemmingsson, "Access to and Use of the Internet among Adolescents and Young Adults with Intellectual Disabilities in Everyday Settings."

<sup>29</sup> Richard Hartshorne and Haya Ajjan, "Examining Student Decisions to Adopt Web 2.0 Technologies: Theory and Empirical Tests," *Journal of computing in higher education* 21, no. 3 (2009): 183–198.

<sup>30</sup> Kate Fry, "E-learning Markets and Providers: Some Issues and Prospects," *Education+ Training* (2001).

<sup>31</sup> Lance Dublin, "If You Only Look under the Street Lamps... or Nine e-Learning Myths," *The e-Learning developer's journal* (2003): 1–7.

Gilbert (2015)<sup>32</sup> defines online learning as learning entirely or partially online. As defined by Howlett et al., (2009)<sup>33</sup> "online learning involves both learners and teachers communicating online" (using electronic technology to support and enhance learning and teaching).

### ***Benefits of Online Learning Platforms***

Online learning platforms for learners with intellectual disabilities offer benefits such as improved accessibility to information, content standardization and updating, cost-effectiveness and accountability, and motivation of students to engage in active learning methods<sup>34</sup>. The learning platform is flexibility, as it allows learners to take classes from anywhere and at any time. Additionally, online learning platforms accommodate various learning approaches by utilizing much interactive content available on the internet<sup>35</sup>. Technology and the internet's vastness have made online learning platforms increasingly popular. In an ever-expanding environment, users of online learning platforms can operate outside of the boundaries of place and time. There are some benefits to online learning, and it is more common in elementary schools, high schools, and post-secondary institutions.

Students irrespective of their disabilities can be fully engaged with the learning process through texts, videos, sounds, collaborative sharing, and interactive graphics when using the online learning platform. In turn, the students will be able to access education and training in this globalizing market<sup>36</sup> by increasing the quality of teaching and learning. By incorporating information technology (IT) into e-learning, costs can be reduced while the quality of learning and teaching can be improved<sup>37</sup>. This shows that students with intellectual disability can benefit from online learning platform, as they can do other functional activities in their spare time<sup>38</sup>.

Online learning has some advantages, such as the ability to maintain a great dialogue because it is not limited, creating a synergy between the learner and instructor, and the access to diverse resources. The number of online resources accessible through

<sup>32</sup> Brittany Gilbert, "Online Learning Revealing the Benefits and Challenges" (2015).

<sup>33</sup> Michael Howlett and M Ramesh, *Studying Public Policy: Policy Cycles and Policy Subsystems*, Policy, vol. 2nd, 2009, <http://www.amazon.com/dp/0195428021>.

<sup>34</sup> Belinda Y Chen et al., "From Modules to MOOCs: Application of the Six-Step Approach to Online Curriculum Development for Medical Education," *Academic Medicine* 94, no. 5 (2019): 678-685.; Jorge G Ruiz, Michael J Mintzer, and Rosanne M Leipzig, "The Impact of E-Learning in Medical Education," *Academic medicine* 81, no. 3 (2006): 207-212.

<sup>35</sup> Noawanit Songkram et al., "E-Learning System to Enhance Cognitive Skills for Learners in Higher Education," *Procedia-Social and Behavioral Sciences* 174 (2015): 667-673.

<sup>36</sup> Nurul Islam, Martin Beer, and Frances Slack, "E-Learning Challenges Faced by Academics in Higher Education," *Journal of Education and Training Studies* 3, no. 5 (2015): 102-112.

<sup>37</sup> Songkram et al., "E-Learning System to Enhance Cognitive Skills for Learners in Higher Education."

<sup>38</sup> Manuela Aparicio, Fernando Bacao, and Tiago Oliveira, "Cultural Impacts on E-Learning Systems' Success," *The Internet and Higher Education* 31 (2016): 58-70.

the Web, such as online journals and websites, which provide a rich source of information for online students, is suggested by Thurmond (2003)<sup>39</sup> as one of the advantages of online learning from the standpoint of the instructors. Even if students are far away, they can interact online on shared topics and develop a sense of community through technology<sup>40</sup>.

## Methodology

### *Materials and Methods*

Within the framework of qualitative research, the in-depth interviews were conducted. A nonprobability targeted sampling method was used to identify and recruit the main participants of the study. Participants were made up of preservice. The sample size was determined by 7 respondents. Data was collected during a one-day event in February 2021, from study participants for the purpose of getting information related to their perception and attitude towards online of learners with intellectual disability.

### *Study procedures*

Phenomenological research involves selecting participants with experiences associated with the topic and who can adequately express or reflect on those experiences. The participants of the study were selected by using a criterion sampling method. According to criterion sampling, the researcher determines who is the most suitable for the research and includes them in the sample. The sample includes individuals who demonstrate the characteristics identified in the research on average. The criteria used in selecting participants in the research were having a preservice teaching experience in school for individuals with ID and having at least attended a learning activity for individuals with ID. Participants who agreed to participate in the study were informed that recordings of their voices would be used for research purposes before the interviews began after which it was transcribed verbatim. All interviews lasted approximately 30 minutes and were conducted without video, only using the audio aspect for transcription purposes. Following the interview, member checking took place, in which the transcription was sent to the participants to ensure accuracy and allow them to provide any clarifications or updates to their initial responses. The research team conducted interviews until saturation was achieved.

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<sup>39</sup> Veronica A Thurmond, "Examination of Interaction Variables as Predictors Of students' Satisfaction and Willingness to Enroll in Future Web-Based Courses while Controlling for Student Characteristics" (University of Kansas, Parkland, 2003), <http://www.dissertation.com/library/1121814a.htm>.

<sup>40</sup> H An and S Kim, "The Benefits and Limitations of Online Group Work in a Teacher Education Program," *Technology and Teacher Education Annual* 4 (2006): 2465.



### **Research Trustworthiness**

Research rigour or trustworthiness is the degree of confidence in data, interpretation, and methodologies used to ensure the quality of the study<sup>41</sup>. The researchers of each study should establish the procedures and protocols necessary for them to be considered worthy of the reader's attention<sup>42</sup>. Credibility, transferability, dependability, and confirmability are the four ways to ensure trustworthiness of the qualitative the data obtained.

Researchers use multiple methodologies to increase credibility. These include triangulation, composing broad notes, member checking, peer review, reasoned agreement, and audit trail<sup>43</sup>. The validity of the results was ensured by taking extensive notes during the interviews and checking with research assistant. We provided everyone approached with the opportunity to decline to participate in the project to ensure that information collection sessions include only those genuinely willing to participate and offer information without reservation.

