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Short-Term Fun or Long-Term Outcomes? The Effects of Authentic Pedagogy on the Dispositional Development of College Students Learning about the Educational Needs of Children with Disabilities

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Abstract

The incorporation of authentic experiences that include direct interactions with people with disabilities may facilitate increased understanding of people with disabilities; a topic of particular relevance to preservice teachers. This study used a survey to explore five dispositional constructs (i.e., comfort interacting with people with disabilities; community engagement; ethical leadership; empathy, and emotion regulation) in university students enrolled in a special education course. One version included "immersive" components (i.e., direct contact with children with disabilities); the other used traditional pedagogy (i.e., no direct contact with children with disabilities). Post survey results demonstrated significant increases in community engagement and ethical leadership in both groups. Three-year follow-up data from the participants in the "immersive" group suggest the authentic experience influenced career paths and inclusive teaching practices. Limitations of the study and future research related to experiences that include direct contact with children with disabilities in preservice teacher education are discussed.

Keywords: teacher preparation, field-based experiences, affective assessment, dispositions

Short-term fun or long-term outcomes? The effects of authentic pedagogy on the dispositional development of college students learning about the educational needs of children with disabilities

The idea of authentic experiences in higher education training programs is not new and early training programs in many fields relied heavily on apprenticeship training (Woodring, 1975). In fact, teacher "training" programs in the early 19th century consisted almost entirely of authentic (i.e., field-based) experiences, with prospective teachers starting out as observers to learn their craft (Woodring, 1975). Later, these authentic experiences were paired with theoretical and conceptual preparation practices that were associated with normal schools and, later, teachers' colleges. Formalized experiences in the field continued to evolve as educational research and empirically validated practices influenced pedagogy in institutions of higher education (IHE) (Adler, 1984).

Authentic Experiences Impact on Perceptions of Disability

Within current IHE, authentic experiences (e.g., service-learning courses, field experiences) offer a broad range of learning opportunities across various degree areas. The incorporation of authentic experiences may be particularly relevant to programs seeking to facilitate university students' and, ultimately, societal understanding of people with disabilities. Previous research suggests personal experiences with people with disabilities influence attitudes about people with disabilities and direct contact with people with disabilities can result in increased positive attitudes regarding disability (Nosse & Gavin, 1991; Perry et al., 2008; Rice, 2009; Scior, 2011). Previous research further suggests that coursework combined with authentic experiences (e.g., service-learning college course that included direct interactions with people with disabilities) resulted in college students displaying an increased understanding and positive attitudes towards people with disabilities (Roper & Santiago 2014; Wozencroft, Pate, & Griffiths, 2015).

Authentic Experiences' Impact on Preservice Teachers

Authentic experiences that enable college students to learn about people with disabilities may be especially critical for preservice teachers during teacher training programs. Specifically, teacher education programs aimed at preparing general education teachers need to ensure that future teachers are familiar with inclusive practices. In addition, preservice teachers must be informed about the associated federal laws which ensure the rights of students with disabilities (e.g., Individuals with Disabilities Education Improvement Act, 2004; Every Student Succeeds Act, 2015) (Marin, 2014). Also, importantly, the accrediting body of teacher education, the Council for the Accreditation of Educator Preparation (CAEP) emphasizes the vital need for teacher education programs to include clinical partnership opportunities in their coursework (i.e., Standard 2) (CAEP, 2019). Furthermore, CAEP standards also address the need for every teacher to display competency in educating all students in inclusive settings (i.e., Standard 1) (CAEP, 2019). Ultimately, there is societal need for IHE and, particularly, teacher education programs, to identify how authentic experiences influence university's students' (including preservice teachers) understanding and perceptions of people with disabilities.

Previous research suggests that authentic experiences (e.g., field experiences, service-learning courses) can be used to increase teachers' understanding, skills, and confidence in teaching students with disabilities (Kuster, Bain, Milbrandt, & Newton, 2010; Sharma, Shakuta, & Forlonger, 2015; Taylor & Ringlaben, 2012). Additionally, in-service teachers' willingness to include students with disabilities was impacted by the extent to which their teacher preparation programs focused on educating them about students with disabilities (Forlin, Earle, Loreman, & Sharma, 2011; Loreman, Earle, Sharma, & Forlin, 2007). Furthermore, field-based coursework that incorporate experiences with students with disabilities were found to improve perceptions about disability including self-efficacy of ability to teach students with disabilities (Leyser, Zeiger, and Romi, 2011; Lancaster and Bain 2010). Direct experiences can also reduce misconceptions regarding disabilities (Ashton & Arlington, 2019) and increase positive attitudes resulting in teachers understanding how to appropriately set high expectations for their students with disabilities (Barton-Arwood, Lunsford, & Suddeth, 2016). Additionally, coursework with associated field experiences was also found to increase preservice teachers' knowledge about disability and to enhance comfort level for all disability categories except Behavior Disorders (Reeves, Giles, & Johnson, 2019).

Previous Work and Project Overview

This body of research suggests that a number of potential benefits exist when authentic experiences that facilitate opportunities for undergraduate students to have direct interactions with people with disabilities are incorporated in IHE. Based on this, the impact of an authentic experience on social justice education was previously explored (Jefferson et al., 2018) and further expanded in the current study. Both took place at a mid-size university located in the Midwestern United States. This IHE supports authentic experiences through the university's Immersive Learning (IL) initiative. IL is pedagogy that is community-engaged, service-oriented, and student directed. IL courses are defined by several required components: a) carry course credit; b) involve a community partner; c) solve a real-world problem; d) involve a team of students in an active learning environment, and e) produce some sort of "product". Projects are typically designed to help solve community problems, once the community and partners articulate a need.

For both the previous and current study, the *High Riding Art and Equestrian Camp* project met the university criteria of IL. During this IL course, undergraduate students from a variety of majors (i.e., not just education) developed and implemented a day camp for campers (i.e., elementary aged children) with disabilities. The IL section of the course sought to meet the standards of authentic experiences by including campers from diverse backgrounds, including low socio-economic status. The project was supported by grants, in-kind donations, and other private contributions. Furthermore, this inclusive work was accomplished through partnerships with community organizations. For example, a local farm family donated the use of their riding stable, and equestrian experts brought their trained equines and spent one week working with campers and staff. During the other week, the local high school donated space within the facility, including science, home economics and gathering facilities.

The previous work found university students gained insight into issues of social justice for children with disabilities (Jefferson et al., 2018). Specifically, the post survey results documented that students self-reported gains in four areas: personal communication, attitudes towards diversity, self-efficacy, and empathy. Additionally, coding of reflection data suggested students displayed a higher degree of empathy, self-efficacy, and belief and attitude changes when reflecting on experiences during the camp (i.e., when they had direct contact with the children with disabilities) as compared to before the camp when they were learning about disabilities through coursework and preparing for camp activities preparation (e.g., identifying the camp theme, developing lessons plans) (Jefferson et al., 2018).

Purpose of the Study

Given the promise of authentic experiences influencing attitudes of preservice teachers towards inclusion and the previous impact of the authentic experience on the undergraduate students' overall perceptions of factors related to social justice, the purpose of the current project was to expand upon this work. To this end, the current study incorporated a comparison group which permitted the exploration of differences between students who participated in the non-IL version of the course to those in the IL course which assisted in a further understanding of the impact of the IL course. The first research question asked: 1) Are there differences in self-reports of the dispositional constructs of interest (i.e., comfort interacting with people with disabilities; community engagement; ethical leadership; empathy, and emotion regulation) between students who participated in the IL version of the course compared to those who completed the non-IL version? In addition to incorporating the comparison group, this study also explored the long-term impact of the IL version of the course on the dispositional constructs of the participants. Therefore second research question asked: 2) What was the impact of the IL course three years later, as reported by participants?

Method

Participants

Undergraduate university students were recruited as research participants from the *High Riding Art and Equestrian Camp* (i.e., IL version of the course) and from non-IL versions of the course. A human subject pool was not used. Inclusion criteria for the study was enrollment in either version and voluntary participation. Students enrolled in both versions of the course as a requirement (teaching majors) or an elective (non-teaching majors) and earned three course credit hours. Of the students who were enrolled in either version of the course, Institutional Review Board (IRB) consent was obtained from a total of 42 participants. Of the 42 students recruited for the study, 27 were enrolled in the non-IL version. These 27 students were recruited over three different semesters from a total of 107 students. The remaining 15 of the 42 students were recruited from those enrolled the IL version (total of 16) during 2016. Of those in the IL version, nine students were education majors (i.e., eight elementary education and one dual special education and elementary education). The other six students were from a variety of majors: two from psychology, one from child development, one from mathematics, one from pre-physical therapy, and one biology/pre-veterinary. All students in the non-IL version of the course were elementary education majors except one who was a public relations major.

Course Overview

The course that was the focus of the study is the only course required by the university in the area of Special Education for Elementary Education majors. The course is typically offered at the university in face-to-face and online formats. In 2016, the IL (camp) version was offered. The overall purpose of the course is to prepare general educators to work with students with disabilities. The course covers topics such as: the laws and educational needs of students with disabilities, Individual Education Program (IEP), strategies for collaboration, and curricula adaptations.

Non-IL version of the course. The non-IL version was a face-to-face course; pedagogy included readings, textbook work, simulations, discussion, culminating projects, and examinations. The course did not include hands-on experience with children with disabilities. During the study, the non-IL course was taught by two different instructors (i.e., not the instructor of the IL version). Typically, students in the non-IL version are all elementary education majors, however, occasionally students from other majors may receive special permission to take the course to use as an elective.

IL version of the course. The IL version of the course covered the same content as the non-IL course but included the “immersive” components (e.g., active learning environment) as defined by the university. To be eligible to enroll in the IL version of the course, students submitted an application and were interviewed by the course instructor to discuss why they were interested in participating prior to enrolling. The IL version was designed to expose undergraduate college students, with a focus on elementary education majors, to authentic experiences working with the children with disabilities who attended the camp. The children served by the camp (i.e., campers) needed to be in 3rd grade or above, be eligible for special education services through identification as having a mild/moderate disability, be able to care for themselves, and be able to follow directions for safety purposes. Three typically-achieving peers who were siblings of campers (2) and children of staff (1) also participated. The peers engaged in all of the experiences and lessons designed for students with disabilities. Camp staff differentiated activities for individual needs and strengths as the camp unfolded, extending and clarifying concepts as they arose. None of the campers were participants in this study. Throughout this document, the word "students" will be used for university students (i.e., research participants); children who attended the camp are referred to as "campers."

The timeframe of the IL course spanned from January 2016-July 2016, with students officially enrolling for the course over the summer. During spring 2016, students participated in activities to prepare for the 2 weeks of camp and for working directly with campers. Course content included learning about disability categories/classification, disability laws (e.g., Individuals with Disabilities Education Act), instructional strategies (e.g., multi-tiered systems of instruction, behavior management), and inclusive practices (e.g., least restrictive environment). Students also selected a theme, developed lesson plans, engaged in safety training, purchased materials, and met with the various community partners who supported the camp. In addition to teaching the students about these critical pedagogical practices, the IL course instructor modeled and shared examples of how to effectively work with the campers to keep them engaged throughout the camp (e.g., identify areas of interest, capture motivation, reinforce behavior).

The camp was held in June 2016 for ten days (Monday-Friday), six hours/day. Camp activities which were determined to be fun and engaging for the campers and students were intentionally selected. During the first week, the five days were located at the community barn location and camp stations consisted of equine, art, dance/movement, and science. During the second week, the five days were at a local high school and stations consisted of art, movement/gym, science, and cooking. During the first week, campers did not attend the final day at the barn due to inclement weather; however, university students met and reviewed plans. Camp culminated in an award program complete with a carnival/picnic for the campers, their families, all camp staff (e.g., university students, members of the community who assisted with programming), and community supporters.

Design and Data Collection

A mixed method design explored the effect of the IL course experience on the dispositional constructs of interest. First, a survey was administered five times to students in the IL course and twice to students in the non-IL course. Additional three-year post follow-up data were collected from participants in the IL version. Results of the survey and three-year post follow-up data are the focus of this paper. Students in the IL version of the course also completed additional activities (e.g., interviews, reflections); however, the qualitative examinations of these activities are beyond the scope of this paper.

Survey Development and Instrumentation

A survey was developed to evaluate the impact of the course on the university students, assess between group comparisons, and measure effects over time within and between groups. The research team reviewed relevant literature (e.g., articles which included analyses of reliability and validity) and associated survey items to determine potential dispositional constructs that would be impacted by the IL course. These were then evaluated to determine alignment with the eight specific learning outcomes (SLOs) (i.e., course objectives) specified in the course syllabi (i.e., SLOs for the IL and non-IL courses were the same) (Table 1) by two members of the research team with expertise in special education. Constructs with agreement between the researchers were included. This resulted in the identification of five constructs. Specifically, there were 1) eight items for comfort interacting with people with disabilities (Symons, Fish, McGuigan, Fox, & Akl, 2012), 2) six for community engagement (Levesque-Bristol & Richards, 2014), 3) five for ethical leadership (Levesque-Bristol & Richards, 2014), 4) five items for macro-self other awareness/perspective taking (Macro SOA/PT; social empathy) (Segal, Wagaman, & Gerdes, 2012), and, 5) two items for emotion regulation (Gerdes, Lietz, & Segal, 2011).

Table 1
IL and non-IL course specific Student Learning Outcomes (SLO)

Item	SLO
1.	Participate in collaboration, co-teaching and inclusive practices with regards to special education; communicate and collaborate effectively with a variety of stakeholders using listening, speaking, reading, and/or writing skills.
2.	Discuss definitions of mild mental disabilities, specific learning disabilities, autism, and emotional disabilities and apply eligibility criteria from Article VII.
3.	Discuss legal issues, accountability, responsibilities and reform efforts impacting students with special needs within the general education setting.
4.	Develop knowledge of different disabilities, assessment, placement and programming efforts concerning special education for students in the general education classroom.
5.	Discuss and apply instructional strategies used to teach children with disabilities in the general education classroom and RTI application.
6.	Describe how the environment increases or decreases the handicapping effect of a mild disability.
7.	Create strategies that can be used to quickly solve problems and/or de-escalate situations with campers and peers in an informal environment.
8.	Apply knowledge and demonstrate appropriate behaviors in the areas of integrity, ethical thinking, confidentiality and professionalism.

