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Factors Influencing Educational Equity in Online Instruction for Students During Covid-

19

An opportunity to examine the potential of technology to amplify existing systemic inequities while providing access to learning for students with disabilities presented itself during the pandemic years of 2019-2021 (Kimmons, 2020; Krutka et al., 2020). In March 2020, the California Department of Education (2020), like other states, directed schools closed down due to the pandemic of Covid-19, to continue providing free and appropriate education to all students through distance education. As teachers scrambled across the nation to move their instruction online, there was evidence that not all students were successful with online learning. Many school districts struggled to contact families, provide devices for all students, and train teachers for online instruction (Williams et al., 2021). Researchers underscored the struggles of students with extensive support needs (ESN) during the closures (Garcia & Weiss, 2020). Students with ESN have significant disabilities and need ongoing, individualized support for daily activities (TASH, 2020). These students qualify for special education services under the labels of intellectual disability, autism, or multiple disabilities and take the annual state alternate assessment.

Previous research indicated that reduced school time due to chronic absenteeism, lack of summer instruction, and the weather, had deleterious effects on all students, particularly those with ESN (Garcia & Weiss, 2020). Additionally, research showed that behaviorist-based strategies used to teach students with ESN relied heavily on physical or positional prompts (cues provided during instruction) and were not transferable online (Stenhoff et al., 2020). Further, disabled learners who had used computer devices only for playing games or watching videos

struggled to use them for learning (Shaheen & Watulak, 2019). Finally, there was evidence that caregivers could not support students at home without training (Stenhoff et al., 2020).

During the pandemic's emergency response, news publications reported that students with disabilities faced problems like limited access to computers and the internet; lack of access to screen reader technology resulting in barriers to students with visual impairments; difficulty in conveying physical nuances during sign language making it harder for deaf and hard of hearing students; and the lack of direct therapy services like speech, occupational, physical, counseling, and behavior (Gallo, 2020; Hill, 2020). Additionally, in California, like other states across the nation, special guidance was issued (Executive Order N-26-20) in March 2020, allowing districts to amend Individualized Education Plans (IEP) for disabled students due to distance learning. The state adopted a more lenient approach in assessing districts' compliance in fulfilling the requirements of the IEPs, resulting in a less rigorous education for disabled students. Given that prior research and news reports during the pandemic pointed to possible damaging effects of the emergency response of school closures and online learning for students with disabilities, it became crucial to explore the experiences of those involved in educating students with ESN during the pandemic. Although studies have examined the experiences of teachers of students with disabilities during the pandemic, there has been limited research with teachers of students with ESN (Kaden, 2020; Kim & Fienup, 2021; Lambert & Schuck, 2021; Tremmel et al., 2020).

Furthermore, specific information is needed about the factors that influence online educational outcomes for students with ESN (Protonentis et al., 2021; Aguliera & Nightengale-Lee, 2020). A study of this kind can highlight the critical factors in student outcomes and point to better pathways for online instruction. Thus, the aim of this study was twofold: to examine the experiences of special education teachers of students with ESN and to explore variables

contributing to student outcomes. The foreshadowing question that emerged after the initial three interviews with participants showed a pattern of differential student outcomes was: What were the key determinants of the equity gap in the online instruction for students with ESN during school closures due to the pandemic?

Conceptualization of Equity

Equity in special education refers to a difference (or lack thereof) in the educational resources, processes, contexts, or outcomes across students due to systemic bias, false assumptions, or institutional barriers in schools (Jordan, 2010). This paper conceptualizes equity as the quality and rigor of instruction provided to each student within the context of special education and includes: 1) equal access/opportunity to the curriculum; 2) equity in the claim to financial, physical, and instructional resources based on student need; 3) equality of outcomes in individual progress and performance; 4) equitable contexts for participation in schools like inclusive settings or equitably funded classes/schools; and finally, 5) procedural integrity of the individualized education plan (IEP) or the annual plan that describes the performance, goals, and services of the student in special education (Milem et al., 2004; McLaughlin, 2010; Jordan, 2010). These five equity pointers can reveal the existence of the more significant issue of deficit thinking in the educational system. Deficit thinking in teachers is a fundamental understanding of disability based on a deficit model that separates individuals by ability and relegates disabled students to classes that offer low-level or functional skills with poor instruction and classroom materials leading to a lack of academic progress (Klehm, 2014; Valencia, 2010).