The study's transferability refers to its ability to be applied to other situations<sup>44</sup>. It is essential to understand qualitative research results within the context of the organisation's specific characteristics or association, including the geological region in which the research was conducted<sup>45</sup>. The information was collected entirely from seven preservice teachers in the Faculty of Education of University of Ibadan, Nigeria. The study was limited to a short period to gather information.

Dependability addressed the issue of reliability more directly by reporting the study process in detail, permitting future researchers to replicate a similar study. Lincoln and Guba (1985)<sup>46</sup> stress the close ties between credibility and dependability, arguing that, in practice, a demonstration of the former goes some distance in ensuring the latter. The study dependability was ensured by engaging a researcher who is not involved in information gathering, data collection or analysis, and the study's findings to conduct an inquiry review. We examined the exactness of the findings to verify that they (the findings) were substantiated by the data collected. It was determined whether the data itself supports all translations and conclusions.

<sup>41</sup> Denise F Polit and Cheryl Tatano Beck, *Nursing Research: Principles and Methods* (Lippincott Williams & Wilkins, 2004).

<sup>42</sup> Linda Amankwaa, "CREATING PROTOCOLS FOR TRUSTWORTHINESS IN QUALITATIVE RESEARCH," *Journal of cultural diversity* 23, no. 3 (2016).

<sup>43</sup> Yvonna S Lincoln and Egon G Guba, "Naturalist Inquiry" (Beverly Hills, CA: Sage, 1985).

<sup>44</sup> Sharan B Merriam, *Qualitative Research and Case Study Applications in Education. Revised and Expanded from "Case Study Research in Education."* (ERIC, 1998).

<sup>45</sup> John Cole and Keith Gardner, "Topic Work with First-Year Secondary Pupils," *The effective use of reading* (1979): 167–192; Gary Marchionini and Jerry Teague, "Elementary Students' Use of Electronic Information Services: An Exploratory Study," *Journal of Research on Computing in Education* 20, no. 2 (1987): 139–155.

<sup>46</sup> Yvonna S Lincoln and Egon G Guba, "Naturalist Inquiry" (Beverly Hills, CA: Sage, 1985)

Confirmability according to Patton (1990)<sup>47</sup>, is like the concept of objectivity in qualitative research. Miles and Huberman (1994)<sup>48</sup> consider the degree to which the researcher admits his or her own bias to be a critical determinant of confirmability. Therefore, the convictions that underlie choices made and strategies received will be acknowledged in the research report. Depending on the data collection strategies, such as open-ended questions, some respondents may find it difficult to provide detailed responses. Whenever possible, questions were repeated so that the answers were consistent. Additionally, we made sure notes were taken about personal feelings, biases, and insights immediately following the interview. The researchers also ensure accuracy by being a follower rather than leading the interview by asking for clarifications whenever necessary.

### ***Ethical Consideration***

Respondents were duly informed about the objectives of the study. After adequate explanation of the purpose of the research in line with the ethics of research, a consent form written in English was printed and given to each respondent where they had to append their signatures before they were allowed to participate in the in-depth interview.

### ***Method of Data Analysis***

Qualitative data obtained was transcribed verbatim and thematically analysed to provide insight to pre-service teachers' perception and attitude to online learning of pupils with intellectual disability. This section presents qualitative data analysis on the study 'Pre-service teachers' perception and attitude towards the use of online platform to teach learners with intellectual disability'. In-depth Interview sessions were conducted to elicit information from respondents who were pre-service teachers at the Faculty of Education, University of Ibadan. Seven respondents participated in the study; respondents were referred to as Participant 1 to Participant 7 for anonymity purposes. Collected data were transcribed and analysed using ATLAS.ti version 22, a computer-aided qualitative data analysis software. The results generated from the findings are presented below following the order of the questions in the interview schedule.

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<sup>47</sup> Michael Quinn Patton, "Qualitative Evaluation and Research Methods . Newsbury Park," *Sage Publications*. Pettigrew, AM and R. Whipp (1991), *Managing Change for Competitive Success*, Oxford: Basil Blackwell. Robbins, DK and JA Pearce II (1992), "Turnaround: Retrenchment and Recovery," *Strategic Management Journal* 13 (1990): 287-309.

<sup>48</sup> Matthew B Miles and A Michael Huberman, *Qualitative Data Analysis: An Expanded Sourcebook* (sage, 1994).



### ***Demographic analysis of participants***

Table 1 is the presentation of the participants' demographic data. The table revealed that pre-service teachers from three departments participated.

**Table 1. The Presentation of The Participants' Demographic Data**

| <b>S/N</b> | <b>Participant ID</b> | <b>Departments</b>      |
|------------|-----------------------|-------------------------|
| <b>1</b>   | Participant 1         | Special Education       |
| <b>2</b>   | Participant 2         | Educational Management  |
| <b>3</b>   | Participant 3         | Special Education       |
| <b>4</b>   | Participant 4         | Art and Social Sciences |
| <b>5</b>   | Participant 5         | Educational Management  |
| <b>6</b>   | Participant 6         | Special Education       |
| <b>7</b>   | Participant 7         | Art and Social Sciences |

## **Result**

### ***Perception of pre-service teachers about the use of online platforms to teach learners with intellectual disability***