The first 24 items on the survey were statements of agreement on dispositional measures pertaining to the constructs (Table 2). The last two (25 and 26) were measures of frequency of two dispositions. The original scales for community engagement and ethical leadership used a 5-point Likert scale (Levesque-Bristol & Richards, 2014) while comfort interacting with people with disabilities used a point 4-point Likert scale (Symons, et. al., 2012); community engagement and ethical leadership were converted to the 4-point scale (Strongly Disagree, Disagree, Agree, and Strongly Agree). Three of the items (numbers 5, 7, and 8) from the comfort interacting with people with disabilities construct were modified to ask about people with a disability (i.e., original items specified people with an *intellectual* disability). The original scale for the Macro SOA/PT construct used a 6-point Likert scale (Segal et al., 2012) and emotion regulation used a 5-point Likert scale (Gerdes et al., 2011); these were converted to a 4-point Likert scale (Never/Rarely, Sometimes, Almost Always, and Always).

Table 2
Survey items and associated constructs

Item	Prompt
Comfort interacting with people with disabilities (Comfort PWD):	
1.	I am comfortable being around a person who has an intellectual disability (i.e., mental retardation, autism).
2.	I would be comfortable interacting with a person with an intellectual disability who lives in the community on his or her own (i.e., without staff members or caretakers.
3.	I would be comfortable being around a person who uses a wheelchair.
4.	I would be comfortable being around a person who is deaf.
5.	I would be comfortable working with a person with a disability who had someone assigned to supervise and train her.
6.	If I were visited by someone who is blind, I would be comfortable helping him or her navigate the environment.
7.	I would feel comfortable living next door to a person with a disability that lives by himself.
8.	I would feel comfortable being around a person with a disability in public even though his behavior might be a bit bizarre (e.g., rocking back and forth, talking loudly, etc.).
Community Engagement (Comm. Engagement):	
9.	I am confident that I will participate in community service activities in the future.
10.	I plan to do some volunteer work next year.
11.	Volunteering will help me succeed in my own profession.
12.	I know I can make a difference in my community.
13.	People I know share an interest in community service.
14.	I have been involved in organizations providing services to people from different cultural backgrounds.
Ethical Leadership (Ethical Lead.):	
15.	I understand the importance of being true to my word.
16.	I try to make certain that my actions never intentionally harm another person.
17.	I am dependable and reliable.
18.	When working in groups, I try to assure everyone's voice is heard before a decision is reached.
19.	In nearly everything I do, I am striving to improve myself and become a better person.
Macro SOA/PT:	
20.	I believe my actions will affect future generations.
21.	I confront discrimination when I see it.
22.	I believe it is necessary to participate in community service.
23.	I am comfortable helping a person of a different race or ethnicity than my own.
24.	I take action to help others even if it does not personally benefit me.
Emotion Regulation:	
25.	Friends view me as a moody person.
26.	When I get upset, I need a lot of time to get over it.

Students in the IL version of the course received requests to complete the survey (S) five times: a) beginning of course – within the two weeks of beginning coursework and planning for the camp (S1, February 2016), b) following coursework and prior to camp (S2, early June 2016); c) immediately after camp (S3, late June 2016); d) end of course (S4, late July/early August 2016); and, e) five months after completing camp activities (S5, November 2016). Students from the non-IL version received requests to complete the survey twice (i.e., pre -at the beginning of the course within the first week of the semester, and, post- end of course - during the final week of the semester). For pre-post analyses (repeated measures of effect) in this report, S1 = Pre; S4 = Post. Data were also gathered on participant demographics and other factors that could be potentially relevant to the constructs. Specifically, ten additional demographic questions were included during the fourth time the survey was administered for the IL group (i.e., S4, end of course) and during the second (i.e., post) administration for the non-IL group (Table 3).

Table 3
Demographic survey questions

Item	Prompt	Response Option(s)
1	Identify your gender.	Male, Female
2	What type of community did you predominantly grow up in?	Rural (country); Small town/city (less than 100,000); Suburban (surrounding a metro area); Urban (large city)
3	What was the size of your high school graduating class?	100 and under; 100-250; 250-500; 500-750; 750 and above
4	What is your father's education level?	Some high school; High school graduate or equivalent; Trade or Vocational Degree; Some college; Associates degree; Bachelor’s degree; Graduate or Professional degree; Prefer not to answer
5	What is your mother's education level?	Some high school; High school graduate or equivalent; Trade or Vocational Degree; Some college; Associates degree; Bachelors degree; Graduate or Professional degree; Prefer not to answer
6	What year are you in your academic program?	Freshmen, Sophomore, Junior, Senior
7	What is your major? Please specify any additional majors and/or minors.	Open ended
8	Please check all that apply in regard to your experiences prior to taking this course.	Previous summer camp experience as a camper; Previous summer camp experience as a counselor; Previous experience working with adults or children with disabilities; Previous Immersive Learning course(s)
9	Please check any volunteer experience you had during the past 3 years.	Single event fundraisers; Recurring commitment volunteering; Student organization; Faith based volunteer programs; Other (Please specify); I have not been involved in any volunteer work
10	To what extent did the data collection process (surveys, recordings) negatively impact your camp/course experience?	No negative impact at all; Some negative impact; Significant negative impact

Follow-Up Survey: Three Years Later

In order to address the second research question about the longitudinal impact of the course, a second survey was conducted three years later (October 2019) with those who participated in the IL version of the course. Participants from the non-IL version were not accessible for the follow-up survey. This survey was not anonymous so responses could be aligned with prior data. Participants were asked to identify their current employment status. Five questions using a 5-point Likert scale (i.e., Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree) asked participants to rate how the course impacted them. Five additional questions directly asked about the original constructs using the same 5-point Likert scale. Three open-ended questions were also included (Table 4).

Table 4

Three-year (2019) follow-up survey

Item	Prompt	Response Options
1	What is your current occupation?	Counselor, Social worker, special education teacher, general education teacher, graduate student (specify area), Other (please specify)
2	I established new or additional professional goals as a result of [the course]	1 – 2 – 3 – 4 – 5
3	[The course] helped prepare me for my ***professional*** life	1 – 2 – 3 – 4 – 5
4	[The course] helped prepare me for my ***personal*** life	1 – 2 – 3 – 4 – 5
5	[The course] confirmed my career choice	1 – 2 – 3 – 4 – 5
6	[The course] influenced a change in my career plans	1 – 2 – 3 – 4 – 5
7	[The course] positively impacted my comfort in interacting with individuals with disabilities.	1 – 2 – 3 – 4 – 5
8	[The course] positively impacted my contributions to the community.	1 – 2 – 3 – 4 – 5
9	[The course] positively impacted my leadership skills	1 – 2 – 3 – 4 – 5
10	[The course] positively impacted my ability to understand my and others' feelings and perspectives.	1 – 2 – 3 – 4 – 5
11	[The course] positively impacted my ability to understand and regulate my own emotions.	1 – 2 – 3 – 4 – 5
12	In what way(s) do you feel [the course] affected you the most?	Open-ended
13	What would you tell [the university] about your experience with [the course] and/or immersive learning in general?	Open-ended
14	Anything else you would like to add:	Open-ended

Likert items scale: 1=Strongly DISagree; 2=DISagree; 3=Neutral; 4=Agree; 5=Strongly Agree

Results

Analysis of Course-Based Survey Data

The first research question examined if there were differences in the self-reports of the dispositional constructs of interest (i.e., comfort interacting with people with disabilities; community engagement; ethical leadership; empathy, and emotion regulation) between students who participated in the IL version of the course compared to those who completed the non-IL version. Table 5 indicates the return rate of the survey; limitations are discussed below.

Prior to analyzing the survey data for significance and effect, descriptive statistics including Cronbach's alpha were calculated to determine the reliability (i.e., internal consistency) of the items in the five construct scales at S1 (Pre) and each subscale itself (i.e., individual item). The overall main scale reliability (McDonald's ω) was ω =0.935 at S1/Pre (ω=0.940 at S4/Post). Each construct shown in Table 6 shows high reliability among both groups. Cronbach's α is reported at S1/Pre (S4/Post were higher, ranging from α=0.890 to 0.949). Due to small sample size in both groups, a factor analysis was prohibitive.

Table 5
Survey sample sizes across timepoints

	Max n	S1 (Pre) Beginning of course	S2 Right before camp	S3 During camp	S4 (Post) End of course	S5 Three months after camp
IL version	15*	14	12	11	10**	6
Non-IL version	27	21	NA	NA	12	NA
Total n		35			22	

**16 students were enrolled in the course; One chose not to participate in the study.*
*** For year and major at S4, n=14, using data sources not on the survey*

Table 6
Descriptive statistics for five constructs at S1/Pre

		Mean		SD		
Construct	Group	Pre (*n*)	Post (*n*)	Pre	Post	*α*
Comfort PWD (8 items: Q1 – Q8)	IL	3.339 (*14*)	3.663 (*10*)	.458	.429	0.912
	Non-IL	3.262 (*21*)	3.417 (*12*)	.513	.489	
Comm. Engagement (6 items: Q9 – 14)	IL	3.393 (*14*)	3.600 (*10*)	.549	.439	0.895
	Non-IL	3.278 (*21*)	3.597 (*12*)	.495	.514	
Ethical Lead. (5 items: Q15 – Q19)	IL	3.629 (*14*)	2.829 (*10*)	.391	.454	0.803
	Non-IL	3.619 (*21*)	3.783 (*12*)	.352	.356	
Macro SOA/PT (5 items: Q20 – Q24)	IL	3.169 (*13*)	3.333 (*10*)	.528	.628	0.796
	Non-IL	3.276 (*21*)	3.433 (*12*)	.484	.511	
Emotion Regulation* (2 items: Q25, Q26)	IL	2.192 (*13*)	3.250 (*10*)	.516	.606	0.675
	Non-IL	1.786 (*21*)	3.083 (*12*)	.487	.733	

**Reversed scale*

Effect of IL on Dispositional Constructs: Group Differences
A one-way, repeated measures Analysis of Variance (ANOVA) between groups and over time (S1-S4; Pre-Post) was conducted for each construct. There were no significant interaction effects for any construct; however, there were two main effects by time. Specifically, there was a significant increase from Pre-Post for both Community Engagement ($p = 0.005$; $\eta 2 = 0.472$; almost half the variance is accounted for by time) and Ethical Leadership ($p = 0.032$; $\eta 2 = 0.308$; 30% of the variance is accounted for by time).

Correlations Between Constructs and Factors (Participant Variables)
Bivariate Pearson correlations between the constructs and participant variables are presented below. All correlations need to be considered with caution given the small sample sizes. Table 7 shows the correlations between constructs and between constructs and factors at S1/Pre (combined groups).

***Table** 7*

S1/Pre correlations between constructs and factors

	Comfort PWD	*Comm. Engagement*	*Ethical Lead.*	*Macro SOA/PT*	*Emotion Regulation*
Comfort PWD	—				
Comm. Engagement	0.654***	—			
Ethical Lead.	0.432**	0.608***	—		
Macro SOA/PT	0.589***	0.638***	0.611***	—	
Emotion Regulation	0.098	0.118	0.299	0.250	—
Hometown Type	-0.140	0.169	0.077	0.192	0.185
HS Size	0.073	0.396	0.112	0.229	-0.273
Father's Ed.	0.401	0.267	0.555*	0.229	0.115
Mother's Ed.	0.547*	0.530*	0.567*	0.361	0.118
Undergrad Level	-0.387	-0.258	0.104	-0.232	-0.018
Major	-0.366	-0.274	-0.112	-0.215	-0.251
Exp. as Camper	-0.035	-0.229	0.076	-0.242	0.386
Exp. as Counselor	0.525*	0.397	0.218	0.332	-0.047
Exp. with PWD	0.470	0.573*	0.254	0.366	-0.276
Exp. with IL	-0.300	-0.337	-0.143	-0.242	0.073
Volunteering	0.441	0.503	0.298	0.444	-0.065

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8 shows the correlations between constructs and between constructs and factors at S4/Post (combined groups). The high correlations between constructs is somewhat expected given the nature of the self-report questions. Lack of correlation between any construct with Emotion Regulation may be explained by instrument error (i.e., fidelity may be limited due to the construct being measured by only two items).

Table 8

S4/Post correlations between constructs and factors

	Comfort PWD	Comm. Engagement	Ethical Lead.	Macro SOA/PT	Emotion Regulation
Comfort PWD	—				
Comm. Engagement	0.323	—			
Ethical Lead.	0.648**	0.428*	—		
Macro SOA/PT	0.613**	0.743***	0.462*	—	
Emotion Regulation	-0.218	-0.248	-0.230	-0.314	—
Hometown Type	-0.198	0.187	-0.224	-0.062	0.204
HS Size	-0.085	0.078	0.056	-0.004	0.069
Father's Ed.	0.436*	0.159	0.339	0.077	-0.365
Mother's Ed.	0.345	0.182	0.329	0.330	-0.203
Undergrad Level	0.126	-0.098	0.233	-0.058	0.027
Major	-0.371	0.142	-0.184	-0.057	0.204
Exp. as Camper	0.350	-0.023	-0.125	0.034	-0.091
Exp. as Counselor	0.314	0.249	0.297	0.384	-0.588**
Exp. with PWD	0.260	0.414	0.271	0.465*	-0.329
Exp. with IL	0.108	-0.197	-0.034	-0.184	0.238
Volunteering	0.207	0.713***	0.087	0.666***	-0.524*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Follow-up Survey: Three Years Later

The initial survey data were collected via indirect measures using questions that had *a priori* alignments to the targeted dispositional constructs. The ANOVA results discussed above did not provide evidence of an effect due to the immersive pedagogy of the course (i.e., no interaction effect). However, additional qualitative data (i.e., outside the scope of this paper) were collected via field observations/interviews before, during, and on the final day of the camp. These data suggested more compelling accounts of the effects of the IL course on participants' dispositional, albeit anecdotal, perceptions of themselves.

In response to this differential between survey data and the qualitative observations, a follow-up survey was designed to address the second research question about the longitudinal effect of the course (Table 4). The purpose of this survey was two-fold: 1. To more directly measure any long-term dispositional effects of the course on the students and 2. To measure the camp's long term, "immersive effect" on the course's intended learning outcomes (e.g., inclusive teaching practices).

Of the 15 participants, 14 responded to a request to complete the long-term, follow-up survey. Of those 14, eleven completed the survey to a sufficient level to report findings. The current employment distribution included: Counselor (1), General Education Teacher (6), Graduate Student (2); one pursuing a Masters of Education in Leading and Learning teaching and the other pursuing a Masters of Education in Applied Behavior Analysis), Other (2); one working as a Registered Behavior Technician at a Applied Behavior Analysis center for children with autism and the other reported being unemployed). Table 9 reports the results of the Likert scale items.

