

NASET Special Educator e-Journal

Exceptional Teachers Teaching Exceptional Children



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Buzz from the Hub

OSEP Releases Two New Fast Facts: Part B Educational Environments and Part B Personnel

In January 2025, The Office of Special Education Programs (OSEP) released two new Fast Facts: OSEP Fast Facts: Educational Environments of Children with Disabilities Served under IDEA Part B Section 619 and OSEP Fast Facts: Part B Personnel. These Fast Facts spotlight OSEP's Individuals with Disabilities Education Act (IDEA) 618 data on personnel and educational environments of children with disabilities in early childhood settings. They are packed with visualizations that help make IDEA 618 data easy to interpret and share. https://sites.ed.gov/osers/2025/01/osep-releases-two-new-fast-facts-part-b-educationenvironments-and-part-b-personnel/#more-6722

National Resource Center for Supported Decision-Making

Supported Decision-Making is just a fancy way of describing how we all make choices. We all need help making decisions, every single day. The National Resource Center for Supported Decision-Making (NRC-SDM) helps people with disabilities find information on Supported Decision-Making, connects them with people and organizations that may be able to help, and answers their questions.

https://supporteddecisionmaking.org/

English Learners with Disabilities Toolkit

The National Center on Educational Outcomes (NCEO) focuses on the inclusion of students with disabilities, ELs, and ELs with disabilities in instruction and assessments. Their English Learners with Disabilities Toolkit is designed to provide states and individualized education program (IEP) teams with eight tools they can use to better understand their students who are ELs with disabilities, determine in which state assessment (general or alternate) the students should participate, and discover whether accessibility features or accommodations are needed for their participation in any assessment.

https://nceo.info/Resources/series/english-learners-with-disabilities-toolkit

Financial Education

An important part of the Pennsylvania Assistive Technology Foundation's (PATF) mission is to provide financial education to people with disabilities. Their education efforts help people make more informed decisions about managing their finances, take control of their financial future, and build financial wellness.

https://patf.us/what-we-do/financial-education/

Non-Regulatory Guidance Supporting High-Quality Preschool with Title I Funds: Guidance to Local Educational Agencies and Schools on Implementing the Required Head Start Program Performance Standards for Title I-Funded Preschool **Programs**

On December 18, 2024 the U.S. Department of Education (ED) and the U.S. Department of Health and Human Services (HHS) released Title I ECE program non-regulatory joint guidance. This guidance provides information for local educational agencies (LEAs) and schools on the Head Start Performance Standards that apply when the LEA or school use Title I funds to support an early education program. It supports high-quality, developmentally-informed preschool instruction based on best practices in child development and early learning. https://www.ed.gov/media/document/ti-hspps-guidance

Employment Checklist for Students (Ages 14-22) with Disabilities

Getting a job is an exciting experience that takes planning. There are important documents you may need before you can get a job. There are skills you will need to prepare you for employment, and actions that you may need to take to be successful. This checklist from PEATC can help you prepare for employment.

https://peatc.org/wp-content/uploads/2023/05/Employment-Checklist-Booklet.pdf

Voluntary Self-assessment for States to Support Military-connected Children with Disabilities and Their Families Under the IDEA.

OSEP has released a two-part self-assessment as a voluntary technical assistance tool to assist States in supporting military-connected children with disabilities served under the Individuals with Disabilities Education Act.

https://sites.ed.gov/idea/idea-files/voluntary-self-assessment-for-state-to-support-militaryconnected-children-with-disabilities-and-their-families-under-the-idea/

Supporting Military Families

Being part of a military family can be filled with many surprises, challenges, and opportunities. Part of the military life is moving to new locations every few years or even more frequently. This can be a bit more challenging when there's a child in the family who has a disability. Fortunately, there is help available to make the family's transition from one location to another a bit more smoothly. On CPIR's Supporting Military Families page you will find organizations and resources that will be of help.

https://www.parentcenterhub.org/military/

Sesame Workshop Extends Partnership with Dicapta to Bring Plaza Sesamo in ASL to Children Across the U.S.

Sesame Workshop and Dicapta are thrilled to announce the expansion of their partnership with the official launch of American Sign Language (ASL) versions of Plaza Sésamo content. This collaboration, supported and funded by the U.S. Office of Special Education Programs-OSEP, aims to allow U.S. Hispanic children who are deaf or hard-of-hearing and their families enjoy the educational and entertaining content of Plaza Sésamo while practicing and improving their ASL skills.

https://www.dicapta.com/ver2022/en/blog/15-blog-news/646-sesame-workshop-extendspartnership-with-dicapta-to-bring-plaza-sesamo-in-asl-to-children-across-the-u-s

Using Functional Behavioral Assessments to Create Supportive Learning Environments The Office of Special Education and Rehabilitative Services (OSERS) and the Office of Elementary and Secondary Education (OESE) have jointly released guidance on the use of

functional behavioral assessments (FBAs) for all students whose behavior interferes with learning.

https://sites.ed.gov/idea/idea-files/using-functional-behavioral-assessments-to-createsupportive-learning-environments/

Compendium to the Delivery of Pre-employment Transition Services (Pre-ETS)

This guide from the National Technical Assistance Center on Transition (NTACT) highlights Pre-Employment Transition Services within the Continuum of VR Services. This resource was developed as a collaboration between Vocational Rehabilitation (VR) and Local Education Agencies (LEA).

https://transitionta.org/pre-ets-compendium/

Traveling with a Disability

The holiday season can be a time of joy, but for young adults with disabilities, it can also present unique challenges. Finding the right resources, like the sites listed below, to support them can make a big difference in ensuring they have an enjoyable and fulfilling experience.

https://accessiblego.com/home https://wheelchairtravel.org/

Assessment Aligned with Alternate Academic Achievement Standards

This memorandum from the U.S. Department of Education outlines the requirements for states seeking a waiver of the 1% cap on the number of students who can take alternate assessments aligned with alternate academic achievement standards (AA-AAAS) in the school year (SY) 2024-25 assessment.

https://www.ed.gov/media/document/memo-states-regarding-requirements-waiver-of-10percent-cap-alternate-assessments

The Pyramid Model for Promoting Social-Emotional Competence in Infants and Young **Children (Pyramid Model)**

The Pyramid Model is a framework of evidence-based practices for promoting young children's healthy social and emotional development and it works in conjunction with a program's curriculum, but is not a curriculum itself. The Pyramid Model provides guidance for: early childhood special education personnel, early intervention personnel, early educators, and families

https://challengingbehavior.org/pyramid-model/overview/basics/

Empowering Education Leaders: A Toolkit for Safe, Ethical, and Equitable AI Integration On October 24, 2024, the U.S. Department of Education Office of Educational Technology (OET) released a 74-page toolkit designed to help K-12 leaders integrate artificial intelligence into their districts.

https://tech.ed.gov/files/2024/10/ED-OET-EdLeaders-AI-Toolkit-10.24.24.pdf

IDEAs That Work Now on sites.ed.gov/IDEA

The Department's Office of Special Education Programs (OSEP) has moved the IDEAs That Work website content. Information and resources can now be found on the Individuals with Disabilities Education Act (IDEA) website. https://sites.ed.gov/idea/

Intersection of Mental Illness and Disability During Transition

Students with disabilities can also experience co-occurring mental health issues. This is particularly true of children with developmental disabilities with ranges from almost 34% to 59% prevalence. This RAISE guide covers strategies to support students with disabilities and cooccurring mental health issues as they transition into adulthood.

https://raisecenter.org/wp-content/uploads/2024/10/RAISE-guide-on-disability-mentalillness-and-transition-revised.docx.pdf

How to Weigh the Risks of Disclosing a Disability. A guide to help you decide — and find support.

Disclosing a challenging health condition at work can be risky. You may get the accommodations you need, but you may also be met with suspicion, resentment, and accusations of making it all up. In this article, the author discusses why disclosure is challenging, how to decide whether the risk is worth taking, and how a network can support you. https://www.parentcenterhub.org/buzz-november2024/

5 Culturally Responsive Family Engagement Strategies

Educators can strengthen the relationship between home and school by making families feel welcome and included. In this article five ways to strengthen the partnership with families are summarized.

https://www.edutopia.org/article/5-culturally-responsive-family-engagement-strategies

National Clearinghouse for English Language Acquisition (NCELA): Family Toolkit

The English Learner Family Toolkit was created to help families choose education services that meet their child's needs. U.S. educators, elementary and secondary school teachers, principals, and other school staff can also share the toolkit as a resource for English learners and their

https://ncela.ed.gov/educator-support/toolkits/family-toolkit

State of Early Childhood Education in Big Ten States

The Big Ten Early Learning Alliance (BTELA) has just published an inaugural brief on the state of early childhood education in Big 10 states. It emphasizes the importance of early education, highlights disparities in funding and access, and notes the impacts of these on children's development. The report also suggests policy changes to improve outcomes, such as increased investment and equitable resource distribution.

https://btela.osu.edu/our-work/state-of-early-childhood-education-in-big-ten-states/

Equity in Data: Where to Start!

Are you looking to address disparities in early intervention and early childhood special education systems and promote more equitable practices and outcomes? Knowing where to start can be challenging, but taking one step forward and starting is critical. The **DaSy Center** developed a guide, DaSy Data Inquiry Cycle, to support Part C and Part B 619 program staff in addressing equity considerations at each stage of the data inquiry cycle. https://dasycenter.org/data-inquiry-cycle/

A Summary of the Research on the Effects of K-12 Test Accommodations: 2022

Research on test accommodations provides valuable information that informs policy and practice. The National Center on Educational Outcomes (NCEO) recently published A Summary of the Research on the Effects of K-12 Test Accommodations: 2022. This report presents research literature published in 2022 on testing accommodations for U.S. elementary and secondary students in kindergarten through 12th grade.

https://nceo.umn.edu/docs/OnlinePubs/NCEOReport444.pdf

Inclusive Occupations podcast

Episode: The Inclusive Education Roadmap- Part 1- Dr. Diane Ryndak In this first part of the two-part series on the Inclusive Education Roadmap (IER) by the TIES Center, Dr. Diane Ryndak gives us a general overview of the work done for sustainable systemic change in inclusive education at the state, district, and school. After getting together a diverse Equitable Inclusive Leadership Team (EILT), the second step of the Inclusive Education Roadmap is called RISE (Reflecting on Inclusive Systems of Support). The school Leadership Team is led to deeply reflect and engage in critical discussions about their system's current use of inclusive educational practices for all students, including students with significant cognitive disabilities.

https://www.inclusiveoccupations.com/podcast/episode/1d9b4aca/the-inclusive-educationroadmap-part-1-dr-diane-ryndak

Groundbreaking Study: Anti-trans State Laws Increased Suicide Attempts By 72%

In a groundbreaking study published in Nature Human Behavior, researchers found that antitrans bans lead to a 72% increase in suicide attempts among transgender individuals, compared to states without such legislation. The study is the first study of its kind and could have farreaching international implications as more countries face pressure to implement similar restrictions on transgender people.

https://www.erininthemorning.com/p/groundbreaking-study-anti-trans-state

Youth Engagement Now (YEN)

Explore resources developed by youth with disabilities across the country to access tools to successfully engage and involve youth partners in projects to support impactful change. The site features tools focused on foundational principles, leadership development, and effective collaboration. Key areas include disability training, advocacy, community building, and event planning. It also offers a podcast, YEN Talks, for further insights. https://yen.transitionta.org/

Resources from the National Research Center for Parents with Disabilities

Serving Parents with Disabilities: The National Research Center for Parents with Disabilities has a range of resources for parents with disabilities and those who support them covering a variety of topics such as child welfare law and its effects on parents with disabilities, firsthand narratives from disabled parents about how they raise their children, and advice for professionals working with specific populations of parents with disabilities.

https://heller.brandeis.edu/parents-with-disabilities/

Best Practices for Adhering to Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) Requirements

The Center for Medicaid and CHIP Services (CMCS) released important guidance regarding the coverage requirements for eligible children and youth who are enrolled in Medicaid and the Children's Health Insurance Program (CHIP). The guidance, Best Practices for Adhering to Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) Requirements, is in the form of a State Health Official letter. This guidance is designed to help states strengthen their implementation of EPSDT requirements to improve health outcomes.

https://www.medicaid.gov/federal-policy-guidance/downloads/sho24005.pdf

A Practical Guide for State Teams to Increase Inclusion in Early Childhood Programs

This comprehensive resource, A Practical Guide for State Teams to Increase Inclusion in Early Childhood Programs, is designed to help state leaders and advocates use data to promote more inclusive policies for young children in early care and education settings. The guide emphasizes the importance of inclusion from both human rights and equity perspectives, advocating for all children, especially those with disabilities, to have access to high-quality, inclusive early education.

https://nieer.org/sites/default/files/2024-08/nieer research report template inclusionguide august2024 ad 1 1.pdf

StopBullying.gov

When adults respond quickly and consistently to bullying behavior they send the message that it is not acceptable. Research shows this can stop bullying behavior over time. StopBullying.gov provides information from various government agencies on what bullying is, what cyberbullying is, who is at risk, and how you can prevent and respond to bullying. Check out their tip sheet, Bullying and Children and Youth with Disabilities and Special Health Needs, specifically for how to support youth with disabilities and special health needs.

https://www.stopbullying.gov/sites/default/files/2017-09/bullyingtipsheet.pdf

Want to Learn More About Technology & Youth Mental Health?