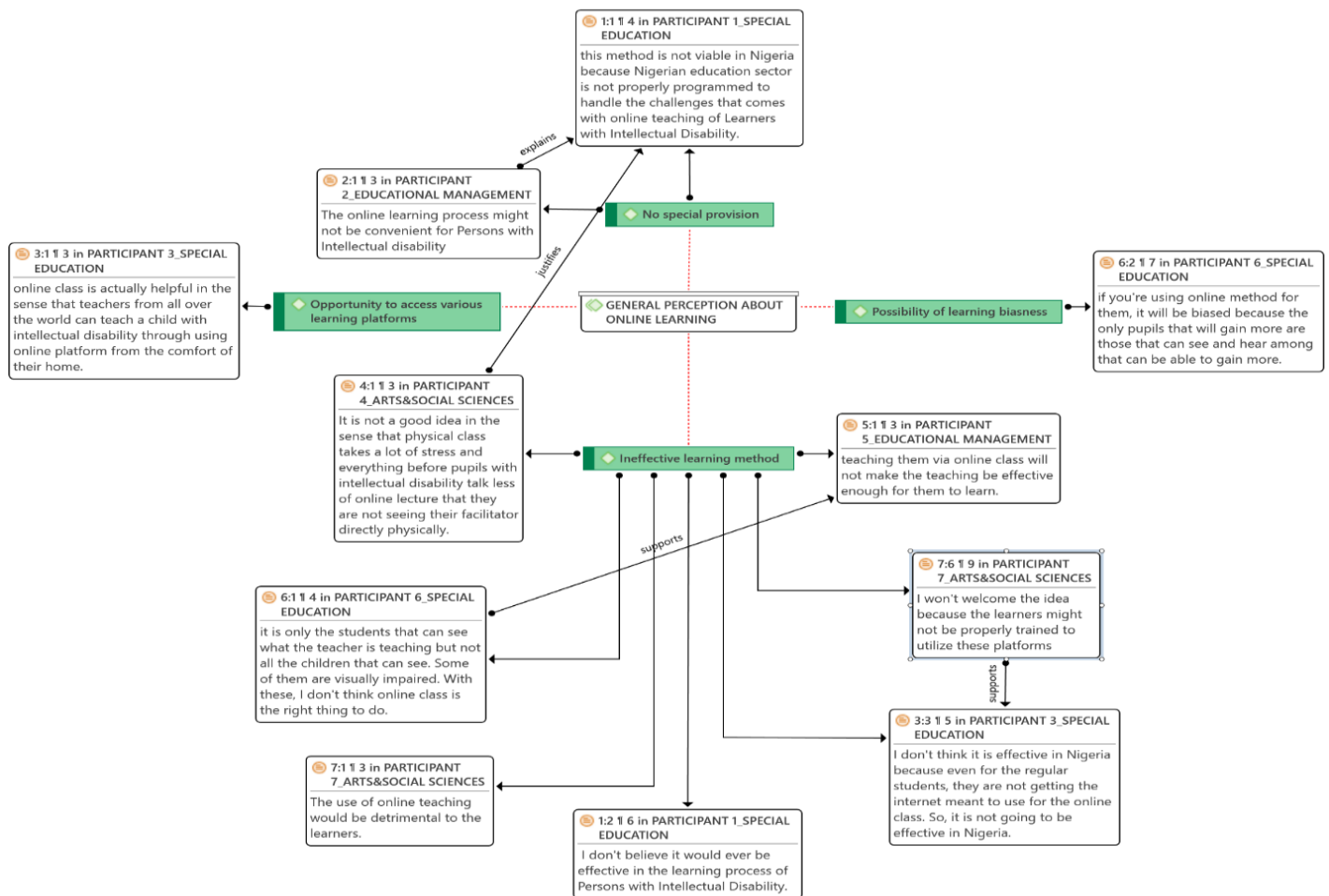
The participants were asked to express their views about the use of online platforms to teach learners with intellectual disability. As generated from their responses, the participants viewed that no special provision was made for teaching learners with intellectual disability using online learning platform, and this will surely lead to biasness. Although, it should have been an avenue to expose learners to various learning platforms. As presented in figure 1, four major themes were generated on the perception of pre-service teachers about online learning platforms for learners with intellectual disability.

#### **▪ Opportunity to access various learning platforms**

As expressed by Participant 3 from Special Education the use of online learning platforms will give learners with learning disability opportunity to acquire knowledge from various sources. The Participant explained that *"online class is helpful in the sense that teachers from all over the world can teach a child with intellectual disability through using online platform from the comfort of their home. They can make use of video calls, zoom classes or Google meet which reduce cost of teaching in that sense"* (Participant

3/Special Education). However, other participants expressed that no special provision was made in the curriculum to aid online learning of learners with intellectual disability.

- **No special provision for learners with intellectual disability** - As stated by two of the participants, there is no special consideration for learners with intellectual disability in the structure of the curriculum. According to participant 2, *"The online learning process might not be convenient for persons with intellectual disability because the learners might face difficulties while adjusting to the new learning method"* (Participant 2/Special Education). Also, *Nigerian education sector is not properly programmed to handle the challenges that comes with online teaching of Learners with Intellectual Disability* (Participant 1/Special Education).
- **Possibility of learning biasess** - Corollary, to the above, Participant 6, explained using online learning platforms when there was no special provision for learners with intellectual disability *"...will be biased because only pupils that will gain more are those that can see and hear among them..."* (Participant 6/Special Education).
- **Ineffective learning method** - Discursively, it was perceived by the pre-teachers that online learning will be an ineffective method for disseminating knowledge to learners with intellectual disability. In the view of participant 3, the method will not be effective *"...in Nigeria because even for the regular students, they are not getting the internet meant to use for the online class. So, it is not going to be effective in Nigeria"*. In the same vein, Participant 4 also expressed that *"It is not a good idea in the sense that physical class takes a lot of stress and everything before pupils with intellectual disability talk less of online lecture that they are not seeing their facilitator directly physically"* (Participant 3/Special Education). As displayed in figure 1, almost all the participants mentioned that the method will be inadequate for learners with intellectual disability teaching and learning.



**Figure 1. Network of pre-teachers responses on online learning platforms for teaching learners with intellectual disability**

### ***The Barriers in the Online Learning Process of Learners with Intellectual Disability***

Having expressed their negative views about the workability of online learning for learners with intellectual disability. The interviewees further expressed the likely barriers to the process of mounting learning for learners with intellectual disability. Four themes were generated as causes of barriers in the online learning process of learners with intellectual disability; (1) Facility factor, (2) Government/school factor; (3) Parental factor; and (4) Curriculum/preparedness and implementation factor

#### ***First, Facilities factor***

Facilities play an important role in the online learning process, as presented in figure two, there is inadequacies of necessary facilities needed for online learning platform.

Participants pointed out that there are inadequacies of learning tools, access to the internet, network, and power supply.

- **Lack of online learning tools** - According to the participants, most of the learners lack the necessary gadget to aid their online learning. Participant 3 mentioned that online learning is not advisable because no *"provision of laptop, phone and the gadgets that can make the online classes successful for the intellectually disabled pupils"* (Participant 3/Special Education). Participant 6 also remarked that the learners *"...may not have gadgets like phones and laptops and internet facility to access the online class because some of their parents cannot afford to get these gadgets for them"* (Participant 6/Special Education).
- **Lack of access to the internet** - Aside learning tools, some learners lack access to internet because of financial constraints. In the words of participant 4, *"anything that has to be with online consumes a lot of data which some people might not be able to afford it"* (Participant 4/Art & Social Science)
- **Network issues** - Sharing an experience with network issue, Participant 3 related that, *"when we were doing online classes during our first semester in 300 level, sometimes you may not even hear the teacher because of the network connection even from the teacher's end and the students. So, network problem is a factor that can make me not to make use of online classes for pupils with intellectual disability"* (Participant 3/Special Education).
- **Incessant power supply** - Electricity is a major issue in the country. Participants pointed out that irregular power supply is another barrier to online learning. Participant 6 explained that *"electricity in the country is very bad. Not everyone in the country can afford to buy generator. Also, fuel scarcity and the amount spent to get fuel is not small"* (Participant 6/Special Education).