Method

Research Design and Procedures

This study uses a case study design (because it deals with a bounded event) and grounded theory for data analysis (Charmaz, 2006). Grounded theory is appropriate for this study as it provides tools for a systematic yet flexible analysis of qualitative data for exploratory studies when little is known about the phenomenon (Charmaz, 2006). Further, the constant comparison method can determine similarities and differences in how the participants described their experiences, highlighting variations in access to curriculum, resources, contexts, and outcomes. The researcher, following IRB approval, interviewed 16 special education teachers of students with ESN about their experiences and success with online teaching.

Researcher Description

My identities as a parent of a disabled adult son, faculty in a university, and a former teacher in schools located in the geographical area of the study inform this study. As a parent, I supported my disabled son through online instruction in his day program during the pandemic. These understandings would have influenced the research in the kind of questions, the interrogation, and the interpretation of data (Bratlinger et al., 2005). Further, I dealt with emotions that surfaced in some interviews where teachers expressed their deficit thinking or a lack of academic rigor in educating their students. However, I tried to accurately represent the participants' perceptions by writing detailed memos about assumptions of the actions of the participants, emotions related to the stated experiences, and any bias.

Participants

The study used purposive sampling with maximum variation and convenience sampling (snowball sampling) to recruit participants (Miles et al., 2014). The participants were recruited from school districts around the university area to represent maximum variation in size (small and large), geographical location (rural and urban), diversity of neighborhoods (different ethnic

groups), and socio-economic groups (free or reduced meal percentages). The researcher obtained the school descriptions covering a geographical area of up to 50 miles around the university from the California Department of Education website. Schools that had programs for students with ESN were chosen for target participants. The researcher obtained the teachers' email addresses in the programs from the publicly listed directories on the school websites. After establishing contact with some teachers, the researcher used a snowball sampling method to recruit other participants in the school district. The researcher sent consent notices by email and read the contents aloud to the participants before each interview. Table 1 shows relevant demographic information of the participants. Two participants were former colleagues of the researcher, and two were former students from the teacher credential program at the researcher's university. The closeness of the relationship helped these participants confide in the researcher better, leading to greater depth in the interview responses and a better understanding of the teachers' perspectives.

Data Collection

Data were collected through semi-structured interviews via Zoom™ lasting between an hour to 90 minutes. The interviews were recorded using the Zoom™ record feature and transcribed using the NVivo transcription service, then checked by the researcher for accuracy. The first two interviews with participants were open-ended, exploring the participants' experiences (can you describe your experiences teaching during the school closure?, can you describe your challenges with online teaching?, what were some incidents that were significant to you during this time?, and would you do anything differently if there was another school closure?). The later interviews had more focused questions designed to probe the equity categories (Josselson, 2013) regarding the students' access to the curriculum; access to financial, physical, and instructional resources; student performance; contexts of learning; and procedural

integrity of the IEP, including: Can you describe your experiences at the time when schools closed; Tell me about how you prepared for online instruction; How did your district or school support you in providing online instruction; Can you describe a typical online session with your students; Tell me what strategies were effective during online instruction; Can you describe the IEP process, monitoring of goals, and services provided; Can you describe what inclusion looked like during online instruction; Can you describe your experiences with parents when teaching; How would you describe your overall effectiveness with online instruction; and How would you describe your students' performance overall with online instruction? Depending upon these responses, there were also numerous follow-up questions for each participant. Additionally, the teachers described the students' academic levels, communication, services in the IEP, behavior plans, and whether they used augmentative and assistive devices for communication. There was simultaneous coding and data collection, with the coding and memoing guiding the data collection. The researcher interviewed until the patterns from the data analysis were consistent and did not change. At this point, the researcher determined that theoretical saturation was reached. All data were anonymized, and pseudonyms were used to protect the confidentiality of the teachers and the school districts.