Table 9

Summary from the follow-up survey Likert questions

	Goals	Prof. Life	Personal Life	Confirm Career	Change Career	Interacting	Comm. Engage.	Leadership	Empathy	Emotion. SR
Strongly Disagree	0	0	0	0	1	0	0	0	0	0
Disagree	1	0	1	0	3	0	0	0	0	0
Neutral	0	0	0	2	2	0	1	1	0	2
Agree	4	5	6	4	1	2	2	4	4	5
Strongly Agree	6	6	4	5	4	9	8	6	7	4
Percent Agree + Strongly Agree	91%	100%	91%	82%	45%	100%	91%	91%	100%	82%

Impact on Career Choice

In Table 9, questions 4 and 5 showed confounding results. They were designed as complementary measures of the course's impact on career choice. It would be expected that if respondents reported high agreement to confirming their choice for question 4, they would report low agreement to a change in their choice in question 5. There was inconsistency in this expected pattern indicating a potential misunderstanding of the questions and their interaction to each other. However, responses from the open-ended questions verify the IL course influenced a career change in several cases. Similarly, for question 4, statements from the open-ended responses suggest the IL course strengthened participants' career choice and their personal convictions for working with persons with disabilities.

Open-Ended Responses

The three open-ended questions asked: 1) In what way(s) do you feel [the course] affected you the most?, 2) What would you tell [the university] about your experience with [the course] and/or immersive learning in general?, and, 3) Anything else you would like to add. Of the eleven responses, ten participants submitted at least two responses, one each for the first two prompts. Of those ten, four submitted a response to all three prompts. There were 24 responses and all addressed the overall impact as opposed to individual aspects of the course. The shortest was a 12-word sentence and the longest was 83 words and five sentences. Responses for all three prompts emphatically indicated the students recalled the IL course and camp as a highly positive experience overall. There was only one slightly negative statement (about a particular incident with another participant's response to a camper with Attention Deficit Hyperactivity Disorder (ADHD).

The responses were coded by two of the authors using a constant comparison method. Inter-rater reliability was calculated using Cohen's Kappa and ranged from 0.531 to 1.000 (four of the five themes that coded at 1.000 only had one response coded). The 13 themes that emerged are summarized in Table 10 and are sorted by overall totals and then by Impact on Student.

Table 10

Frequencies of codes from open-ended, follow-up survey

Codes (Themes)	Impact on Student	Immersive Learning	Other Comments	Total	κ
1. Hands-on	4	6	0	10	0.676
2. Comparative advantage of IL	2	4	1	7	0.798
3. Comfort working with PWD	2	3	1	6	0.766
4. Impact on PWD	4	1	0	5	0.637
5. Empathy	3	1	1	5	1.000
6. Fond recollections; Joy; Beauty	1	4	0	5	0.531
7. Recommend this camp and IL	0	3	2	5	0.718
8. Confidence working with PWD	2	1	1	4	0.633
9. Career confirming	2	1	0	3	0.784
10. Career changing	1	0	0	1	1.000
11. Transfer from own disability	1	0	0	1	1.000
12. Mindset change	0	1	0	1	1.000
13. Differentiation	0	1	0	1	1.000

The top two themes are distinct but mutually bolstering in support of the authentic structure and pedagogy of the immersive course. The hands-on theme captures students' appreciation of the pedagogy of IL (i.e., active learning environment). The comparative advantage theme captures their value statement of the IL course compared to "traditional" (non-IL/experiential) courses. The next three themes (#3, #4, and #5) give a strong indication of the course's impact on a union of the dispositional and professional goals of special education IL courses: interaction with persons with disabilities (#3 and #4) and empathy (#5). Theme #6 ("Fond recollection…") captures the universally positive affect of the course on the participants. Theme #7 supports the top two themes. Theme #8 ("Confidence working with PWD") complements #3 but is distinct.

Discussion

The purpose of this study was to expand the research literature and explore the impact of the authentic pedagogical experiences on university college students, particularly preservice teachers. Specifically, the study explored dispositional constructs aligned to specific learning outcomes (i.e., course objectives) in the two versions of the university special education course (i.e., IL and non-IL) which was designed to educate preservice general education teachers about inclusive educational practices. The study compared the IL course (i.e., participants had direct contact with children with disabilities) to the non-IL course (i.e., participants did not have direct contact with children with disabilities). The quantitative findings are based on a survey which combined scales selected from previous literature with reported reliability. The survey was conducted at five times during the IL course and pre-post for the non-IL group. Additional follow-up data were collected through an additional survey of the IL group, three years later.

Impact of IL: Survey Data

There are some significantly high (positive and negative) correlations between some of the factors and constructs. Given the small sample size, such correlations are useful only for exploratory purposes, but two observations can be offered with these data. First, the generally high correlation between volunteering and Engagement and Macro SOA/PT at S4/Post give an indication of either self-selection bias for the IL group (students with high levels of volunteering experience tend to select high engagement courses) and/or that students with high levels of volunteering experience correlate to higher levels of Macro SOA/PT and Community Engagement (the latter of which is somewhat obvious).

Our second observation is the lack of correlation between prior immersive learning experience and any of the constructs. In future studies, this factor could help rule out the novelty effect of an immersive learning pedagogy course in relation to the specific dispositional goals of the course. The other prior experience factors might be used for similar purposes (as control variables) in future research.

The repeated measures ANOVA showed that Community Engagement and Ethical Leadership had a significant increase from pre to post in both groups. Without an interaction effect, and in consideration of the sample size, the survey data did not capture what was expected by the design of the course. However, those effects were later revealed in the qualitative, follow-up survey conducted with the IL group. Specifically, the IL experience had affected and continued to impact the former students in ways that typical surveys (and typical classroom assessment practices) may not be equipped to capture.

Long-Term Impact of IL on Dispositional Constructs

One of the challenges of immersive pedagogy is assessing the learning outcomes of the course via measured student performance towards the desired learning objectives. Cognitive and psychomotor domains are typically easier to assess than the affective (dispositional) domain. “Traditional” assessment strategies, such as tests, quizzes and even performance assessment (rubrics) can be very effective and informative to constructs in the cognitive and psychomotor domain. Yet the dispositional constructs in this course are the “signature” of an IL pedagogy, assuming that the learning of “content” is met through planned and measured assessments of, typically, cognitive and psychomotor constructs.

CAEP’s emphasis on dispositional development and inclusive practices, in conjunction with accountability of special education law (e.g., IDEA), mandates the importance of special education coursework in teacher preparation programs. Furthermore, previous literature identified the need for follow-up data to explore the long-term impact of authentic experiences that include direct interactions with children with disabilities on inclusive teaching practices (Peebles & Mendaglio, 2014a); the longitudinal data collected in this study provide critical insights. The degree of comfort interacting with people with disabilities appears to be an essential initial component to facilitating inclusive practices (Forlin, Earle, Loreman, & Sharma, 2011; Loreman, Earle, Sharma, & Forlin, 2007; Reeves, Giles, & Johnson, 2019). Notably, the follow-up results indicated nine of the eleven participants strongly agreed that the IL course impacted their comfort when interacting with people with disabilities and the other two agreed. This was further corroborated in the open-ended questions where participants identified the longevity of impact of how the course impacted their understanding and work with people with disabilities.

For example, a current graduate student explicitly mentions how the IL course influenced her current path, “After taking [the course] I decided to get a masters’ degree in special education with a focus in autism spectrum disorders. After my interactions with the campers I really wanted to continue to work with individuals with mild to moderate disabilities.” Additionally, participant responses generally acknowledged how the experience impacted their confidence in their careers and work with students with disabilities. For example, a current teacher said “[The course] gave me hands on experience that I have carried into my career. I gained the confidence and skills needed to work with children that have a disability” while another noted, “It was such an amazing experience and something that I think about often going into my third year of teaching.” An additional current teacher also noted how the experience was, “something that has immensely helped me in my day to day interactions with students. It makes me a more meaningful teacher.” Another current teacher expressed how the experience impacted her thinking, “I had never in my college career been comfortable or had any knowledge of working with children with disabilities and because of this immersive learning experience my whole mindset changed for the better working with people with disabilities.”

One of the participants who was not an undergraduate teacher education major identified she experienced “unexpected results” and that “the camp actually taught me to be more patient with adults with disabilities.” She elaborated further and demonstrated insight into the treatment of people with disabilities across the lifespan:

> When kids have autism, learning disorders, etc., we're so eager to help them. Which is wonderful, but when they're adults, they're expected to have grown out of it. But that's so incredibly unfair. Basically what I'm getting at is that I've learned to be more comfortable working with people of ALL ages who have disabilities, not just kids.

Another important effect was the impact of IL on teaching, particularly, teaching students with disabilities. This is of particular importance given self-efficacy of teaching ability is a disposition related to inclusive practices (Song, Sharma, & Choi, 2019); the responses reflect the participants’ acknowledgement of the impact. For example, one participant commented, “I feel that I am a better teacher because I am able to use what I learned in this class in the classroom. I have many children with mild and moderate disabilities and know how to help my students now because I got to actually interact with students during the program.” Another noted, “It taught me ways to interact with students and not to underestimate students. Before this experience I would sometimes feel awkward around students with special needs but after this class I have gained insight and confidence in my ability to interact with all students.” Another specifically commented on pedagogical practices saying, “[The course], specifically, taught me so much about differentiation I can use in my classroom, planning, and just having fun with children.”

Teachers’ empathy towards students in their classes as well as during interactions with parents/guardians is also considered essential to the facilitation of inclusive practices (Scorgie, 2010). On the follow-up survey, seven participated indicated they strongly agreed that the IL course impacted their empathy (i.e., ability to understand my and others’ feelings and perspectives) while the remaining four indicated they agreed; the open-ended responses provide additional insights. For example, one participant noted “Immersive learning gave me opportunities I wouldn’t have in a lecture hall. I experienced life changing experiences that have [a]ffected me as a teacher. It provided me with empathy and ways to help special education students in my classroom.” This same participant further noted, “It taught me ways to interact with students and not to underestimate students. Before this experience I would sometimes feel awkward around students with special needs but after this class I have gained insight and confidence in my ability to interact with all students.”

Participants also acknowledged the positive benefits of the authentic IL experiences; several explicitly noted their appreciation to put theory to practice. First, one participant who is pursuing a graduate degree in education commented “This (or another immersive course where [university] students are able to work with students with disabilities) should be MANDATORY. There is nothing like a hands-on experience that a text book [sic] can give you.” Four current elementary teachers acknowledged how the authentic experiences gave them opportunities above and beyond what they would have experienced had they taken the non-IL version of the course. One noted, “This immersive learning class gave me the opportunity to learn way more than I would have in a typical class. I was able to put what I was learning into action with the campers. By working closely with the campers, I also became more comfortable.” A second said “That this is a great program and I learned so much more actually working with the children everyday than I would have in a classroom. There is a need for more immersive learning in all the concentrations.” A third elementary teacher further elaborated saying, “I believe immersive learning is one of the best ways to help you determine if you are in the correct career choice or not. There are so many different opportunities to get hands on experience than you would be able to get in a normal classroom setting.”

While the 2016 survey data did not show clear and significant impact on the constructs, the three-year follow-up survey revealed an authentic impact on the participants’ lives since taking the course, graduating, and pursuing their career paths. The findings in the current study align to previous findings (Jefferson et al., 2018) which found the IL course impacted 20 participants (over 2 different years of the IL course) on four constructs: personal communication, attitudes towards diversity, self-efficacy, and empathy directly after participating in the IL course. Jefferson et al. (2018) also coded reflection data and identified relevant themes including: impact on empathy for campers, self-efficacy of teaching skills, understanding of diversity and attitude change, and developing connections with peers and community partners. The results from the current study support the previous findings. They suggest the IL course may be beneficial to improving inclusive teaching practices (e.g., increased self-efficacy of ability to work with students with disabilities) as well as potentially influencing careers choices related to working with people disabilities. The long-term follow-up data revealed two of the participants (who were not education majors as undergraduates) had transitioned into careers that involve working directly with people with disabilities. Specifically, one participant who was a pre-physical therapy undergraduate major reported working as a Registered Behavior Technician on the follow-up survey and a participant who was a child development major reported pursuing her Masters' degree in Applied Behavior Analysis with a focus on autism.

Limitations and Methodological Considerations

The primary purpose of this study was to contribute to an understanding of the impact of the direct contact with children with disabilities on dispositional constructs. This study also sought to contribute to an overall increased understanding of the pedagogical practices and student outcomes related to authentic experiences (e.g., service learning) as these are currently emerging and needed (McGowan, 2017); however, there were several limitations:

Experimenter effect. One of the authors was the instructor of the IL course which may threaten validity and generalizability of the findings. Numerous measures were taken in the earliest stages of research and course design to limit the instructor's knowledge of the research instrumentation; however, the instructor did assist in aligning the potential constructs to the specific learning outcomes of the course. This was done to assure that the constructs were valid measures of potential student learning from the onset. Additionally, the instructor did not know the final items of the survey until after the course and data collection were completed. Other measures to reduce bias included: the lead author (i.e., not the course instructor) facilitated the participants' consent process and the course instructor was not involved with any data collection activities during the time the participants were students at the university. The instructor was also blind to participant identities until after course grades were submitted and the final survey (i.e., S5) was completed. While these measures were taken to restrict the instructor of the course from the data collection, the degree to which the familiarity between the instructor and students may have influenced the findings is not known. Following the completion of data collection, the instructor's familiarity with the participants was helpful in interpreting the data. Additionally, the instructor's maintenance of a social media group which included various people who assisted with the IL course (e.g., students, parents of the campers, community members) was used to contact participants for the three-year follow-up survey.

Sample type and size. All but one student in the course agreed to participate in the research; however, the low number of students in the IL course limited data analysis and generalizability. The return rate for the non-IL group's survey further jeopardized statistically analysis decisions (e.g., factor analysis of the instrument).

Survey fatigue. A final limitation is that during the camp, the students endured daily data collection in numerous forms and the survey was repeated five times. These factors might have contributed to research fatigue and/or ceiling effect.

Conclusions and Recommendations for Future Research

This study contributes to the literature through the incorporation of the control group (i.e., non-IL course) as well as follow-up data; however there continues to be a need to explore the impact of authentic experiences in teacher education (Peebles & Mendaglio, 2014a). The findings, implications, and associated limitations provide ample opportunities for future research.