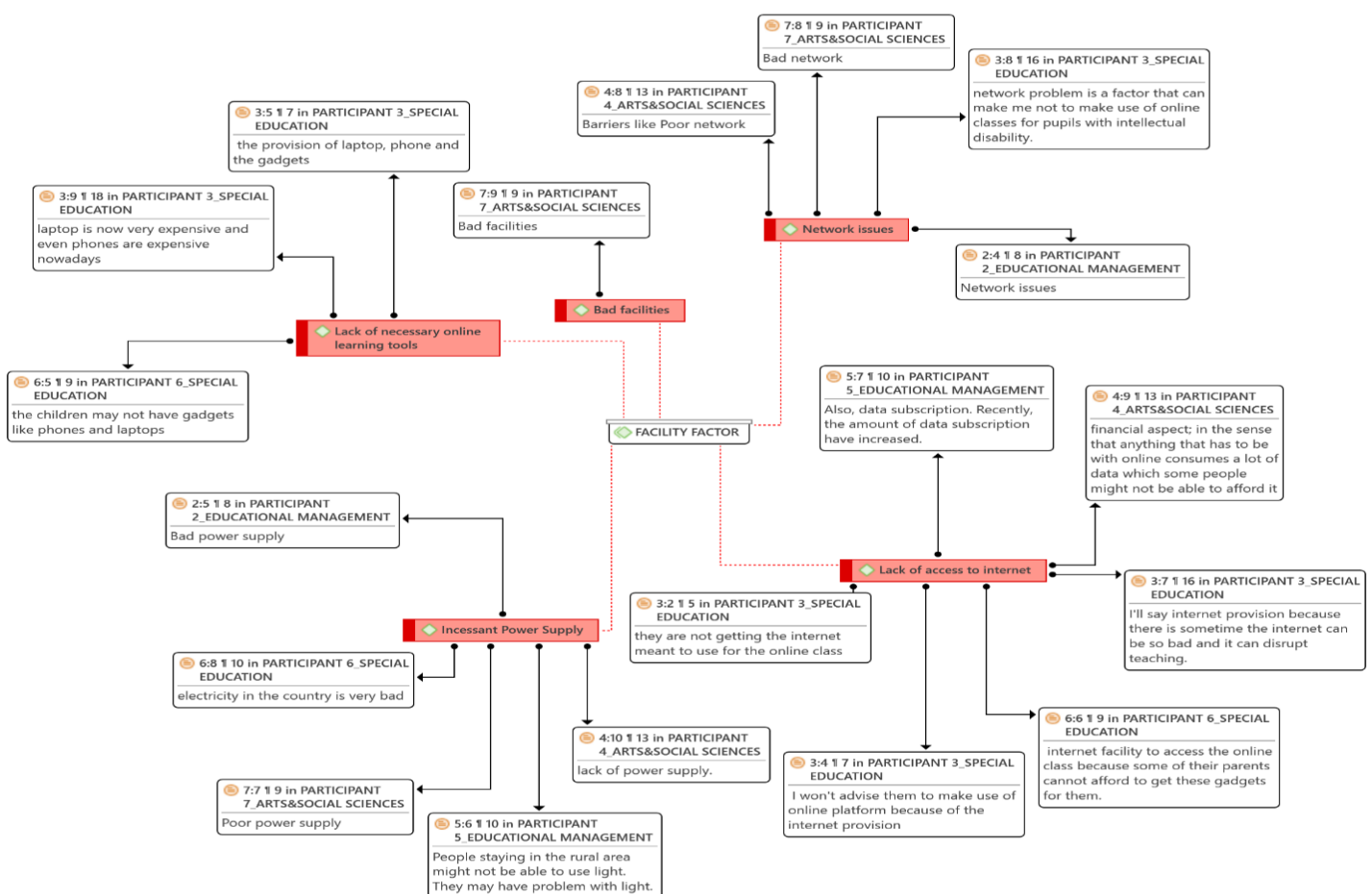
### ***Second, School/government factor***

Figure 3 is the network of study participants' responses on the school and government constituting barriers to the effective utilization of online learning platforms to teach learners with intellectual disability. The participants condemned lack of provision of necessary support for online learning by the government and indifference attitude by the teachers.

- **Lack of necessary provision by the government** - Participant 4, bluntly asserted that the government has not done well. According to him, *"the government are not helping the situation at all because everything has to do with money. If the government really want the students to be making use of the online platform, the facilities are not there because I can still remember vividly the last online lecture we had, it consumed a lot of things like MB and computer which I don't think was catered by the government. I'll blame the government on that part because they are not helping the situation at all"*

(Participant 4/Art & Social Science). The assertion was similar to that of Participants 3 and 4 who also pointed out that the government input to online learning has not been encouraging.

- **Teachers inadequacies** - Another factor raised by the participants is the incompetencies of some teachers such as ICT deficiencies, lack on online learning gadgets, inadequate knowledge of interacting with learners online, etc. This may be due to lack of self-development on the side of the teachers or lack of provision by the school management.