Data Analysis

The data were analyzed using iterative thematic coding techniques (Charmaz, 2006). The researcher used process and in vivo coding for the transcribed interviews. Fifty-seven codes were identified in the first round of coding. At this stage, the researcher contacted three participants whose responses (a total of 28) needed more clarity as part of member checking. The participants were shown the coding attached to their responses and asked whether they agreed with the coding. There was 86% (24 out of 28 responses across three participants) agreement between the

researcher and these participants, and the researcher dropped the four conflicting conclusions in the final analysis. Disagreements centered around how the researcher had interpreted the support provided by school administrators (3 instances) and parents (1 instance). Then, the initial codes were consolidated into 23 codes during focused coding. Four participants responded to the email sent by the researcher to all participants volunteering to confirm interpretations and coding of their responses at this stage as part of member checking. They were presented with sections of their interviews and the codes ascribed to those sections. They were asked to comment on whether the codes and the researcher's interpretation were justified. There was 92% agreement over the interpretation of the responses (11 out of 12 responses across the four participants). The disagreement was when one participant felt that her description of the mainstream setting did not necessarily show a lack of inclusive services; rather it pointed to the struggles of the mainstream teacher during online instruction. The researcher dropped this response for the final round of coding on inclusion, recoding it as the struggles of the mainstream teacher. The researcher wrote extensive memos at each level of coding and analysis and sought disconfirming evidence and alternative explanations. The final themes were arranged in a case-ordered descriptive matrix (see table 2 for a condensed version of the matrix) to compare cases (Creswell, 2013).

Methodological Integrity

The researcher employed member checking and analytical memoing to ensure methodological integrity. First, during the interview, the researcher asked participants if they wanted to say anything in addition to the questions posed. Then, the researcher engaged in two levels of member checking described above with seven of the sixteen participants to obtain their clarifications on interpreting some of the data. Third, the researcher rigorously followed the practice of analytical memoing, reflecting on the process following Saldana's (2021) guidelines.

Findings

The cases were organized by how the participants evaluated their students' overall educational outcomes: successful, mixed, or not successful (see table 1). The participants' responses to two open-ended questions (*how would you describe your overall effectiveness with online instruction* and *how would you describe your students' performance overall with online instruction*) were used to categorize students' outcomes as successful, mixed, and not successful. For example, Ms. Ram, who described her students' performance as "amazing toward the end of the year," "all my students showed progress in their goals," "we engaged them every day and covered all the materials we typically do in class" was placed in the successful category. Ms. Wilson, who stated, "there were a few who did not benefit, but many of the others were fine," "there were some goals we did not even address," and "I want to say that mostly we were okay, there were some who fell between the cracks" was placed in the mixed outcomes category. In contrast, Mr. Jones, who said, "we hardly did anything," "my students did not care about online classes," and "I could not even do most of the IEP goals," was placed in the not successful category. The case-ordered matrix (see table 2) pointed to why some students fared well and others did not, indicating the variables that indicated an equity gap in online instruction.

The data indicated that the key determinants of student success were (a) teacher variables, (b) school administrator variables, (c) district variables, (d) student variables, (e) parent variables, and (f) pedagogical variables.

Teacher Variables

Teachers' perceptions of student success were related to their academic expectations from students, proficiency with technology, flexibility in teaching methods, ability to connect socially with students, and collaboration with paraeducators and parents. First, teachers with

higher academic expectations from their students delivered online instruction better than those who only taught functional skills. These teachers had been teaching academics in their classes before the pandemic. For instance, Ms. Ram said, "I wanted my students to continue learning academics during the pandemic. It was important to me that I continue to teach my lessons." Similarly, Ms. Rodriguez ensured that her students attended the sessions and created new academic material to teach online. She said, "Actually, I got to use some online curriculum to teach science and social studies that I don't get usually. That was really good." By contrast, teachers like Mr. Jones, who emphasized functional skills in their classrooms, were less enthusiastic about online instruction. He said, "I didn't care if they came online...our students are not working towards a diploma, right?" Similarly, Ms. Anderson said, "You cannot teach what these students need, which is mostly life skills, online."

Teacher proficiency with technology also influenced perceptions of student success. Teachers who felt their students benefited during online instruction believed they were technologically competent. For instance, Ms. Martinez stated, "I was okay with working on the computer; I loved making and sharing videos with the students." Ms. Garcia had to learn to use Google Meet™, but it only took a few days for her to master it. However, of the seven teachers who felt their students did poorly with online instruction, only two said that they were comfortable using technology to teach. Ms. Davis was very frustrated by the process. She said, "I had no idea what I was doing; nothing worked the way it was supposed to." Ms. Davis' quote exemplifies the lack of preparedness some teachers felt when they were online.