First, on the initial survey, the undergraduate participants in both groups reported agreement/strong agreement to their overall level of comfort in interacting with people with disabilities suggesting an overall positive attitude towards people with disabilities (Burton & Pace, 2009). While positive teacher attitude may serve as an initial starting point, it does not guarantee or necessarily translate to teaching practices that effectively support students with disabilities in inclusive settings (Burton & Pace, 2009). Additional research is needed to more accurately determine the training needed to facilitate both initial acquisition, as well as, long-term maintenance of inclusive teaching practices. The direct contact with children with disabilities during preservice training may be a critical component (Peebles & Mendaglio, 2014b). The in-depth design of the IL course sought to facilitate this and address known limitations to inclusive practices such as inadequate preparation (Burton & Pace, 2009) and insufficient opportunities for practice (Lancaster & Bain, 2010). The preliminary follow-up data suggests the participants' direct experiences with the children with disabilities during the camp enhanced current inclusive teaching practices. While promising, additional research (e.g., follow-up data for the control group) is needed to empirically explore the effect of the direct contact with children with disabilities on in-service teachers' practices.

Another area for future research to consider is measurement instrumentation. The survey instrument used in this study was developed based on measures that were previously identified as reliable and aligned to course objectives; however, they were not originally designed to measure the effects of teacher education programs or inclusive practices. Given the course's focus on inclusive education, it may be that the impact would be more accurately captured by measures that focus specifically on inclusive teacher education practices (e.g., Attitudes to Inclusion Scale (AIS) and Intention to Teach in Inclusive Classroom Scale (ITICS)) (Sharma & Jacobs, 2016)) or self-efficacy of teaching (e.g., Teachers' Efficacy in Inclusive Practices (TEIP) (Sharma, Loreman, & Forlin, 2012).

This study enabled university students to work with the children with disabilities in a setting outside the traditional school setting. Notably, the three-year follow-up data reflects that participants were able to maintain and generalize the experiences gained from the IL course to current teaching in school settings. Teacher preparation programs seeking to incorporate inclusive educational opportunities for preservice general education teachers may consider how authentic experiences that include direct contact with people with disabilities can be facilitated in meaningful ways outside of traditional classroom settings.

These factors may be particularly relevant when considering the impact of motivation on teachers' engagement and satisfaction (Fernet et al., 2008), as well as beliefs about ability to teach effectively (Klassen & Chiu, 2010). The students developing and implementing the camp were aware that the primary goal of the IL course was to provide a fun engaging opportunity for the campers. When initially asked about why they wanted to participate in the IL course, 11 of the 16 students gave a reason similar to "I thought this would be a 'fun' thing to do,". Beyond this, the students understood they were providing the campers with an opportunity that was meaningful and memorable and throughout the camp, many of the students frequently reported they wanted to make their year "the best one yet!" The atmosphere during the IL course provided the preservice teachers with important exposure to teaching children with disabilities in a positive environment. During the follow-up survey, many of the students reported fond memories and a lasting impact which influenced their careers including their personal beliefs about their ability to provide quality educational services to all students. It would be of interest for future research to continue to explore similar experiential/active learning courses which include children with disabilities and the impact of these types of courses on preservice teachers during and after they complete their teacher preparation programs.

Additional future research should also consider institutional initiatives focused on authentic experiences and associated needs of faculty. Many universities, including the one where this study took place, are positioning authentic experiences strategically in their university goals despite noted assessment challenges (McGowan, 2017). These challenges reveal opportunities for professional development of faculty. Future research should seek to explore how professional development can be used to assist faculty to effectively implement authentic experiences (e.g. strategies for expanding beyond lecture-based pedagogy). Additionally, faculty should be familiar with approaches to accurately measure learning in the affective (dispositional) domain (i.e., a distinct component of authentic learning). These factors are critical when considering the ultimate goals and desired long-term effects, including how to best document impact over time. In addition, as research continues to investigate the impact of such course offerings, universities will be called upon to provide and perhaps sustain support of these authentic practices. The opportunities available to faculty to engage in immersive pedagogy will depend on universities' ability to allocate scarce resources. Future research and other university-based initiatives should assist these universities in strategically determining associated costs, as well as, benefits of these programs with an essential focus being the ultimately effects of these courses on the lives and careers of graduates.

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Parental Perceptions of the Transition to Adulthood for Their Children with Disabilities

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Abstract

This quantitative study sought to examine parental perceptions of the transition to adulthood for their children with disabilities. Seventy-seven parents completed an anonymous online survey through PsychData regarding aspects of their perceptions of this transitory time. Questions were adapted from the *Autism Parenting Stress Index* (Silva & Schalock, 2012) and the Center for Disease Control's (2007) *Survey of Adult Transition and Health*. The researchers sought to examine if associations existed among the child's age, the amount of services the child received, and/or the level of help the parent perceived the child to need with everyday tasks and parental stress, coping, and concern about this transition. Results revealed significant associations between the dependent variables and the age of the child; the amount of services the child received; and how much help the parent perceived the child would need with routine tasks, personal needs, and participation in activities.

Keywords: parent perceptions, parent coping, parent stress, transition to adulthood

Parental Perceptions of the Transition to Adulthood for Their Children with Disabilities

Tremendous advances in areas of technology, medicine, and science have made it possible for over 90% of children with disabilities to reach adulthood (Gibson, King, Kingsnorth, & McKeever, 2014). With this progress, several challenges and questions have emerged. For example, the question arises as to whether or not society is equipped to serve this growing population of adults with disabilities. Will the system that is in place for this population be able to ensure that these adults can successfully live independently without their parents/caregivers? In regard to the adults that will continue to require assistance, will it be of the same quality that their parents/caregivers provided? These issues are so salient that several of the recommendations of the Committee on Disability in America (2007) include ways to, "improve the transition of young people with disabilities from pediatric to adult health care…" in a myriad of ways (p.10). Coupled with the fact that information about this transition is not easily accessible to parents, nor is it comprehensive, we can conclude that many parents, caregivers, and medical professionals may have little to no knowledge about the options and choices that a child with special needs has when he or she reaches adulthood. As dedicated caregivers to their children, this presents a salient concern for parents.

Literature Review

Defining Disability

Over the years, the word "disability" has been defined in different ways. In the past, terms like "handicapped" were often used (The Committee on Disability in America, 2007). For decades, the Americans with Disabilities Act has defined disability as someone, "...who has a physical or mental impairment that substantially limits one or more major life activity. This includes people who have a record of such an impairment, even if they do not currently have a disability. It also includes individuals who do not have a disability but are regarded as having a disability" (ADA National Network, 2020). While the legal definition remains largely the same, people who work with persons who are differently-abled have moved toward more "people-first" language in an effort to more accurately convey the importance of the person first, followed by their individual characteristics. Adding to the ambiguity in an agreed upon definition of the term, The Committee on Disability in America (2007) explains in the book *The Future of Disability in America,* that one of the biggest reasons for the lack of understanding about disabilities and their impact is the lack of a clear conceptual framework about how to define the term "disability". The definition put forth by this organization as early as 1991 encompasses not only the physical aspects of a disability, but encourages an understanding that includes, "understanding disability not only as a series of consequences of disease or injury, but as a consequence of people's relationships with their environment" (p. 36). This definition goes on to include the importance of the person's environment as a possible source of support, or as a source of barriers to participation.

In keeping with this conceptualization, Halfon, Houtrow, Larson, and Newacheck (2012) describe the International Classification of Functioning, Disability and Health, otherwise known as ICF (formed by the World Health Organization (WHO) in 2001), as a model that "describes how health conditions interact with personal and environmental factors to affect functioning at the levels of the body, the person, and the person in social situations" (p. 15). Similarly, in 2006, the United Nations Convention on the Rights of Persons With Disabilities issued a formal definition of disability as, "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (Office of the High Commissioner of Human Rights, 2006, p. 4). Following this trend, the WHO updated their classification to include children and youth, changing the name to the International Classification of Functioning, Disability, and Health for Children and Youth, or ICF-CY in 2007 (Halfon et al., 2012). This framework for children explained disability, "…in the context of delays, deviations, and variations in expected growth and development" (Halfon et al., 2012, p. 15). ICF-CY's framework and the definition proposed by the United Nations convention have given the word "disability" a new meaning, which is in line with that of the Committee on Disability in America (2007), combining both the medical model and the social model (Halfon et al., 2012).

Prevalence

Using the data available, the Committee on Disabilities in the U.S. (2007) estimated that approximately 4.8 million children in the United States have some form of disability, whether it be sensory, physical, cognitive, or related to chronic illness. Additionally, more recent research focused on impairments shows that over the years there has been an increase in many chronic childhood conditions, such as asthma, autism, and attention deficit hyperactivity disorder

(ADHD) (Perrin, Anderson, & Cleave, 2014). In fact, between 1976 and 2005, the number of students in the educational system (diagnosed with a disability using the federal definition) nearly doubled (National Center for Educational Statistics, 2014). This increase was in large part due to the prevalence of autism tripling during this time period. Since the federal definition of disability relates solely to the physical aspects of an impairment, this increase may be even more significant when one considers children who experience barriers to activity or participation, as well.

Autism Spectrum Disorder

A specific disability that has received a great deal of attention in the past decade is Autism Spectrum Disorder. Autism is a "developmental disability that can cause significant social, communication and behavioral challenges" and is estimated by the CDC to affect 1 in every 59 children (Centers for Disease Control, 2019). Autism is considered to be a "spectrum" disorder as there are a wide variety of ways that individuals may experience it. One person with autism may have significant cognitive and communicative abnormalities while another struggles with motor skills and sensory integration. One significant problem that people with autism face is an impaired theory of mind; they are unable to understand the mental states of others. This lack of cognitive perspective-taking can create communication barriers, and people with autism may have a hard time navigating social situations and relationships (Burnside, Wright, & Poulin-Dubois, 2017). Results from Jobe and White's (2007) study showed that individuals who exhibited a more pronounced "autism phenotype" (p. 1480) are more likely to experience loneliness and difficulty maintaining friendships. More recent studies by Hedley, Uljarevic, Wlmont, Richdale, and Dissanayake (2018) and Pelton and Cassidy (2017) support Jobe's results and further assert that feelings of loneliness correlate significantly with depression. Individuals with autism have impaired cognitive abilities and may present with a learning disability as well (National Autistic Society, 2018). Cognitive delays may manifest as trouble processing instructions and/or attending to environmental cues. These factors, along with several other unique impairments and barriers that a person with autism experiences, show why parents may have concerns about their child with autism's ability to navigate society as an adult without their assistance.

Challenges with Transitioning to Adulthood

Research shows that individuals with disabilities have unique challenges in relation to the transition to adulthood. Cheak-Zamora, Teti, and First (2015) conducted a qualitative study to examine parents' and adolescents' perceptions of these challenges. One of the challenges revealed by this study related simply to the fact that things change. Change can be difficult for anyone at any age, but the transition from being a child who financially and emotionally depends on one's parents, to an adult who navigates these things independently, presents a unique developmental challenge.

According to Erikson (1963), the adolescent years are those in which typically developing youth face the developmental crisis of identity vs. identity confusion. During this stage, an adolescent's developmental task is to explore their own identity, as separate from their parents and family. They seek to discover who they are and develop a sense of self that reflects this discovery. Social relationships are incredibly important to this discovery, as adolescents experiment with different roles and beliefs through interactions with peers, teachers, and other people while they move toward an independent sense of self before entering into the next stage. Seeking less reliance on their parents is typical during this stage.

For an adolescent with a disability, this developmental task can be disrupted if they have to rely heavily on their parents or caregivers to meet basic needs. The natural desire to establish independence can be thwarted due to this physical and emotional reliance on their parents. For youth with ASD there can be additional complications during this stage, as well. For youth whose ASD results in issues with the ability to interact socially, limits to reaching an optimal outcome in this developmental crisis may be amplified.

Despite our knowledge about the unique developmental task of adolescents, and how having a disability like autism can impact this developmental progression, little is known about these children as they transition from adolescence into adulthood. In fact, Matthews, Smith, Pollard, Ober-Reynolds, Kirwan, and Maligo (2015) go so far as to identify this as a population that has been largely overlooked, despite the increasing prevalence of children with disabilities. The little research that has been conducted from this lens suggests that adolescence, in this population, may have a different meaning, which is supported by the theoretical propositions of Erikson (1963). For example, a previous study showed that adolescents with developmental disabilities experienced high levels of anxiety (First, Cheak-Zamora, Teit, Maurer-Batjer, & First, 2018). This population may experience such high anxiety at this time due to the intersectional challenges of adolescence, disability, and the uncertainty of the future. The study showed that while these teens self-managed their anxiety through mediators such as exercise, spirituality, engaging in the arts, and building one's own self-confidence and self-advocacy skills, this transition was still difficult. While the study did not report negative coping skills that the participants might engage in, they did report some negative experiences that cause the participants to draw upon their coping skills such as feeling misunderstood, being labeled, navigating daily life challenges, and managing anxiety.

Other studies have found that youth with autism are more likely than their peers to experience mental health problems such as depression and are more likely to use maladaptive coping skills including self-injurious behaviors (Hedley, Uljarevic, Wlmont, Richdale, & Dissanayake, 2018; Duerden, Oatley, McGrath, Taylor, Szatmari, & Roberts, 2012). Of the 241 youth with autism studied by Duerden et al, 52% engaged in self-injurious behaviors including life-threatening head banging. Duerden et al.'s study identified several common traits of autism such as atypical sensory processing and impaired social communication as potential risk factors for self-injurious behavior. Furthermore, young adults with autism were found to be at a significantly higher risk for attempting suicide than the general population (Pelton & Cassidy, 2017). It is easy to see why parents may face stress, concern, and trouble with coping with this transition experienced by their children.

The educational system has made attempts to address these challenges and apply this theoretical knowledge in their programming for youth, especially those with identified disabilities. In high school, students often have a structured routine and the schools are mandated to provide certain services to promote well-being in and out of the classroom. Some of these services include planning for the future. For example, the Individuals with Disabilities Education Improvement Act (IDEIA) requires transition planning services to be incorporated in the Individualized

Education Plan (IEP) by the age of 16 (United States Department of Education, 2017). This may include career exploration, time and money management skills, and social skills such as collaboration. Despite these programs, adolescents with disabilities struggle significantly. According to *Education Week,* only two-thirds of students with disabilities graduate high school, while the remaining third drop out (Education Week, 2015). It is clear that concerns about their children's abilities in each of these areas may impact parental levels of stress, coping, and concern.