**Figure 2. Facility factor constituting barriers to online learning**

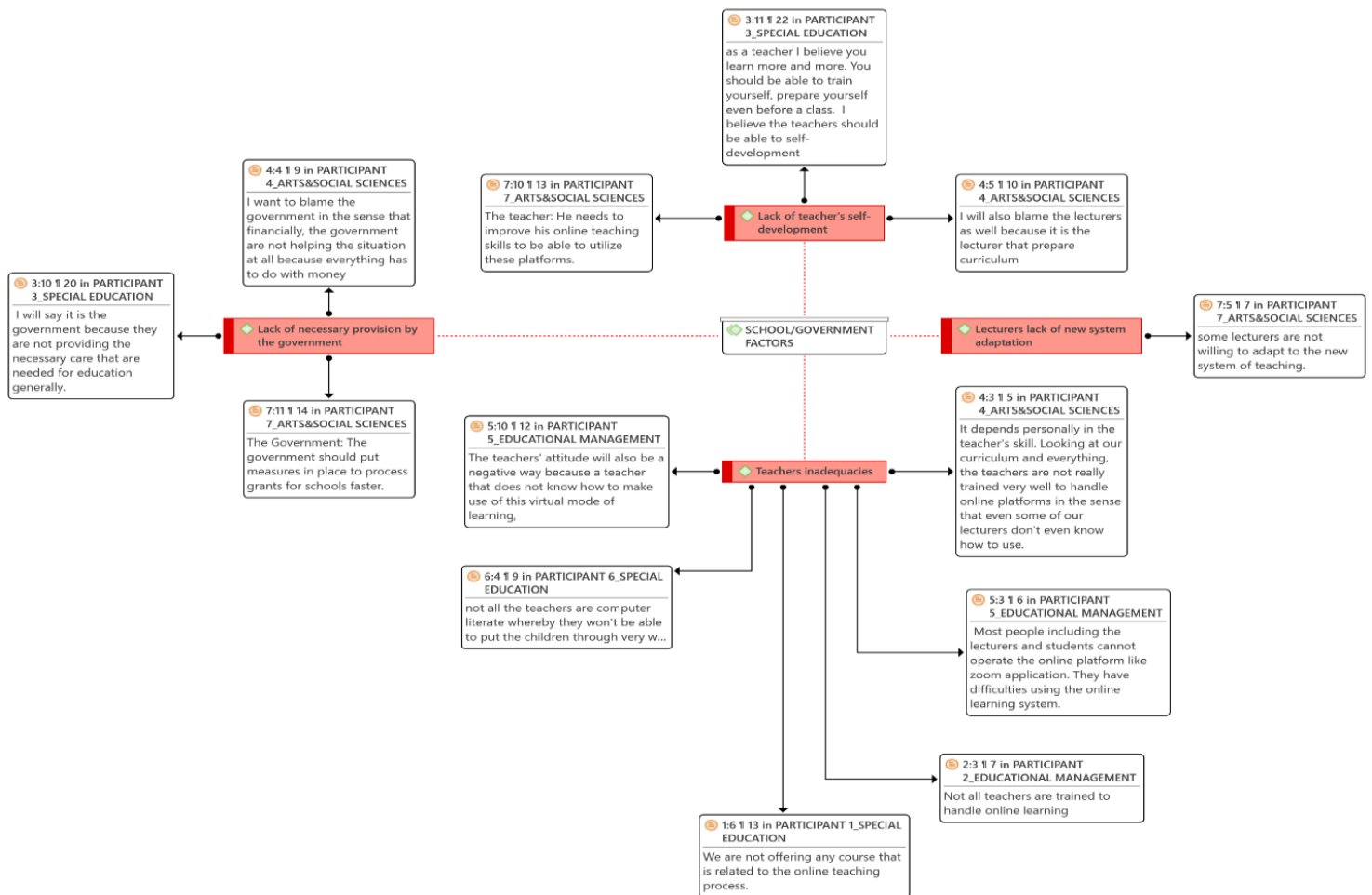


Figure 3. Government/School factor constituting barriers to online learning

### Third, Curriculum/Preparedness and Implementation Factor

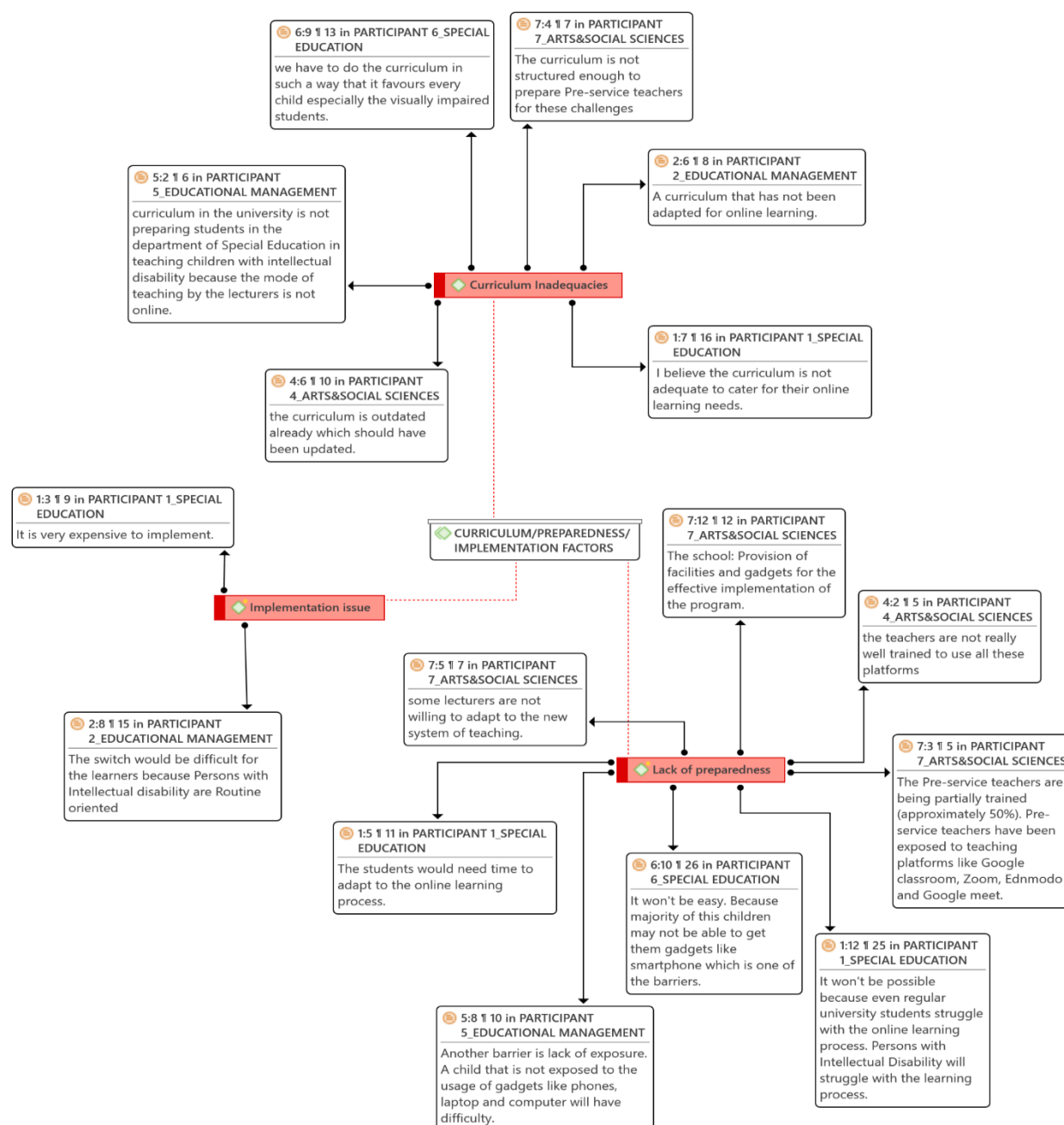
Another major barrier to utilization of online learning platform with learners with intellectual disability as displayed in figure 4 is related to the curriculum deficiency, preparedness of stakeholders and implementation issues.