The Child Mind Institute's Technology and Youth Mental Health webinar series brings together researchers, advocates, and tech thinkers to explore crucial questions, such as: What is the relationship between social media and mental health? How can we advance research on this relationship using real world data? Click here to watch the webinars and interviews in the series https://childmind.org/science/public-health-epidemiology/technology-youth-mental-healthseries/

My Life is Worth Living

My Life is Worth Living includes five powerful stories told over 20 episodes. In each episode, relatable teen characters wrestle with challenges that are all too familiar for many viewers and discover strategies to cope when it feels like their own thoughts are against them. Over the course of each character's journey, they realize that life is worth living. Watch the videos here. https://mylifeisworthliving.org/

MCH (Maternal and Child Health) Bridges: The official podcast of the Association of **Maternal and Child Health Programs (AMCHP)**

Episode #15: Youth Perspectives on Mental Health: Supporting the Next Generation Three members of The Adolescent Champion Teen Advisory Council (TAC TAC), Melanie Avila, Fanta Guindo, and Yeina Han, share what adolescent and young adult mental health looks like in their communities, what they have experienced, and what needs to change. This episode talks about important concepts like positive youth development, youth-friendly services, and culturally competent care. It also identifies strategies for addressing barriers to youth seeking and accessing mental health services. Listen to this podcast episode here.

https://mchbridges.buzzsprout.com/1837581/episodes/12824655-episode-15-vouth-perspectiveson-mental-health-supporting-the-next-generation

Parents Under Pressure: The U.S. Surgeon General's Advisory on the Mental Health & **Well-Being of Parents**

The Surgeon General released an Advisory regarding the mental health of parents/caregivers. This Advisory recognizes the critical role of parents and caregivers in our society and the importance of both reducing their stress and protecting their mental health and well-being. It explores the unique stressors that parents and caregivers face; the impact of these stressors on the mental health and well-being of parents, caregivers, and children; and the policies, programs, and cultural shifts we need to make to allow parents and caregivers to flourish and thrive. Read the Advisory here.

https://www.parentcenterhub.org/buzz-mental-health-and-bullying-resources/

Help Wanted: Early Intervention and Early Childhood Special Education Workforce **Needs Findings from a National Survey**

The ED-funded Early Childhood Personnel Center collaborated with the National Institute for Early Education Research and recently released report findings from a national survey of the early intervention and early childhood special education workforce. The goal was to obtain a

national picture of the EI/ECSE workforce's education, credentials, pre- and in-service training, and knowledge about EI and ECSE. This report summarizes the main findings from the survey. Read More

https://nieer.org/sites/default/files/2024-

05/may 2024 early intervention and early childhood special education workforce needs fin dings from a national survey .pdf

IEPs vs Service Plans: Everything You Need to Know!

Are you considering sending your child with special needs to a private school? More and more families are considering this as an option. However, many differences exist when it comes to sending your child with special needs to private schools. While public schools are required to offer special education services, private schools aren't. Public schools can provide learners with special needs supports and services to best meet the students' educational needs in their IEPs, whereas private schools may offer learners Service Plans. But what is the difference between the two? Read More

https://www.thetechedvocate.org/ieps-vs-service-plans-everything-you-need-to-know/

Youth Employment: A Foundation for Mental Health and Well-Being

In May, the department launched a new webpage (www.dol.gov/youthmentalhealth) devoted to young people's mental health needs. Whether you're a young person, part of the workforce system, an employer, or a policymaker, everyone has a role supporting young people's wellbeing by helping more young people access the mental health resources they need and get into good jobs that they can build a healthy life around and thrive. The Department of Labor encourages everyone to explore the content and share with the department what they are doing in their community on this important topic by submitting their stories through their new webpage. Compiling these stories and sharing them helps spread the word about youth mental health. Contribute today (https://www.dol.gov/general/mental-health-at-work/youth#wufoomc4aghb05xz2v0), and your story may be shared on a department platform.

Involving Teens and Young Adults in Selecting Assistive Technology

This 4-page resource helps families involve teens and young adults in learning about and selecting assistive technology (AT). An important goal for older students is to understand the areas in which technology can support them in their educational and employment goals. The tip sheet encourages students to advocate for themselves, and to take an active role in selecting assistive technology to address their needs. Read More

https://www.parentcenterhub.org/involving-youth-in-selecting-assistive-tech/

Six Global Lessons on How Family, School, and Community Engagement Can Transform Education

Stronger family, school, and community partnerships help ensure that relational trust is at the foundation of schools, and that all the actors can work together toward a shared vision of

education in their communities. This shared vision of education is critical to education systems transformation. This report is the result of the participation of hundreds of students, families, school educators, and researchers who dedicated their time and energy to investigating the critical role that families and communities play in ensuring students and schools can flourish. Read More

https://www.brookings.edu/wp-content/uploads/2024/05/Final-Six-Global-Lessons EN 24June2024 web.pdf

Frequently Asked Questions: Social Security Administration, Supplemental Security Income, and Social Security Disability Insurance – Can I work if I receive social security benefits?

This FAQ provides people with disabilities and their families an overview on social security benefits and answers common questions about these benefits and employment. https://leadcenter.org/resources/financial-toolkit-frequently-asked-questions/

Summer Learning Tips to Go! Text Messaging Service

The Summer Slide is real! While we are all looking forward to the long days relaxing and making the best memories with our children, we must remember to sprinkle in some fun learning throughout our summer adventures. We found the perfect resource for families to do just that and avoid the summer learning loss! Sign up for summer learning tips sent right to your phone, in English or Spanish, from Start with a Book.

https://www.startwithabook.org/reading-tips-text-messages

Cartoons Available with American Sign Language

The ED-funded Bridge Multimedia now has some of children's favorite Public Broadcasting Service cartoons available in American Sign Language, thanks to ED's Office of Special Education Programs funding. Check out full episodes of "Alma's Way," "Daniel Tiger's Neighborhood," and more.

https://pbskids.org/videos/american-sign-language-full-episodes

Unstuck: The Special Education Podcast

Discussions between two professionals related to current trends and topics affecting the world of special education. They pull from a combined 40 years in the field to share stories, insight and potential solutions.

https://podcasts.apple.com/us/podcast/unstuck-the-special-education-podcast/id1604000975

Special Education Inner Circle

The Special Education Inner Circle podcast is hosted by Catherine Whitcher, M.Ed., founder of the Master IEP Coach® Mentorship + Network. Get your notebook ready as Catherine brings you real-world strategies for everyone at the IEP table. With her family's experience in the disability community and her journey from Special Education classroom teacher to IEP expert, Catherine knows what it takes to prepare students and families for the future. Get ready to be

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inspired and learn actionable steps you can take immediately to change your special education experience.

https://podcasts.apple.com/ca/podcast/special-education-inner-circle/id1484686234

Commemorating the 25th Anniversary of Olmstead

ICYMI: On June 20th The U.S. Department of Justice and the U.S. Department of Health and Human Services' Administration for Community Living and Office for Civil Rights celebrated the 25th anniversary of the landmark Olmstead v. L.C. Supreme Court decision, which ruled that unjustified segregation of people with disabilities is a form of unlawful discrimination under the Americans with Disabilities Act (ADA).

https://www.youtube.com/live/EYsDx5ogzLc?feature=shared

Special Education Legal Update

Perry A. Zirkel March 2025

This month's update provides (a) quick summaries of current legal developments under the IDEA and Section 504, and, on the next page (b) a recent court decision specific to "504-only" students (i.e., those not also covered by the IDEA.) For previous monthly updates and related publications under these federal laws, see <u>perryzirkel.com</u>

- On January 17, 2025, the U.S. Supreme Court agreed to hear the parents' appeal of the Eighth Circuit Court of Appeals decision concerning the standard for money damages under Section 504 and the Americans with Disabilities Act (ADA). As summarized in the April 2024 update, the Eighth Circuit issued two decisions on the same day, one specific to the parents' IDEA claim and the other specific to their Section 504/ADA claim. In the first, the appeals court upheld a lower court's IDEA ruling that the defendant district denied FAPE to a child with a rare form of epilepsy by refusing to provide instruction to make up for the shortened school day necessitated by the child's frequent morning seizures. The remedy included compensatory education and in-home instruction. In the second, the appellate court upheld the lower court's Section 504/ADA ruling that the parents were not additionally entitled to money damages because they had not proven that the district's refusal amounted to bad faith or gross misjudgment. The Supreme Court will decide, as a general rule, whether bad faith/gross misjudgment or some other, perhaps less heightened standard applies to money damages in student Section 504/ADA cases.
- On February 3, 2025, the Sixth Circuit Court of Appeals issued an officially published (and, thus, precedentially weighty) decision in *William A. v. Clarksville-Montgomery County School System* that affirmed the lower court's decision reported in the June 2024 update. More specifically, this federal court of appeals, which encompasses the four states from Michigan down to Tennessee, upheld the lower court's ruling that the defendant school district denied FAPE under the IDEA to a student, who had dyslexia and with proper instruction could learn to read, and yet graduated with a 3.4 GPA *without* learning to read. In addition to the issue of the reading method, a notable feature of this case was the district's use of AI software (specifically, ChatGPT and Grammarly), which the court characterized as "workarounds for reading." The appellate court also upheld the compensatory education award of 888 hours of dyslexia instruction. Next, the school district faces the lower court's determination of attorneys' fees, for which the parents have requested \$267k.
- On February 27, 2025, West's Education Law Reporter published "<u>Due Process Hearing Decisions under the IDEA: A Follow-Up Outcomes Analysis with and without New York.</u>" This analysis of due process hearing decisions for the most recently available four-year period reveals that for the nation as a whole, the outcomes, according to a three-category scale (for parents, mixed, and for districts), are strongly skewed toward parents at an even more pronounced level than during the previous six-year period; however, when the outlier

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On February 25, 2025, a federal district court in Florida issued an unpublished decision in *Wisniewski v. Sunset Elementary School*, addressing the Section 504 claims of the parents of second grader with a severe peanut allergy. The parents' allegations were as follows:

The child always carries an Epi-Pen to avoid the potentially fatal effects of anaphylaxis. The school officials knew about their child's allergy since she started school in kindergarten. The school's handbook describes the school as "peanut allergies/peanut-free." The child is at risk of exposure to peanut allergens because school officials often allow outside food for birthdays and other such celebrations and cannot guarantee that the school cafeteria is devoid of cross-contamination from peanut products. During the start of grade 2 (2023–2024), the school administrators attempted to place the child alone at a peanut-free table in the school cafeteria to minimize risk. Her parents objected, seeking alternative accommodations, such as an individualized safety plan and protocols for a truly peanut-free school. The school responded five months later by issuing a 504 plan for which the school denied their requests for their participation and for the participation of the school nurse. The plan contained five accommodations, including disallowing peanut products in the child's classroom, reminding students in the class to wash their hands after lunch, and providing the school cafeteria menus in advance to her parents. The plan lacked most of the parents' requested accommodations, which school administrators denied with "hostility and veiled threats." Two months later, another student sat across from the student in the school cafeteria with a peanut butter and jelly sandwich, thus putting her at direct risk. On another occasion, she accidentally dropped her lunch from home on the ground and went hungry for the day due to the risk of cross-contamination in the cafeteria food.

In April 2024, the parents filed suit in federal court for various forms of relief, including a revised 504 plan and money damages. The named defendants, which were the elementary school and the school board, filed a motion for dismissal. For ruling on this early pretrial motion, it is well-established that courts accept the allegations as facts, with ambiguities interpreted in the light most favorable to the plaintiffs (because granting the motion precludes further court proceedings, including a judge or jury determining the facts based on sworn statements and other admissible evidence).

First, the dismissal motion	The court agreed, dismissing the elementary school as a
contended that, under state law,	defendant in this lawsuit.
the school board, representing	
the district, was the only entity	
subject to suit.	
Second, without disputing	Rejecting this argument, the court concluded, based on the
whether the child was eligible	allegations, that the district's response to the parents'
under Section 504/ADA, the	requested accommodations was "unreasonable, untimely,
school board argued that they	and insufficient."
had provided her with reasonable	
accommodations.	
Third, the school board asserted	The court ruled: "At this early stage of the litigation,
that the plaintiff-parents failed to	Plaintiffs adequately alleged facts to show deliberate
show deliberate indifference,	indifference."
which is required for money	
damages.	