Data shows that in their early twenties, only 58% of adults with ASD, 74% with intellectual disabilities, and 91% with emotional challenges have ever been employed (Nicholas, Mitchell, Dudley, Clarke, & Zulla, 2017). A study conducted in 2010 by Taylor and Seltzer found that only about half of adults with ASD find gainful employment after high school. Another study found that less than 25% of adults with autism live independently (Cheak-Zamora, First, & Teti, 2015). Additionally, Taylor and Seltzer's study (2010) found that on average, employed young adults with autism spend only five hours per week in paid work; not enough to be able to achieve financial independence. Schalkwyk and Volkmar's (2017) study theorized that these outcomes may in part be because the services available may not address all of the issues related to the transition to adulthood, such as access to health care and social security benefits. In light of these findings, it is no surprise that researchers with the National Institute of Mental Health found that over two-thirds of parents of high school seniors on the autism spectrum felt that their child had at least one unmet need (Taylor & Henninger, 2014). A study conducted by Liao and Li (2019), found that parents of individuals with autism were vulnerable to increased financial stressors, due to their children's decreased ability to obtain employment. It is apparent that the transition from adolescence to adulthood could cause parents significant stress and anxiety about how successful their children will be with this transition.

Theoretical Perspective and Study Purpose

The theoretical perspective guiding this study is based on Urie Bronfenbrenner's (1976) bioecological model. According to Bronfenbrenner, individuals develop within a set of nested systems: the micro-, meso-, exo-, and macro-levels (the chronosystem was later added as well). The microsystem is the innermost system and comprises the individual and his or her direct experiences. Examples of microsystems include family, home, school, church, therapy clinic, and other places in which the individual has direct experiences. The meso-level refers to the relationships that exist between micro-systems, like parent-teacher communication. The exo-level refers to systems in which the individual does not directly interact, but can affect the individual indirectly. Exo-level examples include a parent's workplace, the quality and availability of special services, and community characteristics like overall safety and availability of opportunities for recreation. The macro-level consists of broader societal values, culture, laws, and policies. It is these meso- and exo-level factors that this study intends to examine. Research has shown that parental stress can transcend to the child's environment, affecting their overall well-being (Bronfenbrenner & Morris, 2007), highlighting the importance of understanding the variables that may impact parental stress, coping, and concern about their child's transition to adulthood.

Therefore, due to the unique developmental needs of adolescents and young adults with autism, as well as the lack of information available to parents and caregivers about the transition from pediatric to adult services, this study seeks to explore whether the age of the child, the amount of services the child receives, and/or the level of help the parent perceives the child to need with everyday tasks predict parental stress, coping, or concern. It is hypothesized that the amount of services the child received during childhood and adolescence, the perceived severity of the child's disability, the child's age, and other family demographics will predict parental stress, coping, and concern about their child's transition to adult services. Therefore, using a quantitative approach, with a digital design and digitally collected data, the following research question guided this study: Do the perceived severity of the child's disability, the child's age, family demographics, and the amount of services the child receives predict parental stress, coping, or concern?

Method

A quantitative approach was chosen to answer the research question due to potential for inference to larger populations. Using an online, anonymous survey with reliable and valid instruments, parental perceptions of their child's characteristics and how those were associated with parental stress, coping, and concern were able to be explored.

Participants

Parents/caregivers of children with disabilities were contacted with study information and requests for participation via social networking sites, e-mail, and flyers. Seventy-seven parents (88% mothers) completed the survey answering about their experiences with their child with disabilities (64% male, 36% female, mean age 14 years). Due to the method of recruitment (flyers, emails, posts on social media), it is not possible to compute the response rate. Of the 105 participants who consented to the study, 77 completed it and only 25 accepted the incentive.

The children of parents in this sample were between 1 and 32 years of age (*m*= 14.5 years, *sd*=6.89). More male children were reported on in this sample than females (males=64%), and parents reported that their child's ability to attend school was sometimes impeded by the disability their child had (*m*=2.81, *sd*=1.50, *range*=1-5, with 5 indicating higher levels of agreement with the statement). Couples only reported an average number of arguments concerning decisions about their child with disabilities (*m*=2.92, *sd*=1.09, *range*=1-5), but they regularly felt that their significant other was not supportive of their decisions (*m*=1.53, *sd*=1.14, *range*=1-5). The average number of diagnosed disabilities per child was 2.1 (this only captured disabilities and not any other mental physical health issues).

Of those that completed the survey, 87% were married or cohabitating with a partner, with the rest indicating that they were single, widowed, or estranged. The majority of the sample identified as white (79%), and relatively well-educated. Almost 42% of the respondents had completed college or had advanced degrees, and another 49% had attended some college, had a technical or associate's degree, or had received some sort of formal certificate. The majority of the sample appeared to have sufficient financial means, as well, with 40.3% of the participants indicating that they had a total household income above $100,000 per year. A variety of special needs and services were reported, with an average of 3.7 different services received per child on a regular basis.

Procedure

Upon approval from the university Institutional Review Board, participant recruitment commenced. Once recruited, participants were directed to the anonymous questionnaire housed in Psychdata, a secure, university-sponsored, online platform for collecting survey data. The first page of the questionnaire included the study information/explanation and informed consent statement indicating that completing the questionnaire will constitute consent to participate. If he or she chose to do so, the individual completed the anonymous questionnaire, which included instructions for study participants, the questions, and a thank you message. Upon completion of the last question, participants were offered a link to a separate survey database in which to enter their name and address so that the researchers could provide the participant with his/her incentive for participation. This second survey was completed separately from the data collected from the questionnaire, so no identifying information was linked with the questionnaire. At the conclusion of the study, the data was downloaded from Psychdata and analyzed using SPPS 24.

Measures

The online survey completed by participants was created by the authors for this study and consisted of 40 questions and scaled items (see Appendix A) examining parental perceptions of stress, coping, and concern in raising their child. Parents/caregivers answered questions about the child participating in the study (age, gender, disability type and severity, amount of services received) and basic demographic questions (ethnicity, education level, family income, marital status, gender). They also responded to four questions that were adapted from the *Autism Parenting Stress Index* (Silva & Schalock, 2012) and 12 questions were adapted from the Center for Disease Control's 2007 *Survey of Adult Transition and Health (SATH)*. The *Autism Parenting Stress Index* (APSI) has demonstrated evidence of reliability. Measures of internal consistency revealed acceptable levels of unidimensionality of the scale (Cronbach's alpha=.882). According to Silva and Schalock (2012), the *Autism Parenting Stress Index* shows, "...acceptable internal consistency and test–retest stability for parents of children with autism and other developmental disabilities" (p. 566). This makes the APSI a reliable tool to use in this study. This instrument includes questions about topics such as the parent's concern for the future of their child living independently and concern for the future of their child being accepted by others. Parents rated their responses on a scale of 0-4, with 0 being "not stressful" and 4 being "so stressful sometimes we feel we cannot cope".

The questions from the CDC's SATH (2007) were originally utilized in phone interviews with adult participants who have some type of special need. Questions in the CDC's script include "Because of a physical, mental, or emotional problem, do you need the help of other persons in handling personal care needs, such as eating, bathing, dressing, or getting around inside of your home?" and "Does a physical, mental, or emotional problem interfere with your ability to participate in social, religious, or recreation activities like sports, clubs, parties, or church?" (Centers for Disease Control, 2007). Participants in the CDC's study were given the answer choices "yes, no, don't know, and decline to answer" (Centers for Disease Control, 2007). The

CDC asserts that their 2007 SATH study is the largest survey to capture data regarding the transition to adulthood for youth with special needs in the United States.

Variables

The predictor variables examined in this study were the level of help the child needed from others, the child's age, and the amount of services received. The outcome variables in this study were the parent's levels of concern, stress, and coping.

Independent Variables

Level of help needed. This variable refers to a parent's rating of the child's ability to participate in activities, take care of personal care needs (such as eating, bathing, and dressing), and take care of routine needs (such as completing chores). This variable was derived from items 15-18 on the questionnaire (see Appendix A). These included questions like, "Indicate your level of agreement with the following statement: because of a physical, mental, or emotional problem, my child needs the help of other persons in handling personal care needs, such as eating, bathing, dressing, or getting around inside of the house". Items were scored on a scale of 1-5, with 1 meaning "strongly disagree" and 5 meaning "strongly agree".

Child's age. Respondent's provided their child's age in years, or in months when referring to an infant. This variable was derived from question six on the questionnaire (see Appendix A).

Amount of services received. Respondents reviewed a list of potential services their child might access and checked all that applied. This list included interventions such as occupational therapy, music therapy, prescription medication, and special education. This variable was derived from question 14 on the questionnaire (see Appendix A).

Dependent Variables

Level of concern. The parent's level of concern was derived from questions regarding the parent's concern for the future of their child living independently and being accepted by others. This variable was derived from questions 21 and 22 on the questionnaire (see Appendix A). Participations answered on a scale of 0-4 with 0 being "not stressful" and 4 being "so stressful we cannot cope". Responses were reverse scored as appropriate.

Parental stress. The parent's stress level was measured using questions that asked parents to rate their level of agreement with statements about negative emotions, such as "in the past month, how often have you felt that you were unable to control the important things in your life?". This variable was derived from questions 23-24, 27-29, 32-33, and 35 on the questionnaire (see Appendix A). Participants answered on a scale of 0-4 with 0 being "never" and 4 being "very often". Responses were reverse scored as appropriate.

Parental coping. The parent's coping skills were assessed through the participant's level of agreement with positive statements such as "in the past month, how often have you successfully dealt with day to day challenges". This variable was derived from questions 25- 28, 30-31, and 34 on the questionnaire (see Appendix A). Participants answered on a scale of 0-4 with 0 being "never" and 4 being "very often". Responses were reverse scored as appropriate.

Results

Preliminary analyses provided descriptive information about the participants and their concern and stress about their children's futures. An examination of the mean scores for items inquiring about parents' ratings of the type of help their child needed revealed a high mean score for routine care (*m*=4.06, *sd*=1.139, range 1-5), and moderately high mean scores for participating in activities (*m*=3.75, *sd*=1.339, range 1-5), and personal care (*m*=3.55, *sd*=1.438, range 1-5). Parents in this sample also had moderately high ratings in their concerns about their children's future of living independently (*m*=3.32, *sd*=1.332, range 1-5) and future acceptance by others (*m*=3.03, *sd*=1.147, range 1-5).

To test relationships between the variables, a series of Pearson's correlations were computed. These revealed that, in our sample, the age of the child was not significantly correlated with parents' perceptions about how much help the child needed (*r*=.023, *n*=68, *p*=.85). When examining the relationship between how much help the child currently needs and how much support the parent expected the child to need in the future, significant relationships were found (*r*=.595, *n*=77, *p*<.001), as they were between the amount of support they expected the child to receive and the severity of the child's disability (*r*=.812, *n*=77, *p*<.001).

To test the hypothesis that the amount of services the child received would predict parental stress, coping, and concern, a series of multiple regression analyses were computed. The first analysis used parental level of concern as the outcome variable and level of help needed, child's age, and amount of services received as the predictor variables. Results revealed that the age of the child accounted for 3% of the variance in the parental mean concern score for their child with disabilities. When Level of Help and Amount of Services were added to the model, they accounted for an additional 52% of the variance in parental mean score for concern. An examination of the coefficients revealed that these variables were all positively related to parental mean concern. The Level of Help score made the biggest contribution t(64)=7.50, p<.001 to the model, followed by the amount of services received t(64)=2.5, p<.05 and child age t(64)=2.24, p<.05 (see Table 1).

Table 1

*Summary of Regression Analysis for Variables Predicting Parental Concern about Their Child with Disabilities (*N *= 68)*

	Model 1			Model 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Child's Age	.032	.020	.192	.034	.015	.200*
Amount of Services Received				.118	.047	.225*

Child Need for Help				.800	.107	.645**
*R*2		.04			.552	
F for change in R^2		2.518			36.86***	

Note: All variables were centered at their means using the forced entry method. *$p < .05$. **$p < .01$, ***$p<.001$

A similar test was computed to examine the hypothesis that the amount of services the child received would predict parental coping. The results of this analysis revealed that the age of child accounted for 6% of the variance in the parental mean coping score. When Level of Help and Amount of Services were added to the model, they accounted for an additional 32% of the variance in parental mean score for coping. An examination of the coefficients revealed that these variables were all positively related to parental mean for coping. The Level of Help score made the biggest contribution t(64)=5.637, p<.001 to the model, followed by the child age t(64)= -2.980, p<.05. Amount of services was not significant.

Table 2
*Summary of Regression Analysis for Variables Predicting Parental Coping (*N *= 68)*

	Model1			Model 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Child's Age	-.020	.009	-.253*	-.025	.008	-.312*
Amount of Services Received				-.004	.026	-.016
Child Need for Help				.333	.059	.570***
*R*2		.064			.382	
F for change in R^2		4.503*			16.463***	

Note: All variables were centered at their means using the forced entry method.*$p < .05$. **$p < .01$, ***$p<.001$

A final test was computed to examine the hypothesis that the amount of services the child received would predict parental stress. The results of this analysis revealed that the age of child accounted for 3% of the variance in the parental mean stress score. When Level of Help and Amount of Services were added to the model, they accounted for an additional 81% of the variance in parental mean score for stress. An examination of the coefficients revealed that these variables were all positively related to parental mean concern. The Level of Help score made the biggest contribution t(64)=16.865, p<.001 to the model, followed by the amount of services received t(64)=2.5, p<.05 and child age t(64)=2.24, p<.05. In all three models, the predictors accounted for a significant amount of the variance (55% for Parental Concern, 84% for Parental Stress, and 38% for Parental Coping). The amount of help a parent perceived their child to need made the biggest contribution in all three models.