- **Curriculum deficiencies** - Participants complained bitter about the condition of the curriculum that has not given room to effective utilization of online learning platforms. Most of the participants considered the curriculum to be outdated and deficient in meeting online learning needs of learners with intellectual disability. Participant 4 remarked that *"The curriculum should have embedded online teaching which will enable the lecturers to be conversant with it...the curriculum is outdated already which should have been updated"* (Participant 4/Art & Social Science). Furthermore, Participant 7 asserted that *"The curriculum is not structured enough to prepare Pre-service teachers for these challenges because the curriculum is outdated,*



*and some lecturers are not willing to adapt to the new system of teaching*" (Participant 4/Art & Social Science).

- **Preparedness of stakeholders** - As viewed by most of the participants, the level of preparedness among stakeholders is very low. Participant 6 explained that *"another thing that can be a barrier to it is that not all teachers that are going to teach the students are not computer literate so if they want to go about online class, we will have to start with the teacher by creating awareness about how to make use of computer for teaching online. After that, we will go to the students...majority of this children may not be able to get them gadgets like smartphone which is one of the barriers"* (Participant 6/Special Education).
- **Implementation issues** - Another barrier pointed out by Participant 1 and 2 is that implementation of online learning to teach learners with intellectual disability is expensive and difficult. In the view of Participant 1, *"It is very expensive to implement"* while Participant 2, expressed that switching from face-to-face learning to online may *"...be difficult for the learners because Persons with Intellectual disability are Routine oriented. A break in their routine would adversely affect them initially"* (Participant 2/Educational Management).



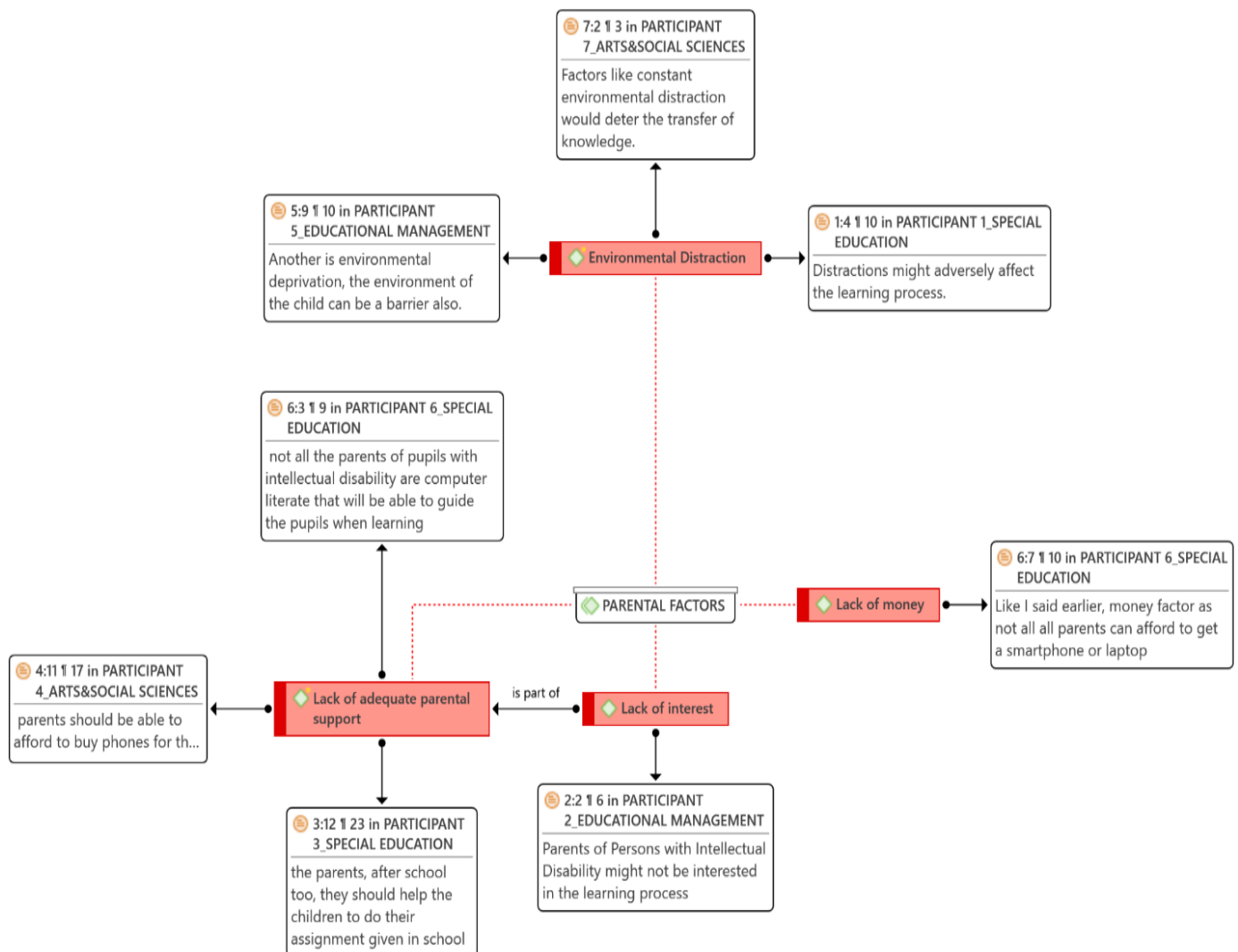
**Figure 4. Curriculum/Preparedness and Implementation Factor constituting barriers to online learning**

#### **Fourth, Parental factor**

Figure 5 presents another factor that can constitute barrier to the use of online learning platforms for learners with intellectual disability is their parents. Learners with intellectual disability need full support of their parents to enhance their learning. However, as generated from the participants, environmental distraction, lack of money,

lack of adequate support, lack of parental interest in online learning are barriers to utilization of online learning platforms for such learners.

- **Environmental distraction** - Participant 5 stated that “...the environment of the child can be a barrier” because “...constant environmental distraction would deter the transfer of knowledge” (Participant 5/Educational Management).
- **Lack of money** - Some parents are financially constrained to afford the needed online learning tools for their wards as expressed by Participant 6.
- **Lack of adequate support** - Participants 3 and 4 expressed that lack of support from parents can pose barrier to online learning of learners with intellectual disabilities.
- **Lack of interest** - Corollary to the above point, there are parents who do not have interest in online learning for their children thereby they are not ready to give the required support.



