

Ohio Wesleyan University

Digital Commons @ OWU

Honors Projects

Student Scholarship

5-2022

Impact of COVID-19 on Occupational Therapy Service Delivery in Public Schools

Amanda Ciccone

Follow this and additional works at: <https://digitalcommons.owu.edu/honors>



Part of the [Education Commons](#)

OHIO WESLEYAN UNIVERSITY

Impact of COVID-19 on Occupational Therapy Service Delivery in Public Schools

Presented in partial fulfillment
of the requirements for
graduating with University Honors

In

HON 300.12 Capstone

by
Amanda Ciccone
April, 2022

Honors Project Committee

Professor Michele Nobel (project advisor)

Professor Andrew Busch

Professor Jennifer Whitehead

Approved:

Michele M. Nobel, Ph.D.

Andrew Busch, EdD.
Jennifer Whitehead

TABLE OF CONTENTS

TABLE OF CONTENTS	<u>ii</u>
LIST OF TABLES	<u>iii</u>
LIST OF FIGURES	<u>xxiii</u>
 CHAPTER I	
INTRODUCTION	<u>1</u>
 CHAPTER II	
REVIEW OF LITERATURE	<u>3</u>
 CHAPTER III	
METHODOLOGY	<u>25</u>
 CHAPTER IV	
RESULTS	<u>34</u>
 CHAPTER V	
DISCUSSION	<u>53</u>
 WORKS CITED	<u>69</u>
 APPENDICES	<u>75</u>

List of Tables

Table 1: Principles of the Individuals with Disabilities Education Act (formerly EHA [P.L. 94-142])

1. <i>Free Appropriate Education (FAPE)</i> . Every eligible child is entitled to an appropriate education that is free to families (supported by public funds).
2. <i>Least Restrictive Environment (LRE)</i> . Children with disabilities are most appropriately educated with their nondisabled peers. Special classes, separate schooling, or other removal of children with disabilities from the regular educational environment is to occur only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily [§612 (a)(5)(A)].
3. <i>Appropriate Evaluation</i> . All children with disabilities must be appropriately assessed for purposes of eligibility determination, educational programming, and individual performance monitoring.
4. <i>Individualized Education Program</i> . A document that includes an annual plan is developed, written, and (as appropriate) revised for each child with disabilities.
5. <i>Parent and Student Participation in Decision Making</i> . Parents and families must have meaningful opportunities to participate in the education of their children at school and at home.
6. <i>Procedural Safeguards</i> . Safeguards are in place to ensure that the rights of children with disabilities and their parents are protected, and that students with disabilities and their parents are provided with the information they need to make decisions. In addition, procedures and mechanisms must be in place to resolve disagreements between parents and school officials.

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Table 2: Comparison of Educational Programs by Age Group

	0-2 Yr	3-5 Yr	6-21 Yr
Legislation	IDEA, Part C	IDEA, Part B	IDEA, Part B
Program	Early Intervention	Special Education	Special Education

Type	Entitlement	Mandate	Mandate
Eligibility	Noncategorical	Categorical	Categorical
Services Provided	<p>16 primary services including occupational therapy, physical therapy, speech language pathology, and special instruction</p> <p>Interdisciplinary and transdisciplinary assessment</p> <p>Individualized Family Service Plan</p> <p>Family-centered</p> <p>Service coordination</p>	<p>Related services only as support to special education</p> <p>Interdisciplinary and discipline-specific assessment</p> <p>Individualized Education Program</p> <p>Family-focused in theory, child-focused in practice</p> <p>Service coordination recommended but not mandated</p>	<p>Related services only as support to special education</p> <p>Discipline-specific as related to education</p> <p>Individualized Education program</p> <p>Child-focused with emphasis on curricular standards</p> <p>Service coordination recommended but not mandated</p>
Location	Natural settings	Home, center or school-based	School-based

Source: Teeters Myers, Christine, et al. "Early Intervention." *Occupational Therapy for*

Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland

Heights, MO, 2010, pp. 681–712.

Table 3: Process Depicting the Development of the Individualized Education Program (IEP)

Step	Description
VISION OF CHILD'S NEEDS 1. Determine present levels of academic achievement and functional performance 2. Describe how the student's disability affects participation in general education	<p>Interpretation of the full and individual evaluation (FIE)</p> <p>Consider how disability influences access and participation in academic and functional activities</p>

	<p>Identification of the student's strengths and needs</p> <p>Discuss parent, student, and team member priorities for the child</p>
<p>MEASURABLE GOALS Develop measurable and attainable annual goals (both academic and functional)</p>	<p>One-year goals</p> <p>All team members contribute to goal development</p> <p>Goals may be linked to state curriculum content standards</p> <p>Plan for measuring progress toward annual goals</p> <p>Related services goals must be "educationally relevant"</p> <p>For children with disabilities who take alternate assessments aligned to alternate achievement standards, a description of benchmarks or short-term objectives</p>
<p>SPECIAL EDUCATION AND RELATED SERVICES Determine the special education, related services, supplemental aids and services, modifications, and supports</p>	<p>Represents services student needs to accomplish IEP goals</p> <p>Team determines all needed services</p> <p>Services meet academic, functional, and extracurricular needs</p> <p>Services based on peer-reviewed research to the extent practicable</p> <p>Projected date for initiating services, anticipated frequency, location, and duration of the services</p>
<p>STATEMENT OF ACCOMMODATIONS Needed to measure academic achievement and functional performance on state and districtwide assessments</p>	<p>Statement of why the child cannot participate in the regular assessment and why the alternate assessment selected is appropriate for the child</p>
<p>PLACEMENT IN LEAST RESTRICTIVE</p>	<p>Educate students with disabilities with their</p>

ENVIRONMENT	<p>nondisabled peers to the maximum extent appropriate</p> <p>Consider general education environment first</p> <p>Placement determined annually</p> <p>Must offer a range of service delivery options</p>
TRANSITION PLAN Beginning at 16 yr	<p>Based on age-appropriate transition assessments related to training, education, employment, and independent living skills</p> <p>Identifies transition services needed to assist the child in reaching goals that may include vocational training, supported employment, independent living, work experience, community participation, or planning appropriate high school classes in preparation for college</p>

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Table 4: School-Related Occupational Performance Addressed During Evaluation and Intervention

Occupational Area	Examples of Participation in School-Related Occupational Performance	Examples of OT Intervention	School-Related Outcomes

Education	<p>Access to and participation in classroom curriculum</p> <p>Organizational skills</p> <p>Attending to instruction</p> <p>Fine motor skills and hand function</p> <p>Written communication or handwriting</p>	<p>Assist with adapting assignments with high or low technology</p> <p>Management of books and notebooks, desk, homework assignments, and backpack</p> <p>Enable child to use self-regulatory activities to foster attending</p> <p>Provide classroom materials and activities to promote fine motor skills development and in-hand manipulation skills</p> <p>Consult with curriculum committee in the selection of a handwriting curriculum; direct services in groups or individually to assist students in letter formation</p>	<p>Achieves in the learning environment including academic (e.g., reading, math), nonacademic (e.g., recess, lunch, relationships with peers), prevocational and vocational activities (e.g., professional, and technical education).</p>
Social participation	<p>Successful interaction with teachers, other school personnel, and peers</p> <p>Ability to adapt to environmental demands</p>	<p>Foster appropriate interaction with peers during group interventions; attend to social interaction during lunch and recess and foster the development of friendships</p> <p>Provide strategies for coping with test anxiety</p>	<p>Develops appropriate social relationships with peers, teachers, and other school personnel within the school setting</p>

Play/leisure	<p>Plays with peers during recess</p> <p>Participates successfully in class games</p> <p>Develops structured leisure interests for out-of-school time (e.g., sports, art, dance)</p>	<p>Assist in making play environments (e.g., playground) accessible; consult with school administration to ensure recess is play-based; assist students in exploring leisure interests; consult with parents to promote structured leisure participation during after-school time.</p>	<p>Identifies and engages in age-appropriate toys, games, and play activities; participates in meaningful selection of art, music, sports, and after-school activities.</p>
Work	Prevocational	<p>Advocate for embedding productive occupations into the school day (e.g., putting supplies away; cleaning workspaces); involve students with disabilities in work activities within the school environment (wiping down lunch tables); develop group programs to foster work skills</p>	<p>Develops interests, habits, and work skills needed to work or volunteer in the community after graduation from school.</p>
Activities of daily living (basic and instrumental)	<p>Dressing</p> <p>Eating lunch and/or snack</p> <p>Toileting (bowel and bladder management)</p> <p>Basic hygiene and grooming</p> <p>Meal preparation in class</p> <p>Using computers</p> <p>Shopping</p> <p>Doing laundry</p>	<p>Provide direct intervention using a chaining approach to teach dressing or self-feeding</p> <p>Teach appropriate transferring strategies for wheelchair to toilet</p> <p>Provide group activities to promote participation in independent living skills such as shopping, cooking, and cleanup</p>	<p>Attends to basic self-care needs in school (e.g., eating, toileting, dressing); uses public transportation to travel in the community; develops home management routines to the max extent possible (e.g., cleaning, shopping, meal preparation, safety and emergency responses, and budgeting)</p>

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Table 5: Strategies and Activities to Improve Fine Motor Skills and Handwriting

Goal	Strategies/Activities
Strengthening	PlayDoh, Silly Putty, clay Hide and find tiny pegs, beads in Silly Putty or PlayDoh Crumple paper or tissue paper to fill a bag Nuts and bolts game Roll and pull taffy Build with magnets Use clothespins on rope
Visual motor/eye hand coordination	Cut shapes Make a necklace String macaroni Play Jenga Use a toy hammer and nails Draw with templates Use tweezers to pick up small objects Lacing projects
Manipulation skills	Place stickers on paper Use eyedropper to squirt colored water on paper Place dried peas in a small container with tweezers Use a small musical keyboard Hold coins and place one at a time into slot Use turkey baster to blow ping-pong balls Use chopsticks to pick up marshmallows
Improve hand dominance and grasping patterns	Practice cutting Use a nuts-and-bolts game Use a toy hammer and nails Lacing Stringing beads Drawing with templates and stencils
Improve use of appropriate force	Using clothespins Hiding small objects in PlayDoh Practice writing on sandpaper

	Practice using a mechanical pencil without breaking the tip
Improve tripod grasp	Tweezer games Clothespin games Manipulation of nuts and bolts Twisting on/off lids Using small crayons or small chalk Lacing

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien,
Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Table 6: District Financial Demographic Information

District Financial Demographic Information				
District	Median Income*	Local Funding Percentage**	Local Funding Total**	Total Funding**
A	\$73,125	69.80%	\$199,267,760	\$285,566,833
B	\$49,483	79.30%	\$192,233,550	\$242,417,472
C	\$41,675	58.80%	\$123,822,220	\$210,431,043
D	\$44,698	72.50%	\$118,517,650	\$163,415,158
E	\$59,158	79.50%	\$82,333,100	\$103,517,785

*This information has not been updated since 2013

**This information has not been updated since 2019 due to the pandemic

Adapted from information published by Ohio Department of Education

Table 7: District Population Demographic Information

District Population Demographic Information						
District	Percentage of Students with Disabilities*	Student Poverty Percentage*	Student Population*	Number of Schools in District	Participants Average Years of Experience	Participants Average Year of Experience in the School

						Setting
A	13.43%	7%	21,272	26	16.5	11
B	12.07%	14%	15,642	22	24	15.667
C	14.19%	28%	14,065	22	10	10
D	14.61%	23%	10,187	18	19.33	18.33
E	17.92%	1%	5,862	9	N/A	N/A

*This information has not been updated since 2019 due to the pandemic

Adapted from information published Ohio Department of Education

Table 8: Total Word Count and the Corresponding Percentage

Total Word Count		Total Percentage of Word	
Word	Count	Word	Count
skill, skills	91	skill, skills	4.700413223
behavior, behaviors, behavioral	21	behavior, behaviors, behavioral	1.084710744
cutting	11	cutting	0.5681818182
handwriting, write, writing, prewriting	66	handwriting, write, writing	3.409090909
functional	12	functional	0.6198347107
life	10	life	0.5165289256
improve, improvements, improved	9	improve, improvements, improved	0.4648760331
typical, typically	49	typical, typically	2.530991736
negative, negatives	5	negative	0.2582644628
mask, masks	39	mask, masks	2.01446281
social, socialization, socially	9	social, socialization	0.4648760331
emotional, emotionally	16	emotional, emotionally	0.826446281
re evaluation, evaluation, evaluations, re eval, evaluated, eval	83	re evaluation, evaluation, evaluations, evaluate	4.287190083
participate, participation, participatory	22	participate, participation, participatory	1.136363636

play, playing	19	play, playing	0.9814049587
pull, pulled	32	pull	1.652892562
push, pushed, pushing	32	push, pushed	1.652892562
parent, parents, family, families, caregiver	246	parent, parents, family, families, caregiver	12.70661157
impact, impacted	12	impact, impacted	0.6198347107
COVID	32	COVID	1.652892562
pandemic, pandemics	33	pandemic	1.704545455
engage, engaged	7	engage, engaged	0.3615702479
fine motor	35	fine motor	1.80785124
tech, technology, technologically	43	tech, technology, technologically	2.22107438
online	83	online	4.287190083
regressed	14	regressed	0.7231404959
struggle, struggled	11	struggle, struggled	0.5681818182
activities	51	activities	2.634297521
materials, supplies	47	materials, supplies	2.42768595
schedule, scheduled	65	schedule, scheduled	3.357438017
home	111	home	5.733471074
stress	19	stress	0.9814049587
progress	21	progress	1.084710744
challenge, challenges, challenging	68	challenge, challenges, challenging	3.512396694
session, sessions	87	session, sessions	4.493801653
remote, remotely	38	remote, remotely	1.962809917
positive (including testing positive for COVID)	13	positive (including testing positive for COVID)	0.6714876033
hard, harder	58	hard, harder	2.995867769
school, Schoology, preschool, high school, middle school, elementary school, preschoolers	316	school, Schoology, preschool, high school, middle school, elementary school, preschoolers	16.32231405

Table 9: Frequency of Words for Occupational Therapists in District A

OT 1		OT 3		OT 5		OT 6	
Word	Count	Word	Count	Word	Count	Word	Count
skill, skills	17	skill, skills	26	skills	1	skill, skills	12
behavior, behaviors	1	behavior, behaviors, behavioral	6			behaviors	1
cutting	1	cutting	1	cut, cutting	3		
handwriting, writing	9	handwriting, write, writing	30	write, writing	7	writing	1
functional	1			functioning	1		
life	4	life	3				
improve	1			improve	1	improve	1
typical, typically	3	typical, typically	6	typical, typically	13	typical	7
negative	2					negative	1
mask, masks	7	mask, masks	2	mask	5	mask	1
social	3	social, socialization	3				
emotional	1	emotional, emotionally	9			emotional	2
evaluation, evaluations, re evals, re evaluated	15	evaluation, evaluations, evaluate	17	eval, evaluation, evaluate	7		
participate, participation	3					participate, participating	2
play, playing	4	play, playing	5			play	5
pull, pulled	7	pull	5	pull	1	pull	1
push, pushed	9	push, pushed	7			push	1
parents, family, families, caregiver	28	parent, parents, family	26	parent, parents, family, families	17	parents, parent, parenting, family	40

impact, impacting	3	impact, impacted	3				
COVID	2	COVID	1	COVID	2		
pandemic	4	pandemic	9			pandemic, pre- pandemic	5
engage	5						
fine motor	6	fine motor	6	fine motor	2	fine motor	6
tech, technology, technological	6	tech, technology	12	technology	1	technology, technical	3
online	2	online	7	online	14	online	8
regression	1	regressed	1	regress	2		
struggling	1	struggle, struggled	2	struggled	3		
activity, activities	17	activities	2	activity, activities	2	activity, activities	5
materials, supplies	5	materials	1	materials, supplies	4	material, materials	3
schedule	12	schedule, scheduled	24	schedule	2	schedule, scheduled	4
home	10	home	14	home	13	home	7
stress, stressed, stressful	6	stress	1			stress, stressors, stressful	5
progress	5					progress, progression	8
challenge, challenges, challenging	5	challenge, challenges	5	challenge, challenges, challenging	5	challenge, challenging	13
session, sessions	17	session, sessions	13	session, sessions	9	session, sessions	15
				positive (said in relation to testing positive	2	positive	2

				for covid)			
hard	10	hard, hardest	7	hard	2	hard	4
school, preschool, highschool, middle school	57	school, Schoolology, preschool, high school, middle school	51	school, Schoolology, preschool, high school, middle school, elementary school	40	school, Schoolology	4