Then, the teachers' readiness to learn new teaching methods also influenced their students' outcomes. Several veteran teachers did not want to change their teaching practices. For instance, Ms. Smith, with over 15 years of teaching experience, adamantly stated, "I cannot learn

all this stuff when I may not need it in a few months." Similarly, Ms. Moore was not interested in learning much about teaching online as she shared, "they (the district) have to give us more time to train. They can't tell us at the drop of a hat, do this or do that." Ms. Moore's and Ms. Smith's remarks exemplified the resistance of some veteran teachers to adopt new teaching practices.

Many teachers recognized their teaching methods had to change with technology. Teachers who adopted newer routines to check on, cue, or motivate the students were more successful. An example of this can be seen in Ms. Lee's comment, "You know, in these times, you have to be flexible, you have to say, I used to do things one way, now it does not work anymore." Similarly, Ms. Garcia believed that "by loosening the structure we had in the classroom, the kids participated more." By contrast, teachers who could not change their routines were less successful. For instance, Ms. Brown, who could not adapt her classroom routines online, remarked that she "had this great schedule going on" in her classroom with "work and breaks" that the students liked, and she could not duplicate it online. Ms. Thomas did not try to change the schedule and "did the same thing; if it worked, it worked; if it did not, so be it."

Further, data showed that the teachers who could not connect to their students socially online felt that their students were unsuccessful during their instruction. For instance, Ms. Davis said that her students "would not even come near the computer, and when they did, they did not look into the camera." Mr. Johnson felt he had a great rapport with his students as he could talk to them about their health, families, and how they were doing at home. He noted, "It was just like they were in class. They were all happy to see me, telling me about their day and laughing at my jokes." His students were very successful during online instruction.

Additionally, those teachers who collaborated effectively with their parents perceived greater student success. Four of the six teachers whose students were successful said they had

established a trusting relationship with their parents before the pandemic. Ms. Ram stated emphatically that all her parents supported her “100%” during the online instruction, which was key to her successful experience. By contrast, Ms. Wilson was uncomfortable with being constantly observed or told what to do by parents to engage their children better. She noted, “We are not used to this constant parent gaze; I want to be free to do what I think the child needs.” Similarly, Ms. Davis balked at having to teach in front of the parents saying, “I was anxious every time I taught, you know, knowing that I was being observed all the time.”

Finally, successful teachers felt they could rely on the support of their paraeducators. These teachers asked their paraeducators to create materials (presentations, videos), locate materials on the internet, create hands-on projects, monitor progress, and support students. This collaboration was not evident in most teachers having mixed or mostly poor perceptions of student success. They described their paraeducators as mostly silent, inept, or absent and did not know how to use their services online. This was evident in the remarks like, “My paras were slacking, they were there, but I had no idea how to get them involved, (Ms. Brown)”, “My aides had their own children who needed help, and were distracted a lot. (Mr. Jones)”, and “I did not know what tasks to assign to my aides; there’s not that much to do online. (Mr. Tyler).”

School Administrator Variables

Some school administrators supported their teachers better than others in providing material support, training, emotional support, parent training, and answering questions. Five of the six teachers with positive perceptions of student success said their school administrators provided access to online curriculum, training, and materials that could be sent home to parents. Additionally, four of these teachers noted that their school administrators were always available to answer questions, responded promptly to their emails for help, and helped them set up their

online presence. Most teachers with negative perceptions of student success felt their administrators were not supportive. Ms. Davis said, "nothing... we got nothing, no information, no training, no nothing. We were on our own." Ms. Moore noted that "every teacher was doing kind of their own thing" in her school. She added, "So, you just could call your students or email your students and have proof of contact." Ms. Anderson struggled to find a curriculum for her students. She remarked, "I told the principal, how can I use the general education curriculum? We teach so differently. But they could not help." Ten of the sixteen teachers interviewed noted that the administrators were more interested in helping the general education teachers first. Ms. Davis said that her conversations with her principal were often unproductive. She said, "I am not sure they even knew what was happening. It's like, let's take care of the general ed kids first. You guys just manage for now." Similarly, Ms. Brown noted, "I tried contacting everyone at school, you know, but the principal said we don't know what to do about special ed. yet."

District Variables

Teachers reporting good student outcomes worked in districts that supported students and parents with technology. Before the pandemic, these districts had already provided students with tablets and found it easy to adapt to online instruction. Then, there were districts where no technology was provided to ESN students because, as one teacher said, "it was unnecessary for their education, they would be unable to use it, or they would damage the equipment." Although many districts provided students with hotspots for internet services, and some districts delegated spaces where students could access their online instruction, teachers in rural areas reported that connectivity was a big problem. For instance, Ms. Thomas noted, "Many of my families had trouble with connectivity, and I would start a class, and many would get logged off."