**Figure 5. Parental Factor constituting barriers to online learning**

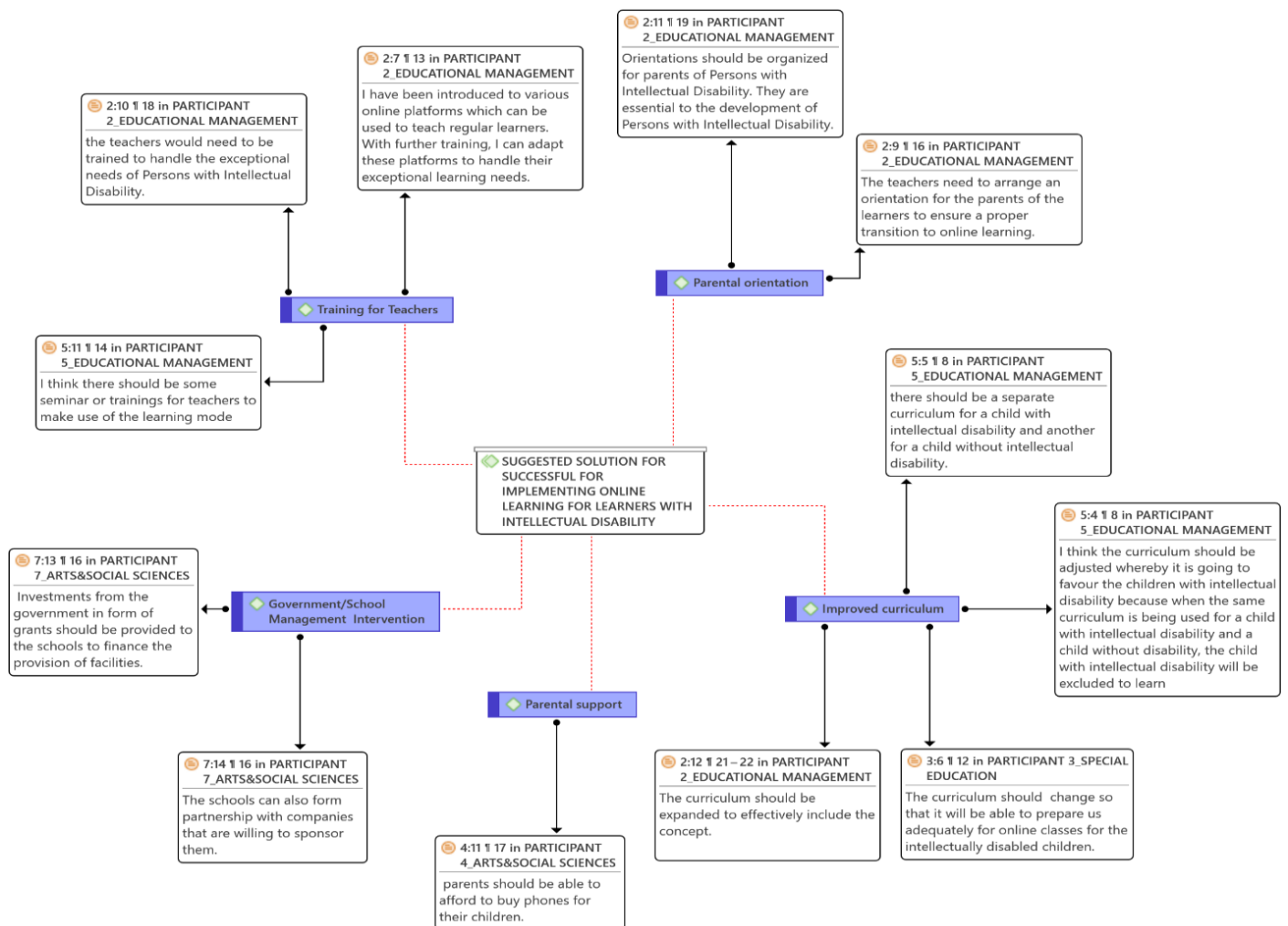
### ***Suggestions to Improving the Online Learning Process***

As suggested by the participants, all hope is not lost for the utilization of online learning platforms for learners with intellectual disability. The participants suggested various steps that will enhance the process, and all revolve around the educational stakeholders. Four themes were generated as presented in figure 6.

- **Government/School Management Intervention** - As suggested by the participants, there should be adequate provision of needed online learning tools by the government. According to Participant 7, *"Investments from the government in form of grants should be provided to the schools to finance the provision of facilities. The schools can also form partnership with companies that are willing to sponsor them"* (Participant 7/Art & Social Science). It was further suggested that the school management should partner with other organisation to facilitate online learning process.
- **Curriculum improvement** - As discussed earlier, there is deficiency in the current curriculum in operations, hence, it was recommended that there should be improvement in the curriculum. According to participant 5, the curriculum *...should be adjusted whereby it is going to favour the children with intellectual disability because when the same curriculum is being used for a child with intellectual disability and a child without disability, the child with intellectual disability will be excluded to learn because while teaching, a child without disability will be able to gain from what the teacher is teaching because of the level of his or her intelligence quotient while a child with intellectual disability because of his low intelligence quotient will not be able to gain from what has been taught in class. So, the curriculum should be adjusted whereby there should be a separate curriculum for a child with intellectual disability and another for a child without intellectual disability.* (Participant 5/Educational Management)

Participants suggested that

- there should be separate curriculum for learners with intellectual disability
- online learning process should be inculcated into the curriculum
- Pre-service teachers should be exposed to online teaching process.
- **Training for teachers** -. Participant 2 stated that *"the teachers would need to be trained to handle the exceptional needs of Persons with Intellectual Disability"* (Participant 2/Educational Management). In addition, Participant 5 also from Educational Management also suggested that *"there should be some seminar or training for teachers to make use of the learning mode"*
- **Adequate Parental support** - Parents are central to the learning of learners with intellectual disability, therefore, they should be given sufficient orientation to prepare them to support their wards and provide them with needed tools for online learning.



**Figure 6. Suggested solutions for utilization of online learning platform to teach learners with intellectual disability**

### Summary of Findings

The research investigated the Pre-service teachers' perception and attitude towards the use of online platform to teach learners with intellectual disability. From the generated responses, the participants viewed that presently utilization of online learning platforms for learners with intellectual disability is not effective and should not be recommended. This is because of barriers such lack of required online learning tools, inadequacies of teachers, lack of parental support, etc. However, it was suggested that to ameliorate the situation, government should intervene by providing need support in form of grants for schools. Teachers should be well trained to utilize online learning platforms and parents also should be given orientation so that they can give desirable support to their wards with intellectual disability.