Table 10: Frequency of Words for Occupational Therapists in District B

OT 7		OT 11	
Word	Count	Word	Count
skill, skills	11	skills	1
behavior, behaviors	2	behavior	2
cutting	1		
handwriting, written	2		
functioning	1		
improved	1		
typical, typically	9		
masks	3	mask, masks	6
emotional, emotions	3		
evaluation, evaluations, evals, evaluate	9	evaluation, evaluations, evaluate, eval	7
		participating, participation	4
played	1		

pull	1	pull	2
push	1	pushing	1
parents, family, families	31	parents, family	9
		impact, impacted	6
COVID	7	COVID	1
pandemic	1	pandemic	1
fine motor	5	fine motor	1
technology	6	technology	3
online	7	online	8
regress, regressed	3		
struggling	1		
activities	5	activities	1
materials	14	materials	1
schedule, scheduled, scheduling	9	schedule, scheduled	3
home	18	home	15
		progress, progressing	3
challenge, challenges, challenging	13	challenge, challenges, challenging	8
session, sessions	8	session, sessions	5
remote, remotely	26	remote	4
positive (1x said in relation to testing positive for COVID)	2		
hard	5	hard	2
school, preschool, middle school	38	school, preschool, high school, schools	20

Table 11: Frequency of Words for Occupational Therapists in District C

OT 8	
Word	Count
skill, skills	8
behavior, behaviors	3
cutting	2
prewriting, writing	2
functionally	1
life	2
typically	1
negative	1
masks	3
evaluation, evaluations, eval	10
pull	2
push	2
parents	23
COVID	4
pandemic	4
fine motor	1
technology, technologically	4
online	6
regress, regressed	3
struggle	1
activities	2
supplies	1

schedule, rescheduled, scheduled	3
home	13
stress	1
progress	2
challenge, challenged, challenges	3
session, sessions	4
remote	1
positive	3
hard	1
school, preschool, preschoolers	10

Table 12: Frequency of Words for Occupational Therapists in District D

OT 10		OT 12		OT 13	
Word	Count	Word	Count	Word	Count
skill, skills	4	skill, skills	4	skill, skills	2
behaviors	1	behavior, behaviors	2	behaviors	1
		cutting	1		
handwriting, writing, written	5	prewriting	1	handwriting, write	5
functioning	7			function	1
improved	1			improve, improvements, improved	4
typical, typically	5			typical, typically	2
		negatives	1		
mask, masks	2	mask	2	mask, masks	3
		social, socially	2	social	1
emotional	1				
evaluation, eval, evaluate	3	re evaluation, evaluation, evaluations, re eval,	6	evaluation, evaluations, evaluate	6

		evaluated, eval			
participate, participation, participating	7			participate, participation, participatory	4
playing	1	play	1	play	1
pull	6	pull, pulled	6		
		push, pushed, pushing	6	push	3
parents, families, caregiver	17	parents, parent, families	5	parent, parents, family, families	23
		COVID	4	COVID	9
pandemic	2	pandemic, pandemics	3	pandemic	2
		engaged	1		
fine motor	2	fine motor	2	fine motor	3
technology	7			technology	1
online	9	online	3	online	10
regression	1	regressed	1	regressed	1
struggling	1			struggling	2
activities	5	activity, activities	4	activities	2
materials, supplies	4	materials	1	materials, supplies	6
schedule	6	schedule	1	scheduled	1
home	5	home	4	home	6
				stress, stressor	2
progress	2				
challenge, challenges	4	challenging	5	challenging	1
session, sessions	4			session, sessions	7
remote, remotely	7				
positive	1			positive (said w/ testing positive for	1

				COVID)	
hard	13	hard, harder	2	hard, harder	5
school, middle school	8	school, preschool	25	school, preschoolers	19

Table 13: Frequency of Words for Occupational Therapist 9

OT 9	
Word	Count
skill, skills	5
behavior, behaviorally	2
cutting, cut	2
written, prewriting, writing, write	4
life	1
typical	3
mask, masks	5
evaluation, evaluations	3
participate	2
play	1
pulling	1
push	2
parents, family, families, caregivers	27
COVID	2
pandemic	2

engage	1
fine motor	1
online	9
regression	1
activity, activities	6
materials	7
home, homes	6
stressful	4
progression	1
challenge, challenges	6
session, sessions	5
positive	2
hard, harder	7
school, preschool, high school, middle school, preschoolers, elementary school	44

Table 14: Themes

Theme 1: Home Life	Theme 2: Service Delivery	Theme 3: Social and/or Emotional Mindset	Theme 4: School Performance
online	online		
Parents, families, caregiver	Parents, families, caregiver		
	remote		
	typical		
		stress	
			skill

activities	activities		
materials/supplies	materials/supplies		
		emotion	
life		life	life
			functional
	session		
		negative	
		improve	improve
	pull		pull
		struggle	
			Fine motor
technology	technology		
		hard	
		Regress, regression	Regress, regression
participation	participation		
home			
		behavior	
scheduling	scheduling		
			handwriting, write, writing, prewriting
	school		
		positive	
			cutting
		progress	progress
	push		push
			play
		social	
		challenge	
	mask	mask	
	engage		

List of Figures

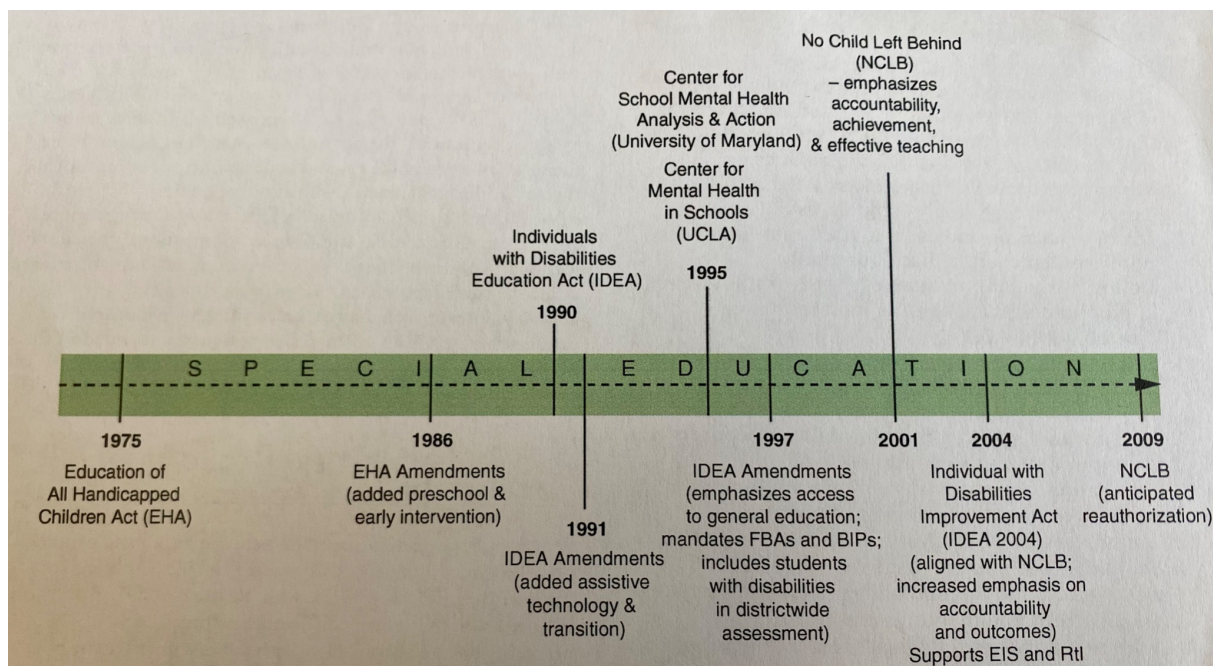


Figure 1: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien,

Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743. (See Appendix A for abbreviation list)

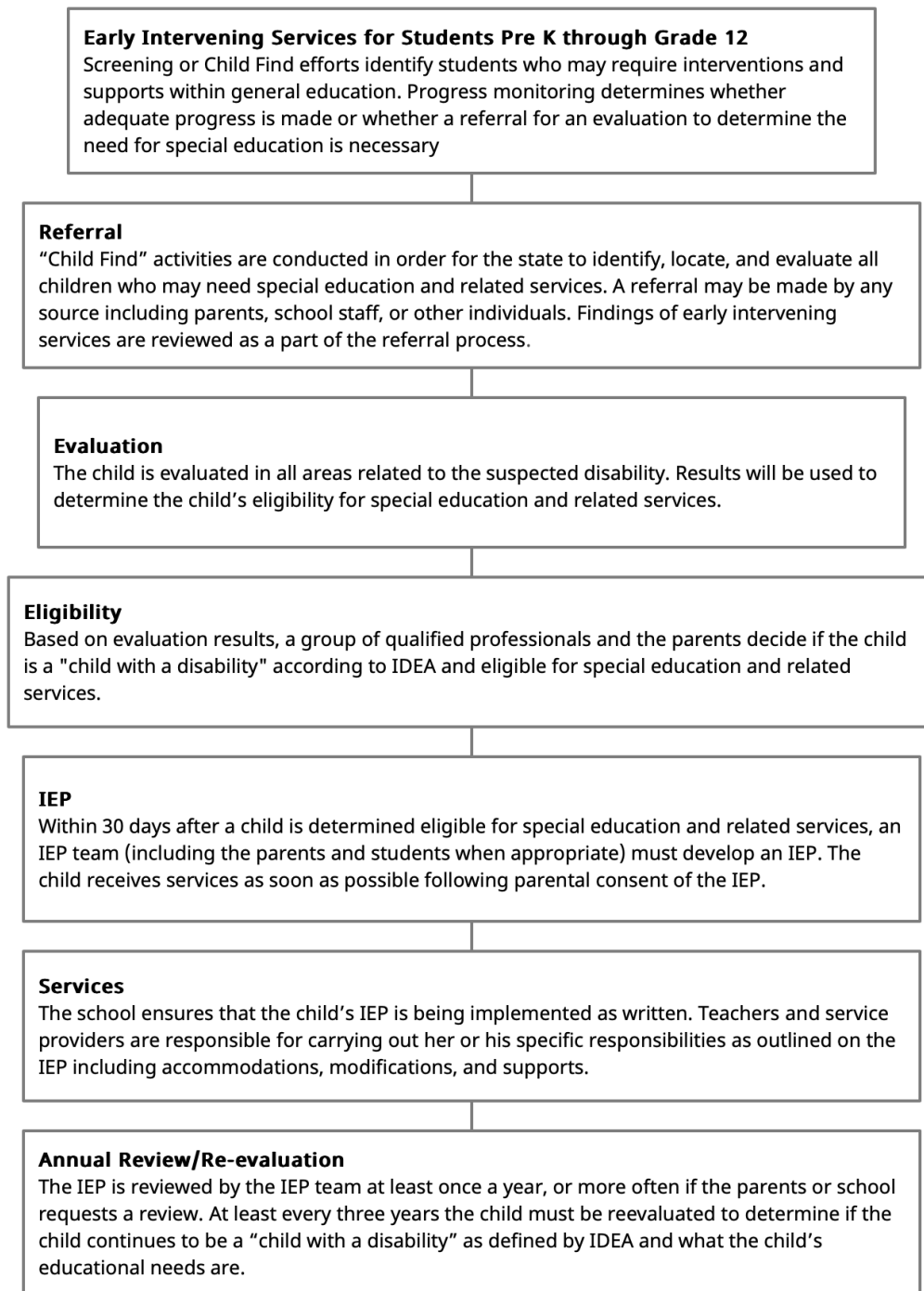


Figure 2: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

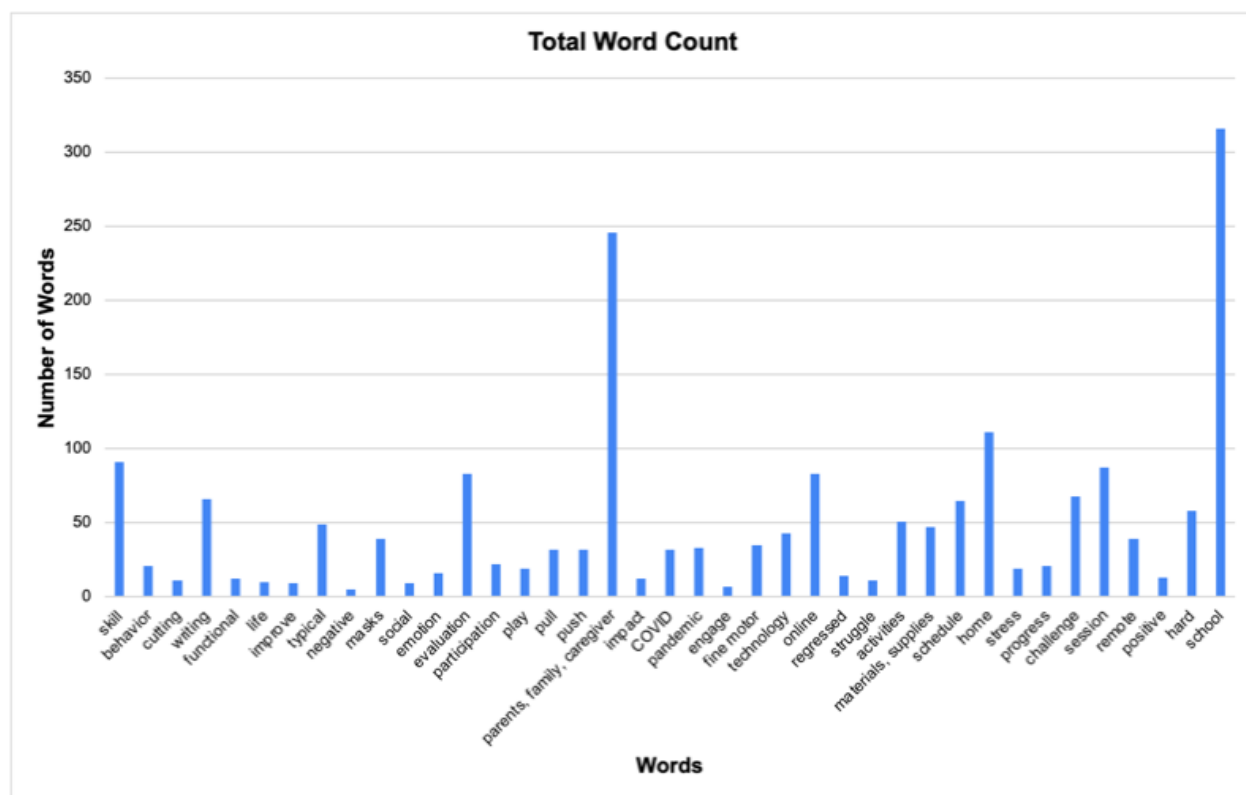


Figure 3

Chapter I

Introduction

The COVID-19 pandemic had a major effect across the US, but the impact on the US school system was a major focus within the media. Due to federal legislation, public schools are required to provide accommodations to children with disabilities to support their success in schools. There is a lack of research on the effect COVID-19 had on related services which these students are provided. To bring more understanding to this aspect of the public school system, this study investigated the impact COVID-19 had on the delivery of occupational therapy services provided to children with disabilities in Ohio public schools from the 2019-2020 to the 2021-2022 school years.

This study had thirteen occupational therapists participate, with eleven included in the data analysis. Interviews were conducted using the semi-structured interview format. These interviews were recorded and then transcribed. After the transcription was completed, the interviews were analyzed for word frequency. The most frequent words said were parents and school. The word parent was said 246 times within the eleven interviews and the word school was said 316 times.

Based on the frequency of all the words chosen for analysis, four themes emerged. These four themes were: home life, service delivery, social and/or emotional mindset, and school performance. The theme of home life encompasses the components of a child's home life which impacted the sessions. The service delivery theme focuses on the components which would impact the ability for the therapist to deliver services. The social and/or emotional mindset theme encompasses the social impact and emotions of the therapists, children, and families which COVID-19 impacted. The final theme of school performance focuses on the words said in the

context of the child's ability to perform in school and impacting the goals of the child. Many of the words chosen for analysis fell within multiple themes due to the context surrounding when that word was said.

As discussed in these interviews, the occupational therapists felt COVID-19 resulted in better understanding of the home life of the children they work with, an increase in the amount of evaluation referrals, and IEP and evaluation team meetings moving online. The main limitation for this study was the small sample size because it limited the overall breadth of the study. Further long-term research should be conducted to determine the effect the increase evaluation referrals has had on the special education system.

This paper will provide an overview of relevant laws and previous research in this area, will outline the methodology of this research project, share results, and discuss the implications of the data analyzed in order to provide better understanding of how the COVID-19 pandemic affected the delivery of occupational therapy services within public schools within Ohio.