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Fourth, the school board
contended that the plaintiffs did
not assert sufficient facts to
establish retaliation under
Section 504/ADA.

Agreeing, the court concluded that the parents had not sufficiently alleged the retaliation requisites of adverse action and causal link.

If this case is not settled, the parents may or may not lose at the subsequent stages of summary judgment before trial or the verdict at the end of a trial. Yet, it serves as a reminder of the need to establish defensible procedures for determining eligibility under Section 504 and, if the student is eligible, that the 504 plan meets the applicable procedural, substantive, and implementation standards for appropriateness. For example, did the child receive reasonable accommodations for meaningful access to the school program?

Update from the US Department of Education

March 20, 2025. Statement on President Trump's Executive Order to Return Power Over **Education to States and Local Communities**

Secretary of Education Linda McMahon released the following statement following President Trump's Executive Order to return education to the states:

"Today's Executive Order is a history-making action by President Trump to free future generations of American students and forge opportunities for their success. We are sending education back to the states where it so rightly belongs.

"Education is fundamentally a state responsibility. Instead of filtering resources through layers of federal red tape, we will empower states to take charge and advocate for and implement what is best for students, families, and educators in their communities.

"Closing the Department does not mean cutting off funds from those who depend on them—we will continue to support K-12 students, students with special needs, college student borrowers, and others who rely on essential programs. We're going to follow the law and eliminate the bureaucracy responsibly by working through Congress to ensure a lawful and orderly transition.

"With today's action, we take a significant step forward to give parents and states control over their children's education. Teachers will be unshackled from burdensome regulations and paperwork, empowering them to get back to teaching basic subjects. Taxpayers will no longer be burdened with tens of billions of dollars of waste on progressive social experiments and obsolete programs. K-12 and college students will be relieved of the drudgery caused by administrative burdens—and positioned to achieve success in a future career they love."

March 19, 2025. U.S. Department of Education's Office for Civil Rights Concludes that the Maine Department of Education Is Violating Title IX

The U.S. Department of Education's (ED) Office for Civil Rights (OCR) sent a letter to Maine Department of Education (MDOE) Commissioner Pender Makin notifying her that OCR has concluded that MDOE has policies and practices that are in violation of Title IX. The letter details the results of OCR's February 21 directed investigation into MDOE.

As a result of the noncompliance finding, OCR has issued a proposed Resolution Agreement to the MDOE to resolve the Title IX violations. OCR has offered MDOE an opportunity to voluntarily agree within 10 days or risk imminent enforcement action including referral to the U.S. Department of Justice (DOJ) for proceedings.

"The outcome of OCR's investigation of MDOE confirms that it has violated federal antidiscrimination law by allowing boys to compete in girls' sports and boys to occupy girls' intimate facilities. Today's findings and proposed resolution agreement demonstrate to MDOE and any other entity receiving federal funding that the Trump Administration will not tolerate unlawful discrimination against girls and women," said Acting Assistant Secretary for Civil Rights Craig Trainor. "If Maine does not swiftly and completely come into compliance with Title IX, we will initiate the process to limit MDOE's access to federal funding."

The Department of Education's proposed Resolution Agreement requires the following action items:

- (i) MDOE will issue a directive to all public school districts in Maine requiring them to comply with Title IX and reminding them that noncompliance places their federal funding in jeopardy.
- (ii) The directive shall specify that Title IX compliance means that schools must forbid allowing males to participate in any athletic program, or access any locker room or bathroom, designated for females and that meaning of words such as "woman" and "man" are to be understood "in the context of the facts that there are only two sexes."
- (iii) MDOE will restore to individual female athletes all individual recognitions such girls or women would have earned but for the recognitions being given to males who participated in girls' competitions.
- (iv) For each female athlete whose record is restored, MDOE will send a letter to the female athlete expressing an apology on behalf of the State of Maine for allowing her educational experience and participation in school sports to be marred by sex discrimination.
- (v) MDOE will rescind or revise any prior guidance documents or rules which permitted male athletes to participate in girls' teams and categories and clarify that to the extent that state law conflicts with Title IX, federal law preempts state law unless a school district wants to lose federal funding.
- (vi) MDOE will require each school district in Maine to submit to MDOE an annual certification of compliance with Title IX and will promptly notify OCR of any credible report that a school district is still allowing a boy to participate in girls' sports.

Background:

OCR launched its February 21 directed investigation of MDOE under its authority pursuant to Title IX of the Education Amendments of 1972. Title IX and its implementing regulation prohibit discrimination on the basis of sex in any education program or activity receiving federal financial assistance.

President Trump's Executive Order Keeping Men out of Women's Sports articulates United States policy, consistent with Title IX, to protect female student athletes from having "to compete with or against or having to appear unclothed before males."

U.S. Department of Education to Investigate D.C. Public Schools Over Reported Disability Discrimination

The U.S. Department of Education's Office for Civil Rights (OCR) today sent a letter to Chancellor Lewis Ferebee of the District of Columbia Public Schools (DCPS) initiating a directed investigation to evaluate if the district is failing to meet the needs of students with special needs or disabilities.

"The Department of Education has a solemn responsibility to protect all students from discrimination, especially our most vulnerable," said U.S. Secretary of Education Linda McMahon. "We will ensure schools are fulfilling their commitment to provide all students with equal access to educational opportunities and not placing unnecessary burdens on families to fight for special education services for their children to which they are entitled under law."

Background:

In December 2024, the District of Columbia Advisory Committee to the U.S. Commission on Civil Rights found the school district has received more complaints per 10,000 students in the special education area than any other state or territory in the U.S. The report determined that the DCPS dispute resolution system places the burden of accessing special education services on students and their families and the "high rate of due process complaints warrants serious attention to explore why families are suing for the services that they are entitled to." The report also detailed significant concerns about the DCPS transportation for special education students, including long delays, unreliable schedules, and lax oversight.

OCR will investigate whether DCPS is discriminating against qualified individuals with disabilities or special needs in programs and activities that receive federal financial aid under Title II of the Americans with Disabilities Act and the Rehabilitation Act of 1973.

How Family Expectations Influence the Educational Outcomes of Children with Disabilities

By Ruelle J. Merkman

Abstract

Parents have a powerful influence on the educational paths of children with disabilities. From the literature articles reviewed, it became clear that family expectations impact academic engagement, success at school and postsecondary activities. The literature review analyzes recent research focusing on socioeconomic status, cultural factors, mental health, and disability types as key influencing factors. Findings suggest a higher parental expectation leads to improved academic performance and engagement, while lower parental expectations tend to be associated with a lack of progress in education. Disparities due to these issues can be addressed through parental education, mental health interventions, and collaborations between schools and families. Recommendations include policy interventions and culturally responsive strategies to bridge expectation gaps and foster success for children with disabilities.

How Family Expectations Influence the Educational Outcomes of Children with **Disabilities**

Expectations from parents are instrumental in determining the academic performance of a child, especially a child with disabilities. Research suggests that higher parental expectations contribute to improved school engagement, academic success, and postsecondary opportunities, while lower expectations may limit a child's potential (O'Donnell et al., 2022). Children with disabilities often face systematic barriers, including societal stigma, resource limitations, and teacher biases, which can influence how families perceive their academic capabilities (Cox & Marshall, 2019). This literature review analyzes the consequences of family expectations on the education of a disabled child while incorporating some predictors like, social economic status, culture, mental health in the family, and the child's particular form of disability.

Parental Expectations and Academic Success

A lot of research has shown parental expectations are linked with success in school. O'Donnell et al. (2022) conducted a longitudinal study examining school functioning in children with disabilities and found that high parental expectations significantly correlated with improved academic engagement and performance over time. Similarly, Cox & Marshall (2019) demonstrated that children with disabilities are at a higher risk of academic disengagement when their parents hold low expectations regarding their capabilities. Their children's motivation and education depend highly on their parents' conjectures.

Socioeconomic and Cultural Influences on Expectations

Socioeconomic and cultural contexts are the two driving factors behind parental expectations. Wu et al. (2023) found that lower socioeconomic status is linked to reduced academic expectations due to limited resources and systemic inequities. Jovanović et al. (2025) revealed that digital literacy and access to educational resources during the COVID-19 pandemic were crucial predictors of parental involvement and expectations. Families making higher income usually have greater access to supplementary educational resources. That is most likely the place where students in poorer families lag more. Lower income families have limited access to most everything, whereas wealthier parents actively, and often increasing household expectations, which typically leads to greater educational achievement funnel their children into school related programs and activities. Moreover, cultural values influence the way disabilities are perceived, shaping parental aspirations for their children. For example, in some cultures, disabilities are viewed through a medical model that focuses on limitations, while others adopt a more inclusive approach that emphasizes strengths and abilities (Wu et al., 2023).

The Role of Mental Health in Shaping Expectations

Family expectations can also be significantly impacted and influenced by the mental health of the family. Rispoli et al. (2024) found that parents experiencing stress set lower expectations for children with Autism Spectrum Disorder (ASD), while those with strong support systems set higher goals. Similarly, Cox and Marshall (2019) reported that parents internalizing societal stigma lowered their educational aspirations. The sources of parents' stress may include availability of social and special education services as well as economic factors. If anxiety or burnout is elevated, parents are unable to cater to their child's academic requirements and, as a result, lower their expectations. Nonetheless, in contrast with this, families who have received adequate emotional and psychological support actively pursue academic assistance and foster coping skills in their children. Stress reduction can be promoted by school and community agencies through the provision of counseling, parent group facilitation, and dissemination of information on disability and the education policy. With parents' wellbeing adequately catered to, they will become more proactive which will, in turn, assist them in achieving a challenging, but achievable set of goals for their children.

Differences in Expectations Across Disability Categories

Certain expectations differ depending on the kind of disability. Juarez et al. (2023) found that parents of children with intellectual disabilities held lower academic expectations than those of children with learning disabilities. Wu et al. (2023) noted that parents of English Learners (ELs) with disabilities expected greater financial independence but lower academic achievement. The differences are often rooted in the believed boundaries and capabilities of each disability. For instance, parents with children suffering from physical disabilities tend to focus more on life skills training and work preparedness than on educational accomplishments, while those with children on the spectrum tend to emphasize social skills and language development. Also, the amount of parental engagement is shaped by what educators and health practitioners tell them.

Parents who have access to consolidated and well-informed instruction concerning their child's abilities tend to have more positive and supportive expectations. Effective communication among schools, health care practitioners, and parents can build a comprehensive environment within which children are encouraged to maximize their capabilities.

Implications and Recommendations

Addressing expectation gaps and fostering milestone achievements for children with disabilities requires multiple strategies. Parental education programs can empower families by providing workshops on setting high yet realistic expectations, debunking misconceptions, and offering evidence-based strategies for supporting their child's learning (Jovanović et al., 2025). Competency development in areas such as Individualized Education Program (IEP) development, Behavior Modification, and Assistive Technology can empower parents to more actively participate in their child's education. Moreover, responsiveness to cultural diversity is important because the educator interacts with parents from various cultures and has to ensure that their expectations correspond to what is educationally possible. There should be efforts to hire bilingual paraprofessionals or cultural brokers to address community and parental engagement barriers and enhance trust (Wu et al., 2023). Providing mental health support to parents is critical as expectations can be shaped by stress and anxiety. Providing proactive support services for mental health like respite care, counseling, stress management classes, and support groups can have a great impact on parental expectation and outlook (Rispoli et al., 2024). In addition, enhancing communication between parents and teachers with scheduled meetings, social media, and progress updates facilitates parental involvement alongside educational expectations. Together with the teachers, parents will actively participate in setting educational goals for their children, which will benefit the students (Cox & Marshall, 2019). To secure equitable support for educational materials throughout the school year, changes in policies are essential. Governmental departments should budget specific funds for these types if initiatives, such as ready set teach programs, modified curriculum and materials development, and training classes for instructors of disabled pupils (Juarez et al., 2023). All of these interventions will help foster a more supportive and inclusive education system for students with disabilities.

Conclusion

Expectations from parents play a key role with children with disabilities. This expectation is formed based on culturally informed socio-economic conditions, mental health, and the nature of the disability. Defeating these obstacles using specific programs, culturally sensitive interventions and school-community collaborative approaches can encourage these families to set higher goals which will help these children to achieve their academic goals. Strengthening family engagement, providing mental health support, and improving teacher-parent relations are some of the changes that can be made in the school setting to ensure that children with disabilities are adequately supported and nurtured. Further studies and policy changes should concentrate on how to provide necessary help to families to be able to set and sustain high, but reasonable expectations of what the future holds for their children.