Table 3
*Summary of Regression Analysis for Variables Predicting Parental Stress (*N *= 68)*

	Model 1			Model 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Child's Age	.023	.017	.161	.017	.007	.120*
Amount of Services Received				.059	.024	.135*
Child Need for Help				.900	.053	.870***
$R2$		.026			.839	
F for change in R^2		1.762			161.605***	

Note: All variables were centered at their means using the forced entry method.**p* < .05. ***p* < .01, ****p*<.001

Discussion

This study investigated parents' views about the transition to adulthood for their child with disabilities. Studies show that an individual with disabilities experiences more difficulties than his/her nondisabled counterpart during life transitions. The results of this study offer support for this, in that parents indicated relatively high levels of concern about their children's futures. Parents in this sample demonstrated high levels of concerns about their children's ability to live independently and identified routine care as an aspect of life with which their child needed help to function. While the age of the child was not significantly correlated with the amount of help the parent perceived the child to need, the severity of the child's disability was significantly correlated with the parents' perceptions of the amount of help the child would need in the future. Thus, it is not surprising that in this sample, the age of the child, the amount of services the child receives, and how much help the parent perceives the child will need with routine tasks, personal needs, and participation in activities predicted parental stress, coping, and concern. The findings from this study confirm our hypothesis for the predictive value of the amount of services received by the child predicting more parental stress. Additionally, the results indicated that the amount of help the child needs (as perceived by the parent) made the biggest contribution in all three models. Our data supports the existing literature in demonstrating that parents experience stress and concern during this transition period.

While these data offer additional support for existing literature, this study has several limitations that should be noted. First, the sample was relatively small and homogenous in terms of child age and family demographics. This makes it difficult to generalize to more diverse populations. Second, the lack of responses from caregivers of children younger than five years old makes it difficult to generalize these findings to parents of younger populations. Third, the primarily married sample makes it hard to generalize these findings to single parents, who may face additional challenges in raising a child with a disability. Last, convenience sampling was utilized to reach more parents, therefore some sampling bias may exist. The results, while informative, should be interpreted with these limitations in mind. Despite these limitations, the results from this study still add to the literature on understanding what concerns parents have during this transition period from childhood to adulthood. This knowledge can be useful to practitioners working with parents of children facing this transition, and may allow them opportunities to support parents in more meaningful ways.

Future research should continue to examine the relationship between the child's ability to function more independently as an adult and parental outcome in regard to stress, coping, and concern for their child's future. While these findings were consistent with those of the NIMH study regarding parent concern for their child's unmet needs (Taylor & Henninger, 2014) and offers additional evidence about the factors that are associated with parental outcomes, more research with larger, more diverse samples is needed, specifically including more parents of children under five years of age and more non-partnered parents. It would also be useful to examine how the quality and frequency of the services received may be associated with parental stress, coping, and concern.

Additionally, future research should investigate how much help a child actually needs (as opposed to the parent's perception of that need, as was done here) is associated with parental perceptions of that need. The researchers recommend expanding further research efforts in this area to investigate how individuals with special needs perceive their own transition to adulthood in comparison to their caregiver.

Furthermore, the researchers noted significant recruitment barriers to this study. The fact that only 105 people consented to the study, despite wide-spread recruitment efforts, suggests a need to evaluate the motivations and hesitations of this population to participate in research studies. Of those, only 77 completed the questionnaire and even fewer requested an incentive. While survey fatigue could account for the lack of completion of 28 participants, it does not explain the low number of respondents who provided information needed to receive an incentive. Perhaps this population was willing to participate more to have a voice than to receive a token of appreciation, or perhaps the participants were unwilling to provide identifying information, despite promises not to link survey data to any identifiable data. Future research should explore the motivations and/or concerns participants from this population hold about participating in research studies.

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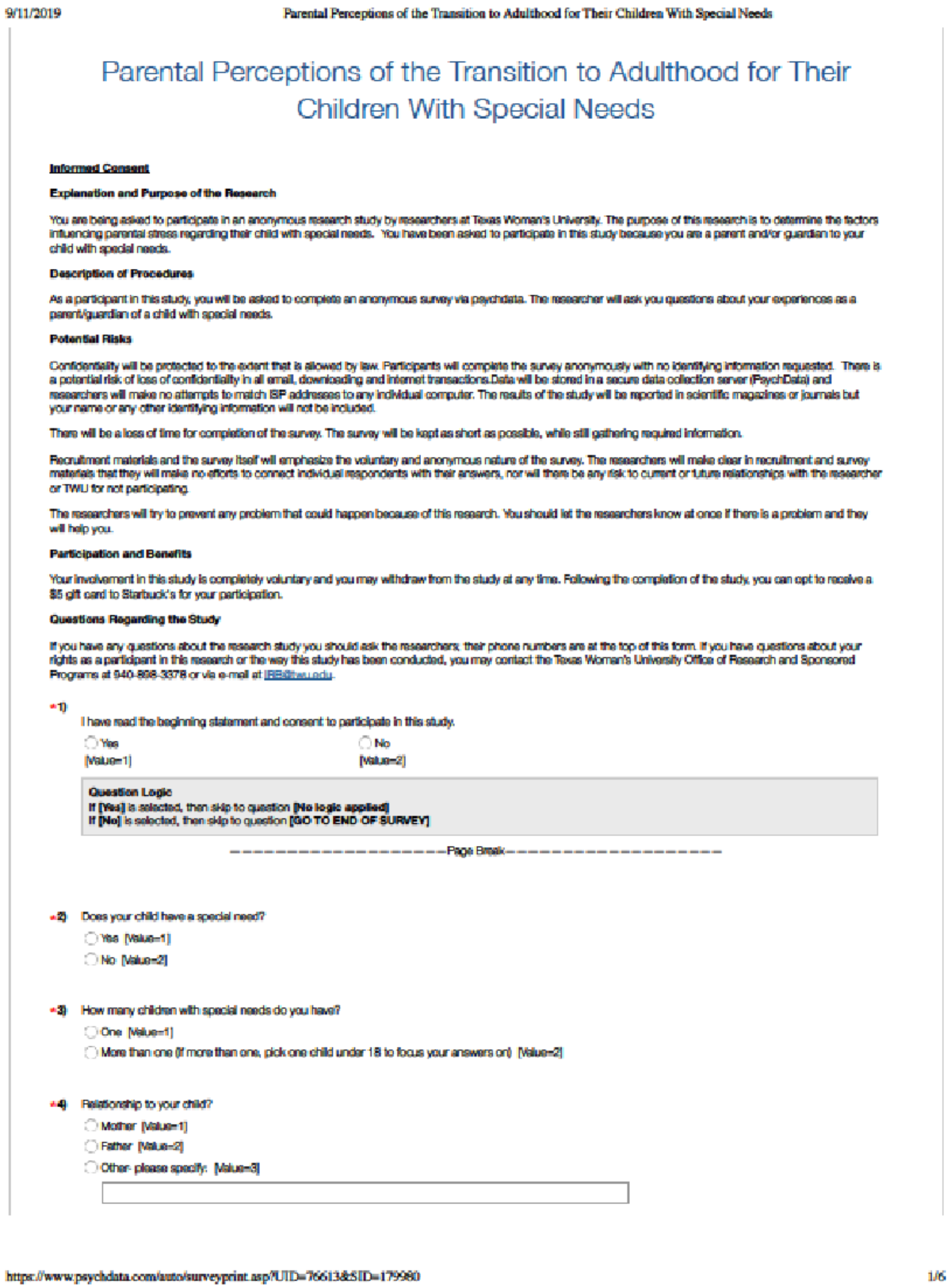
Appendix A



9/11/2019 Parental Perceptions of the Transition to Adulthood for Their Children With Special Needs

Parental Perceptions of the Transition to Adulthood for Their Children With Special Needs

Informed Consent

Explanation and Purpose of the Research

You are being asked to participate in an anonymous research study by researchers at Texas Woman's University. The purpose of this research is to determine the factors influencing parental stress regarding their child with special needs. You have been asked to participate in this study because you are a parent and/or guardian to your child with special needs.

Description of Procedures

As a participant in this study, you will be asked to complete an anonymous survey via psychdata. The researcher will ask you questions about your experiences as a parent/guardian of a child with special needs.

Potential Risks

Confidentiality will be protected to the extent that is allowed by law. Participants will complete the survey anonymously with no identifying information requested. There is a potential risk of loss of confidentiality in all email, downloading and internet transactions.Data will be stored in a secure data collection server (PsychData) and researchers will make no attempts to match ISP addresses to any individual computer. The results of the study will be reported in scientific magazines or journals but your name or any other identifying information will not be included.

There will be a loss of time for completion of the survey. The survey will be kept as short as possible, while still gathering required information.

Recruitment materials and the survey itself will emphasize the voluntary and anonymous nature of the survey. The researchers will make clear in recruitment and survey materials that they will make no efforts to connect individual respondents with their answers, nor will there be any risk to current or future relationships with the researcher or TWU for not participating.

The researchers will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you.

Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time. Following the completion of the study, you can opt to receive a $5 gift card to Starbuck's for your participation.

Questions Regarding the Study

If you have any questions about the research study you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu.

*1)
I have read the beginning statement and consent to participate in this study.

○ Yes [Value=1]	○ No [Value=2]

Question Logic
If **[Yes]** is selected, then skip to question **[No logic applied]**
If **[No]** is selected, then skip to question **[GO TO END OF SURVEY]**

———————————————————Page Break———————————————————

*2) Does your child have a special need?
- ○ Yes [Value=1]
- ○ No [Value=2]

*3) How many children with special needs do you have?
- ○ One [Value=1]
- ○ More than one (if more than one, pick one child under 18 to focus your answers on) [Value=2]

*4) Relationship to your child?
- ○ Mother [Value=1]
- ○ Father [Value=2]
- ○ Other- please specify: [Value=3]

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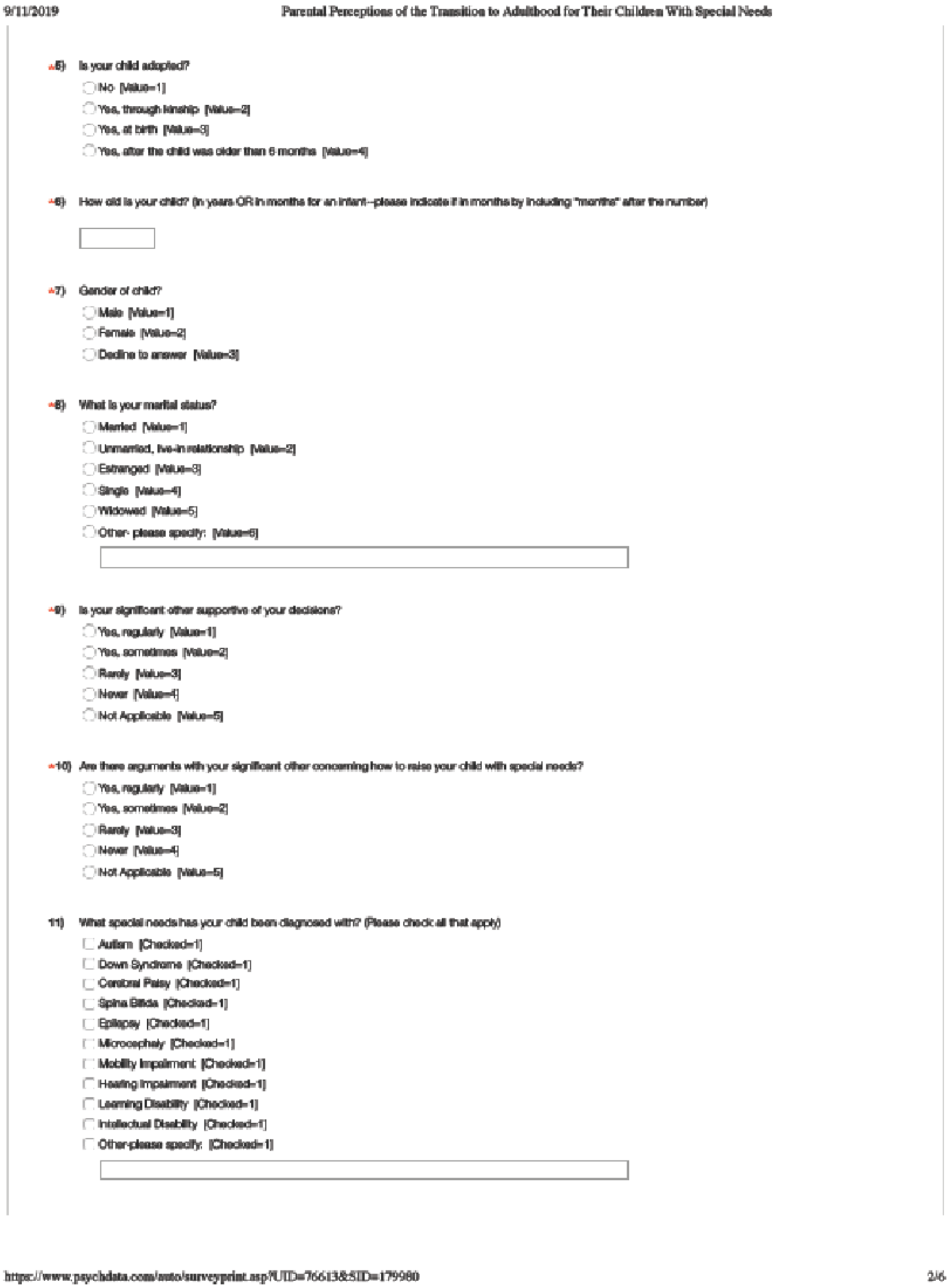

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*5) Is your child adopted?

○ No [Value=1]
○ Yes, through kinship [Value=2]
○ Yes, at birth [Value=3]
○ Yes, after the child was older than 6 months [Value=4]

*6) How old is your child? (In years OR in months for an infant--please indicate if in months by including "months" after the number)

*7) Gender of child?

○ Male [Value=1]
○ Female [Value=2]
○ Decline to answer [Value=3]

*8) What is your marital status?

○ Married [Value=1]
○ Unmarried, live-in relationship [Value=2]
○ Estranged [Value=3]
○ Single [Value=4]
○ Widowed [Value=5]
○ Other- please specify: [Value=6]

*9) Is your significant other supportive of your decisions?

○ Yes, regularly [Value=1]
○ Yes, sometimes [Value=2]
○ Rarely [Value=3]
○ Never [Value=4]
○ Not Applicable [Value=5]

*10) Are there arguments with your significant other concerning how to raise your child with special needs?