Chapter II

Review of Literature

ESTABLISHMENT OF THE SPECIAL EDUCATION SYSTEM

On 29 Nov. 1975, the Education for All Handicapped Children Act (EHA) was signed into law establishing the special education system. This law requires public schools to provide the necessary accommodations, modifications, and adaptations to students with disabilities for them to have an equal education to those of their non-disabled counterparts. According to Jane Case-Smith and Susan Bazyk, prior to this law “over 1 million children with disabilities were excluded from the public school system and for those who did receive education, more than half did not receive appropriate services” (713-714). This law also allows the parents of students with disabilities to take legal action against the school district if they feel the district is not providing the necessary services, accommodations, and modifications needed for their child (EHA). This law is reauthorized every five to seven years and when it was reauthorized in 1990, it became the Individuals with Disabilities Education Act (IDEA). While there are many laws which have impacted the special education system, as shown in figure 1, the focus of this legislation section is the IDEA.

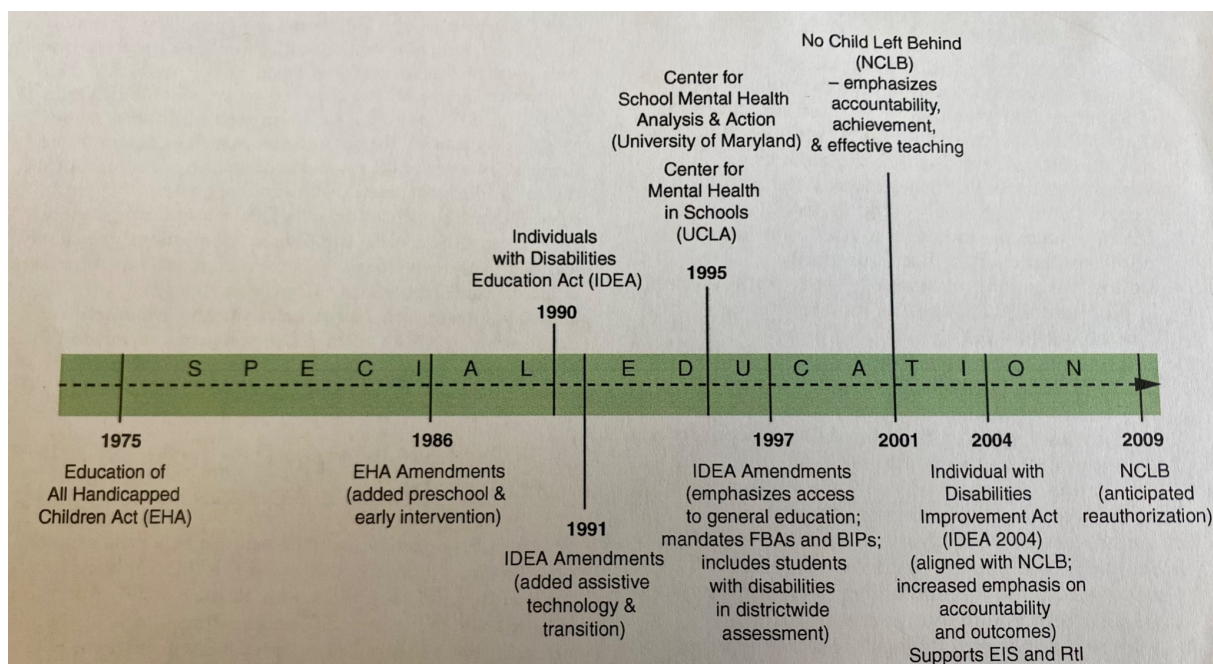


Figure 1: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743. (See Appendix A for abbreviation list)

There are six key features within the IDEA with the first being that public schools make "available a free appropriate public education to eligible children with disabilities throughout the nation and ensures special education and related services to those children" ("About IDEA"). The other key components to the IDEA are: (2) a least restrictive environment, (3) appropriate evaluation, (4) Individualized Education Program (IEP), (5) parent and student participation in decision making, and (6) procedural safeguards. Table 1 summarizes the six key principles of the IDEA (Jane Case-Smith and Susan Bazyk 715).

Table 1: Principles of the Individuals with Disabilities Education Act (formerly EHA [P.L. 94-142])

1. <i>Free Appropriate Education (FAPE)</i> . Every eligible child is entitled to an appropriate education that is free to families (supported by public funds).
2. <i>Least Restrictive Environment (LRE)</i> . Children with disabilities are most appropriately educated with their nondisabled peers. Special classes, separate schooling, or other removal of children with disabilities from the regular educational environment is to occur only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily [§612 (a)(5)(A)].
3. <i>Appropriate Evaluation</i> . All children with disabilities must be appropriately assessed for purposes of eligibility determination, educational programming, and individual performance monitoring.
4. <i>Individualized Education Program</i> . A document that includes an annual plan is developed, written, and (as appropriate) revised for each child with disabilities.
5. <i>Parent and Student Participation in Decision Making</i> . Parents and families must have meaningful opportunities to participate in the education of their children at school and at home.
6. <i>Procedural Safeguards</i> . Safeguards are in place to ensure that the rights of children with disabilities and their parents are protected, and that students with disabilities and their parents are provided with the information they need to make decisions. In addition, procedures and mechanisms must be in place to resolve disagreements between parents and school officials.

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

According to Jane Case-Smith and Susan Bazyk, "[t]he reauthorization in 1997 was significant in placing greater emphasis on delivering related services to children with disabilities within the context of the student's general education curriculum" (715). IDEA states that children from birth to age two can receive early intervention services and children ages three to twenty-one can receive special education and related services ("About IDEA"). As shown in table 2, as a student becomes older, the specificity of not only the services but also the goals for

the services provided change. The focus moves from interdisciplinary skills to discipline specific. This makes sure the child is focusing on tasks and goals appropriate for their age and also preparing for potential next steps, such as the eventual transitioning out of services.

Table 2: Comparison of Educational Programs by Age Group

	0-2 Yr	3-5 Yr	6-21 Yr
Legislation	IDEA, Part C	IDEA, Part B	IDEA, Part B
Program	Early Intervention	Special Education	Special Education
Type	Entitlement	Mandate	Mandate
Eligibility	Noncategorical	Categorical	Categorical
Services Provided	<p>16 primary services including occupational therapy, physical therapy, speech language pathology, and special instruction</p> <p>Interdisciplinary and transdisciplinary assessment</p> <p>Individualized Family Service Plan</p> <p>Family-centered</p> <p>Service coordination</p>	<p>Related services only as support to special education</p> <p>Interdisciplinary and discipline-specific assessment</p> <p>Individualized Education Program</p> <p>Family-focused in theory, child-focused in practice</p> <p>Service coordination recommended but not mandated</p>	<p>Related services only as support to special education</p> <p>Discipline-specific as related to education</p> <p>Individualized Education program</p> <p>Child-focused with emphasis on curricular standards</p> <p>Service coordination recommended but not mandated</p>
Location	Natural settings	Home, center or school-based	School-based

Source: Teeters Myers, Christine, et al. "Early Intervention." *Occupational Therapy for*

Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland

Heights, MO, 2010, pp. 681–712.

A variety of factors, for example the severity of the child's disability, determines the number of related services provided to the child. According to the IDEA, related services are defined as

transportation, and such developmental, corrective, and other supportive services (including speech-language pathology and audiology services, interpreting services, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, social work services, school nurse services... counseling services, including rehabilitation counseling, orientation and mobility services, and medical services, except that such medical services shall be for diagnostic and evaluation purposes only as may be required to assist a child with a disability to benefit from special education and includes the early identification and assessment of disabling conditions in children. (IDEA §300.320(a)(4))

One related service that children can receive is occupational therapy. According to the American Occupational Therapy Association (AOTA), “occupational therapists and occupational therapy assistants help people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations)” (“About Occupational Therapy”). The IDEA defines the goals for occupational therapy as

(A) improving, developing or restoring functions impaired or lost through illness, injury or deprivation, (B) improving ability to perform tasks for independent functioning when functions are impaired or lost, and (C) preventing, through early intervention, initial or further impairment or loss of function” [§300.34(c)(6)].

The IDEA's broad definition of occupational therapy allows the therapists to work on a variety of skills and goals related to the child's development and unique needs. This

individualization helps to ensure the child can participate in their education to the greatest extent possible, which sets them up for success.

SPECIAL EDUCATION EVALUATION PROCESS

While occupational therapy is very beneficial for children because it can help them improve in many areas, for a child to receive these services there is a process the child and family must go through. While the Early Intervention services for children from birth to age two are important, the focus of this study was on children who are in Special Education not Early Intervention. As a result, the focus of the evaluation process in this literature review is on Special Education services for children aged three to twenty-one years old. Figure 2 details the necessary steps within the evaluation process for a child to potentially receive services.

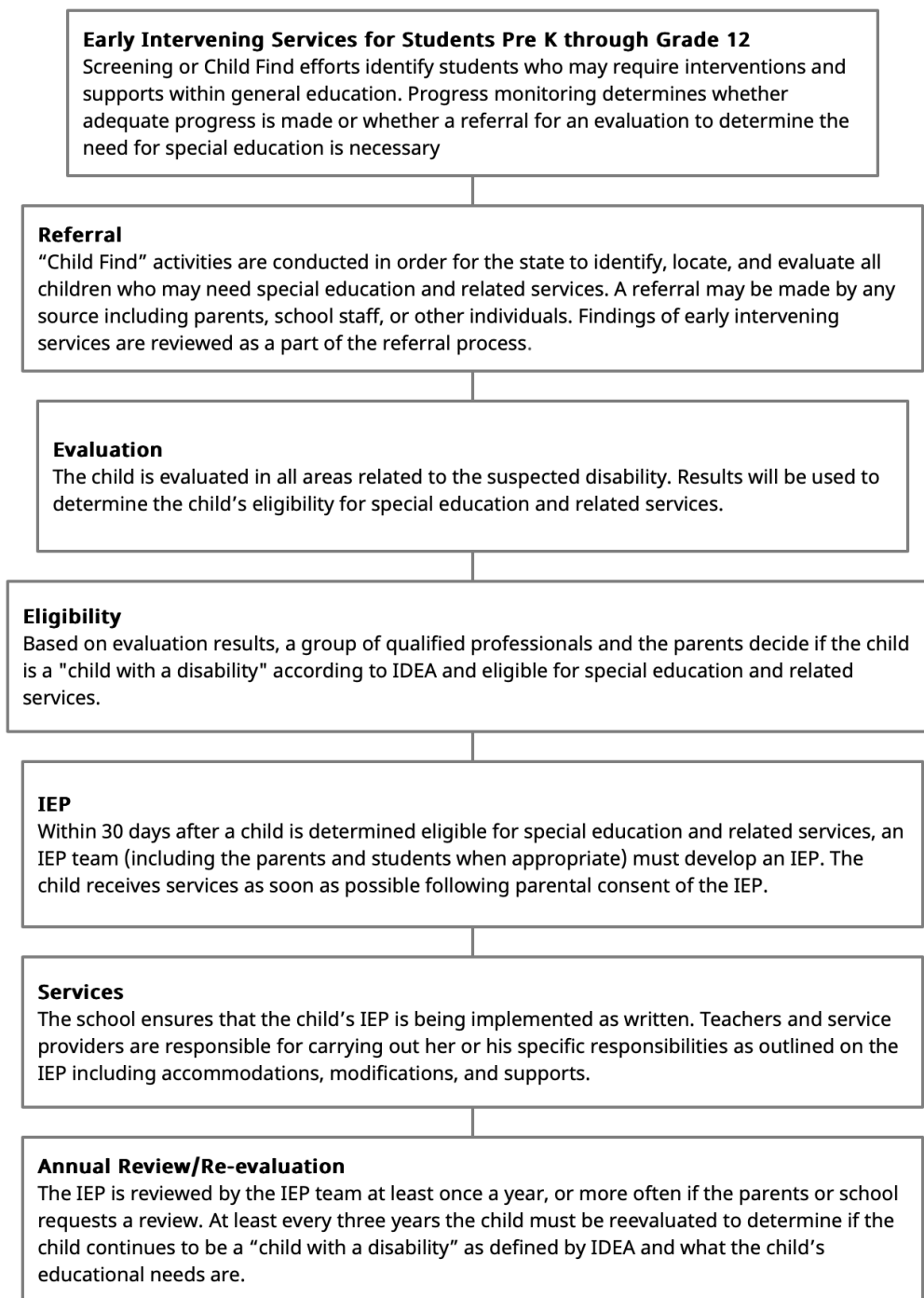


Figure 2: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

As shown in Figure 2, the first part of the process is Early Intervening Services for children from Preschool to Grade 12. The earlier the intervention, the quicker the process can start which means if the child does have a disability, the effects may not be as long term and the outcomes are longer lasting (Clark and Kingsley). There is a difference between Early Intervention and Early Intervening Services. Early Intervention is for children from birth to age two while Early Intervening Services are for children in Preschool through Grade 12. The purpose of Early Intervening Services is to see what children could potentially have a disability and to monitor them. If a parent, teacher, or school staff member (i.e., school psychologist, occupational therapist, physical therapist, etc.) is concerned that a child may have a disability, they may refer them for services.

Once a child has been referred for services, a team of special education personnel evaluates any areas which are seen to be a concern as part of a holistic and multi-factored evaluation. These personnel can be the occupational therapist, physical therapist, speech and language pathologist, school psychologist, and others. Based on the results of the evaluation, the family and the personnel will decide if the child meets the definition of a “child with a disability” according to the IDEA. The definition of a “child with a disability” depends on the age of the child. For children ages three to nine, a “child with a disability” could “include a child who demonstrates developmental delays, as defined by the state” (Jane Case-Smith and Susan Bazyk 723).

For children aged three to nine years, the “child with a disability” categories are dependent on the state’s rules. As a result, each state is different. But for the state of Ohio, which was the focus of this study, a child may be given services in preschool (age three to five) under the category of developmental delay. However, they must be re-evaluated prior to the age of six

to see if they fall into one of the other thirteen categories as defined by IDEA (“Ohio Administrative Code Rule 3301-51-11 Preschool Children Eligible for Special Education”).

Once a child has aged out of the age three to nine categories, the IDEA defines a child as disabled if they meet one of the thirteen categories which are: (1) developmental delay, whether physical, social or emotional, cognitive, communicative, or adaptive (2) intellectual disability, (3) a hearing impairment (including deafness), (4) a speech or language impairment, (5) a visual impairment (including blindness), (6) a serious emotional disturbance, (7) an orthopedic impairment, (8) autism, (9) traumatic brain injury, (10) any other health impairment, (11) a specific learning disability, (12) deaf-blindness, or (13) multiple disabilities, and therefore needs additional services (“Sec. 300.8 Child with a Disability”).

If a child has met the definition of a “child with a disability,” an Individualized Education Program (IEP) is created for children ages three to twenty-one years old; for children in Early Intervention, an Individualized Family Service Plan (IFSP) would be created. As shown in table 3, the IEP details how the school will provide the accommodations, services, and/or modifications needed to increase the chances the student will be successful in school. Some examples of what are included in the IEP are the types of related services, the number of minutes for those services, both academic and functional goals for each type of service, and any accommodations for the child such as extra time on tests or assistive technology, to name a few.

Table 3: Process Depicting the Development of the Individualized Education Program (IEP)

Step	Description
VISION OF CHILD’S NEEDS 1. Determine present levels of academic achievement and functional performance 2. Describe how the student’s disability affects participation in general education	Interpretation of the full and individual evaluation (FIE) Consider how disability influences access and participation in academic and functional activities Identification of the student’s strengths and needs Discuss parent, student, and team member priorities for the child
MEASURABLE GOALS Develop measurable and attainable annual goals (both academic and functional)	One-year goals All team members contribute to goal development Goals may be linked to state curriculum content standards Plan for measuring progress toward annual goals Related services goals must be “educationally relevant” For children with disabilities who take alternate assessments aligned to alternate achievement standards, a description of benchmarks or short-term objectives
SPECIAL EDUCATION AND RELATED SERVICES Determine the special education, related services, supplemental aids and services, modifications, and supports	Represents services student needs to accomplish IEP goals Team determines all needed services Services meet academic, functional, and extracurricular needs Services based on peer-reviewed research to the extent practicable

	Projected date for initiating services, anticipated frequency, location, and duration of the services
STATEMENT OF ACCOMMODATIONS Needed to measure academic achievement and functional performance on state and districtwide assessments	Statement of why the child cannot participate in the regular assessment and why the alternate assessment selected is appropriate for the child
PLACEMENT IN LEAST RESTRICTIVE ENVIRONMENT	Educate students with disabilities with their nondisabled peers to the maximum extent appropriate Consider general education environment first Placement determined annually Must offer a range of service delivery options
TRANSITION PLAN Beginning at 16 yr	Based on age-appropriate transition assessments related to training, education, employment, and independent living skills Identifies transition services needed to assist the child in reaching goals that may include vocational training, supported employment, independent living, work experience, community participation, or planning appropriate high school classes in preparation for college

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Once the IEP has been written and all parties have signed it, the school is required to implement the services as it has been documented. Once the child has an IEP, this document must be reviewed and updated every year to make sure that it is up to date with the child's progress. Every three years, the child must be re-evaluated to see if they still meet the definition for a "child with a disability" according to the IDEA. If they no longer meet the IDEA definition

of a “child with a disability,” then they will no longer receive services during the next academic year.