References

- Cox, F. M., & Marshall, A. D. (2020). Educational engagement, expectation and attainment of children with disabilities: Evidence from the Scottish Longitudinal Study. British Educational Research Journal, 46(1), 222–246. https://doi.org/10.1002/berj.3576
- Juarez, S. W., Chaparro, G., Rios-Aguilar, C., & Guarneros, N. (2023). Parental Expectations of Postsecondary Outcomes for Diverse Students with Learning Disabilities: A Funds of Knowledge and Social Capital Approach to Transition Planning. Journal of Latinos and Education, 22(1), 41–56. https://doi.org/10.1080/15348431.2019.1689136
- Jovanović, O., Ristić Dedić, Z., & Poredoš, M. (2025). Parental involvement in the education of children with additional support needs during the pandemic: views from Croatia, Serbia, and Slovenia. European Journal of Psychology of Education, 40(1), 30-. https://doi.org/10.1007/s10212-024-00912-8
- O'Donnell, A. W., Redmond, G., Arciuli, J., Robinson, S., Skattebol, J., Raghavendra, P., Thomson, C., Wang, J. J. J., & Emerson, E. (2022). The Association between Parental Educational Expectations and School Functioning among Young People with Disabilities: A Longitudinal Investigation. *Exceptional Children*, 89(1), 60–78. https://doi.org/10.1177/00144029221087392
- Rispoli, K. M., Lee, G. K., Okyere, C., Nelson, S. R., & Norman, M. Z. (2024). Parent Expectations for Postsecondary Transition among Youth with ASD: Exploring the Role of Family Mental Health. California School Psychologist, 28(4), 524–536. https://doi.org/10.1007/s40688-023-00466-4
- Wu, Y.-C., Thurlow, M., & Johnson, D. (2023). Parent's Post-School Goal Expectations for English Learners with Disabilities. Exceptionality: The Official Journal of the Division for Research of the Council for Exceptional Children, ahead-of-print(ahead-of-print), 1-16. https://doi.org/10.1080/09362835.2022.2156868.2022.2156868

Neuroplasticity in Neurocorrection: Creating New Neural Connections for the Restoration of Children's Cognitive Functions

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Abstract

This article examines the role of neuroplasticity in the neurocorrection of cognitive functions in children with special educational needs. Modern methods of special pedagogy are analyzed, including neuropsychological exercises, play therapy, sensorimotor correction, and cognitivebehavioral therapy (CBT). The importance of early intervention and a comprehensive approach in corrective work is emphasized.

Keywords: neuroplasticity, neurocorrection, cognitive functions, special pedagogy, corrective methods.

Introduction

Neuroplasticity, defined as the brain's ability to change its structure and functions in response to experience and learning, is a key mechanism in the development and restoration of cognitive functions in children. In special pedagogy, understanding and applying the principles of neuroplasticity open new possibilities for effective neurocorrection aimed at overcoming various developmental disorders in preschool and early school-age children.

Theoretical Foundations of Neuroplasticity in Childhood

In childhood, the brain exhibits a high degree of plasticity, allowing it to adapt to new conditions and recover from damage. This process includes synaptic plasticity, neurogenesis, and the reorganization of neural networks. Synaptic plasticity involves the strengthening or weakening of synaptic connections in response to activity, which underlies learning and memory. Neurogenesis, particularly active in the hippocampus, contributes to the formation of new neurons, influencing cognitive functions (Aimone, Li, Lee, Clemenson, Deng, & Gage, 2014). The reorganization of neural networks enables the compensation of functional deficits by transferring functions to other areas of the brain (Stiles, 2000).

Application of Neuroplasticity in the Restoration of Cognitive Functions

The use of neuroplasticity principles in neurocorrection effectively restores and develops cognitive functions in children. For example, neuropsychological exercises aimed at enhancing interhemispheric interaction contribute to the improvement of memory, attention, and executive functions (Diamond & Lee, 2011). Sensorimotor correction, which includes exercises for the

development of motor skills and sensory perception, enhances spatial thinking and movement coordination (Pfeiffer, Clark, & Arbesman, 2018).

Neurocorrection in Special Pedagogy: Methods

1. Neuropsychological Correction

This method is aimed at activating and restructuring neural connections through exercises that stimulate the functioning of various brain areas.

Principles:

- Development of interhemispheric interaction to synchronize the work of both hemispheres.
- Improvement of attention, memory, and spatial thinking through cognitive tasks.
- Strengthening synaptic plasticity through regular repetition.

Examples of Exercises:

- Cross-lateral movements (e.g., touching the left knee with the right hand and vice versa).
- Attention retention exercises (e.g., memorizing sequences).
- Visual-motor exercises (e.g., working with geometric figures).

How is this related to neuroplasticity?

These exercises contribute to the formation of new neural connections in the prefrontal cortex, parietal lobe, and hippocampus, thereby enhancing cognitive functions.

2. Sensorimotor Correction

This method helps restore sensory integration and cognitive skills by targeting the motor and sensory centers of the brain.

Principles:

- Improvement of sensorimotor integration through tactile and motor stimuli.
- Development of coordination and spatial perception.
- Enhancement of memory and attention through motor and tactile tasks.

Examples of Exercises:

- Games with tactile materials (e.g., kinetic sand, finger painting).
- Balance exercises (e.g., standing on one leg, walking along a line).
- Vestibular stimulation (e.g., jumping on a trampoline, swinging).

How is this related to neuroplasticity?

These exercises engage the sensorimotor cortex, cerebellum, and parietal areas, improving sensory signal integration and cognitive development.

3. Play Therapy

Play is a natural way of learning that promotes the development of executive functions and memory through emotionally meaningful interactions.

Principles:

- Formation of executive functions (planning, cognitive flexibility).
- Development of emotional regulation and social interaction.
- Stimulation of mirror neurons for behavior modeling.

Examples:

- Role-playing games (e.g., store, doctor, school).
- Rule-based games (e.g., lotto, chess, board games).
- Physical activity games (e.g., active games, relay races).

How is this related to neuroplasticity?

Play therapy stimulates the frontal lobes, hippocampus, and limbic system, forming stable neural connections responsible for behavior and cognition.

4. Music Therapy

Musical activities activate multiple brain regions, enhancing memory, attention, and cognitive processes.

Principles:

- Development of phonemic awareness and language skills.
- Activation of the dopaminergic system, increasing motivation.
- Improvement of working memory and spatial thinking.

Examples:

- Rhythmic exercises (e.g., clapping, playing the drums).
- Singing (enhancing speech and auditory skills).
- Musical games (e.g., memorizing sequences of melodies).

How is this related to neuroplasticity?

Music stimulates the auditory cortex, motor cortex, and limbic system, improving cognitive and emotional functions.

5. Cognitive-Behavioral Therapy (CBT)

CBT is aimed at modifying cognitive and behavioral patterns, making it especially beneficial for children with attention and self-regulation difficulties.

Principles:

- Replacing negative thinking strategies with adaptive ones.
- Developing self-control and emotional regulation.
- Enhancing concentration and memory through mindful practices.

Examples:

- Cognitive restructuring method (replacing negative beliefs).
- Self-regulation method ("stop and think" before acting).

• Behavioral modeling (teaching social skills).

How is this related to neuroplasticity?

CBT activates the prefrontal cortex, responsible for behavior control, and facilitates the reorganization of neural connections in the limbic system.

6. Biofeedback and Neurofeedback

Neurofeedback methods allow children to consciously regulate brain activity.

Principles:

- Improving self-regulation and attention.
- Enhancing neuronal activity in memory-related areas.
- Reducing hyperactivity and anxiety.

Examples:

- Regulating brain arousal levels using EEG.
- Visual training programs for concentration development.
- Breathing exercises with biofeedback.

How is this related to neuroplasticity?

This method influences the prefrontal cortex and attention-related brain regions, strengthening functional connections and improving cognitive functions.

Conclusion

Understanding and applying the principles of neuroplasticity in special pedagogy open up vast opportunities for effective neurocorrection in preschool and early school-age children. An individualized approach, the use of diverse methods, and reliance on modern research significantly enhance cognitive functions and overall development in children with various impairments.

References

- 1. Ayres, A. J. (2005). Sensory integration and the child: Understanding hidden sensory challenges. Western Psychological Services.
- 2. Aimone, J. B., Li, Y., Lee, S. W., Clemenson, G. D., Deng, W., & Gage, F. H. (2014). Regulation and function of adult neurogenesis: From genes to cognition. Physiological Reviews, 94(4), 991–1026.
- 3. Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. Science, 333(6045), 959–964.
- 4. Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*, 119(1), 182–191.
- 5. Kendall, P. C. (2011). Child and adolescent therapy: Cognitive-behavioral procedures (3rd ed.). Guilford Press.
- 6. Kolb, B., & Gibb, R. (2011). Brain plasticity and behavior in the developing brain. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 20(4), 265–276.

- 7. Merzenich, M. M., Van Vleet, T. M., & Nahum, M. (2014). Brain plasticity-based therapeutics. Frontiers in Human Neuroscience, 8, 385.
- 8. Pfeiffer, B., Clark, G. F., & Arbesman, M. (2018). Effectiveness of sensory integration interventions in children with autism spectrum disorders. American Journal of Occupational Therapy, 72(1), 7201190010p1-7201190010p11.
- 9. Stiles, J. (2000). Neural plasticity and human development: The role of early experience in sculpting memory systems. Developmental Neuropsychology, 18(2), 237–272.

Osteogenesis Imperfecta

By Dr. Faye J. Jones

Osteogenesis imperfecta (OI) is an inherited bone disorder that is present at birth (Osteogenesis Imperfecta | Johns Hopkins Medicine). It is also known as brittle bone disease (Osteogenesis Imperfecta: What It Is, Symptoms & Types). An infant born with OI usually have soft bones that break or fracture easily, bones that are not formed normally, and many other problems. OI symptoms range from mild to severe.

There are 8 different types of OI. The types vary. They are based on the type of inheritance, signs and symptoms, X-ray results and other imaging tests. Types of OI are:

- **Type I** The mildest and most common type. Around 50% of all affected children have Type I and they have few fractures and deformities
- **Type II** Most severe type. The infant has very short arms and legs, a small chest, and soft skull. The infant may be born with fractured bones, may have low birth weight and lungs that are not well developed. An infant with type II OI usually dies within weeks of birth
- **Type III** This is the most severe type in babies who don't die as newborns. The infant may have slightly shorter arms and legs than normal and arm, leg, and rib fractures. The infant may have a larger head, a triangle-shaped face, a deformed chest and spine, and breathing and swallowing problems. Symptoms vary in each infant.
- **Type IV** Symptoms are mild to severe. An infant with type IV OI may be diagnosed at birth. Fractures may not occur until crawling or walking. The bones of the arms and legs may not be straight and the infant may not grow normally.
- **Type V** This type is similar to Type IV. Symptoms may be medium to severe. It is typical to have enlarged thickened areas (hypertrophic calluses) in the areas where large bones are fractured.
 - **Type VI** This type is very rare, are medium, and is similar to IV.
- **Type VII** May be similar to Type IV or Type II. It is common to have shorter than normal height, shorter than normal upper arm and thighbones.
- **Type VIII** Similar to Types II and III. The infant has very soft bones and severe growth problems.

OI is passed through the genes. Different types are passed on indifferent ways. The gene may be inherited from one or both parents. Or can be passed on from an unexplained change (spontaneous mutation) of a gene.

Nearly all babies with OI have a defect of one or two genes. These genes help in forming collagen. This is a main part of connective tissue that connects and supports the entire body, including bones. Due to this defect, there is not enough collagen or the collagen is abnormal.

The symptoms of osteogenesis imperfecta in an infant vary immensely within and between the types. Symptoms of OI include:

- Easily broken bones
- Bone deformities, such as bowing of the legs
- Discoloration of the white of the eye (sclera). May be blue or gray in color
- A barrel-shaped chest
- A curved spine
- A triangle-shaped face
- Loose joints
- Muscle weakness
- Skin that easily bruises
- Hearing loss in early adulthood
- Soft, discolored teeth

The symptoms of OI may look like other medical conditions. The parent should always see the child's healthcare provider for a diagnosis.

Osteogenesis Imperfecta is diagnosed by the infant's healthcare provider. The provider will ask questions about the infant's medical history, family, pregnancy history, and the infant's current symptoms. The infant will be examined looking for signs and symptoms of OI. The milder forms of OI may be difficult to diagnose.

The infant's healthcare provider may recommend the following diagnostic tests:

X-rays – Thes may show many changes such as weak or deformed bones and fractures.