Some districts used the weeks between the school closures and the start of online instruction to train their teachers. Teachers of successful students reported that their districts set up training or provided links to online tutorials. Ms. Rodriguez said, “We were already online with Google Classroom™ for assignments, so it was not hard for us.” Similarly, Ms. Lee remarked, “the district provided us with some emergency training on Zoom™ and making Youtube™ videos.” Four of the seven teachers reporting negative experiences said their districts provided no training. For instance, Ms. Smith said, “They sent us links that we could not use, and said, go do this on your own.”

Three districts provided basic training for parents on online instruction but only in English. Some teachers who spoke Spanish helped their parents who were not fluent in English. However, many teachers found that their parents could not understand the directions. For example, Ms. Davis remarked, "I have a student who has no one who speaks English in the household. And I don't know if the parent understands me at all."

The district’s attitude toward providing appropriate education to students with ESN was also significant. Only three teachers said their districts encouraged them to meet students’ educational goals. Instead, most districts tried to change the IEP goals to provide minimal services or get waivers for inclusion requirements. This attitude was reflected in Ms. Hernandez’s remarks, “our director said, let it be, just document that you tried to do something.” Teachers also described a lack of support in inclusive settings. Ms. Davis said, “what was the use of them attending the mainstream class online? They did not know what to do.” Similarly, Ms. Wilson spoke of the physical education class where she mainstreamed her students, “they were shown videos and asked to do the exercises by themselves, how can my students do that?”

Student Support Variables

The teachers perceived some students as having fared better than others during online instruction. These students typically had good motor skills, better language ability, good technological skills, and less distractibility. Ms. Wilson described one of her students: "Because she could not operate the computer by herself, she needed someone next to her to do it, or else, she would just smile at the computer." Similarly, Ms. Garcia was concerned about a student who could not speak or type on the computer. She felt that the student could not participate fully in the instruction. Some students were very distractible and could not attend to the instruction. Mr. Jones described one of his students: "And yeah, the most we could do with him was like two minutes. So, he would come to sit down, and then he'd be off." Similarly, Ms. Thomas found it hard to get her student to sit in front of the computer without support from home. She said, "we see her wandering around her room, organizing things, on her phone a lot."

Seven of the ten students with AAC devices were perceived as unsuccessful because they could not use them without support at home. Furthermore, four out of the seven students had non-English speaking parents or grandparents, while the devices were programmed only with English vocabulary. For example, Ms. Smith said, "The parents did not know how to help her with her device, so she was quiet mostly."

Parent Support with Online Instruction Variables

Given the absence of paraeducator support, parent support with online instruction for their child was a critical factor in student success. Parent support with online instruction varied with the parents' proficiency in English, work schedules, knowledge and comfort with technology, and training in special education practices. Although districts are required to provide interpreters for official meetings for parents who speak languages other than English, they could not do so daily. For example, Ms. Davis remarked, "I have a student who has no one who speaks

English in the household. And I don't know if the parent understands me at all." Again, in Ms. Rodriguez's class, the grandmother who was helping her student did not understand English and could not support the child or get the internet working again if it disconnected.

Many teachers complained that the parents prompted or helped their children too much. The teachers observed parents whispering answers to their children, writing the word on a paper for their child to read, or typing the answer in the chat for their child. Ms. Lee said she knew that one of her students had not written the statements in the chat as she had never seen that kind of work from her previously. However, because the student had her camera turned off, she could not tell who was giving the answers. She noted, "And so, I don't think their children were gaining. They were just listening to the cue and then repeating."

Pedagogical Variables

Data showed that teachers could not transfer behaviorist techniques to online instruction. Two teachers reported struggling with their mainly behaviorist-based instruction online. They used visual schedules, applied behavior analysis (ABA) techniques, token charts, and tangible reinforcers (small toys, crackers) in their classrooms. However, Ms. Brown could not use visual schedules with her group as each child's schedule differed. Further, she questioned her fidelity to using the token chart, saying, "I was never sure that he was listening to me as I crossed off boxes in his chart." Many teachers reported that the parents were unaware of the behavior plans, and some students got reinforced when not doing work. For example, Ms. Anderson remarked, "There was this mom who kept giving her child the gummies, even when she did not participate." Teachers also felt that behaviorist practices were extremely sensitive to the traditional classroom structure and needed to be reimagined to succeed online. As Ms. Smith said, "I have this behavior protocol for students which requires physical prompting or touching

their elbow, and how can I transfer that online?” Further, functional skills were not amenable to technology. Mr. Tyler and Mr. Jones, who did not think their students were very successful, were technology savvy but could not use it to teach functional living skills and community skills.