OCCUPATIONAL THERAPY SERVICES

Within the school setting, occupational therapists provide a variety of services. According to the AOTA, these services can range from providing assistive technology to the student, identifying long-term goals for after they age out of the public school system, and preparing students for transitioning out of the public school system, to name a few (“Occupational Therapy in School Settings”).

When the occupational therapist is completing the evaluation of a child, the therapist is looking at a variety of different components. The evaluation the occupational therapist completes “focuses on areas of strength and weakness in educationally relevant occupational performance areas (education, social participation, activities of daily living, play, leisure, and work) related to the student’s suspected disability” as shown in table 4 (Jane Case-Smith and Susan Bazyk 719). There is a preconceived notion that occupational therapists work only on handwriting. While occupational therapists do work on that skill, as table 4 shows, they work on much more. In table 4, the Occupational Area are the categories which the therapist is looking at within the evaluation. The Examples of Participation in School-Related Occupational Performance are examples of different goals within each category. Examples of OT Intervention are different activities or modifications the occupational therapist can use to address the goals listed under Examples of Participation in School-Related Occupational Performance. The School-Related Outcomes show how that goal and intervention relates to the child’s ability to participate in school activities.

Table 4: School-Related Occupational Performance Addressed During Evaluation and Intervention

Occupational Area	Examples of Participation in School-Related Occupational Performance	Examples of OT Intervention	School-Related Outcomes
Education	<p>Access to and participation in classroom curriculum</p> <p>Organizational skills</p> <p>Attending to instruction</p> <p>Fine motor skills and hand function</p> <p>Written communication or handwriting</p>	<p>Assist with adapting assignments with high or low technology</p> <p>Management of books and notebooks, desk, homework assignments, and backpack</p> <p>Enable child to use self-regulatory activities to foster attending</p> <p>Provide classroom materials and activities to promote fine motor skills development and in-hand manipulation skills</p> <p>Consult with curriculum committee in the selection of a handwriting curriculum; direct services in groups or individually to assist students in letter formation</p>	<p>Achieves in the learning environment including academic (e.g., reading, math), nonacademic (e.g., recess, lunch, relationships with peers), prevocational and vocational activities (e.g., professional, and technical education).</p>
Social participation	<p>Successful interaction with teachers, other school personnel, and peers</p> <p>Ability to adapt to environmental demands</p>	<p>Foster appropriate interaction with peers during group interventions; attend to social interaction during lunch and recess and foster the development of friendships</p> <p>Provide strategies for coping with test anxiety</p>	<p>Develops appropriate social relationships with peers, teachers, and other school personnel within the school setting</p>

Play/leisure	<p>Plays with peers during recess</p> <p>Participates successfully in class games</p> <p>Develops structured leisure interests for out-of-school time (e.g., sports, art, dance)</p>	<p>Assist in making play environments (e.g., playground) accessible; consult with school administration to ensure recess is play-based; assist students in exploring leisure interests; consult with parents to promote structured leisure participation during after-school time.</p>	<p>Identifies and engages in age-appropriate toys, games, and play activities; participates in meaningful selection of art, music, sports, and after-school activities.</p>
Work	Prevocational	<p>Advocate for embedding productive occupations into the school day (e.g., putting supplies away; cleaning workspaces); involve students with disabilities in work activities within the school environment (wiping down lunch tables); develop group programs to foster work skills</p>	<p>Develops interests, habits, and work skills needed to work or volunteer in the community after graduation from school.</p>
Activities of daily living (basic and instrumental)	<p>Dressing</p> <p>Eating lunch and/or snack</p> <p>Toileting (bowel and bladder management)</p> <p>Basic hygiene and grooming</p> <p>Meal preparation in class</p> <p>Using computers</p> <p>Shopping</p> <p>Doing laundry</p>	<p>Provide direct intervention using a chaining approach to teach dressing or self-feeding</p> <p>Teach appropriate transferring strategies for wheelchair to toilet</p> <p>Provide group activities to promote participation in independent living skills such as shopping, cooking, and cleanup</p>	<p>Attends to basic self-care needs in school (e.g., eating, toileting, dressing); uses public transportation to travel in the community; develops home management routines to the max extent possible (e.g., cleaning, shopping, meal preparation, safety and emergency responses, and budgeting)</p>

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

After the evaluation is completed and it is confirmed the child needs occupational therapy services, the occupational therapist creates interventions which are "specific activities that can be done every day or have therapeutic purposes" ("Becoming an OTA: Mastering the 5 Types of Interventions"). According to Christine Teeters Myers et al, some areas of intervention are (1) play, (2) motor performance, (3) sensory processing, (4) self-care/adaptive skills, and (5) adapted equipment and positioning (699-707). The interventions the occupational therapist uses are focused on the goals of the child. These goals are established within the IEP and are based on the developmental milestones which children are supposed to reach. For children, many of the interventions used, and many of the developmental milestones are seen, through play. During play, children learn not only fine motor and gross motor skills but also social and cognitive skills. As shown in table 5, most of the activities which could be used to work on fine motor and writing skills, a common goal within IEPs, are play based. In table 5, many of the activities are highlighted to show that the same activity can work on multiple goals or skills which helps with a whole child approach, which is looking at a goal as part of the long-term life skills that child needs and not just an individual skill.

Table 5: Strategies and Activities to Improve Fine Motor Skills and Handwriting

Goal	Strategies/Activities
Strengthening	PlayDoh, Silly Putty, clay Hide and find tiny pegs, beads in Silly Putty or PlayDoh Crumple paper or tissue paper to fill a bag Nuts and bolts game Roll and pull taffy Build with magnets Use clothespins on rope
Visual motor/eye hand coordination	Cut shapes Make a necklace String macaroni Play Jenga Use a toy hammer and nails Draw with templates Use tweezers to pick up small objects Lacing projects
Manipulation skills	Place stickers on paper Use eyedropper to squirt colored water on paper Place dried peas in a small container with tweezers Use a small musical keyboard Hold coins and place one at a time into slot Use turkey baster to blow ping-pong balls Use chopsticks to pick up marshmallows
Improve hand dominance and grasping patterns	Practice cutting Use a nuts-and-bolts game Use a toy hammer and nails Lacing Stringing beads Drawing with templates and stencils
Improve use of appropriate force	Using clothespins Hiding small objects in PlayDoh Practice writing on sandpaper Practice using a mechanical pencil without breaking the tip
Improve tripod grasp	Tweezer games Clothespin games Manipulation of nuts and bolts Twisting on/off lids Using small crayons or small chalk Lacing

Source: Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy."

Occupational Therapy for Children, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

The activities the occupational therapist uses also depends on the service delivery model being used. There are a variety of models but the two most commonly used in the school setting are the integrated therapy model, also known as the push-in model, and the pull-out model. For the push in model, the occupational therapist has the session with the child in their natural environment (i.e., the classroom, playground, cafeteria, etc.). This model benefits both the child and the teacher because there is an increased likelihood of carrying over the skill into the classroom for the child. It also provides the teacher with an idea of what the child is working on and what the teacher should be looking for.

Within the push-in model, a common method used is block scheduling. This is when the occupational therapist is in one classroom in longer blocks than just the therapy sessions. This is common within preschool settings where the occupational therapist will be in one classroom for the morning session and another classroom for the afternoon session. This benefits not only the students' receiving services but also the other students because the occupational therapist can give extra cues which may help the other students better understand the task on which they are working. Because the occupational therapist is in the classroom for longer periods of time in block scheduling, they could potentially catch a student and refer them for services quicker than if only the teacher was in the classroom.

For the pull-out service delivery model, the occupational therapist will take a student out of the classroom and to another room for the duration of the session. The benefit for this model is that there are less distractions for the student and as a result, the occupational therapist can really

focus on a skill which they may not be able to do to the same degree in a push in model. The decision over whether to use a push in or pull-out model is dependent on the child's IEP and a range of other factors. For example, the district may require a specific type of delivery method for different grades. Or, if the child has multiple disabilities, they may require one method versus the other. Traditionally though, the push in method is used for preschool up until later elementary school. The pull-out model becomes more popular in later elementary school mainly due to student availability.

The special education system is a very complicated system and there are many different components to it. When the COVID-19 pandemic hit, it disrupted and tested this system in a way which had not been seen before and hopefully will never be seen again.

COVID-19 PANDEMIC

In March 2020, Coronavirus hit the United States and the world in a major way. People worked from home full-time, thousands of people lost their jobs, and the world seemed to stop, but the education system within the United States did not. When schools announced classes would move online, everyone in the educational system was scrambling to figure out how to provide a meaningful education to over 50 million students within the public school system. When the schools moved online, much of the focus within the media was regarding general population students but very few focused on the students with disabilities and even less on the services provided.

Due to the recency of the COVID-19 pandemic, much of the research is still ongoing. However, the research which has been published shows a clear picture of the impact and struggles during and after the school closures and online pivots of the 2019-2020 and 2020-2021 school years. According to "School Leader Voices: Concerns and Challenges to Providing

Meaningful IDEA-related Services During COVID-19,” “approximately three out of four districts found that the most difficult educational service to provide during COVID-19 was equitable education and related services for students with disabilities” (9).

Many occupational therapists completed their sessions virtually through telehealth, especially at the start of the pandemic. According to Dahl-popolizio et al., “telehealth can save substantial time and money, [provide] more convenient access to care, and has been met with overwhelmingly positive feedback from patients” (77). Occupational therapists “have used telehealth to help their patients develop skills, habits, and routines, improve their patients’ health status, modify their environments, and teach techniques and strategies to maximize self-management and patients’ independence” (Dahl-popolizio et al. 78). Specifically in the school setting “telehealth has been shown to increase timely access to care and provide care to students who could not attend in-person therapy sessions” (Dahl-popolizio et al, 78).

Telehealth in the school setting is also beneficial to providing caregiver coaching, improving the child’s social skills, addressing the child’s medical needs such as motor control, feeding, and issues relating to Autism Spectrum Disorder (Dahl-popolizio et al. 79). According to Dahl-popolizio et al,

176 [out of 230] (77%) of respondents supported telehealth as a substitute for in-person clinical visits, and 179 (78%) supported telehealth as a permanent option to be used in addition to in-person visits...[suggesting] that many therapists feel that telehealth should be a service delivery option for occupational therapy services. (81)

According to Jeste et al., 56% of caregivers reported that their child had at least one related service continued through tele-education (827). So, regardless of the quality of the services provided, there was an effort to provide at least one service using telehealth.

While there were great benefits to the use of telehealth for some services, there were barriers to providing occupational therapy services. According to Hermes et al., “the main barriers to implementation were found to be practitioner training, student technology needs, and quality concerns that telehealth is not equivalent to in-person intervention” (5). These quality concerns also encompass the concern about the potential loss of services. According to Neece et al., “the vast majority of parents said their child’s services had decreased (77.9%), while 18.2% said that the amount and intensity of their services had stayed the same” (742). Jeste et al. also supports this loss of services because they found that 74% of caregivers reported that their child was no longer receiving services and 30% of caregivers reported the loss of all therapy and educational services (827).

This loss of services was the focus of the article, “Families of Special Needs Students Fear They’ll Lose School Services in Coronavirus Shutdown,” which was a collaboration between ProPublica and the Chicago Tribune in 2020. In this article, parents of children with special needs in Sangamon County, Illinois were sent a letter which

asked parents to either accept the remote learning being offered, which amounted to a scaled-down version of what was provided when children were at school, or decline and acknowledge that they were ‘voluntarily waiving’ their rights to a ‘free and appropriate public education’ and the ability to seek services from the school later. (Cohen and Richards)

In addition, according to “School Leader Voices,”

more than half of the ESAs [educational service agencies] indicated they would encounter complaints based on a child not receiving the same quantity of specialized instructional support services as indicated in the child’s IEP (Individualized Education

Program) during the pandemic. This could include having the same level of access to school personnel such as speech language pathologists, school psychologists, and occupational or physical therapists. (9)

To make up for this lack of services, schools are required to provide compensatory services or make-up services. However, “there is widespread agreement among school districts and disability rights groups that providing compensatory services does not mean that every minute, or even hour, of missed services need to be accounted for. But even that narrowed focus on quality over quantity could bust district budgets” (Corey Mitchell). Throughout the country, states and districts are trying to figure out how to pay for these compensatory services. In Texas, for example, the Supplementary Special Education Services program is offering one-time grants up to \$1,500 for families to use for compensatory services (Corey Mitchell). In fact, according to “School Leader Voices,” “about one in three school districts are most concerned about the costs of providing special education and related services during COVID-19” (9).

Ultimately, while many occupational therapists tried to continue therapy using a telehealth model, many of the decisions regarding their delivery of services were out of their control. Some districts required therapy to continue through a telehealth model, others did not. Some districts required all students who received occupational therapy services to continue with services, others did not. Sometimes occupational therapists would sign into the session, and the parent or guardian would tell them they are not doing any therapy for the rest of the year. These inconsistencies impacted the ability to provide the best quality of service.

These effects of the loss of services and the use of teletherapy are something that will continue to be researched. Since children with disabilities are allowed to stay in the public school system until the age of twenty-one, the public may not find out the full effects of the pandemic

until after these children have aged out of the school system, if ever. However, research focused on the lived experiences of therapists and families during these pandemic years, helps to provide information about the effects and potential solutions, so these children can have the best quality education possible. This study expanded on research already conducted and explored the impact of the COVID-19 pandemic on occupational therapy services provided within the school setting. It compiled the challenges, concerns, and changes in providing services, as well as the improvements and losses in skills, to name a few. It has shed more light onto this topic which has a potentially long-lasting impact due to the population in which the therapists work.

Chapter III

Methodology

For this research project, researchers sought participants to be interviewed using a semi-structured interview methodology to collect information to answer the research questions regarding the experiences of occupational therapists during the COVID-19 pandemic. These research questions are:

- (1) What short term impact did COVID have on delivery of OT services in schools?
- (2) What long term impact did COVID have on delivery of OT services in schools?
- (3) What impact does the wealth, location, and size of the district have on delivery of OT services?
- (4) What positive impacts did COVID have on delivery of OT services in schools?
- (5) What negative impacts did COVID have on delivery of OT services in schools?

PARTICIPANT SELECTION AND DEMOGRAPHICS

Because there are human subjects involved in this research, an IRB proposal was submitted and given approval (see Appendix B) prior to the start of recruitment and data collection. To qualify for this study, the participants must have been working as an occupational therapist during the 2019-2020 and/or 2020-2021 school years and were hired either as a contractor or directly by the district. To keep this research project feasible in the allotted time, the focus of participant recruitment was limited to six public school districts in central Ohio. After deciding which districts to target, a search was done using the school districts' Staff Directory for the term Occupational Therapist. From this list, every occupational therapist was sent a recruitment email (see Appendix C) and the consent form (see Appendix D). Recruitment

emails were sent twice, with a full week between emails, to encourage therapists to opt-in to the study. The primary researcher handled all questions from potential participants, logistics of paperwork and scheduling, and secured thirteen therapists for interviews. After each interview, a debriefing document was sent to the participant, which summarized the study and gave them the contact information for the researchers in case they need to get in contact with the researchers with additional concerns or if they wished to opt-out even though their interview had been completed (see Appendix E).

In total, 13 occupational therapists were recruited for this study. Of those thirteen, one occupational therapist, who was included in the study and data analysis (OT 9), worked for two districts during the period in question. Both districts OT 9 worked with are included in the demographic information and data analysis, even though one of their employers was not an original target district for the study. Occupational therapists from four districts agreed to participate. Due to less complete information given during their interviews, two occupational therapists (OT 2 and 4) were not included in the data analysis, which made the final sample size eleven for the data analysis. These two occupational therapists were from the same district thus causing the final number of districts for data analysis to be five.