Lab tests – Blood, saliva, and skin may be checked and also may include gene testing.

Dual Energy X-ray Absorptiometry scan (DXA or DEXA scan). A scan of the bones to check for softening.

Bone biopsy – A sample of the hipbone is checked. This exam requires general anesthesia.

The healthcare provider will find the best treatment based on:

- How old your child is
- Your child's overall health and medical history
- How sick your child is
- How well your child handles certain medicines, treatments, or therapies
- If the child's condition is expected to get worse
- The parent's opinion and preference

The primary goal of treatment is to prevent deformities and fractures. Once the child gets older, allow him or her to function as independently as possible. Treatments for preventing or correcting symptoms might include:

Biophosphonate medicines – Help to strengthen bones and prevent fractures. Used in most types of OI. They can be given by mouth or IV (intravenous) into a vein.

Care of fractures – The lightest materials are used to cast fractured bones. It is recommended that a child begin moving or using the affected area as soon as possible.

Orthopedic treatment – Includes bracing and splinting. Surgery may also be needed.

Rodding – Metal rods are inserted to help stabilize and prevent deformities of long bones.

Dental procedures – Treatments such as capping teeth, braces, and surgery may be required.

Physical and occupational therapy – Both therapies are very important in babies and children.

Assistive devices – Wheelchairs and other custom-made equipment may be required as the infant gets older.

Possible complications of osteogenesis imperfecta in an infant may affect most body systems in an infant or child. The uncertainty of developing complications depends on the type and severity of the infant's OI. Complications may include:

- Respiratory infections, like pneumonia
- Heart problems, poor heart valve function
- Kidney stones
- Joint problems
- Hearing loss
- Eye conditions and vision loss

Osteogenesis Imperfecta is a permanent condition in the infant's life and the parent can manage it by:

- Avoiding fractures
- Avoiding infection
- Dealing with pain
- Dealing with challenges
- Regular medical and dental checkups
- Weight management

Life expectancy of an infant with the most common and mildest form of OI can be same as someone without it (Osteogenesis Imperfecta: What It Is, Symptoms & Types). However, life expectancy varies immensely depending on the type. Individuals with Type I may live a typical lifespan. Individuals with Type IV usually live to adulthood, but may have a slightly shortened lifespan.

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Osteogenesis Imperfecta is a progressive condition that requires life-long management to deformity and complications (Osteogenesis Imperfecta in Children - Stanford Medicine Children's Health). The interdisciplinary healthcare team assists the family to improve the child's functional outcomes and provide support to the parents as they continue to learn how to care for their child's needs. The Osteogenesis Imperfecta Society can be an asset resource for parents with OI.

The mission of the OI Foundation, which began in 1970, and serves over 100,000 people each year, is to improve the quality of life for those living with osteogenesis imperfecta through research, education, awareness and mutual support (Mission - OI Foundation). It was started by a small group of parents that banded together to created public and professional interest, support families and encourage research. Today, many of the individuals that serve on the Board of Directors and oversee the Foundation's operations have OI or are parents of children with OI. Improving life quality is a continuing challenge that this group of staff and volunteers work constantly to achieve.

Parental Challenges in Supporting the Executive Functional Skills of **Learners with Special Needs**

By Dr. Marlon Villaver Jr. **ABSTRACT**

This study investigates the challenges faced by parents in supporting the functional skills of learners with special educational needs during the post-COVID-19 pandemic. Utilizing a qualitative research design, the study employed interview guides to collect data from parents. The research explored parents' lived experiences as they navigated the demands of facilitating their children's learning at home through Interpretative Phenomenological Analysis (IPA). The findings revealed eight key themes: (i) the critical need for guidance in supporting children's functional skills; (ii) the importance of understanding the unique needs of their children; (iii) the struggle of balancing work and at-home education; (iv) parents' emotional commitment to their child's progress; (v) difficulties in maintaining their child's attention and motivation; (vi) the value of effective teaching strategies; (vii) parents managing dual roles as caregivers and educators; and (vii) the gaps in resources and support. The study recommends that schools offer structured training programs for parents, create accessible resources tailored to special educational needs, and maintain regular communication between educators and parents. Policymakers should also establish community-based support systems to ease the burden on families. This research highlights the vital role of parental involvement in developing the functional skills of learners with special needs and calls for collaborative efforts to ensure inclusive and effective education, especially during crises.

Keywords:

Executive functioning skills, parental challenges, modular learning, special education

INTRODUCTION

In the aftermath of the pandemic, the education system has been rebuilding, but the challenges for learners with special educational needs (LSEN) remain significant. The disruptions caused by the pandemic continue to impact their learning experiences, requiring ongoing adjustments and support. Ensuring learning continuity through distance education became a critical concern for educators worldwide. According to Zarei et al. (2020), the pandemic forced educators to rapidly adapt to new teaching methods, including online and modular learning, which posed significant difficulties for students with special needs who require personalized learning approaches. Despite these challenges, schools remained committed to providing quality education, aiming not to hinder students' growth but to support the development of functional skills essential for everyday life (Mason et al., 2020). These skills—rooted in real-life contexts—are vital for independent living and active community participation, especially during global crises that demand adaptability and resilience, as highlighted in the work of Gallegos et al. (2021).

In the Philippines, the pandemic posed significant challenges for teachers, parents, and LSEN. The Department of Education faced the difficult decision of whether to suspend classes to reduce physical contact and safeguard lives or to continue schooling, risking exposure to the virus. Studies by Lim et al. (2021) show that the pandemic exacerbated the already existing barriers for LSEN, as many families lacked the resources and knowledge to support their children's learning at home effectively. The Department of Education's response was to prioritize both educational continuity and the health and safety of all learners, leading to the adoption of distance and modular learning models (Liew, 2020). However, these alternative methods have proven challenging, particularly for students who need specialized support to thrive in an academic setting.

In the Schools Division of Toledo City, the Learning Continuity Plan (LCP) was designed to support LSEN under this new normal. Yet, it is a critical gap remains in fostering basic life, social, and community skills—areas where many LSEN continue to struggle (Solis & Garcia, 2020). Over the years, it has been observed that these functional skills are essential for promoting independence but often lack sufficient focus in remote learning settings (Kundu & Yadav, 2021).

This research aims to bridge this gap by examining the challenges parents face in supporting their children's functional skills during the post-pandemic. Using a qualitative approach, the study highlights the lived experiences of parents navigating the complexities of home-based education, particularly in the absence of formal training or resources tailored to LSEN. By exploring these parental challenges, this study seeks to inform strategies that enhance functional skills development, ultimately guiding learners with special educational needs toward greater independence and community integration.

RESEARCH AIM AND QUESTIONS

This study aimed to explore the challenges of parents in supoprting the executive functional skills of learners with special needs for the school year 2023-2024 towards policy recommendations. Specifically, it answers the following questions.

- 1. What challenges do parents encounter in supporting the executive functioning skills of their children with special needs?
- 2. What significant themes can be drawn from the experiences of parents with special educational needs?
- 3. What recommendations may be developed based on the formulated significant themes?

RELATED LITERATURE

In this study, the researcher utilized using a sequential method. This method explores the progression of research and how it connects with the identified challenges parents face in supporting their children with special educational needs (LSEN), particularly during the post pandemic COVID-19.

The COVID-19 pandemic posed unique challenges for parents of learners with special educational needs (LSEN), especially as schools transitioned to remote and modular learning. According to Lim et al. (2021) and Solis & Garcia (2020), parents faced difficulties due to a lack of formal training and resources designed for LSEN. This led to feelings of frustration and inadequacy when supporting their children's learning. Emotional stress was another barrier, as many parents experienced burnout while trying to balance work and home education (Zarei et al., 2020).

Research by Mason et al. (2020) found that communication barriers, particularly for parents of children with autism, hindered effective engagement in remote learning settings. Moreover, studies by Lim et al. (2021) and Kundu & Yadav (2021) showed that parents often felt isolated due to insufficient guidance from schools, making it difficult to adapt teaching strategies to their child's needs. Despite these difficulties, parents employed various coping mechanisms, such as establishing routines and seeking support from community groups (Kundu & Yadav, 2021; Gallegos et al., 2021).

Parents also reported struggling to teach functional life skills, such as social and selfmanagement skills, which are essential for independent living (Al-Khatib et al., 2020; Brown & Jones, 2020). The absence of structured, individualized learning plans made it harder for children to develop these skills during the pandemic. While the challenges faced by parents of LSEN were significant, their resilience and adaptation strategies were key to maintaining learning continuity during the crisis (Harris & Mehta, 2021; Jackson et al., 2020).

METHODOLOGY

Design

In this study, a qualitative research design known as phenomenology was used to explore the lived experiences of parents supporting the executive functioning skills of students with special needs at the secondary level. The phenomenological approach was chosen for its ability to deeply examine the subjective experiences and challenges faced by parents in navigating the development of executive functioning skills in their children.

Participants

In this study, 15 parents of students enrolled in the Toledo City Schools Division were selected as participants using a purposive sampling technique. The purposive sampling method allowed the researchers to explore the experiences of parents in supporting the executive functioning skills of their children with special needs.

Data Gathering Procedure

In this study, participant information was gathered using a semi-structured interview approach. Before data collection, permission was obtained from the school principal through a formal letter, which informed and secured approval to conduct the study. Following this, a letter seeking parental consent was sent to parents to request authorization for their participation in the research. Once consent was obtained, participants were provided with a consent form outlining the purpose and procedures of the study, ensuring their voluntary agreement to take part. Ethical

considerations were carefully addressed, with the interview protocol designed to explore parents' experiences and challenges in supporting their children's executive functioning skills. The tailored questions aimed to effectively address the research objectives. During the data collection phase, interviews with parents were recorded, transcribed, and analyzed in depth.

Instrument

This study employed semi-structured interview guides to gather data from participants. The research instrument consisted of three sections: preliminary, developmental, and post-interview questions. The preliminary section included basic questions aimed at establishing rapport and creating a comfortable environment for the parents. The developmental section focused on the core research inquiries, exploring the challenges parents face in supporting their children's executive functioning skills, as well as their perceptions and experiences. Finally, the postinterview section provided an opportunity for participants to reflect on the interview process and offer any additional insights or comments they may have.

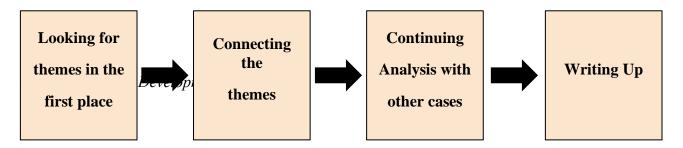
Ethics

The study adhered to essential ethical guidelines throughout the research process. With approval from the school principal, the researchers obtained legal permission to conduct the study. The methodology and objectives of the study were thoroughly explained to the principal during an inperson meeting with the researchers. To ensure voluntary participation, consent forms were provided to and signed by participants before their involvement in the study. Prior to conducting the interviews, the research questions were carefully reviewed to minimize any potential physical or psychological harm to the participants, ensuring that ethical standards were maintained at all stages of the study.

Data Analysis

In this study, the researcher employed Interpretative Phenomenological Analysis (IPA) for data analysis. This process followed a systematic approach, which included: i) identifying and defining themes within individual cases, ii) establishing connections between these themes, iii) iteratively analyzing additional cases to deepen understanding and enhance the findings, and iv) synthesizing the results into a comprehensive written report (Smith, J.A., 1996, p. 68-91).

Figure 1. Interpretative Phenomenological Analysis Schema



The following section presents the background information about the results of the interviews that were conducted into five primary findings:

Challenges of Parents Relative to Functional Skills of Learners with Special Needs

All that cares

When working with learners who have special needs, it is essential for parents to recognize that each child and their disability are unique. For example, a child with visual impairments has different needs compared to a child with behavioral challenges, and the severity of these challenges varies from child to child. In some cases, parents may only need to make minimal adjustments to their caregiving strategies to support their child's full participation. However, in other situations, parents may find themselves investing more time, effort, and financial resources to accommodate their child's specific needs.

During the interviews, many parents expressed deep emotion when discussing their children's behavior and challenges.

"Her functional skills are all functioning good but sometimes in sharing her belongings may lead to a chaos. She doesn't want to share her things/stuffs to others." (Parent 1)

This comment highlights the behavioral challenges that can disrupt social interactions and daily routines, even when functional skills are progressing well.

"Hillary needs more assistance especially we as parents don't know how to sign language just the basic. Sometimes we cannot cater what he wants/needs because simply we cannot understand what he is trying to express." (Parent 10)

According to parent 10, the emotional and practical difficulties that many parents of children with special needs face, especially when communication barriers prevent them from fully understanding or meeting their child's needs.