## Discussion of Findings

This study aimed to determine why preservice teachers resisted using online learning platforms to instruct an individual with intellectual disability. According to the results, online learning platforms do not provide special accommodations for learners with intellectual disabilities, which makes them ineffective for learning. Analysis even revealed that teachers would need to be trained to handle the exceptional needs of persons with intellectual disability, and parents should be given sufficient orientation to prepare them to support their wards. This finding supports the argument of Brown and Harmon (2013)<sup>49</sup>, who noted that teachers' negative attitudes retard the adoption of innovative technologies for providing instruction to learners with intellectual disabilities, particularly in developing countries such as Nigeria. In addition, Crawford-Ferre (2012)<sup>50</sup> argues that teachers' indifference to ICT tools and the difficulty of acquiring preservice skills are associated with their negative attitudes toward using ICT tools to educate students. Online learning platforms cannot be implemented effectively without the availability of ICT resources (social media, Internet, e-mail, laptops, and cell phones with internet capabilities) and the energy needed to power the devices<sup>51</sup>. Most urban areas have an intermittent or epileptic power supply. However, Nigeria's rural areas are not yet connected to the national electricity grid.

This finding contradicts previous studies on persons with intellectual disabilities, which suggest that they are less likely to have access to and use the Internet than the general population<sup>52</sup>. Individuals with ID identify their disability as the most significant barrier to inclusion<sup>53</sup> which is not consistent with barriers identified by participants in the study. Despite preservice teachers identifying the perceived benefits of teaching people with intellectual disabilities through online learning platforms, essential issues continue to pose barriers to accessibility for people with intellectual disabilities. As identified by the participants, the primary barrier to online learning platforms was instability in the network connection. The accessibility of online activities for people with ID may be compromised by unreliable Internet connections, as solving these problems is not always straightforward.

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<sup>49</sup> Mary Brown and Mary Towle Harmon, "iPad Intervention with At-Risk Preschoolers: Mobile Technology in the Classroom," *Journal of Literacy and Technology* 14, no. 2 (2013): 56–78.

<sup>50</sup> Heather Glynn Crawford-Ferre and Lynda R Wiest, "Effective Online Instruction in Higher Education," *Quarterly Review of Distance Education* 13, no. 1 (2012): 11.

<sup>51</sup> Udem Samuel Jacob and Jace Pillay, "Impact of Virtual Learning Space in Teaching Learners with Moderate Intellectual Disability,"

<sup>52</sup> Chadwick, Wesson, and Fullwood, "Internet Access by People with Intellectual Disabilities: Inequalities and Opportunities."

<sup>53</sup> "Digital Lifeline Fund: Interim Report," *Good Things Foundation*, last modified 2011, <https://www.goodthingsfoundation.org/insights/dcms-digital-lifeline-fund-interim-report/>.



People with intellectual disabilities identified social isolation as a common worry during the pandemic<sup>54</sup>, so it is perhaps not surprising that online learning platforms were likely, not appropriate due to difficulty adjusting to the new method. In addition to the cost of implementation and outdated curriculum, preservice teachers also highlighted the inadequacies in knowledge about interacting with learners online and the teachers' indifferent attitude about using online learning platforms to teach individuals with ID during the pandemic. The themes do not align with the United Nations Convention on the Rights of Persons with Disabilities and how the public engaged with the learning platform during the pandemic<sup>55</sup>.

Participants in this study suggested that curriculums need to be improved and that more government funding should be provided to schools so they can provide the necessary tools for online learning. By providing equal access to the internet, students with ID can stimulate learning and interact with teachers regardless of their location<sup>56</sup>. Using online learning platforms provides learners with an interactive gateway for exploring the world while accessing information<sup>57</sup>. Since those with intellectual disabilities would be unable to learn with the regular curriculum because of their low intelligent quotient, preservice teachers recommended curriculum modification. The ease of use of online learning platforms, combined with our increasingly global society<sup>58</sup>, makes it possible to teach even remotely and under lockdown. However, teachers of individuals with ID may not adopt this teaching method quickly due to a lack of experience with online platforms for knowledge dissemination<sup>59</sup> which is consistent with the findings of the study.

## Conclusion

Based on the evidence presented here, individuals with ID will not be able to access online learning platforms to the same degree as others within the society. Preservice teachers reported that no special provisions are made in the curriculum to

<sup>54</sup> Samantha Flynn et al., "The Experiences of Adults with Learning Disabilities in the UK during the COVID-19 Pandemic: Qualitative Results from Wave 1 of the Coronavirus and People with Learning Disabilities Study," *Tizard Learning Disability Review* (2021).

<sup>55</sup> "The Internet and the Pandemic."

<sup>56</sup> Mudasiru Olalere Yusuf, "Information and Communication Technology and Education: Analysing the Nigerian National Policy for Information Technology," *International education journal* 6, no. 3 (2005): 316-321.

<sup>57</sup> Jacob and Pillay, "Impact of Virtual Learning Space in Teaching Learners with Moderate Intellectual Disability."

<sup>58</sup> Mohd Yusof Hj Abdullah et al., "Participatory Rural Appraisal (PRA): An Analysis of Experience in Darmareja," *Akademika* 82, no. 1 (2012). Liu J Ke X, "Intellectual Disability," in *IACAPAP E-Textbook of Child and Adolescent Mental Health.*, ed. In Rey JM (Geneva: International Association for Child and Adolescent Psychiatry and Allied Professions, 2012), <https://drmsimullick.com/wp-content/uploads/2020/07/C.1-Intellectual-Disability.pdf>.

<sup>59</sup> J J Duderstadt, "A University for the 21st Century, Michigan" (The University of Michigan Press, Ann Arbor, MI, 2000).

support online learning for learners with intellectual disability. Furthermore, the study identified facility, government/school, parental, and curriculum/preparation and implementation factors as barriers that prevent effective use of online learning platforms for teaching individuals with ID. A more thorough assessment is needed to determine what proportion of individuals with ID have access to online learning platforms and how such obstacles can be mitigated. Attitudinal barriers need to be addressed in greater details to alter negative attitudes. Aside from Internet usage, another aspect of life that people with ID seem fundamentally excluded from is online learning platforms. Therefore, for people with ID, the promise of the online learning platform is far from being fully realized. In collaboration with people with ID, the advocacy and academic community are needed at the forefront of the struggle for full online inclusion.

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