Occupational therapy experience in the district. District A had a total of four occupational therapists (OT 1, OT 3, OT 5, OT 6) participate with the average amount of occupational therapy experience being 16.5 years. District A's average amount of experience within the school setting was 11 years. OT 1 works with preschoolers and the other three occupational therapists (OT 3, OT 5, OT 6) work with children from kindergarten to fifth grade.

District B had three occupational therapists participate (OT 7, OT 9, OT 11) with an average amount of general experience being 24 years and an average amount of experience in the

school setting being 15.667 years. OT 9 worked for another district for the 2019-2020 school year and started working in District B this school year. OT 9 worked with preschool to eighth grade in the 2019-2020 school year. OT 9 currently works with kindergarteners to eighth graders. OT 7 works with children from preschool to fifth grade. OT 11 works with children from preschool to first grade.

District C only had one participant (OT 8) and they have worked for 10 years with all being in the school setting. OT 8 also works with preschoolers.

District D had three participants (OT 10, OT 12, OT 13) with an average amount of experience being 19.33 years. District D's average amount of experience within the school setting was 18.33 years. OT 12 and OT 13 work with preschoolers and OT 10 works with kindergarteners to eighth graders.

When OT 9 worked in District E, they were contracted by the district. While they were able to give answers regarding their experience which was used in the final analysis, there was not enough information to calculate the average years of general experience and average years of school setting experience for the district.

Finally, the overall average amount of general experience for all the participants was 19 years. The overall average amount of experience within the school setting for all participants was 14.18 years, which means the participants in this study were experienced therapists with strong expertise in both general occupational therapy and school-based therapy

DISTRICT DEMOGRAPHIC INFORMATION

In addition to noting the experience levels of therapists selected for this study, researchers wanted to collect some basic demographic data on the districts in which these therapists worked. To compare the districts, a search was done using the Ohio Department of Education's (ODE)

website and School Report Card Data collected by the state (Ohio School Report Cards). The five districts included in the data analysis were able to be compared to one another due to ODE classifying them as suburban districts with low student poverty rates and large student populations (Typology of Ohio School Districts). Within Ohio, there are a total of 46 districts and 240,000 students included in this ranking (Typology of Ohio School Districts). In part, the district demographic information was used to establish which districts would be targeted for the study (see table 6 and table 7).

Table 6 provides a baseline for each district's financial status prior to the pandemic. Local funding for the districts comes from the property taxes which establishes the financial state of the residents of the district. The higher the property taxes, the higher the income of the residents of the district, theoretically. The less funding which comes from property taxes, the more funding must come from other sources such as the state and federal governments. Resources available may be relevant to the experiences of therapists, which is why researchers collected this demographic information for comparison.

Table 6: District Financial Demographic Information

District Financial Demographic Information				
District	Median Income*	Local Funding Percentage**	Local Funding Total**	Total Funding**
A	\$73,125	69.80%	\$199,267,760	\$285,566,833
B	\$49,483	79.30%	\$192,233,550	\$242,417,472
C	\$41,675	58.80%	\$123,822,220	\$210,431,043
D	\$44,698	72.50%	\$118,517,650	\$163,415,158
E	\$59,158	79.50%	\$82,333,100	\$103,517,785

*This information has not been updated since 2013

**This information has not been updated since 2019 due to the pandemic
Adapted from information published by Ohio Department of Education

Table 7: District Population Demographic Information

District Population Demographic Information						
District	Percentage of Students With Disabilities*	Student Poverty Percentage*	Student Population*	Number of Schools in District	Participants Average Years of Experience	Participants Average Year of Experience in the School Setting
A	13.43%	7%	21,272	26	16.5	11
B	12.07%	14%	15,642	22	24	15.667
C	14.19%	28%	14,065	22	10	10
D	14.61%	23%	10,187	18	19.33	18.33
E	17.92%	1%	5,862	9	N/A	N/A

*This information has not been updated since 2019 due to the pandemic
Adapted from information published Ohio Department of Education

Table 7 provides a baseline for the population demographics of each district, which may also be important demographics for comparability during data analysis. The table includes the participants of the study's average years of experience as an OT and their average years of experience in the school setting. This table also includes the percentage of students with disabilities within the district. The higher the percentage of students with disabilities the more funds that must be allocated toward their services, theoretically. Since this study is dealing with one of the related services which can be provided to students with disabilities, the number of students with disabilities in each district is important. It is also important to know how many students are in the district because the more students there are, the more funding there needs to be to provide all students with a good education. Students in the general population can also get

occupational therapy services if it is deemed to be needed, which is another reason why the number of students in the district is important.

DATA COLLECTION

In this study, participants were asked a series of questions relating to their experiences during the COVID-19 pandemic and its after-effects using a semi-structured interview methodology. These questions ranged in topics from technology, the effect on the children in general, challenges, how they delivered services, etc. A standard set of questions were asked for all interviewees (see Appendix F). The questions asked during the interview related to the research questions for the study, as stated previously.

Based on the responses of the occupational therapist, additional follow-up questions were asked, which is why the interviews are semi-structured. The interviews were in person, over Zoom or Microsoft Teams, or over the phone and the interviews were recorded on either a password-protected phone or computer. Once the interview was completed, the interview was transcribed using Otter.ai and manually checked for accuracy by the primary researcher. The interviews were conducted over a four-month period.

DATA ANALYSIS

The data for this study was analyzed using framework analysis. Both semi-structured interviews and framework analysis have been used effectively by social scientists to answer research questions that do not need an experimental research design to obtain results while allowing for flexibility of responses and interpretations (Srivastava & Thomson, 75).

“Framework analysis is flexible during the analysis process in that it allows the user to either collect all the data and then analyze it or do data analysis during the collection process. In the

analysis stage, the gathered data is sifted, charted, and sorted in accordance with key issues and themes” (Srivastava & Thomson, 75). For this study, the flexibility offered by the framework analysis was vital to allow for individuality in participant responses, as well as flexibility for researchers to code data as interviews were completed rather than waiting for all data to be collected and then subsequently analyzed.

To analyze each transcript, a word frequency analysis was conducted (Silge & Robinson; Tausczik & Pennebaker). Exploring word frequency from transcribed interviews can provide insight into how language is used, which can then be converted to percentages and/or arranged in themes to give an indication of the reasons or meanings underlying responses to questions. To ease the manual coding of narrative language samples, computerized text mining can assist with the collection of word frequencies. In this study, key words were collected using the summary keyword function in the Otter.ai software program.

At the top of the transcript, Otter.ai will compile a summary keywords section containing words that were said frequently and which Otter.ai thought were important. The words selected for analysis by the primary researcher were chosen for one or more of the following reasons: because they were in the summary keywords section, came up repeatedly within the transcript, and/or seemed to be important for the profession or for the participants’ experience. Analysis was completed throughout the data collection process as each interview was transcribed using templates created in Google Sheets by the primary researcher. Many of the same words were occurring across interviews, which provided a standard list that researchers could use as each subsequent interview was completed. There were instances where an interview was conducted later in the data collection process and a word not previously identified as a frequently occurring word began to occur, the researcher would go back to the other transcripts to see how many

times that word came up. This process of checking and rechecking frequency allowed for the greatest inclusion of all frequently occurring words over the span of data collection, rather than limiting frequency to a predetermined list of words.

Similar flexibility was also applied to the organization and inclusion of word forms. To allow for the clearest picture of the verbiage used during the interviews, different forms of the words (i.e., *parent, caregiver, families, family, parents*) were included in both the collection and analysis. To create a hierarchy of word importance within the frequency data, the primary researcher created a method to define importance based on the number of times a word appeared in an interview. Words said 5-10 times were deemed as somewhat important, 11-20 times as important, and 21 and more times as very important. These words were then color coded within the Google Sheets analysis template to show how often the participants used these words across the board. The primary researcher organized the data in a manner that allowed for easy comparison across participants due to placement of words within the rows and columns and with color coding.

Once the analysis for each interview was finished and words were placed within the Google Sheets template, a total for each word from each interview was found to see how many total times that word was said. For example, finding the total times the words “*parent, caregiver, families, family, parents*” were said from all the interviews to obtain frequency across all interviews in addition to each separate interview. From here, the total number of times all the words chosen for analysis was calculated. Both the total for each word and the total for all the words were used to calculate the percentage for each word. Once this frequency and percentage data was completed, data was analyzed to look for themes present across interviews. To determine themes, the context surrounding each word was taken into consideration and patterns

in the word frequencies were grouped by similar context. The primary researcher separated each word into a group and then determined what theme was best represented by the group of similarly occurring words. Four main themes emerged as words were grouped, with some words falling into multiple themes. The four themes determined by researchers were: home life, service delivery, social and/or emotional mindset, and school performance.

Chapter IV

Results

CONTEXT FOR AGGREGATE DATA RESULTS

As previously stated, a total of 13 occupational therapists were interviewed but only 11 were used in the data analysis portion of the study. A total of five districts were included in this study. District A had four occupational therapists (OT 1, OT 3, OT 5, OT 6) participate. Three occupational therapists (OT 7, OT 9, OT 11) from District B participated. OT 9 has worked in District B for the 2021-2022 school year and worked for District E for the 2019-2020 school year. District C had one participant, OT 8, in the study. District D had three participants (OT 10, OT 12, OT 13) in the study. Due to IRB approval, no identifying information can be given, which limits the ability of the researchers to report both aggregated and disaggregated data in this section. Therefore, all results are reported here after combining the individual results from the interviews.

WORD FREQUENCY

As shown in table 8, 38 words were chosen for the frequency count list. Based on the frequency of the word and potential importance, it was color coded with the corresponding color associated with different frequency counts. The colors are **light orange** for words said 5-10 times, **light blue** for words said 11-20 times, and **light green** for words said 20 times and more (see tables 9, 10, 11, 12, 13). Words were listed by row in the same order for easier analysis across columns/OTs. If the word was not said in that interview, the row of the column was left blank. As a result, tables 9, 10, 11, 12, and 13 have blank rows. As the researchers analyzed data, the Google Sheet was utilized with all OTs posted on the same sheet, creating a very long set of data,

which was easy to scroll across for visual comparison. These data sets were too long to fit into the results section, so adjustments have been made for readability. For the results section of this paper, the tables were sorted by district, though OT 9 had their own table due to working in two districts in the period in question. However, the following link will take the reader to the entire data sheet which does not have the occupational therapist's results separated from one another and allows for comparison viewing in the same manner as the researchers:

<https://docs.google.com/spreadsheets/d/13Q9K5wKavrBtqSJNP2gQE7oOoevFLCesIHBPuB-twT4/edit?usp=sharing>.

Table 8: Total Word Count and the Corresponding Percentage

Total Word Count		Total Percentage of Word	
Word	Count	Word	Count
skill, skills	91	skill, skills	4.700413223
behavior, behaviors, behavioral	21	behavior, behaviors, behavioral	1.084710744
cutting	11	cutting	0.5681818182
handwriting, write, writing, prewriting	66	handwriting, write, writing	3.409090909
functional	12	functional	0.6198347107
life	10	life	0.5165289256
improve, improvements, improved	9	improve, improvements, improved	0.4648760331
typical, typically	49	typical, typically	2.530991736
negative, negatives	5	negative	0.2582644628
mask, masks	39	mask, masks	2.01446281
social, socialization, socially	9	social, socialization	0.4648760331
emotional, emotionally	16	emotional, emotionally	0.826446281
re evaluation, evaluation, evaluations, re eval, evaluated, eval	83	re evaluation, evaluation, evaluations, evaluate	4.287190083
participate, participation, participatory	22	participate, participation, participatory	1.136363636
play, playing	19	play, playing	0.9814049587
pull, pulled	32	pull	1.652892562
push, pushed, pushing	32	push, pushed	1.652892562
parent, parents, family, families, caregiver	246	parent, parents, family, families, caregiver	12.70661157
impact, impacted	12	impact, impacted	0.6198347107
COVID	32	COVID	1.652892562
pandemic, pandemics	33	pandemic	1.704545455
engage, engaged	7	engage, engaged	0.3615702479
fine motor	35	fine motor	1.80785124
tech, technology, technologically	43	tech, technology, technologically	2.22107438

online	83	online	4.287190083
regressed	14	regressed	0.7231404959
struggle, struggled	11	struggle, struggled	0.5681818182
activities	51	activities	2.634297521
materials, supplies	47	materials, supplies	2.42768595
schedule, scheduled	65	schedule, scheduled	3.357438017
home	111	home	5.733471074
stress	19	stress	0.9814049587
progress	21	progress	1.084710744
challenge, challenges, challenging	68	challenge, challenges, challenging	3.512396694
session, sessions	87	session, sessions	4.493801653
remote, remotely	38	remote, remotely	1.962809917
positive (including testing positive for COVID)	13	positive (including testing positive for COVID)	0.6714876033
hard, harder	58	hard, harder	2.995867769
school, Schoology, preschool, high school, middle school, elementary school, preschoolers	316	school, Schoology, preschool, high school, middle school, elementary school, preschoolers	16.32231405

The three most common words across all the interviews used for analysis were: *school*, *home*, *parents*, and their equivalents. The most common word was *school* for a total of 316 times or 16.3%¹ of the words chosen for analysis. The second most common word was *parents* and equivalents for 246 times or 12.7% of the words chosen for analysis. The third most common word was *home* for 111 times or 5.7% of the words chosen for analysis. The four least common words were: *engage*, *improve*, *social*, *negative* and their equivalents. The least common word across all the interviews was *negative* for 5 times or 0.3% of the words chosen for analysis. Both

¹ In this section, all percentages have been rounded to the nearest tenth

improve and *social* were said 9 times each or 0.5% of the words chosen for analysis. Figure 3 shows there is a wide variation in the number of words said and illustrates table 8 in a pictorial form.

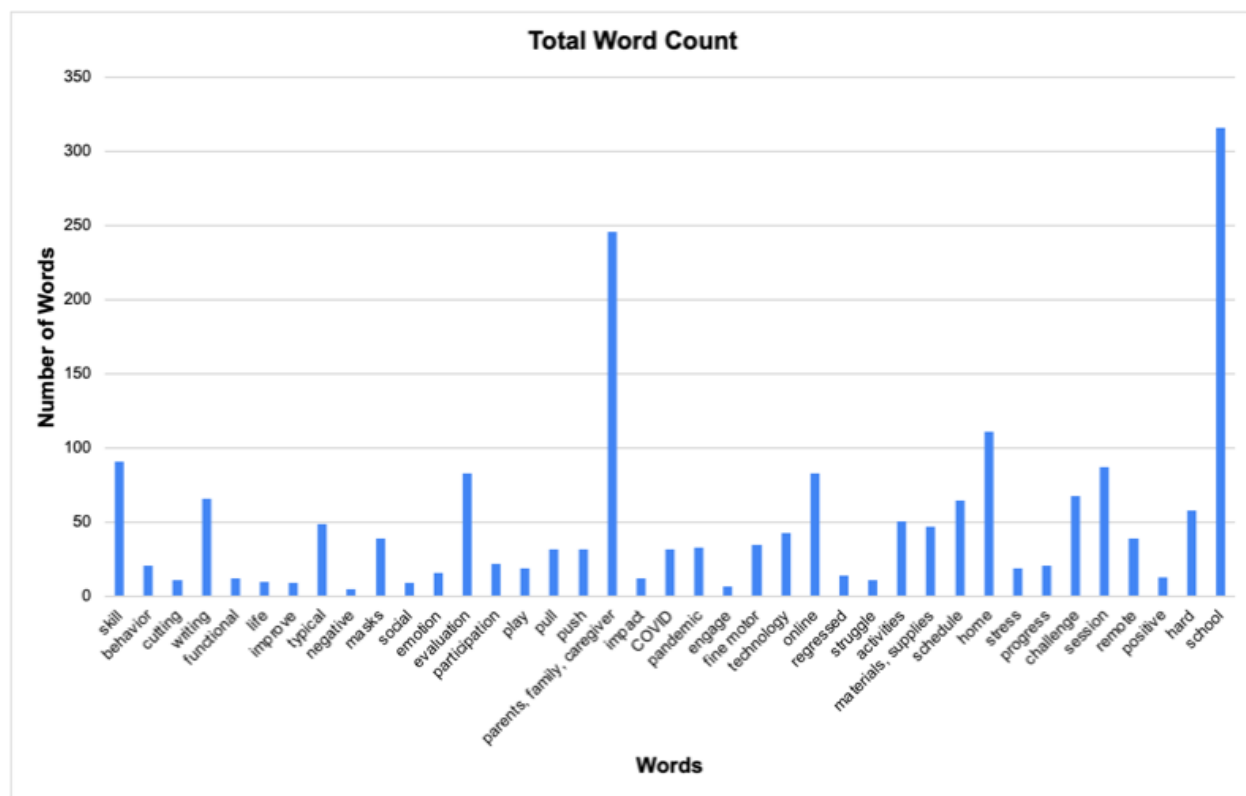


Figure 3

Table 9: Frequency of Words for Occupational Therapists in District A

OT 1		OT 3		OT 5		OT 6	
Word	Count	Word	Count	Word	Count	Word	Count
skill, skills	17	skill, skills	26	skills	1	skill, skills	12
behavior, behaviors	1	behavior, behaviors, behavioral	6			behaviors	1
cutting	1	cutting	1	cut, cutting	3		
handwriting, writing	9	handwriting, write, writing	30	write, writing	7	writing	1
functional	1			functioning	1		
life	4	life	3				
improve	1			improve	1	improve	1
typical, typically	3	typical, typically	6	typical, typically	13	typical	7
negative	2					negative	1
mask, masks	7	mask, masks	2	mask	5	mask	1
social	3	social, socialization	3				
emotional	1	emotional, emotionally	9			emotional	2
evaluation, evaluations, re evals, re evaluated	15	evaluation, evaluations, evaluate	17	eval, evaluation, evaluate	7		
participate, participation	3					participate, participating	2
play, playing	4	play, playing	5			play	5
pull, pulled	7	pull	5	pull	1	pull	1
push, pushed	9	push, pushed	7			push	1
parents, family, families, caregiver	28	parent, parents, family	26	parent, parents, family, families	17	parents, parent, parenting, family	40