These insights underscore the complex and deeply personal nature of parenting a child with special needs, highlighting the individualized challenges that both the child and the parents experience in their efforts to provide the necessary support. The findings suggest a need for more targeted resources and training to help parents navigate these challenges, ensuring their children's growth and well-being.

Out of Focus

Learners with special needs greatly benefit from interactions with peers and receiving consistent care from a supportive parent, despite the challenges they face, such as lack of focus. Typically developing learners, on the other hand, gain valuable lessons in respect and empathy when they engage with children whose abilities differ from theirs, learning how to respond appropriately and offer help. For parents, the journey of raising a child with special needs requires immense patience, as many children struggle with focus and attention in various aspects of their lives.

Parents recognize that their children may struggle with concentration, not just in their academic work but in other areas as well.

"He is so active in everyday activity especially with the peers around but in terms of school activities (modules) he tends to be out of focus on what he is doing." (Parent 3)

This illustrates how some children with special needs may excel in social environments but struggle when it comes to focused academic tasks.

Parent 3, in a similar context, expressed the challenge of balancing work and caregiving, saying,

"Karun nga sitwasyon, kinahanglan ug reminders pirmi ug lisod man kay naa oy trabaho." ("In this situation, what we need is constant reminder for we have to work." (Parent 3)

This highlights the struggle parents face in maintaining focus and consistency with their children's learning while managing their own responsibilities.

Another participant added that:

"Sheeasily gets bored on the things that she usually do the reason why she cannot finish a certain task or activity (modules)." (Parent 5)

Keira's challenge is a common one for children with special needs, where maintaining attention on repetitive tasks or activities becomes difficult, further complicating the task of completing assignments.

Another parent mentioned:

"Breanna nowadays is improving in some of her functional skills maybe because she is now focused on her routine every day at home. Sometimes she easily forgot." (Parent 7)

This suggests that a structured daily routine may help children with special needs focus, but even with this structure, occasional lapses in memory and attention still pose challenges.

Parent 8 reflected on her struggles with understanding her child's thoughts and challenges with schoolwork, saying,

"As the mother, the challenges that I've encountered with Judith is that sometimes I cannot understand her situation/thoughts especially nowadays in answering the modules. Maybe she has her own ways on expressing her thoughts but as a parent, I cannot interpret or understand maybe because of the lack of knowledge of how to handle her disability." (Parent 9)

This statement underscores the emotional and practical difficulties parents face when trying to comprehend their child's perspective, especially when communication barriers exist due to the child's unique needs.

Lastly, Parent 9 expressed the challenge of managing her daughter Leah's emotions and behavior:

"Leah's parents sometimes don't know how to handle if ever she will be angry if her request/wants will not be given/granted, they don't know how to handle. Sometimes they also have difficulty of Leah in training how to handle money. The parents sometimes disregard the feeling of Leah because according to them they don't know how to handle." (Parent 9)

This highlights the emotional burden on parents who are unsure how to support their children in managing frustration or in teaching them essential life skills, such as handling money, due to a lack of understanding of their child's unique needs.

The parents' responses clearly illustrate the broad range of challenges they face in supporting their children's focus and engagement with daily tasks, including academic activities. These challenges include the need for continuous reminders, difficulty managing emotions, and struggling to understand or interpret their child's needs, particularly when it comes to communication. The findings suggest that more comprehensive support, training, and resources for parents are necessary to help them navigate these challenges and foster their children's development effectively.

Training at its Best

Parents help children build and refine their knowledge and skills, charting a trajectory for their health and well-being during childhood and beyond. The experience of parenting also impacts parents themselves. Parenting of learners with special needs matters, that is why, they need relevant training in order to handle their children.

During the conduct of the interview, the parents acknowledge that they need training on teaching, and methods of handling learners with special needs.

According to Parent 4 that

"Bastin, wants to finish his activities as fast as he can so that he can take a snack. The challenge from his parent now is how to let him calm and train to be more productive especially in terms of his activities in the modules." (Parent 4)

Parent 4's statement about Bastin reflects a common challenge that parents of children with special needs face, particularly in managing their child's approach to tasks and time management. Bastin's desire to finish activities quickly, simply to get a snack, suggests that he may lack focus or motivation when it comes to completing tasks like his school modules. This could be an

indication of impulsivity or a preference for immediate rewards over completing tasks thoroughly.

While Parent 6 says that his child

"Ivrick, is such an obedient child, nowadays he was trained by his father to be more independent especially in the household choirs. In terms of answering the module, there are some improvements and things need to improve. He easily forget things." (Parent 6)

Parent 6 highlights Ivrick's growing independence, particularly with household chores, thanks to his father's guidance. However, the parent also notes that while Ivrick has made progress in answering his modules, he still struggles with forgetfulness. This challenge points to a need for strategies that can support Ivrick's memory retention and improve his focus during academic tasks.

On the contrary, Parent 8 says that

"As the mother, the challenges that I've encounter with Judith is that sometimes I cannot understand her situation/thoughts especially nowadays in answering the modules. Maybe she has her own ways on expressing her thoughts but as a parent I cannot interpret or understand maybe because the lack of knowledge of how to handle her disability." (Parent 8)

Parent 8 expresses frustration in understanding Judith's thoughts and struggles, particularly when it comes to answering her modules. The parent acknowledges that Judith may have her own way of expressing herself, but the lack of knowledge on how to manage her disability makes it difficult to interpret her needs. This highlights a significant challenge for parents of children with special needs, as they may require additional support and resources to better understand and address their child's unique communication style.

If parents were given sufficient relevant training on how to handle their children with special needs, it would be easier for them to take care of their children while at home. According to Parent 11 that her son

"Michael is so active in terms of some household choirs. But in terms of teaching him in his module he we're having difficult times since we don't understand what he is trying to convey to us. And even we don't know how to sign language." (Parent 11)

Parent 11 shares that while Michael is active and participates in household chores, they face difficulties when it comes to teaching him his modules. The challenge arises because they struggle to understand what he is trying to communicate, especially without knowing sign language. This situation emphasizes the need for better communication tools or training to support parents in helping their child with special needs effectively.

Also, Parent 12 says that

"Makasinati mi ug kalisod karun, especially, maglisod pa siya ug sabot sa iyang routines ug lisod pod mi mag sign language. (I have experienced difficulty,

especially in teaching my child on the routine and sign languages as well.)" (Parent 12)

Parent 12 shares the difficulty of teaching their child routines, noting the challenge of communication due to their limited knowledge of sign language. This reflects the added struggle of supporting a child with special needs when parents are not equipped with the necessary skills or resources. The parent's experience highlights the importance of providing training and support for parents to enhance their ability to effectively communicate and support their child's learning.

Working Heroes

Knowing how to work with parents of students with special needs is just as important as knowing how to help the learners. Being a parent is difficult to deal with which is why they give some tips on how to deal with the parents of children with special needs because they are super sensitive about their children. Parents will not get tired of hearing how awesome their child is.

The parents are working too hard for the families in order to support them. According to Parent 1

"Ang problema amo ang pagdumdum sa ilang routine sa saktong oras kay dili nako maatiman tungod sa trabaho. (The problem is to remember the routine on exact time. I cannot attend to his needs due to my work.)" (Parent 1)

Parent 1 expresses the challenge of keeping track of their child's routine at the right time, as they are unable to manage it effectively due to work commitments. This highlights the struggle many parents face in balancing work responsibilities while ensuring their child with special needs receives the necessary attention and structure. The difficulty in maintaining a consistent routine emphasizes the

Also, Parent 8 added that

"Need nako parent ang double effort para makuha jud sa bata akong itudlo. (As a parent, I need to double my effort so that my child will understand what I teach.) (Parent 8)

Parent 8 acknowledges the extra effort required to ensure their child understands what is being taught. This highlights the emotional and physical labor parents often need to invest in supporting their children with special needs, especially when facing communication or learning challenges. It also underscores the importance of providing parents with tools, resources, and guidance to help them effectively teach and support their child's development.

Lack of Relevant Training

The community at large is often unaware of the potential of learners with special needs. In the popular mind, special needs are usually identified with extremely low expectations. Parent should believe in the value of educating children with special needs. The higher the expectations, the higher will be their acceptance in the family. With this, relevant training on how to handle these learners with special needs is a must for all parents.

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As parents, they need sufficient relevant trainings relative to the functional skills of the learners with special needs.

According to Parent 2 that

"We lack of training handling child with intellectual disability." (Parent 2)

The parents have difficulty in understanding the needed skills for the learners, according to Parent 3 that

"Lisoran ko pagtudlo niya sa iyang skills kay dali ra malimtan. (I have a difficulty in teaching him the skills; I easily forget.) (Parent 3)

Parent 3 shares the challenge of teaching their child skills, as they feel their child easily forgets them. This reflects the difficulty many parents face in reinforcing new skills, especially when their child struggles with retention or focus. It highlights the need for consistent support and strategies to help both parents and children maintain progress in developing functional skills.

Parent 4 added that

"Dali malimot akong bata mao lisod ko magtudlo kay wala koi kahibalo unsay strategy akong gamiton. (My child easily forget that is why it is difficult on my part since I do not have a training on strategy to use.) (Parent 4)

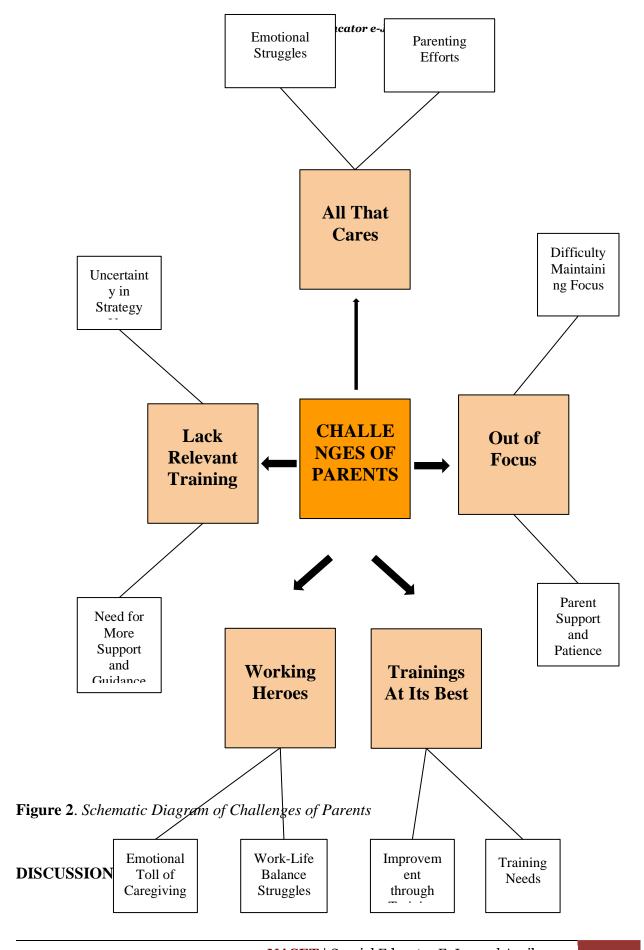
Parent 4 highlights the difficulty of teaching their child due to the child's tendency to forget, compounded by the parent's lack of training on effective strategies. This points to the challenges faced by parents who, despite their best efforts, may not have the necessary tools or knowledge to help their child retain skills. It underscores the need for training and resources to equip parents with strategies that can improve learning outcomes for their children with special needs.

Moreover, Parents 6 and 7 say that

"Lisod lang mam kay dili jud mi kahibaw mo interpret ug senyas. (Maam, it is difficult on part since I do not know hoe to interpret the sign language.) (Parent 6)

Parent 6 expresses the challenge of not knowing how to interpret sign language, which makes it difficult to effectively communicate with their child. This difficulty is common for parents who are not trained in sign language but still strive to support their child's learning and communication. It emphasizes the importance of providing parents with the necessary tools and training to bridge communication gaps and better support their children's needs.

The results of the study reveal that parents face significant challenges in supporting their children with special needs, particularly regarding communication, routine management, and skill retention. Many parents expressed difficulties in understanding their child's needs due to a lack of knowledge or training, especially in areas such as sign language and effective teaching strategies. These findings highlight the need for more resources, training, and support to help parents better manage their children's functional skills and enhance their learning experiences at home.



The results of this study reveal that parents of children with special needs face a variety of interconnected challenges, ranging from emotional stress to difficulties with focus, training gaps, and balancing caregiving with work responsibilities. These challenges can be grouped into five core themes: All That Cares, Out of Focus, Training at its Best, Working Heroes, and Lack of Relevant Training.