○ Yes, regularly [Value=1]
○ Yes, sometimes [Value=2]
○ Rarely [Value=3]
○ Never [Value=4]
○ Not Applicable [Value=5]

11) What special needs has your child been diagnosed with? (Please check all that apply)

☐ Autism [Checked=1]
☐ Down Syndrome [Checked=1]
☐ Cerebral Palsy [Checked=1]
☐ Spina Bifida [Checked=1]
☐ Epilepsy [Checked=1]
☐ Microcephaly [Checked=1]
☐ Mobility Impairment [Checked=1]
☐ Hearing Impairment [Checked=1]
☐ Learning Disability [Checked=1]
☐ Intellectual Disability [Checked=1]
☐ Other-please specify: [Checked=1]

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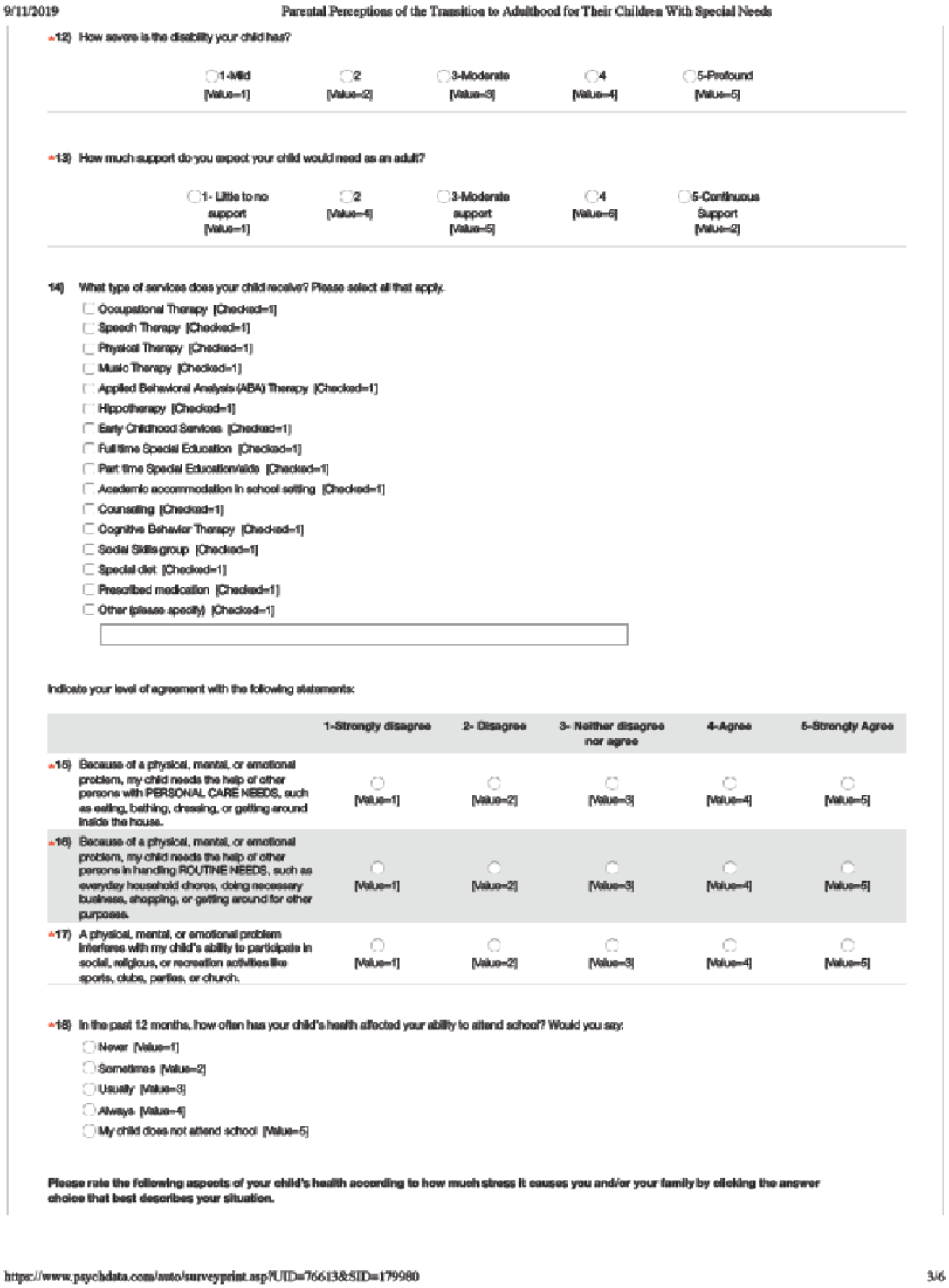

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*12) How severe is the disability your child has?

○ 1-Mild [Value=1]
○ 2 [Value=2]
○ 3-Moderate [Value=3]
○ 4 [Value=4]
○ 5-Profound [Value=5]

*13) How much support do you expect your child would need as an adult?

○ 1- Little to no support [Value=1]
○ 2 [Value=4]
○ 3-Moderate support [Value=5]
○ 4 [Value=6]
○ 5-Continuous Support [Value=2]

14) What type of services does your child receive? Please select all that apply.

☐ Occupational Therapy [Checked=1]
☐ Speech Therapy [Checked=1]
☐ Physical Therapy [Checked=1]
☐ Music Therapy [Checked=1]
☐ Applied Behavioral Analysis (ABA) Therapy [Checked=1]
☐ Hippotherapy [Checked=1]
☐ Early Childhood Services [Checked=1]
☐ Full time Special Education [Checked=1]
☐ Part time Special Education/aide [Checked=1]
☐ Academic accommodation in school setting [Checked=1]
☐ Counseling [Checked=1]
☐ Cognitive Behavior Therapy [Checked=1]
☐ Social Skills group [Checked=1]
☐ Special diet [Checked=1]
☐ Prescribed medication [Checked=1]
☐ Other (please specify) [Checked=1]

Indicate your level of agreement with the following statements:

	1-Strongly disagree	2- Disagree	3- Neither disagree nor agree	4-Agree	5-Strongly Agree
*15) Because of a physical, mental, or emotional problem, my child needs the help of other persons with PERSONAL CARE NEEDS, such as eating, bathing, dressing, or getting around inside the house.	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*16) Because of a physical, mental, or emotional problem, my child needs the help of other persons in handling ROUTINE NEEDS, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes.	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*17) A physical, mental, or emotional problem interferes with my child's ability to participate in social, religious, or recreation activities like sports, clubs, parties, or church.	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]

*18) In the past 12 months, how often has your child's health affected your ability to attend school? Would you say:

○ Never [Value=1]
○ Sometimes [Value=2]
○ Usually [Value=3]
○ Always [Value=4]
○ My child does not attend school [Value=5]

Please rate the following aspects of your child's health according to how much stress it causes you and/or your family by clicking the answer choice that best describes your situation.

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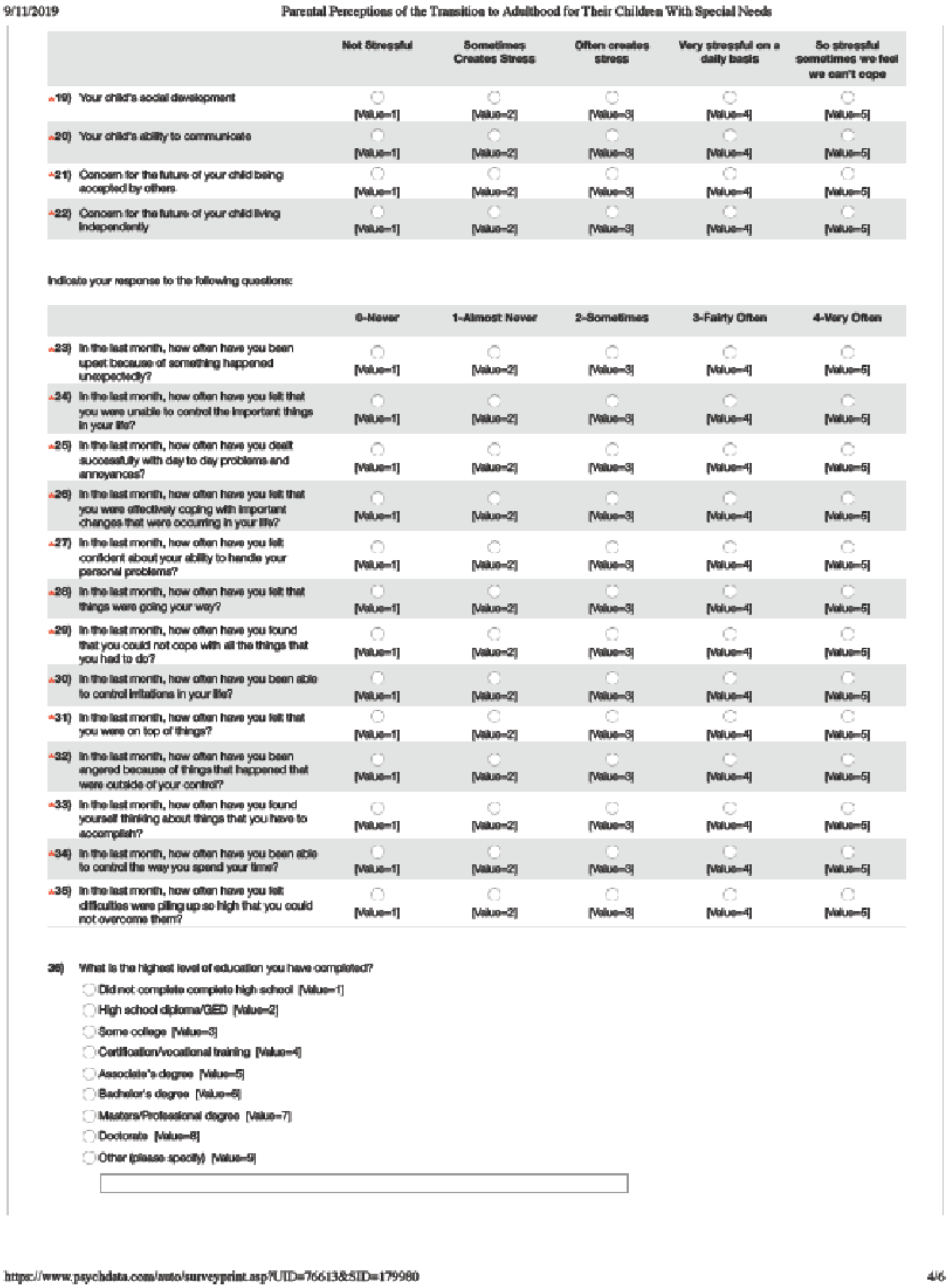

9/11/2019 Parental Perceptions of the Transition to Adulthood for Their Children With Special Needs

	Not Stressful	Sometimes Creates Stress	Often creates stress	Very stressful on a daily basis	So stressful sometimes we feel we can't cope
*19) Your child's social development	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*20) Your child's ability to communicate	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*21) Concern for the future of your child being accepted by others	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*22) Concern for the future of your child living independently	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]

Indicate your response to the following questions:

	0-Never	1-Almost Never	2-Sometimes	3-Fairly Often	4-Very Often
*23) In the last month, how often have you been upset because of something happened unexpectedly?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*24) In the last month, how often have you felt that you were unable to control the important things in your life?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*25) In the last month, how often have you dealt successfully with day to day problems and annoyances?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*26) In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*27) In the last month, how often have you felt confident about your ability to handle your personal problems?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*28) In the last month, how often have you felt that things were going your way?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*29) In the last month, how often have you found that you could not cope with all the things that you had to do?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*30) In the last month, how often have you been able to control irritations in your life?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*31) In the last month, how often have you felt that you were on top of things?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*32) In the last month, how often have you been angered because of things that happened that were outside of your control?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*33) In the last month, how often have you found yourself thinking about things that you have to accomplish?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*34) In the last month, how often have you been able to control the way you spend your time?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]
*35) In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	○ [Value=1]	○ [Value=2]	○ [Value=3]	○ [Value=4]	○ [Value=5]

36) What is the highest level of education you have completed?

○ Did not complete complete high school [Value=1]
○ High school diploma/GED [Value=2]
○ Some college [Value=3]
○ Certification/vocational training [Value=4]
○ Associate's degree [Value=5]
○ Bachelor's degree [Value=6]
○ Masters/Professional degree [Value=7]
○ Doctorate [Value=8]
○ Other (please specify) [Value=9]

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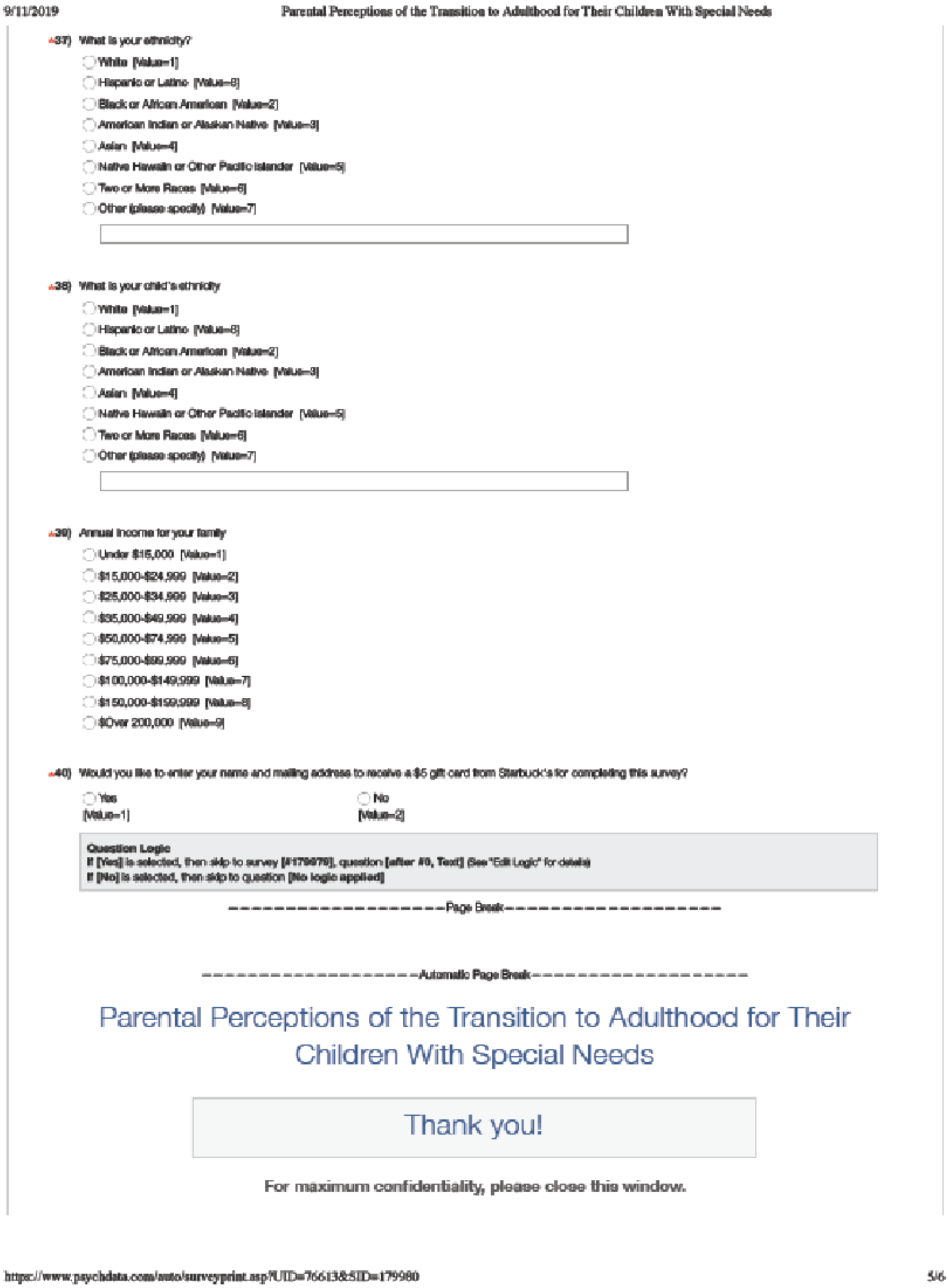

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*37) What is your ethnicity?