impact, impacting	3	impact, impacted	3				
COVID	2	COVID	1	COVID	2		
pandemic	4	pandemic	9			pandemic, pre- pandemic	5
engage	5						
fine motor	6	fine motor	6	fine motor	2	fine motor	6
tech, technology, technological	6	tech, technology	12	technology	1	technology, technical	3
online	2	online	7	online	14	online	8
regression	1	regressed	1	regress	2		
struggling	1	struggle, struggled	2	struggled	3		
activity, activities	17	activities	2	activity, activities	2	activity, activities	5
materials, supplies	5	materials	1	materials, supplies	4	material, materials	3
schedule	12	schedule, scheduled	24	schedule	2	schedule, scheduled	4
home	10	home	14	home	13	home	7
stress, stressed, stressful	6	stress	1			stress, stressors, stressful	5
progress	5					progress, progression	8
challenge, challenges, challenging	5	challenge, challenges	5	challenge, challenges, challenging	5	challenge, challenging	13
session, sessions	17	session, sessions	13	session, sessions	9	session, sessions	15
				positive (said in relation to testing positive	2	positive	2

				for covid)			
hard	10	hard, hardest	7	hard	2	hard	4
school, preschool, highschool, middle school	57	school, Schoolology, preschool, high school, middle school	51	school, Schoolology, preschool, high school, middle school, elementary school	40	school, Schoolology	4

For District A, the most popular words across the interviews were *parents* and *school*.

The words *parents* and equivalents were said a total of 111 times across the four interviews. The word *school* and equivalents were said a total of 152 times across the four interviews. The word *remote* was not said during any of these interviews. For OT 1, OT 3, and OT 5 they said *school* and its equivalents the most often. For OT 6 they said *parents* and equivalents the most often. OT 1, OT 3, OT 5, and OT 6 did not mention the word *remote*.

Table 10: Frequency of Words for Occupational Therapists in District B

OT 7		OT 11	
Word	Count	Word	Count
skill, skills	11	skills	1
behavior, behaviors	2	behavior	2
cutting	1		
handwriting, written	2		
functioning	1		
improved	1		
typical, typically	9		
masks	3	mask, masks	6
emotional, emotions	3		
evaluation, evaluations, evals, evaluate	9	evaluation, evaluations, evaluate, eval	7
		participating, participation	4
played	1		
pull	1	pull	2
push	1	pushing	1
parents, family, families	31	parents, family	9
		impact, impacted	6
COVID	7	COVID	1
pandemic	1	pandemic	1
fine motor	5	fine motor	1
technology	6	technology	3
online	7	online	8

regress, regressed	3		
struggling	1		
activities	5	activities	1
materials	14	materials	1
schedule, scheduled, scheduling	9	schedule, scheduled	3
home	18	home	15
		progress, progressing	3
challenge, challenges, challenging	13	challenge, challenges, challenging	8
session, sessions	8	session, sessions	5
remote, remotely	26	remote	4
positive (1x said in relation to testing positive for COVID)	2		
hard	5	hard	2
school, preschool, middle school	38	school, preschool, high school, schools	20

For District B, the most popular word said across the two interviews was *school* and it was said 58 times. Both OT 7 and OT 11 did not mention the words: *life*, *negative*, *social*, *impact*, *engage*, and *stress*. For OT 7, *remote* and *parents* were also said very frequently for a total of 26 and 31 times, respectively. OT 11 did not mention any word more than 20 times.

Table 11: Frequency of Words for Occupational Therapists in District C

OT 8	
Word	Count
skill, skills	8
behavior, behaviors	3
cutting	2
prewriting, writing	2
functionally	1
life	2
typically	1
negative	1
masks	3
evaluation, evaluations, eval	10
pull	2
push	2
parents	23
COVID	4
pandemic	4
fine motor	1
technology, technologically	4
online	6
regress, regressed	3
struggle	1

activities	2
supplies	1
schedule, rescheduled, scheduled	3
home	13
stress	1
progress	2
challenge, challenged, challenges	3
session, sessions	4
remote	1
positive	3
hard	1
school, preschool, preschoolers	10

OT 8 said the word *parents* the most frequently with a total of 28 times. OT 8 did not mention the words: *improve*, *social*, *emotion*, *participate*, *play*, *impact*, and *engage*. The only word OT 8 said more than 21 times was the word *parents*.

Table 12: Frequency of Words for Occupational Therapists in District D

OT 10		OT 12		OT 13	
Word	Count	Word	Count	Word	Count
skill, skills	4	skill, skills	4	skill, skills	2
behaviors	1	behavior, behaviors	2	behaviors	1
		cutting	1		
handwriting, writing, written	5	prewriting	1	handwriting, write	5
functioning	7			function	1
improved	1			improve, improvements, improved	4
typical, typically	5			typical, typically	2
		negatives	1		
mask, masks	2	mask	2	mask, masks	3
		social, socially	2	social	1
emotional	1				
evaluation, eval, evaluate	3	re evaluation, evaluation, evaluations, re eval, evaluated, eval	6	evaluation, evaluations, evaluate	6
participate, participation, participating	7			participate, participation, participatory	4
playing	1	play	1	play	1
pull	6	pull, pulled	6		
		push, pushed, pushing	6	push	3
parents, families, caregiver	17	parents, parent, families	5	parent, parents, family, families	23
		COVID	4	COVID	9

pandemic	2	pandemic, pandemics	3	pandemic	2
		engaged	1		
fine motor	2	fine motor	2	fine motor	3
technology	7			technology	1
online	9	online	3	online	10
regression	1	regressed	1	regressed	1
struggling	1			struggling	2
activities	5	activity, activities	4	activities	2
materials, supplies	4	materials	1	materials, supplies	6
schedule	6	schedule	1	scheduled	1
home	5	home	4	home	6
				stress, stressor	2
progress	2				
challenge, challenges	4	challenging	5	challenging	1
session, sessions	4			session, sessions	7
remote, remotely	7				
positive	1			positive (said w/ testing positive for COVID)	1
hard	13	hard, harder	2	hard, harder	5
school, middle school	8	school, preschool	25	school, preschoolers	19

The most common word said across the three interviews was *school* for a total of 52 times. *Parents* were also said very frequently for a total of 45 times. The words which did not show up across these three interviews are *impact* and *life*. For both OT 10 and OT 13, the most common word was *parents*. For OT 12, the most common word was *school* which was stated 25 times.

Table 13: Frequency of Words for Occupational Therapist 9

OT 9	
Word	Count
skill, skills	5
behavior, behaviorally	2
cutting, cut	2
written, prewriting, writing, write	4
life	1
typical	3
mask, masks	5
evaluation, evaluations	3
participate	2
play	1
pulling	1
push	2
parents, family, families, caregivers	27
COVID	2
pandemic	2
engage	1
fine motor	1
online	9
regression	1

activity, activities	6
materials	7
home, homes	6
stressful	4
progression	1
challenge, challenges	6
session, sessions	5
positive	2
hard, harder	7
school, preschool, high school, middle school, preschoolers, elementary school	44

OT 9 was given a separate table because they worked in two districts. For OT 9, the most common word was *school* for a total of 44 times. The second most common word for OT 9 was the word *parents*, which they said 27 times. OT 9 did not mention the words: *function*, *improve*, *negative*, *social*, *emotion*, *impact*, *technology*, *struggle*, *schedule*, and *remote*.

IMPACT

Researchers were interested in the short and long term and positive versus negative impacts that COVID-19 might have on therapists and the services they are required to deliver. Additionally, researchers speculated that a district's wealth, size, or demographics may play contributing roles in the lived experiences of therapists. Analysis of word frequency and qualitative data gleaned from interviews informed this next set of results.

Short term impact. Throughout the interview process, there were four short term impacts which were mentioned frequently among the occupational therapists. Many of the occupational therapists stated they are seeing an increase in occupational therapy evaluation referrals for children from preschool to first grade. Additionally, OT 9 also specified they were seeing an increase in fourth grade referrals, which they said was not common. As a result of the COVID-19 pandemic, District D also changed their delivery model for preschool occupational therapy from fully pushing into the classroom into a hybrid model. In this model, the therapists will push into the classroom one week and will pull the children out of the classroom for the other three weeks of the month. A few of the participants have also seen a change in behavior of the children where the children do not know how to act in class or interact with others because of masks, quarantine, and not spending as much time in school. The final short-term impact of the COVID-19 pandemic is that all IEP and evaluation team meetings have moved online.

Long term impact. At this time, due to the recency of the pandemic it is hard to determine what the long-term impact has been. Researchers initially believed they would be able to make some determinations regarding long term impacts based on the interviews they conducted. Once data

was collected and analyzed, it was evident that no reasonable predictions could be made until more time has passed.

Impact of wealth, location, and size of district. Not many occupational therapists discussed this topic within the interviews, which was unexpected, however those that did noted four impacts. The first impact was the ability for the district to provide computers to the students. The second impact is the amount of time the district was all online and hybrid. The third impact was the more affluent the area of the district, the more children had reliable WIFI. The last impact was the ability of the parents or caregivers to bring the children into the schools, while everyone else was online, for them to receive their services.

Positive impact. Not many of the occupational therapists felt there was a positive impact of the COVID-19 pandemic. However, there were three topics which came up frequently as having a positive impact. The first was the relationship the occupational therapists were able to develop with the parents as families. The second positive was the parent education which was a result of the building of a relationship between the therapist and the family. The last was the IEP meetings moving online.

While these were noted as the main positives of the pandemic, there were some others which were mentioned. Some occupational therapists felt that being online had a positive impact on the older children who were learning daily living activities such as cooking, cleaning, laundry, etc. because the children were at home where they could practice skills in their natural environment. One therapist felt the change in delivery services since the pandemic for District D is a positive impact because they felt the quality of services has improved since then. Additionally, some children performed better online because they felt less anxious, and some had

better equipment at home than what was available at school. Lastly, the hybrid and online models many districts used did provide the children some social interaction with other children.

Negative impact. There have been a few negative impacts because of the pandemic as the participants noted. The one discussed most frequently was the decreased quality of service being provided to the students because of being online. Another frequently noted negative impact was a result of the masks the children and therapists needed to wear because it impacted the social and emotional skills of the children and the trust between the child and therapist. The last negative identified was the overall stress which the pandemic has caused, not only on the occupational therapists, but also on the children and families.

Chapter V

Discussion

Researchers were able to provide additional consideration regarding results of these interviews with therapists and the analysis of the words they used, the impacts they noted, and the experiences they shared by identifying recurring themes. As previously stated, the primary researcher grouped the frequently used words into four themes to capture the contextual nature of the findings and provide additional ways to consider how COVID-19 affected the service delivery of occupation therapy services during the pandemic. As stated previously, word frequency collection provides the initial step to determining conclusions about the underlying themes in response to questions. Placing these frequently occurring words into themes assists with the analysis of the data and allows the researcher to draw conclusions about the experiences these occupational therapists had during the pandemic. The following discussion section will outline these four themes in greater detail and will drive conclusions made by the researchers. Generally, discussion sections would place the results of the current study in relation to previously published works. This comparison and contrast of previous literature to the current study is limited as COVID-19 research regarding occupational therapy services is not yet appearing in the literature.

THEMES

Based on the contexts surrounding the words chosen for the data analysis, four themes emerged. These four themes are: (1) home life, (2) service delivery, (3) social and/or emotional mindset, and (4) school performance. These themes indicate that occupational therapy has an impact on nearly every aspect of a child's life and the experiences that therapists shared

confirmed that as the themes identified include aspects of home and school, the way service was delivered, and the impacts felt in socio-emotional domains. As can be seen in table 14, words placed under a specific theme share similar contexts or naturally occur together. Additionally, many of the words that were analyzed occurred across multiple themes. This is since COVID-19 impacted many aspects of the service delivery of occupational therapy and those areas are interconnected. While the majority of the frequently occurring words are included in at least one of the four themes, there are certain words that were not placed in any of the themes and those are: *evaluation*, *impact*, *COVID*, and *pandemic*. *COVID* and *pandemic* were not included in these themes because it is the overarching reason why this predicament occurred in the first place and thus needed to be kept separate. *Impact*, and as a result *evaluation*, were kept out of the themes because the occupational therapists would discuss this topic in a different context than the rest of the words which were analyzed and placed in a theme.

Table 14: Themes

Theme 1: Home Life	Theme 2: Service Delivery	Theme 3: Social and/or Emotional Mindset	Theme 4: School Performance
online	online		
Parents, families, caregiver	Parents, families, caregiver		
	remote		
	typical		
		stress	
			skill
activities	activities		
materials/supplies	materials/supplies		
		emotion	
life		life	life

			functional
	session		
		negative	
		improve	improve
	pull		pull
		struggle	
			Fine motor
technology	technology		
		hard	
		Regress, regression	Regress, regression
participation	participation		
home			
		behavior	
scheduling	scheduling		
			handwriting, write, writing, prewriting
	school		
		positive	
			cutting
		progress	progress
	push		push
			play
		social	
		challenge	
	mask	mask	
	engage		

Theme 1: Home Life. Nine words were analyzed and placed in this theme. The words which fall within this theme are *parents, activities, materials/supplies, online, technology, home, scheduling, life, and participating.*

These words were placed within the home life category because depending on the home life of the child (*parents; scheduling; life*), the resources that may be available (*materials/supplies; technology*), and the active or passive ability to participate in activities, home life contexts impacted the occupational therapist's ability to deliver services. The home life of a child is very important because it determines the resources available to the child and whether the child was able to have services online during the COVID-19 pandemic.

One of the biggest aspects of home life for the child are the parents/guardians and data from this study highlighted ways that parents supported or hindered therapists' ability to provide high-quality services. While many therapists said building a stronger family-therapist relationship was a positive for them, there were also negatives mentioned about parents. For example, many of the parents would not respond to emails, would not show up to the session, or would not stay with their child during the session. These actions tended to have negative impacts on the quality or availability of therapy sessions. If the parents either did not care about the occupational therapy session or just could not participate in them due to a variety of reasons, such as their own work schedule, that would oftentimes hinder the child's progress.

In contrast, if the parents were invested in the services, were present during sessions, and/or ensured materials were available for activities, there typically was a better experience for everyone and the child would do better in sessions. Additionally, the occupational therapist had to rely on the parents or guardians to be their eyes on what the child was doing. For example, occupational therapists will oftentimes include in the goals for the child the amount of assistance they give them, which can include the cues they give the child. Some of the parents would give their child too many cues or would do the work for the child but since the therapist was not there, they had to trust the parents were listening to them and taking the feedback the occupational

therapist would give them. Finding the right balance of parent involvement and support brought an additional challenge that typically was not present in school-based therapy.

Technology was another major aspect of the home life of the child and service delivery. Since most of the therapy sessions moved to virtual synchronous sessions, if there were technology issues, no WIFI, limited access to a computer, etc. this limited the therapist's ability to provide services. For the districts which were a little more affluent, not as many of these issues arose but for the less affluent families, these were major concerns.

Theme 2: Service Delivery. There were 15 words which established this theme. These words are *parents, typical, remote, online, session, pull, materials/supplies, technology, school, participation, push, scheduling, activities, engage, and mask*. This theme highlights the different aspects of service delivery affected by the COVID-19 pandemic specific to therapy sessions. This is reflected specifically in words such as *remote, online, session, technology, and engage*. There is also much overlap from the Home Life theme because service delivery shifted in many cases to home or remote delivery.