By contrast, teachers who were flexible in their teaching approaches reported having good experiences with their students. Although Ms. Ram used behaviorist principles and visual schedules in her classroom, she had used other teaching approaches, like group work, whole-class instruction, and unstructured time. Additionally, teachers who used games and play could motivate their students better. For instance, Mr. Johnson said he did a role-play about going on the bus instead of their usual community outings. Other teachers engaged their students by making videos of science experiments, family events, and pets. Creating a personal connection with students helped teachers get their attention. For example, Ms. Hernandez made daily videos of her cat for the class and said that the students were always interested in knowing what her cat was doing. She tied in new vocabulary and learning to the cat’s activities.

Discussion

Following this study’s conceptualization of equity, the differentials in perceived student outcomes reveal systemic inequities and persistent deficit thinking related to students with ESN. Deficit thinking attributes poor student performance to perceived deficiencies in the individual or family and treats students with ESN as different from the other students (Solórzano & Yosso, 2002; Valencia, 2010). Many teachers pointed to the lack of family support, the socio-economic conditions of the family, or the intrinsic lack of attention among students as the reason for their inability to participate in online instruction. They neglected to mention that they and the schools had not prepared to meet the needs of the students and their families.

Additionally, the current study confirmed findings from previous studies that teachers' expectations of academic performance from students with ESN are vital in providing opportunities for students with ESN to be successful (Keefe & Copeland, 2011; Rupp, 2017). Scholars have argued for a shift from a functional skills curriculum toward instruction that reflects the general education content standards in the instruction of students with ESN (Rupp et al., 2011). While functional skills (skills that are necessary for independent living in adulthood) have been the mainstay of classrooms that teach students with ESN, research suggests that access to general education academic curriculum and embedding functional skills instruction in academic instruction may also lead to better independent living skills through improved verbal and written communication skills (Rupp et al., 2011). This study showed that the teachers who said that their students were successful during online instruction mostly had higher academic expectations from their students. By contrast, the teachers who felt that students with extensive support needed mostly functional skills thought that online instruction was ineffective. Data also showed that these teachers put less effort into preparing materials, learning new methods, familiarizing themselves with the technology, getting an online curriculum, and ensuring that their students attend online classes. They felt online instruction could not teach the functional community skills they deemed necessary for their students. Their comments reflected educational researchers' concerns regarding teachers' low expectations in the education of students with ESN (Klehm, 2014).

Further, the school system failed the students in each of the following areas: a) access/opportunity to the curriculum; b) claim to financial, physical, and instructional resources based on student need; c) outcomes in terms of individual progress and performance; d) contexts for participation in schools like inclusive settings or equitably funded classes/schools; and e)

procedural integrity of the IEP. Although research shows that many students without disabilities also face problems due to a lack of technology and poor teacher training, the struggles of students with ESN were compounded by multiple support requirements (Williams et al., 2021).

First, the study indicated that students with perceived poorer outcomes had limited access to a quality curriculum during online instruction due to teacher bias, lack of teacher and parent training in communicative devices, and struggles with commonly used pedagogical approaches. The students with the most ESN were served the least during online instruction, in line with previous research findings (Kurth et al., 2016). Many students who used communication devices could not use them successfully to communicate with their parents or teachers. Non-English-speaking parents were not trained to help their children with the AAC devices, which had only English vocabulary and culturally unfamiliar icons. Thus, there was a lack of parent training and collaboration for students using communication devices. Similarly, those students needing physical support did not fare well, because the teachers could not replicate these supports online.

Additionally, findings showed that teachers who relied on behaviorist approaches found it harder to transfer the strategies online. A useful framework for understanding the teachers' struggles with technology is the TPACK (Technology, Pedagogy, and Content Knowledge) framework, which requires an educator to understand how technology, pedagogy, and content interplay with each other (Koehler & Mishra, 2009). Evidently, the district had not trained teachers in technology to deliver content using appropriate pedagogical techniques. Data showed that using physical or positional prompts and reinforcers specific to the traditional learning environment could not be transferred to online instruction with students with ESN (Stenhoff et al., 2020).