Parents often feel overwhelmed by the emotional challenges of raising children with special needs. As seen in Parent 8's experience, it can be difficult to understand the thoughts and needs of children, especially when parents lack knowledge of how to support their child's disability. Research by Carter et al. (2020) and Sharma et al. (2021) highlights that emotional strain is a common experience for parents of children with disabilities, leading to feelings of isolation and stress. This strain can impact the quality of interactions between parent and child, although many parents, like Parent 1, continue to invest emotional and physical energy into supporting their child's needs.

Despite the emotional burden, parents continue to demonstrate resilience. Gundersen et al. (2021) emphasized that caregiving in this context, while demanding, often strengthens the bond between parent and child. It also motivates parents to seek better strategies for meeting their child's needs.

A recurring theme among the parents interviewed is the struggle children face in maintaining focus, especially when completing tasks such as modules or schoolwork. Parent 2's account of Glenn's difficulty concentrating mirrors Huang et al. (2021), which discusses how children with disabilities often struggle with attention and focus, hindering their academic and social progress. These challenges are compounded by parental stress, as seen in Parent 5's experience, where boredom and inattention hinder task completion, often requiring parents to step in with constant redirection.

Research suggests that structured routines, positive reinforcement, and clear expectations can help children with focus-related challenges. Turnbull et al. (2020) found that parents who utilize such strategies see improvements in their child's ability to concentrate and engage with tasks.

Parents recognize that proper training is essential for effectively supporting their children. However, many feel ill-equipped due to a lack of formal education in special education strategies. Parent 4's frustration over not knowing how to teach effectively reflects a broader gap identified by Liu et al. (2020) and Kozlowski and Dempsey (2020), who argue that parent training programs can significantly enhance the caregiving experience by providing effective strategies for teaching skills and managing behavioral issues.

Moreover, when parents do receive training, positive outcomes are often observed. As noted in Parent 6's experience, when children receive consistent support, improvements in skill development are often seen. Sharma et al. (2021) emphasizes that training programs empower parents to handle a variety of behavioral and educational challenges, fostering both the child's and the parent's growth.

One of the most challenging aspects for parents is the struggle to balance caregiving with personal and professional obligations. Parent 1's concern over managing routines due to work commitments is shared by many parents in this study, and aligns with Kozlowski and Dempsey (2020), which suggests that parents of children with special needs often face burnout due to this imbalance. According to Morgan et al. (2022), caregiving responsibilities are heightened when parents lack external support, which further strains their ability to manage both caregiving and work.

Despite these difficulties, many parents, like those interviewed, continue to make tremendous efforts to support their children. This highlights the selflessness and dedication that many caregivers display, even in the face of challenges. Gundersen et al. (2021) argue that, while caregiving can be exhausting, it often results in deeper, more meaningful relationships between parents and children, fostering mutual trust and respect.

A significant gap identified in this study is the lack of access to relevant training and resources, particularly for parents of children who require specialized communication strategies, such as sign language. Parent 6's experience with the challenge of interpreting sign language is not unique, as studies like Dempsey and Keen (2021) point out that parents often feel ill-equipped to provide the necessary educational support without the proper knowledge.

Turnbull et al. (2020) emphasize that such communication barriers can be mitigated with targeted training programs. When parents are taught how to use sign language or other alternative communication methods, they are more likely to feel empowered and capable in their caregiving roles.

CONCLUSION

This study aimed to explore the lived experiences of parents supporting the executive functioning skills of students with special needs at the secondary level. A qualitative phenomenological approach was employed to uncover the challenges, coping strategies, and perceptions of parents as they navigated their children's academic development.

The findings revealed five central themes that encapsulated the parents' experiences: All That Cares, which highlighted the emotional investment and challenges of caregiving; Out of Focus, which underscored the difficulty parents faced in maintaining their children's attention during academic tasks; Training at Its Best, which reflected the need for relevant and accessible training for parents to better support their children; Working Heroes, which addressed the balance parents had to strike between caregiving, work, and family responsibilities; and Lack of Relevant Training, which emphasized the insufficient resources available to parents regarding specialized techniques for supporting children with specific disabilities. These findings suggest that while parents are dedicated and resourceful, additional support, training, and resources are essential for enhancing their ability to help their children succeed.

This study's results concluded the importance of tailored interventions, structured routines, and external support systems to address the challenges parents face. Educational institutions should prioritize offering accessible, relevant training programs to empower parents with the knowledge and skills needed to support their children's executive functioning. Moreover, work-life balance support and collaboration between parents, educators, and specialists should be incorporated into educational policies to further aid in overcoming the difficulties identified. In conclusion, while parents face significant challenges, their resilience and commitment to their children's success are evident, and with the right support, both parents and students can thrive.

Suggestion for Future Research

Future research could further explore the impact of specific training programs for parents on their ability to support the executive functioning skills of children with special needs. Longitudinal studies examining how these training interventions influence both the child's academic performance and the parent's coping strategies over time would provide valuable insights. Additionally, future studies could investigate the role of collaborative efforts between parents, educators, and support staff in improving executive functioning outcomes for students with special needs. Research could also expand to include a larger, more diverse sample of parents, including those from different regions or cultural backgrounds, to examine whether the challenges and coping strategies differ across various populations. Finally, exploring the impact of digital tools or online resources designed to assist parents in supporting their children's academic development could be a valuable area for future investigation.

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Conflict of Interest

None.

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References

- Al-Khatib, J., Salameh, M., & Al-Azzam, N. (2020). The effects of the COVID-19 pandemic on the education of children with special needs in Jordan. Journal of Special Education Research, 12(3), 212-228.
- Al-Shammari, N., & Al-Mutairi, A. (2020). Support strategies for parents of children with disabilities during the COVID-19 pandemic. Disability Studies Quarterly, 41(2), 1-14.
- Azimi, A., & Kabiri, F. (2020). Coping strategies for parents of children with autism spectrum disorder during school closures. Journal of Autism and Special Education, 25(3), 61-75.
- Brown, R., & Jensen, S. (2020). Parental roles in maintaining the educational needs of children with disabilities during the pandemic. Journal of Special Education, 34(5), 45-58.
- Brown, S., & Jones, P. (2020). Addressing the needs of students with disabilities in remote learning environments. Journal of Educational Technology, 18(2), 143-158.
- Carter, E. W., et al. (2020). Parenting children with special needs: Emotional and behavioral challenges. Journal of Special Education, 53(2), 112-127.
- Carter, E. W., et al. (2020). Supporting families through early intervention: The role of parental training in special education. Journal of Special Education, 54(2), 100-113.
- Dempsey, I., & Keen, D. (2021). Parenting children with special needs: A critical review of

- training programs. Special Education Review, 41(2), 101-115.
- Gallegos, D., Smith, M., & Walker, J. (2021). Developing functional skills in children with special educational needs during the COVID-19 pandemic: The importance of community participation. Journal of Special Education, 45(2), 142-157.
- Gallegos, J., Hernandez, M., & Rivera, G. (2021). Coping strategies of parents of children with special needs during the COVID-19 pandemic. Journal of Special Education, 45(1), 54-
- Gundersen, M., et al. (2021). Work-life balance for parents of children with special needs: Stressors and coping strategies. *Journal of Family Studies*, 45(2), 243-260.
- Harris, M., & Mehta, P. (2021). Resilience and challenges faced by parents of children with disabilities during the pandemic. International Journal of Disability Studies, 28(4), 75-85.
- Hodge, P., & Taylor, S. (2021). Supporting the education of children with disabilities: The critical role of parent training. Disability Studies Quarterly, 41(1), 100-115.
- Huang, H., et al. (2021). Attention difficulties in children with special needs: An exploration of contributing factors and strategies. Special Education Journal, 45(3), 167-182.
- Jackson, D., Williams, C., & Chen, H. (2020). Parental support and its impact on the academic performance of children with special needs during COVID-19. Journal of Educational Research, 23(2), 90-104.
- Johnson, P., & Holmes, D. (2020). The effects of COVID-19 on learning disability education: The parent's perspective. *Journal of Learning Disabilities*, 28(6), 322-333.
- Kundu, M., & Yadav, S. (2021). The role of parents in supporting children with learning disabilities during the pandemic. Journal of Disability and Education, 39(3), 121-135.
- Kundu, P., & Yadav, S. (2021). Functional skills development for learners with special educational needs: Challenges and opportunities in the post-pandemic world. International Journal of Educational Research, 53(1), 34-47.
- Kozlowski, C., & Dempsey, I. (2020). The impact of caregiving on families of children with special needs. International Journal of Developmental Disabilities, 66(1), 49-59.
- Kozlowski, C., & Dempsey, I. (2021). Resilience in parents of children with special needs: Coping strategies and outcomes. Journal of Applied Developmental Psychology, 72, 101-111.
- Lim, M., Lee, H., & Tan, Y. (2021). The impact of COVID-19 on learners with special educational needs in the Philippines: A call for inclusive strategies in remote learning. Philippine Journal of Education, 30(4), 82-96.
- Lim, S., Lee, J., & Lee, T. (2021). Parental involvement in special education during COVID-19: A case study of challenges and opportunities. *Educational Review*, 73(1), 33-45.
- Liu, X., et al. (2020). Parent training interventions for children with disabilities: A review of recent studies. International Journal of Disability Development, 68(4), 315-324.
- Liu, X., & Lee, L. (2020). The importance of parent training in early childhood special education: A review of practices. International Journal of Special Education, 41(4), 314-325.
- Liew, J. (2020). Adapting teaching and learning for students with special needs during the pandemic: A framework for inclusive education. Asian Education Review, 19(3), 108-118.
- Mason, A., Williams, R., & Jones, T. (2020). Communication barriers in remote learning for children with autism during the pandemic. Journal of Autism and Developmental

- Disorders, 47(4), 1196-1210.
- Mason, E., Walker, S., & Brooks, L. (2020). Supporting functional skills development for children with special needs during the pandemic: Teacher and parent perspectives. Journal of Disability and Education, 14(1), 52-65.
- Morgan, M., et al. (2022). Strategies for managing caregiver stress in parents of children with special needs. Journal of Family Psychology, 36(1), 90-102.
- Sharma, S., et al. (2021). Parenting children with disabilities: The impact of parent training programs on skill development. Journal of Disability Studies, 55(3), 208-220.
- Sharma, S., & Sood, S. (2020). Remote learning and the challenges for children with special needs during the COVID-19 crisis. Journal of Educational Psychology, 46(1), 76-88.
- Solis, E., & Garcia, J. (2020). Learning continuity plan for students with special educational needs in the Philippines: A model for inclusive education during the pandemic. Journal of Education and Learning, 14(2), 27-41.
- Solis, R., & Garcia, S. (2020). Parents' perceptions of supporting children with special needs during online learning: A qualitative study. International Journal of Special Education, *35*(2), 234-248.
- Turnbull, A. P., et al. (2020). Supporting communication development in children with special needs: The role of sign language and parent training. Journal of Special Education, 54(1), 34-45.
- Wang, Z., et al. (2020). Parental involvement and children's learning outcomes in special education: A longitudinal study. Educational Psychology Review, 32(2), 327-347.
- Zarei, A., Ghaffari, F., & Ranjbar, M. (2020). Emotional burnout in parents of children with special educational needs during the COVID-19 pandemic. Journal of Parenting Education, 42(1), 15-29.
- Zarei, A., Pourali, F., & Ghavifekr, S. (2020). Exploring the impact of the COVID-19 pandemic on the education of students with special needs: Challenges and solutions. Educational Research and Review, 15(8), 464-473.

Effectiveness of Technology and its Effects on Families of Children with **Autism**

By Daphanie Richards

Abstract

The literature review conducts an inquiry into developing a deeper understanding of the support that technology offers children with autism and the resources that are available to their families. Understanding the resources and technological support accessible to families of children with autism was the main focus of this literature review. The review highlights the possible advantages, challenges, and best practices of utilizing technology to assist children with academic requirements. To assist families of children with disabilities, the research focuses on telehealth services to aid interventions, AAC strategies, and reducing distractions through the use of visual and auditory support. By examining and interpreting existing research, this review will illuminate the potential benefits, challenges, and best practices associated with the use of technology to support students with autism.

Keywords: Alternative Augmentative Communication, visuals, auditory, adaptive technology, accommodations, intervention, telehealth

Introduction

The use of technology has transformed the world of education and continues to improve the lives of individuals. Nevertheless, not all individuals have the ability to use technology effectively in the classroom or at home. Some students with autism struggle in the classroom without the use of technology to support their educational needs. It is important to examine this topic because students with autism have a spectrum disorder that challenges their abilities in the area of social skills, repetitive behaviors, and communication difficulties. Students with autism may need additional resources and support related to technology to develop their learning due to challenges they may encounter.