One of the biggest challenges for the therapists when dealing with home life and service delivery, was the materials and supplies available. When in the school, the occupational therapist has most of the supplies they will need for the sessions. At home however, this was not always the case. For many of the occupational therapists that were interviewed, the lack of materials available at home was a major barrier because that severely limited what they could do or what they could ask a family member to help a student do. Sometimes the therapist would spend most of the session having the child get the materials for the session. Some even said they provided materials to the child by having materials sent to the home, and they still would not have anything ready or available for the session. One of the most surprising things about the lack of

materials available for the sessions was how many families did not have basic materials like pencils, paper, markers, printers, etc. While the districts which did have a wealthier population did not have as many of these issues, there were a good number of therapists which did have this issue across all districts in this study.

In the 2020-2021 school year, a variety of different service delivery models were being used. Some students were still fully virtual, some hybrid, and some fully in person. For some districts, they would switch depending on the COVID-19 community spread standards outlined by public health departments, so at one point in the year they would be fully in person and then at another point in time they would switch to hybrid depending on the amount of COVID cases. This inconsistency in delivery meant that not every child was getting the same level of service, not because the occupational therapists were not trying but due to the circumstances made more challenging with the changing guidance.

Theme 3: Social and/or Emotional Mindset. After analyzing the context surrounding the frequently occurring words, 14 words were said in this context. Those words are *stress, emotion, negative, struggle, hard, behavior, positive, regression, progress, life, social, challenge, improve, and mask*. As anticipated, the pandemic affected more than children's physical presence in school buildings, it affected children's, parents', and therapists' social and emotional mindsets, often negatively. Words such as stress, negative, struggle, and hard provide some insight into how difficult this time was for everyone. Having therapists' comment on progress, improve, regression, and challenge indicate that children were not making the typical gains that therapists had come to expect from sessions. These words help frame the difficult social and emotional times that therapists and families had to endure over the course of these two school years.

While most of these words make sense within this theme, there is one word which needs to be expanded upon in order to understand why researchers included it in this theme. The word which needs to be expanded upon is masks. While masks at first do not seem to fit within this category, the mandated wearing of masks has had an impact on the children's behavior and on the emotional well-being of both the occupational therapists and children. Many of the children who are in preschool to first grade, have only known a world with masks. They have learned to stay away from other people and as a result, has impacted their ability to interact with not only other children but also other adults. The things that people were asked to do to protect themselves and others, to flatten the curve, may have lasting effects on our youngest citizens. For many of the occupational therapists, while the masks being required did hinder their ability to connect with the students, it also brought a level of control to the occupational therapists which they were probably lacking due to the nature of the pandemic. In some cases, the mask requirement may have allowed students to return to school for therapy sessions only, or may have allowed districts to bring students back in hybrid models or return to in person school. It is difficult to determine if mask wearing will be considered a positive or a negative overall impact of COVID-19.

Theme 4: School Performance. After the data collection was completed, 12 words were said in the context surrounding school performance. These words are *skill, functional, life, improve, fine motor, regression, handwriting, progress, cutting, pull, push, and play*.

These words all relate to how the child is performing in school. According to the IDEA, the work the occupational therapist does has to have a school outcome. This means that what they work on in the sessions need to benefit the child in school, until they are transitioning out of the public school system. Due to the occupational therapists who were included in the analysis

working with children in preschool to eighth grade, the children are still working on their school skills and have not started to age out of the school system yet. As a result, the goals and interventions which are used in sessions, relate to the child's ability to perform well in school. Unlike the other themes that have some natural positives or negatives associated with the included words, this theme is more descriptive of the terminology used in occupational therapy. The inclusion of these words in the context of interviews acknowledges that despite all the home life unknowns, the changes in service delivery, and the impacts on social-emotional mindsets, therapists were able to persevere and do their best to deliver support and service to students.

IMPACT

Short term impact. There were a few short-term effects of the COVID-19 pandemic which the occupational therapists discussed. The first is the IEP and evaluation team meetings moving online. These meetings have become more convenient not only for the families but also for the school personnel. At least in the short term, this is a potential impact that may remain beyond the pandemic.

Many of these meetings can last from as little as one hour to over three hours depending on the severity of the child's disability and/or complexity of the IEP. As required under IDEA, these meetings must have the parents present but scheduling and attending these meetings can present challenges for parents or guardians. For example, some parents or guardians cannot take time off from work or do not have the transportation needed to get to the school for the meeting. As a result, moving the meetings online has made it more accessible and convenient for the parents.

For occupational therapists, there were challenges to the in-person IEP meetings. For example, a therapy session with a student prior to the meeting may go longer, the therapist may

be in a different building, or the therapist may not have the time in their schedule for the meeting. However, moving the meetings online have become more convenient for the occupational therapists because they can log onto the session quickly to discuss their component of the IEP and then leave the meeting once they are done. They also have the possibility to control the screen so they can take the document directly to where their section is being discussed instead of everyone having to spend the time flipping pages of a hard copy searching for the occupational therapist's component of the IEP.

The second short-term with potential to become a long-term effect is the change in service delivery model in District D. District D has moved to a hybrid between the push in and pull-out model of delivery. While there has not been a decision as to how long this new delivery model will occur, if the occupational therapists feel this has been an improvement for students based on progress data and has increased their quality-of-service delivery, the district may choose to make this a permanent change.

Finally, most of the occupational therapists interviewed discussed the increase in referrals for evaluations, which is anticipated as a short-term response to the challenges of the pandemic. When asked as a follow-up question if the children who are getting referred for services have a disability or if the children are just lacking experience in that skill, most of the occupational therapists said they believed it was lack of experience, not a disability. Part of the reason why there could be an increase in referrals is that the typical signs which teachers use for referring a child for services, are being seen more frequently thus making those signs not as accurate.

The increase in referrals for evaluations could have both positive and negative effects. A positive effect which could potentially occur in the future is that there may be more education for the teachers on signs of a child who may need services thus resulting in more children potentially

getting services which may not have been noticed prior to the pandemic. A negative effect though is that children who do not need services may be labeled as a “child with a disability”, even if that only happens for a short time until deficits are remediated. Disability labels are often more permanent. While occupational therapy services can be beneficial for everyone, as the child gets older receiving services could take the child out of the classroom during important instruction time thus hindering their education.

Long term impact. While it was hard to determine the long-term effects due to the recency of the pandemic, based on the interviews, the online meetings, and the change in delivery model in District D could become long term. There could also be long term effects from the increase in referrals for evaluations. However, the long-term effects will most likely not be seen until COVID-19 has ended and society is back to pre-pandemic life.

Positive impact. The main positive impacts which were mentioned were the IEP and evaluation team meeting moving online, the relationship between the occupational therapist and the parents and/or families, and the parent education which was able to occur through the online therapy.

Moving the IEP and evaluation team meetings online was a positive effect of the pandemic because it has become more accessible and convenient for the parents and for the occupational therapists, as stated previously. This change may provide more equity in who can attend meetings and how long the meetings may last. With this small shift in accessibility, there could be even greater impacts for collaboration between home and school, and the principles of the IDEA could be more easily attained.

The relationship between the occupational therapist and/or families were one of the biggest positives of the pandemic. Going online, allowed the occupational therapist to learn more about the home life of the child and develop more rapport with the parent/families. Through this

relationship, parent education was able to occur. The parents/families were able to learn more about their children and about what expectations they can meet. Many of the parents for children with disabilities are hesitant to push their children because they are worried. Through this parent education however, parents were able to learn that their children could hold scissors, for example. The parents were also able to learn what the child should be focusing on at home. This helps with the IEP because parents were able to better understand what the occupational therapist's goals mean within the IEP. This could have lasting effects for families in their ability to fully participate as an equal member of the IEP team and to advocate more effectively in the future for services. While this situation is noted as a positive, outcomes were still dependent on the child, and parent, attending the session. Some parents and children did not go to the session for a variety of reasons such as availability, severity of the disability, and the ability for the child to focus during the session online. But, for those that were able to attend, and the parents were open to building this relationship, the COVID-19 experience was a great opportunity for everyone involved and was a major positive for the occupational therapists.

There were some smaller positives which were mentioned and should be discussed further. These smaller positives are the ability to work on daily living skills with high schoolers at home, the hybrid and online delivery of school and services gave the children some social interaction, the changing delivery model of District D, and some children did improve when they were online. For the children who are in high school, the focus of the therapy goals turns to daily activity skills such as cooking, cleaning, grocery shopping, etc. Due to the nature of these activities, being at home allowed these children to become more independent within their home. They were able to learn how to use the equipment, which is at their home and as a result, the

equipment they would be most likely to use in their daily life. Programming for generalized outcomes was easier because children were already in their own homes.

The hybrid and online models of delivery were able to provide the children with some consistency in a rapidly changing environment. The children were able to maintain some expectations of when they would have school and where school would be. The structure of these routines provided stability and potentially reduced anxiety. Additionally, the hybrid and online models provided the children with some social interaction compared to fully asynchronous online. When everything moved online in March 2020, having the virtual therapy provided an opportunity for the children to see their friends and school personnel when most likely they were spending most of their time at home with limited peer engagement. This potential benefit continued when the schools either continued with the online model or offered the hybrid model during the 2020-2021 school year.

For District D, some occupational therapists felt the change in the delivery model for preschoolers was positive. In this model, therapists utilize a combination of push in and pull-out services. They felt their quality of service has improved because they have more control over the environment and there are less distractions than the classroom setting. Through this, they can really focus on a skill to a degree they were not able to do in the push in model. Having one week in the classroom then lets the occupational therapist see how the child is doing at transferring the skills they are working on into the classroom, while also being able to watch the other students for any potential signs of needing therapy.

The last positive which was mentioned was that some children did improve through the online therapy. Some children felt less anxious at home than at the school setting which made them more comfortable doing the activities. For some children, the equipment at home was better

than what the school had. This made the child feel more comfortable during the session in addition to increasing the number of activities the occupational therapist was able to work on.

Negative impact. The main negative impact which was mentioned during the interviews was the reduction in the quality of services. Another negative was the masks and the effect that had on the children. A third negative effect is the social and/or emotional skills of the children. The last negative is the stress COVID has caused both the occupational therapists and the kids.

Even though most services were able to continue online during the pandemic, the quality had to be reduced. The occupational therapists tried to offer the best services they could, but a variety of factors limited them. For example, technology, materials that were available, WIFI connection, and availability of the parents. One of the biggest reasons the quality of services were reduced was because the occupational therapists were not able to be there. The therapist was depending upon the family member, or child if they were old enough, to be doing the things they were telling them to do. For the children who were older, if the therapist was working on typing, for example, the therapist had to assume based on what they were seeing on the screen, that the children were using the correct hand positioning. Another major impact on the service delivery was the materials which the families had available. This was a challenge because the therapist had to assume the families would have basic supplies such as paper, markers, crayons, PlayDoh, etc. and some parents did not, making it more difficult for the therapist.

Once the children were able to come into the building for therapy services, another negative impact arose which is the impact of masks. The masks made their job a little more difficult because it makes it difficult for the children to trust them because they cannot see their facial expression for emotions, nonverbal and social cues, to name a few. Some children also

were very quiet and did not talk when they had the masks on but once they took them off, they were basically a different child.

Furthermore, the social and emotional skills of the children have been impacted because of the pandemic. Being home for an extended period of time, many of the children from preschool to first grade, did not get a normal early education experience. As a result, they did not learn certain social and emotional skills such as sharing, verbalization of emotions, and cooperation and collaboration with the other children. The masks have impacted this area as well because some children will not talk to or interact with the other children when the mask is on due to the association which has been developed between the children and their masks.

The final negative impact was the increased stress level of the children and the therapists. For many people, there was a lack of control and consistency which was prevalent throughout the pandemic. For the children, they had been used to going to school and now that was no longer occurring. For most children, but especially those that have a disability, they like consistency and the COVID-19 pandemic meant that was no longer happening. For the occupational therapists, many of those that were interviewed are parents who made the pandemic even more difficult. They were worrying not only about the students they work with, but also their own children. Most of the occupational therapists which were interviewed were very concerned about masks no longer being required because that was one more component of the pandemic which they were no longer able to control.

CONCLUSIONS

Overall, the main question of this study was what effects COVID-19 had on the service delivery of occupational therapy. As discussed in this section, the pandemic brought a mix of challenges and opportunities to families and therapists. For the most part, it would appear that in

spite of a myriad of challenges and difficulties, children did receive services delivered with the guidance of an occupational therapist. But the quality of the service was varied by situations that were often beyond the control of the therapist. There were some short-term gains and the possibility of some changes in accessibility that could remain after the pandemic ends. The long-term impacts will not be determined for some time, which is a concern.

LIMITATIONS

While there were many positive aspects to the study, there were some limitations. The first limitation is the small sample size because it limited the overall breadth of the study. Additionally, due to the focus being on one area within one state, it is hard to determine what the effect was across the rest of the state or nation. The second limitation is that an interview process was used which could result in variable amounts of information a therapist could provide because while one therapist may provide a considerable amount of information, another may give a very limited amount. Another limitation could be the design of the interview questions. There was a set of questions with the availability for unique follow-up questions, but there is a possibility that the questions crafted by the researchers limited responses or did not produce the fullest range of responses. Leaving the last question as an open-ended “is there anything we didn’t ask you that we should have” gave an option to capture additional information, but it is possible that option was not enough to elicit all possible words or themes. Additionally, there may have been human error when finding the word frequency. The primary researcher had to manually count the number of times a word was said during the interview, thus increasing the possibility for a miscount. Finally, quantitative data such as the frequency of words holds greater objectivity in collection and analysis, whereas qualitative approaches such as the thematic analysis conducted by the researchers in this study may have allowed a level of subjectivity into

the analysis. Despite these limitations, the consistency of findings across multiple therapists and districts provides additional validity and reliability to the conclusions stated.

FUTURE RESEARCH

In the future, more research should be done focusing on occupational therapy services provided to children who were in middle school and high school during the 2019-2020 and 2020-2021 school years to compare their experiences with these findings for younger children. Furthermore, long term research should be conducted to determine the effect the increase in evaluations has had on the special education system. Additionally, this study could potentially be repeated in the future with adults in nursing homes and senior living facilities because many of their therapy services were also most likely impacted as a result of the COVID-19 pandemic.

In conclusion, the researchers found that the COVID-19 pandemic did have an effect on the delivery of occupational services for the short term, but could not determine what the long-term effect would be. The 2019-2020 and 2020-2021 school years were a very stressful and hectic time for many people, even those who were not the topic of this study. While all of the occupational therapists in this study, and many people in general, hope to never have another COVID-19 pandemic, one cannot know when or if it will happen. However, one can take what they learned during the COVID-19 pandemic and be more prepared in case another pandemic does occur in the future.

Works Cited

“2013 School District Typology.” Ohio Department of Education, 20 June 2019.

“About IDEA.” *Individuals with Disabilities Education Act*, United States Department of Education, 24 Nov. 2020, <https://sites.ed.gov/idea/about-idea/>.

“About Occupational Therapy: What Is Occupational Therapy.” *American Occupational Therapy Association*, American Occupational Therapy Association, <https://www.aota.org/About-Occupational-Therapy.aspx>

“Becoming an OTA: Mastering the 5 Types of Interventions.” *Cleveland University-Kansas City*, Cleveland University-Kansas City, 27 Apr. 2020, <https://www.cleveland.edu/blog-post/~post/becoming-an-ota-mastering-the-5-types-of-interventions-20181108/>.

Blad, Evie. “The Pandemic Made It Harder to Spot Students with Disabilities. Now Schools Must Catch Up.” *Education Week*, Education Week, 24 Aug. 2021, <https://www.edweek.org/teaching-learning/the-pandemic-made-it-harder-to-spot-students-with-disabilities-now-schools-must-catch-up/2021/07>

Camden, Chantal, and Mindy Silva. “Pediatric Telehealth: Opportunities Created by the COVID-19 and Suggestions to Sustain Its Use to Support Families of Children with Disabilities.” *Physical & Occupational Therapy In Pediatrics*, vol. 41, no. 1, 6 Oct. 2020, pp. 1–17., <https://doi.org/10.1080/01942638.2020.1825032>

Case-Smith, Jane, and Susan Bazyk. "School Based Occupational Therapy." *Occupational Therapy for Children*, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 713–743.