Second, findings indicated inequitable claims to resources, particularly because many administrators prioritized general education over special education. This finding confirms prior research that teachers perceive administrators as unwilling to help special education teachers (Greenway et al., 2013). Data also showed that districts did not provide interpreters for parents who did not speak English, translations for training documents, parent training for online instruction, or training on special education practices. Further, rural families experiencing connectivity problems were not supported by schools. Thus, data showed a minimum of physical, financial, and instructional district support to parents resulting in educational inequity.

Third, while confirming prior research findings of inequitable outcomes in online education for students with ESN due to a critical deficit in technology literacy skills and lack of proper access, this study went further to indicate that student outcomes were influenced by variations in attitudes and perceptions of educational professionals (Reed et al., 2022). The study indicated that inequity in access provided to students with ESN versus general education students was also due to school and district policies. The study showed variations in student outcomes within a self-contained classroom happened due to differences in teacher perception, pedagogy and support offered to parents. These variables are significant because they provide the possible pathways to improvement in the instruction of students with ESN.

Fourth, the study indicated increased inequity in educational placement because students with ESN could not participate fully in inclusive settings due to a lack of staff support and the absence of curriculum modification to meet their individual needs. This finding is significant because research shows that students with ESN and their peers without disabilities benefit from inclusive settings academically and socially (Agran et al., 2020; Ryndak et al., 2013). Further, evidence shows students educated mostly in self-contained classrooms receive low-level

functional skills instruction in poorly managed environments (Kurth et al., 2016). Thus, the pandemic exacerbated the negative effects of being educated in a self-contained setting.

Finally, the study suggested that administrators were more interested in the documentation and legal aspects of education, as evidenced by their modifying the IEPs for distance learning, minimizing direct services, and waiving inclusion. Thus, the procedural integrity of the IEP process, which is an important guarantor of the student's equitable education, was compromised substantially.

Recommendations

These findings point to five recommendations for practice. First, administrators have to support special education teachers with curriculum and instruction. Research shows those teachers who received adequate school support stayed in their jobs longer (Scott et al., 2021). Second, the school districts need to include parent support with online instruction in implementing technology with their students (particularly those with support needs) so they can access instruction from home when needed (Stenhoff et al., 2020). Parsons et al. (2012) suggest a comprehensive parent teaching package that includes detailed descriptions of evidence-based procedures, professional modeling, observations of parents/caregivers implementing the procedures, and feedback on their performance. In the case of multiple caregivers, peer coaching has also been shown to be effective (Iadorola et al., 2020). Schools can also arrange for professionals to visit homes to help with distance learning.

Third, the districts need language support for non-English speaking families when instruction goes online (Sugarman & Lazarin, 2020). Hiring more linguistically diverse service providers or providing cultural competency training to professionals programming AAC devices could be part of the effort to provide support to families. Fourth, researchers recommend

reimagining teacher preparation programs to disrupt the dominant deficit ideology in education through the introduction of critical reflexive analysis that recognizes and contests systemic inequities (Suity, 2019). Finally, teachers must go beyond using behaviorist practices to build learning resiliency in the students (Stenhoff et al., 2020). Games, hands-on group activities, computer-based learning activities, and personal videos, have been successful in online instruction. Training teachers in technological, pedagogical, and content knowledge through a framework like TPACK will equip them to teach a wide variety of content using technology.

Limitations

The results of this study have to be viewed with some caution. First, the study is limited to the special education teachers' perceptions about online instruction and student success. Individuals in different roles (parents, students, administrators) may have different perceptions. Second, the findings are derived from interview data only without any observations of the special education teachers' classes, or independent assessments of student success. Thus, these findings are based on self-reported descriptions of events and dependent upon the teachers' memories. More research is needed to examine the events from the perspectives of administrators, parents, and students to get a full picture of how online instruction impacted everyone involved. Finally, the study has limited generalizability as it is limited to educators in Northern California.

Conclusion

The online instruction during the pandemic revealed many systemic and event-specific equity gaps for students with ESN. The findings of this study suggest that the key determinants of inequitable instruction were teacher, school administrator, district, parent, student, and pedagogical variables. The study pointed to a systemic deficit thinking that underlay the inequitable instruction provided to students with ESN.

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