The literature review will focus on developing a deeper understanding of the support that technology offers students with autism and the resources that are available to families. By examining and interpreting existing research, this review will illuminate the potential benefits, challenges, and best practices associated with the use of technology to support students with autism. It is essential to provide students with autism the technology modifications and accommodations needed to be successful in the classroom. Parents can also provide technology support at home. Educators continue to adapt technology into the student learning as they apply various strategies to accommodate students learning needs.

Understanding the Challenges of Using Technology to Support Students with Autism

As individuals with ASD continue to face barriers due to social and communication difficulties, technology has its own hurdle. A look into one study suggested that despite the increased growth of technology, there is a deceleration in implementation among students with ASD. In the study by Hanuni et al. (2019), they investigate the barriers and challenges that stakeholders' face when adapting technology. The study embarks on the challenges that students with ASD endure related to social cues, emotions, and displaying appropriate behaviors. Hanuni et al. (2019) stated those characteristics affect their ability to maintain and engage in social interactions with others. The study recognized interventions that outlined social and communication problems with ASD individuals and their families. The program explores a virtual environment in which individuals can learn new skills.

The study also touched on the advantages of reducing distractors by displaying visual and auditory support, allowing individuals with ASD to flourish. In addition, Ghanouni et al. (2019) proposed that speech-generated devices allowed students with limited communication skills the opportunity to communicate and scaffold their learning. Previous studies showed that technology-based interventions addressed academic skills, behaviors, and daily living skills. The study uncovered the potential benefits of augmentative and alternative communication related to technology. The identification of barriers related to practitioners and families has risen with a decline in technology use for practitioners working with the individual diagnosed with ASD, as stated in this study.

Throughout this study, multiple viewpoints were identified to gain a better understanding of the theoretical frameworks and how to support the use of technology among ASD individuals.

This qualitative study focused on interviews with parents, administrators, teachers, and clinicians who worked closely with individuals with ASD. According to Ghanouni et al. (2019), three factors were identified as contributing to technology adaptations. One of those factors focused on the challenges of selecting the appropriate evidence-based technology for individuals with ASD. Another factor included participants' inability to adapt to the technology effectively.

The study suggested participants lack the training necessary to adapt the technology due to limited resources. The participant in this study reported technology was unsafe and feared that ASD individuals would become technology dependent. The final factor within this study identified financial burden and time constraints to implementing the technology as external barriers, which played a role in the selection process. In summary, the study provided relevant insight into the barriers and challenges that stakeholder face when using technology among individuals with autism spectrum disorders.

Understanding the Impact of Technology on Individuals with Autism

Valencia et al. (2019) examined the use of technology and computer-based interventions to teach individuals with ASD communication and social skills. Students with ASD tend to appreciate the use of computers as they engage in a safe learning environment. The study introduced the theoretical background of ASD and its core domains. It is estimated that 2.41% of children in the United States have an autism spectrum disorder (Valencia et al., 2019). The study detailed how

ASD individuals acquired several skills and how game elements allowed individuals to strive during learning. Several other disorders were noted as being related to ASD.

The study identified game-based learning as a high demand to teach individuals conceptual knowledge and skills with different implementations such as games, gamification, and elearning. Valencia et al. (2019) dictated that individuals who practiced and learned new skills were considered to participate in serious games because it is not fun or entertaining. The study labeled gamification as a methodology that is inspired by points, badges, and rewards. The study also analyzed a systematic review and pinpointed questions related to analyzing and experimenting with the use of technology with ASD individuals. The study found that most people with ASD associated themselves with technology and learned using computers.

Valencia et al. (2019) suggests that ASD individuals were able to adapt their routines and repetitive behaviors using modern technology because it was structured and safe in the learning environment. The study investigated the use of new ecological approaches using sensors, virtual reality, augmented reality, and Kinect to support children with ASD. The goal within this study was to understand how technology impacts individuals with ASD.

Therefore, this study provided detailed information on the use of technology to enhance social, communication, and math skills. Computer-based interventions were used to evaluate individual emotions. Collaboration between parents, peers, and teachers provided extra support with the use of technology, rewards, points, and praise.

Developing Technology-Based Social Skill Intervention

While inquiring into the next study, Rashedi et al. (2021) captured the minds of 18 parents using an inductive-deductive approach to qualitative analysis. Parents' perception to explore technology to develop social skills was discovered. Several technological preferences were noted to establish interventions, promote engagement, and identify strengths to continue learning growth. Rashedi et al. (2021) confirmed theory of mind as a cluster of cognitive abilities that entailed representing and understanding other perceptions. The study reflected on the preferred technology devices and their positive and negative effects on behaviors in ASD individuals.

In this study, there continued to be a need for educational interventions for various ages and levels to foster target skills. Rashedi et al. (2021) shared the potential midpoint for interactive technologies leaning towards TV, video, games, social media, and classroom-based lessons for ASD users. Although there is a great understanding for using technology to deliver interventions, nevertheless, these methods can extract negative behaviors, casting a shadow on real-world experiences for families of ASD individuals. Rashedi et al. (2021) conducted a qualitative study involving parents of individuals with ASD to understand and compare their personal interest and needs of the game-based intervention. Parents were asked to share the pros and cons of the technology intervention and what social skill they wanted their child to develop. In the study, parents had the opportunity to observe their child in various settings using different technology. Some parents enjoyed the experience of their child's technology usage, while others reported that their child lost exposure to the real world or became frustrated after losing the game.

Overall, the study brought awareness to the world of technology that ASD children and their parents were able to build on impulse control, emotional regulations, and self-confidence. The study had limitations resulting from the small sample size of parents, limited social skills, and lack of data collected from the ASD individual. The key takeaway was overwhelming in creating educational technologies for ASD children and their parents.

Understanding parents' attitude to the use of digital technology

Apps et al. (2024) stated that parents of disabled children requested personalized support using technology to address the traditional methods of communication. The study revealed an exploratory review of parents' views of digital technology to support children with special needs. In this study, smartphones, tablets, and laptops were considered to be mobile communication devices used by parents. Support and self-management were beneficial to its users, and parents shared the same characteristic. The study indicated that parents had many responsibilities when it comes to managing the lives of a disabled child. Parents often get frustrated with the delay in communication, causing the child to be stressed. This study strengthened the assistance in understanding the requirements of parents and caregivers using digital technology to their advantage.

The majority of the parents used the internet and reported positive views of the technology (Apps et al., 2024). Parents in this study also stated the use of digital technology for therapy sessions would be warranted with additional training. The Covid-19 pandemic reestablished the use of digital technology to assist families and caregivers. Apps et al. (2024) highlighted the beneficial area of digital technology coincided with consultations and therapy services. This study presented a review of the use of digital communication as families continued to use a wide range of digital technology and online methods post-pandemic. The limitation in this study was small and cross-sectional, and data was skewed toward those who were comfortable using the digital technology.

In summary, this review summed up the benefits that digital technology offered to parents of children with disabilities. Covid-19 reassured these families that using technology supported the learning, health, and well-being of all people. Phones were used to watch video clips, search the internet, and communicate with others. Assistive technology tools were also used in the form of eye gaze, audiobooks, and game consoles. Support from other parents was essential to understanding the various uses of digital technology.

Exploring Caregiver-Implemented AAC Interventions

Subsequently, this study focused on caregivers' use of augmentative and alternative communication interventions to improve communication. Students with ASD experience complex difficulties to meet daily communication needs. AAC strategies can be classified as unaided and aided. Unaided communication devices do not require additional equipment. The alternative communication is used when there is no verbal speech. Elmquist et al. (2023) reported the use of gestures, movement, facial expressions, and signs as unaided communication devices, whereas aided communication devices require adaptive equipment and tools such as abstract symbols, pictures, PECS, SDGs, or digitized speech.

In this study, caregivers were noted to implement AAC strategies effectively. These strategies provide opportunities for individuals to learn new skills, increase communication skills, and have

social interactions with others. Four broad teaching practices based on learning strategies were implemented by the caregivers (Elmquist et al., 2023). Various articles, training, and interventions were investigated to better understand the implications of AAC. The study implied that 25 articles meet the requirements for inclusion criteria.

Data was collected using various AAC strategies ranging from low-tech, mid- to high-tech, and natural gestures. Elmquist et al. (2023) identified spoken language as a communication model for vocalization and verbalizations that is displayed by individuals. The study identified different methods of sharing information and delivering the AAC devices to the caregivers. These methods included web-based models, printed materials, and training meetings. Information was taken from modeling, prompting, and feedback during the intervention phase.

Overall, this study identified targeted behavioral regulation goals before implementing the AAC intervention strategies. The family benefited from the use of technology using various interventions based on implementing effective strategies. There were limitations due to the lack of children's input and diversification among participants based on the use of technology interventions. Caregivers also needed to identify which AAC interventions were successful. Functional behavior interventions and teaching strategies continue to be at the forefront of learning for families of children with disabilities.

Parent involvement in implementing interventions via telehealth

Ismail & Baker (2024) suggested that involving parents in the interventions was beneficial for building basic skills and awareness of their mental health. Telehealth provided services to unprivileged areas that were cost-effective to the families of ASD children. The study focused on parents implementing communication interventions. Throughout many studies, there were reports of positive increases in communication skills. The study showed that different telehealth services successfully coached parents as they presented the interventions to their child (Ismail & Baker 2024).

Ismail & Baker (2024) stated structured and naturalistic interventions usually addressed the communication limitations of children with ASD. These interventions are commonly conducted by a professional. Parents who were well trained also delivered the interventions. Nevertheless, parents and their children capitalized on parental involvement. The study revealed that parents successfully taught verbal operants and suggested interaction styles to their children (Ismail & Baker 2024). Parents also reported a decrease in psychological behaviors.

Telehealth provided electronic and telecommunication technologies via online to parents and health care providers. Intervention services were provided to families remotely with an increase in verbal communication skills. The four-step process that the parent endured investigated the training methods of using telehealth to administer interventions. Ismail & Baker (2024) identified the four steps as identification, screening, eligibility, and summarizing. In this study, coaches used computers, webcams, and telehealth software during real-time coaching sessions remotely and in person. Self-directed interventions assisted parents in implementing the intervention with validity.

In this study, there were limitations related to parents being coached by professionals and not entry-level therapists. Another limitation eyed multicomponent intervention packages as unessential to the interventions. The study concludes that most parents who implemented the interventions established an increase in communication skills and parent involvement to build a feasible technological environment for all to enjoy.

In conclusion, this literature review plunged into the world of technology and its effects on families of ASD individuals. A few recommendations include the use of technology to offset inappropriate behaviors to support ASD families in the community. Teachers should be open minded to adapt technology used in the classroom to flow into the home environments. Some suggestions for parents include visuals support, modeling scenarios, and open communications between school and home. Parents would appreciate becoming invested in their children's education and well-being, using various technologies to support their needs.

References

- Apps, J., Webb, S., & Hutton, E. (2024). Parents' and caregivers' attitudes to the use of digital technology and its role in the care of children with complex needs. British Journal of Occupational Therapy, 87 (7), 452–460. https://doi.org/10.1177/03080226241233112
- Elmquist, M., Crowe, B., Wattanawongwan, S., Reichle, J., Pierson, L., Simacek, J., Hong, E. R., Liao, C.-Y., & Ganz, J. B. (2023, July 28). Caregiver-Implemented AAC interventions for children with intellectual or developmental Disabilities: A Systematic review. Review Journal of Autism and Developmental Disorders. Retrieved February 15, 2025, from https://doi.org/10.1007/s40489-023-00394-2
- Ghanouni, P., Jarus, T., Zwicker, J. G., & Lucyshyn, J. (2019). The Use of Technologies among Individuals with autism Spectrum Disorders: Barriers and challenges. Journal of Special Education Technology, 35 (4), 286–294. https://doi.org/10.1177/0162643419888765
- Ismail, H.A., Baker, J. Training Parents of Children with ASD Via Telehealth to Implement Communication Interventions: A Narrative Review. Curr Dev Disord Rep 11, 90–104 (2024). https://doi.org/10.1007/s40474-024-00300-3
- Rashedi, R. N., Bonnet, K., Schulte, R. J., Schlundt, D. G., Swanson, A. R., Kinsman, A., Bardett, N., Juárez, P., Warren, Z. E., Biswas, G., & Kunda, M. (2021). Opportunities and Challenges in Developing Technology-Based Social Skills Interventions for Adolescents with Autism Spectrum Disorder: A Qualitative Analysis of Parent Perspectives. Journal of Autism and Developmental Disorders, 52 (10), 4321–4336. https://doi.org/10.1007/s10803-021-05315y
- Valencia, K., Rusu, C., Quiñones, D., & Jamet, E. (2019). The Impact of Technology on People with Autism Spectrum Disorder: A Systematic Literature Review. Sensors, 19 (20), 4485. https://doi.org/10.3390/s19204485

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