Clark, Gloria Frolek, and Kingsley, Karrie L. "Occupational Therapy Practice Guidelines for Early Childhood: Birth–5 Years." *The American Journal of Occupational Therapy*, vol. 74, no. 3, 2020, pp. 1–42., <https://doi.org/10.5014/ajot.2020.743001>

Dahl-Popolizio, Sue, et al. "Telehealth for the Provision of Occupational Therapy: Reflections on Experiences during the COVID-19 Pandemic." *International Journal of Telerehabilitation*, vol. 12, no. 2, 8 Dec. 2020, pp. 77–92., <https://doi.org/10.5195/ijt.2020.6328>

"Guide to the Individualized Education Program." Office of Special Education and Rehabilitative Services U.S. Department of Education, 30 Aug. 2019, <https://www2.ed.gov/parents/needs/spced/iepguide/index.html>.

Hermes, Susan Skees, et al. "Perceptions of School-Based Telehealth in a Rural State: Moving Forward after Covid-19." *International Journal of Telerehabilitation*, vol. 13, no. 1, 22 June 2021, pp. 1-8 <https://doi.org/10.5195/ijt.2021.6370>

Jeste, S., et al. "Changes in Access to Educational and Healthcare Services for Individuals with Intellectual and Developmental Disabilities during Covid-19 Restrictions." *Journal of Intellectual Disability Research*, vol. 64, no. 11, 17 Nov. 2020, pp. 825–833., <https://doi.org/10.1111/jir.12776>

“K-12 Salary.” *The Buckeye Institute*, The Buckeye Institute, 2019,

https://www.buckeyeinstitute.org/data/teacher_salary.

Mitchell, Corey. “Bridging Distance for Learners with Special Needs.” *Education Week*,

Education Week, 15 Jan. 2021, <https://www.edweek.org/teaching-learning/bridging-distance-for-learners-with-special-needs/2020/09>

Mitchell, Corey. “How Will Schools Pay for Compensatory Services for Special Ed. Students?”

Education Week, Education Week, 25 Feb. 2021, <https://www.edweek.org/teaching-learning/how-will-schools-pay-for-compensatory-services-for-special-ed-students/2020/11>

Mitchell, Corey. “Serving Special Needs Students during COVID-19: A Rural Educator's Story.”

Education Week, Education Week, 25 Feb. 2021, <https://www.edweek.org/teaching-learning/serving-special-needs-students-during-covid-19-a-rural-educators-story/2020/05>

Mitchell, Corey. “Virtual IEP Meetings: A 6-Step Guide for Parents and Teachers.” *Education*

Week, Education Week, 11 Nov. 2021, <https://www.edweek.org/teaching-learning/virtual-iep-meetings-a-6-step-guide-for-parents-and-teachers/2020/05>

Neece, C., et al. “Examining the Impact of Covid-19 in Ethnically Diverse Families with Young

Children with Intellectual and Developmental Disabilities.” *Journal of Intellectual Disability Research*, 18 Oct. 2020, <https://doi.org/10.1111/jir.12769>

NIHCM Foundation. *Infogram*,

<https://infogram.com/1px2lvrx06vrkzbq1wmv9y3rvnsn1y033rm>. Accessed 7 Dec. 2021.

“Occupational Therapist.” *Ohio Department of Education*, Ohio Department of Education, 13

May 2021, <https://education.ohio.gov/Topics/Special-Education/Related-Services/Occupational-Therapist>.

“Occupational Therapy in School Settings.” *American Occupational Therapy Association*,

American Occupational Therapy Association, <https://www.aota.org/About-Occupational-Therapy/Professionals/CY/school-settings.aspx>

“Occupational Therapy's Role with School Settings.” North Bethesda, 2016.

“Ohio Administrative Code Rule 3301-51-11 Preschool Children Eligible for Special

Education.” *Ohio Department of Education*, Ohio Department of Education, 1 July 2021,

<https://education.ohio.gov/getattachment/Topics/Early-Learning/Preschool-Special-Education/Rule-3301-51-11-Preschool-children-eligible-for-special-education.pdf.aspx?lang=en-US>.

Ohio School Report Cards, Ohio Department of Education,

<https://reportcard.education.ohio.gov/>.

“School Leader Voices: Concerns and Challenges to Providing Meaningful IDEA-Related

Services During COVID-19.” *National School Boards Association*, National School

Boards Association; The School Superintendents Association; Association of Educational

Service Agencies, 2020, <https://nsba.org/-/media/Files/nsba-aasa-aesa-IDEA-white-paper-july-14-20.pdf>.

“Sec. 300.8 Child with a Disability.” *Individuals with Disabilities Education Act*, United States

Department of Education, 25 May 2018, <https://sites.ed.gov/idea/regs/b/a/300.8>.

- Silge, Julia & Robinson, David. "Analyzing Text Word and Document Frequency." In *Text Mining with R: A Tidy Approach*. O'Reilly Media, Boston, MA, 2017.
- Srivastava, A. & Thomson, S. B. "Framework Analysis: A Qualitative Methodology for Applied Policy Research." *JOAAG*, Vol. 4. No. 2, 2009, pp. 72-79
- Srinivasan, Sudha M., et al. "From Social Distancing to Social Connections: Insights from the Delivery of a Clinician-Caregiver Co-Mediated Telehealth-Based Intervention in Young Children with Autism Spectrum Disorder." *Frontiers in Psychiatry*, vol. 12, 1 July 2021, <https://doi.org/10.3389/fpsy.2021.700247>
- Tausczik, Y. R., & Pennebaker, J. W. "The psychological meaning of words: LIWC and computerized text analysis methods." *Journal of Language and Social Psychology*, vol. 29, 1, 2010, pp. 24–54. <https://doi.org/10.1177/0261927X09351676>
- Teeters Myers, Christine, et al. "Early Intervention." *Occupational Therapy for Children*, edited by Jane Case-Smith and Jane Clifford O'Brien, Mosby/Elsevier, Maryland Heights, MO, 2010, pp. 681–712.
- Tokatly Latzer, Itay, et al. "Core Experiences of Parents of Children with Autism during the COVID-19 Pandemic Lockdown." *Autism*, vol. 25, no. 4, 12 Jan. 2021, pp. 1047–1059., <https://doi.org/10.1177/1362361320984317>
- "Typology of Ohio School Districts." *Ohio Department of Education*, Ohio Department of Education, 20 June 2019, <https://education.ohio.gov/Topics/Data/Frequently-Requested-Data/Typology-of-Ohio-School-Districts>.

United States, Congress. “Individuals with Disabilities Education Improvement Act.” 3 Dec. 2004, <https://www.congress.gov/bill/108th-congress/house-bill/1350>. 108th Congress, Public Law 108-446. Accessed 25 Mar. 2022.

United States, Congress, “Education for All Handicapped Children Act.” *US Government Publishing Office*, 1975. <https://www.govinfo.gov/content/pkg/STATUTE-89/pdf/STATUTE-89-Pg773.pdf>. Accessed 21 Mar. 2022.

Warner-Richter, Mallory, and Chrishana M. Lloyd. “Considerations for Building Post-COVID Early Care and Education Systems That Serve Children with Disabilities.” *Child Trends*, Child Trends, 6 Aug. 2020, https://www.childtrends.org/wp-content/uploads/2020/08/ECEDisabilitiesCovid19_ChildTrends_August2020.pdf

What is the Role of School Based Occupational Therapy?, American Occupational Therapy Association, North Bethesda, MD, 2013.

Appendices

Appendix A: Abbreviation List

EHA: Education for All Handicapped Children Act

IDEA: Individuals with Disabilities Education Act

IDEA 2004: Individuals with Disabilities Improvement Act

NCLB: No Child Left Behind Act

EIS: Early Intervention Service

RtI: Response to Intervention

AOTA: American Occupational Therapy Association

IEP: Individualized Education Program

FAPE: Free Appropriate Education

IFSP: Individualized Family Service Plan

OT: Occupational Therapist

ODE: Ohio Department of Education

Appendix B: IRB Approval



Institutional Review Board

December 7, 2021

To: Michele Nobel

From: Kira Bailey, IRB Chair

Thank you for submitting your research proposal, " COVID-19's Impact on Special Education Services." The IRB has approved your research.

IRB Protocol Number: 2111.016

Your research is approved for 1 year, starting December 8, 2021, and expiring December 7, 2022, and is subject to continuing review. If any activities (including data collection or analysis) related to this research are expected to extend beyond the expiration date, a research proposal requesting reapproval must be submitted to the IRB 14 - 60 days before the expiration date. Conducting activities related to this research after its approval has expired violates the University's IRB policy. Approved research must be conducted according to the protocol described in the research proposal. Any changes to the protocol must be submitted to and approved by the IRB before the changes can be implemented. Conducting research that deviates from the protocol described in the research proposal violates the University's HSR policy.

Place the following notice to participants in the header or footer of your informed consent:

The Ohio Wesleyan University Institutional Review Board has reviewed this research.

Protocol Number: 2111.016

This informed consent shall not be used after December 7, 2022.

This notice must appear on all pages of the informed consent form given to participants, regardless of format. This notice should not be altered without approval from the IRB.

Please do not hesitate to contact the IRB with questions. We all wish you the best of luck with your project.

Sincerely,



Kira Bailey, PhD
Chair, Institutional Review Board
Ohio Wesleyan University

Appendix C: Recruitment Email

Subject: Participation in COVID-19's Impact on Special Education Services Research Project

Dear _____,

Good afternoon, my name is Amanda Ciccone and I am a senior at Ohio Wesleyan University. I am conducting an Honors research project with Dr. Michele Nobel in the Department of Education, which will study the impact of COVID-19 on occupational therapy services provided to children with disabilities in schools. I am reaching out to you today enquiring about whether or not you would be interested in participating. For this study, I would interview you and ask a series of questions about your experiences during the 2019-2020 and/or 2020-2021 school years.

This study is completely voluntary. If you would be interested in participating in this study and/or have any questions about this study, I would be happy to discuss this further with you. If you do not wish to participate, that is completely understandable. I look forward to hearing from you.

Sincerely,

Amanda Ciccone

Co-Investigator

amciccon@owu.edu

Michele Nobel, Ph.D.

Assistant Professor & Principal Investigator

mmnobel@owu.edu

The Ohio Wesleyan University Institutional Review Board has reviewed this research.

Protocol Number: 2111.016

This informed consent shall not be used after December 7, 2022

Appendix D: Consent Form

Informed Consent Documents

Title: COVID-19's Impact on Special Education Services

Principal Investigator: Michele Nobel, Ph.D.

Affiliation: Department of Education, Ohio Wesleyan University

Thank you for your interest in participating in this research study on the impact of COVID-19 on occupational therapy services provided to children with disabilities in schools. This study is part of an Honors Program research requirement and eventually will be presented in front of a panel of faculty members.

To participate, you must be at least 18 years old. For school personnel to participate, you must currently work for or be contracted by a school district. You must also have worked during the 2019-2020 and/or 2020-2021 school years.

Please read this consent document carefully and take as much time as you need to decide whether or not to participate.

What will you experience if you participate in this study?

In this study, the participants will be asked a series of questions relating to their experiences during the height of the COVID-19 pandemic and its after effects. These questions could be about technology, support from other faculty members, effect on the children in general, etc. Based on their responses during the interview, additional follow-up questions may be asked. The interview will be recorded and transcribed to make sure all information used will be accurate to what was said by the participants. Any information the occupational therapists are asked about experiences of the children will be asked in a general context such as "how did the children with autism react to going online for services?" Any information family members are asked will be limited to their experiences and/or their child's experiences.

If you decide to participate, your total participation time is not expected to exceed one to two hours.

Risks to you for participating in this research?

There is minimal risk associated with participating in this study. Some participants may experience mild discomfort when asked to recall their experiences providing services during the height of the pandemic. Likewise, if the investigators were not able to shield responses effectively there is a very small chance that someone could identify a participant based on a response or attribute a disparaging comment to a particular person, situation, or district.

In order to further minimize these risks, investigators will provide a generic description of the geographic area where this study is being conducted, will provide only general descriptors for participants (such as: Occupational Therapist 1; Family Member 1), and will not use any direct quotations from participants. Findings will be categorized in aggregate and/or as generalized statements with identifiable information shielded.

At any point during the interview, participants can skip questions without any pressure from the interviewer to answer. At the conclusion of the interview, the interviewer will ask again if the participant wishes for their responses to be included or removed from the study.

Benefits to you for participating in this research?

The benefit for the participants of this study is that they will be able to talk about what their experiences were, which can be therapeutic and affirming for some individuals.

Incentives to you for participating in this research?

The incentive for the participants of this study is that they will be able to talk about what their experiences were. There are no other incentives offered for participation.

How will your information be handled by the investigators?

The investigators will ensure that all information you provide is kept confidential by recording the interview on a password protected phone or computer. The interview will be transcribed on a password protected laptop. Only the principal investigator and co-investigator have access to the transcription. Once the interview is transcribed, the recording will be deleted. All identifying information, such as names of interviewees and schools, will be given a general name, such as Occupational Therapist 1.

The focus of this research is on peoples' experiences shared in generalized terms. If the results of this study are published or presented to others, participant names and other identifiable information will not be shared. Instead, the results will be aggregated, meaning that your individual experience shared through interviews will not be evident in the investigators' reporting of this study. Likewise, no direct quotations from interviews will be shared.

Your participation is completely voluntary.

You have the right to withdraw yourself from this study at any time, for any reason, without penalty. Ending your participation early will not result in any loss of benefits to which you are entitled, and it will not harm your relationship with OWU, the Department of Education, or the investigators. If you end your participation early, you are entitled to all incentives that you have earned up to that point in the study.

If you have questions about the study or if you experience any unexpected problems, such as physical or psychological discomfort or injury, please contact either the principal investigator, Michele Nobel at mmnobel@owu.edu or 740-368-3559 or the OWU Counseling Services Center (324 Hamilton Williams Campus Center #324; ph. 740-368-3145).

By signing this consent form, you acknowledge the following:

1. You have read this consent form in its entirety and freely agree to participate.
2. You understand that you are under no obligation to participate in this study.
3. You understand that you have the right to withdraw from this study at any time.

Participant Signature

Date

Investigator Signature

Date

Appendix E: Debriefing Document

Debriefing of COVID-19's Impact on Special Education Services

COVID-19's Impact on Special Education Services

Principal Investigator: Michele Nobel, Ph.D.

Department of Education

Ohio Wesleyan University

Thank you for participating in this study. Now that your participation is over, I will answer any of your questions and provide you with the opportunity to decide whether you would like to have your responses included in this study.

What is the purpose of this study?

The purpose of this study is to find out what were some consistent factors seen during the height of the COVID-19 pandemic and to find out the pandemics after effects.

Taking part is voluntary. Although you have already completed the study, your involvement is still voluntary, and you may choose to withdraw the data you provided prior to debriefing, without penalty or loss of compensation offered to you. Withdrawing your submission will not adversely affect your relationship with OWU, the Department of Education, or the investigators.

Confidentiality

If you agree to allow us to use your data, here is how we will maintain the confidentiality of information you have provided. The recording of the interview on a password protected phone which only the co-investigator has access to. The interview will be transcribed on a password protected laptop. Only the principal investigator and co-investigator have access to the transcription. Once the interview is transcribed, the recording will be deleted. All identifying information, such as names of interviewees and schools and geographic locations, will be given a general name, such as Occupational Therapist 1. Data will be generalized where necessary to protect confidentiality of participants. No direct quotations will be disseminated.

Contact information

If in the future you have questions about your participation in this study, please contact the principal investigator, Michele Nobel at mmnobel@owu.edu or 740-368-3559. If you have any questions or concerns regarding your rights as a participant in this study, please contact the Institutional Review Board at irb@owu.edu.

Appendix F: Standard Interview Questions

- 1) What was your initial reaction to when you heard everything would move online?
- 2) What did your typical day look like during the height of the COVID-19 pandemic?
- 3) How has your typical day changed throughout the pandemic?
- 4) What was your typical day like prior to the pandemic?
- 5) What were your specific concerns related to the children's behavior and well-being in the pandemic situation?
- 6) Was there regression in skills and/or behaviors?
 - a) If so, how was it handled?
- 7) What were some of your biggest challenges during the height of the COVID-19 pandemic?
- 8) Did you tell anyone else in the school system about these challenges?
 - a) If so, who did you tell? How did they react? Was there any change?
 - b) If not, why didn't you?
- 9) What are some current challenges you face?
- 10) Have the children been able to gain back any skills they may have lost?
- 11) Was there any improvement in behaviors/skills during the pandemic?
- 12) Is there anything I have not asked about that you would like to talk about?
- 13) How long have you worked as an OT?
- 14) How long have you worked in this district?
- 15) Generally, what does an OT do in the school setting?
- 16) What age range of children do you work with?
- 17) What type of children do you work with?
- 18) When were you able to start delivering in person services again?
- 19) What were some differences in how you delivered services in person before COVID, during the height of the pandemic, and currently?