○ White [Value=1]
○ Hispanic or Latino [Value=8]
○ Black or African American [Value=2]
○ American Indian or Alaskan Native [Value=3]
○ Asian [Value=4]
○ Native Hawaiin or Other Pacific Islander [Value=5]
○ Two or More Races [Value=6]
○ Other (please specify) [Value=7]

*38) What is your child's ethnicity

○ White [Value=1]
○ Hispanic or Latino [Value=8]
○ Black or African American [Value=2]
○ American Indian or Alaskan Native [Value=3]
○ Asian [Value=4]
○ Native Hawaiin or Other Pacific Islander [Value=5]
○ Two or More Races [Value=6]
○ Other (please specify) [Value=7]

*39) Annual Income for your family

○ Under $15,000 [Value=1]
○ $15,000-$24,999 [Value=2]
○ $25,000-$34,999 [Value=3]
○ $35,000-$49,999 [Value=4]
○ $50,000-$74,999 [Value=5]
○ $75,000-$99,999 [Value=6]
○ $100,000-$149,999 [Value=7]
○ $150,000-$199,999 [Value=8]
○ $Over 200,000 [Value=9]

*40) Would you like to enter your name and mailing address to receive a $5 gift card from Starbuck's for completing this survey?

○ Yes
[Value=1]

○ No
[Value=2]

Question Logic
If [Yes] is selected, then skip to survey [#179979], question [after #0, Text] (See "Edit Logic" for details)
If [No] is selected, then skip to question [No logic applied]

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Parental Perceptions of the Transition to Adulthood for Their Children With Special Needs

Thank you!

For maximum confidentiality, please close this window.

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"Everything Now Falls on Me": Parent Perspectives on Services Lost and Challenges During Virtual Learning for Youth with Disabilities

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Abstract

The COVID-19 outbreak caused abrupt disruptions to many domains of everyday life, including education. Educational disruptions may be compounded for students who require supports and services to participate. We surveyed parents of students with disabilities and chronic health conditions to understand the extent of service delivery disruption, challenges experienced with virtual learning, and the impact of these changes on their and their students' lives. Thirty-seven parents completed an online survey consisting of multiple-choice and open-ended questions from May-August 2020. Data were analyzed using a convergent mixed-methods approach using descriptive and content analyses of survey data. Parents reported their students' educational needs are not met in the virtual environment and parents are taking on new roles to support their students' learning. The need to provide intensive supports resulted in parental frustration and burnout. We offer potential approaches to improve educational service delivery for students with disabilities during the COVID-19 pandemic.

Key words: COVID-19, disability, IDEA, caregivers, mixed methods

"Everything Now Falls on Me": Parent Perspectives on Services Lost and Challenges During Virtual Learning for Youth with Disabilities

The COVID-19 outbreak and consequent fast-changing public health guidelines have caused abrupt disruptions to many domains of everyday life, including education. By April of 2020, schools had been suspended nationwide in 189 countries (UNESCO Institute for Statistics, 2020). For students with disabilities and chronic health conditions, the educational impact of the COVID-19 outbreak is likely compounded (Constantino et al., 2020), as these students require services, accommodations, and/or modifications in order to support the provision of free and appropriate public education (FAPE). In the United States (U.S.), approximately 14% of students in public school receive special education (Hussar et al., 2020) through the Individuals with Disabilities Education Act (IDEA; 2004) and 1.8% receive specialized accommodations through Section 504 of the Rehabilitation Act of 1973 (United States Department of Education, 2014).

During the COVID-19 outbreak, there is a need to ensure that states and districts are held accountable in continuing to provide FAPE for all students, including those with disabilities and chronic health conditions, despite the inevitable challenges to providing education and related services through virtual learning methods that have been put in place to mitigate the spread of COVID-19.

Students with disabilities and chronic health conditions may have unique challenges associated with virtual learning, in addition to the common challenges of virtual learning for all students, including reliable internet connections, access to computers, and navigating technology at young ages (Goldschmidt, 2020). Specifically, students with disabilities may have sensory or physical challenges seeing, hearing, or navigating the technology required for virtual learning (Goldschmidt, 2020; Krishnan et al., 2020). Further, students with executive function, attention, and/or cognitive challenges may have increased difficulty engaging with virtual learning (Coy, Marino, & Serianni, 2014). And finally, students who benefit from routines, such as those with mental health conditions or autism spectrum disorders, may experience increased frustration, challenging behaviors, and reduced mental health due to the COVID-19 changes, which may impact academic performance (Lee, 2020). While virtual learning may ultimately be the "least restrictive learning environment" for many students during this pandemic, it is important to recognize the unique learning barriers that students with disabilities face using a virtual learning modality.

Students with disabilities and chronic health conditions may also be negatively impacted due to significant changes in IDEA-mandated services. A lack of guidance from the U.S. Department of Education on how to fulfill FAPE during the pandemic has led to significant service losses. For example, surveys of parents found that during the early months of the COVID-19 pandemic, 30-40% of students in special education were not receiving any supports and only 25% were receiving all the services they were guaranteed in their IEP or 504 plans (Jeste et al., 2020; Kamenetz, 2020). Additionally, a survey of parents of students with a variety of disabilities found that less than half felt the level of support provided by schools for virtual learning during the pandemic has been adequate (Toseeb et al., 2020). Service cessation may result in regression or stalled progress for students with disabilities and prevents them from full access to FAPE (Lee, 2020). Furthermore, educators and service providers lack guidance to adjust the structure, delivery modality, and types of interventions to meet the demands of a virtual learning environment (Cohen & Richards, 2020; United States Department of Education, 2020a, 2020b, 2020c). In some instances, therapies or interventions may not be able to be carried out in a virtual format (e.g., hands-on physical therapy, tactile sign language education) (Silva, 2020) and family members will have to carry out hands-on interventions. When in-person services are available per local public health guidelines, they may remain inaccessible to those students at risk for COVID-19 complications and/or who have difficulty accessing transportation.

Since many students are participating in their education from home, parents are now taking on new roles and responsibilities to fill in the gaps in their student's service delivery as well as help their students manage barriers to virtual learning. More information is needed to understand the specific types of supports students are currently receiving and how parents are supporting their student's learning. The present study is a preliminary investigation of parents' perspectives of how their student's educational needs are met during the acute period of COVID-19 related school shut-downs. Using a convergent mixed methods design (Creswell & Plano Clark, 2017; Wu et al., 2019), we aim to characterize: (a) the extent of disruptions in service delivery and challenges to accessing virtual learning for students with disabilities and chronic health conditions, (b) parent perspectives of the adequacy of school systems' responses to meeting their students' educational needs amidst the pandemic, (c) parent perspectives of the impact of changes in service delivery on their students' and their own lives. While there is some information about service provision (and loss) during the COVID-19 pandemic, little research has identified how these changes in educational services directly impact families and students. Understanding the experiences of parents and students with disabilities and chronic health conditions is important to develop strategies to support the provision of FAPE for this at-risk group during public health emergencies.

Methods

Recruitment

We recruited participants through professional and personal contacts, organizations serving families of individuals with disabilities and chronic health conditions, and social media. One hundred and eighteen individual, organizational, or social media contacts were made during recruitment (e.g., the Arc, Project SEARCH, National Black Disability Coalition, United Cerebral Palsy, Organization of Special Needs Family, Friends & Families of Asians with Special Needs, etc.), with several contacts receiving reminders after 4-6 weeks of initial contact. Individuals self-reported personal characteristics to determine their eligibility. Inclusion criteria were: parent of a student with a developmental disability, acquired disability, or chronic health condition enrolled in pre-K-12 education; lives in the United States. Exclusion criteria were: student's only disability is a learning disability, ADHD, or mental health condition, as typically these students access a smaller range of educational-support services.

Survey

The survey was administered online from May 2020-August 2020 using QualtricsXM. Thus, responses reflected parent experiences during emergency remote learning that occurred in the spring of 2020. The beginning of the survey included several demographic questions about the participant and their student, followed by questions about their student's use of supports or services (e.g., nursing, occupational therapy, peer support) across five areas of participation: daily living, education, employment, volunteering/interning, and recreation/leisure. Given the focus of the present analysis, we report on only responses relevant to educational supports and services. Participants then reported if each support or service changed due to the COVID-19 pandemic (i.e., no change, someone else provides the service, service takes place virtually, service takes place but participant chooses not to go, service takes place but participant cannot go, service has been discontinued). Parents also answered multiple-choice and open-ended questions about their student's virtual learning experiences, student supports needed and received, how parents have supported their student's educational needs, the perceived impact of the educational changes on their student, and anticipated positive and negative impacts associated with the pandemic. Parents had the option to provide additional, open-ended information related to these multiple-choice questions (Table 1).

Table 1

Survey Questions and Response options

Changes in use of supports or services

Before the COVID-19 outbreak, what services did your child use to participate in school? (Select all that apply)

- My child did not need any services; Nursing; Occupational therapy; Physical therapy; Speech therapy; Special education classes; Mental health counselor, social worker, or therapist; Personal care attendant; Transition coordinator; Vocational specialist/coordinator; Behavioral therapist; Tutor; Peer supports; Transportation; Respiratory therapy; Other #1 [open response]; Other #2 [open response]

Since the COVID-19 outbreak, what changes have there been to your child’s services for school?

- (Response prompted for each service that participant reported using) Service has been discontinued for now; Service has not been discontinued but my child can’t go; Service is being delivered virtually; My child is choosing not to receive this service right now; Someone else has to do this for my child; No change

Who is doing the following service for your child now?

- [open response]

Is there anything else you would like to share about changes to your child’s services for school?

- [open response]

Remote learning

Is your child’s school offering online classes or “remote” learning?

- No; Yes; I’m not sure

If yes, anything making it hard for your child to participate in online or remote learning?

- (Select all that apply) No; my child is not having difficulties participating in online or remote learning; My child does not have adequate access to educational materials; My child does not have stable internet access; My child does not have access to a computer or tablet, or has to share a computer/tablet; It is hard for my child to see the materials on the computer; It is hard for my child to communicate on the computer; My child learns best by doing things: My child is emotionally overwhelmed by the changes; Other: [open response]; I'm not sure

Is your child getting supports to participate in online classes or "remote" learning?

- No, I don't think my child needs supports for online classes or "remote" learning; No, my child is not getting needed supports; Yes, my child is getting at least some supports; I'm not sure

Please briefly describe the supports your child is getting

[Open response]

How would you describe the amount of support your child is getting for "remote" learning?

They are getting all of the services they need; They are getting most of the services they need; They are getting some of the services they need; They are getting a few of the services they need; They are getting the bare minimum of the services they need

Please describe the supports you think your child needs but is not getting right now.

[Open response]

About how much help do you provide your child to participate in online classes or "remote" learning?

All of the time they are engaged in learning activities; Most of the time they are engaged in learning activities; Rarely when they are engaged in learning activities; None of the time they are engaged in learning activities

What have you done during the COVID-19 outbreak to accommodate your child’s educational needs?

I or another caregiver stopped working; I or another caregiver reduced work hours; I or another caregiver have paid for additional services/supports for my child; Other: [open response]

Overall experience and perceptions of impact

The COVID-19 outbreak may have long term implications. Do you anticipate any ***positive*** long-term impacts on your child’s life due to the COVID-19 outbreak? Think about 6 months to a year from now.

[open response]

Do you think there will be any ***negative*** long-term impacts on your child’s life? Think about 6 months to a year from now.

[open response]

Quantitative Data Analysis

The quantitative data were downloaded from QualtricsXM and analyzed using SPSS, version 26. Two questions asking the parent to report their student’s age (at the beginning and end of survey) were compared to check for human vs. computer-generated survey responses. Nine participants had discrepant responses for their student’s age and thus, their data were excluded from analysis. Descriptive analyses of mean, median, range, or frequencies were calculated to describe participant and student characteristics. Parent-reported changes in the services their child received to support participation in education and questions about virtual learning experiences were analyzed using frequencies of responses in each category.

Qualitative Data Analysis

The primary purpose of the open-ended questions was to triangulate findings from the multiple-choice questions and to identify any additional experiences that the multiple-choice questions did not capture. Accordingly, open-ended questions were analyzed using directed content analysis. This approach is appropriate when there is an existing framework to guide development of initial codes (Hsieh & Shannon, 2005) and aligned with our convergent mixed-methods approach. For open-ended questions that followed a multiple-choice question, an initial code list was developed using response options from the associated multiple-choice question. Three coders applied these *a priori* codes, and, as needed generated additional codes describing the main idea of each response. For open-ended questions not associated with multiple-choice questions (e.g., Is there anything else you would like to share about changes to your student's services or supports for school?), the coders each generated initial codes describing the main idea of each response. All codes were reviewed, and the coders worked together to reach consensus on final codes. When main ideas distinct from the multiple-choice options emerged across multiple participants, we present these main ideas below.

Findings

Participants

Thirty-seven parents of students in grades pre-K-12 with chronic health conditions or disabilities completed the survey. Of these parents, 27 reported that their student attends public school, seven attend private school, and three attend a specialized school for students with disabilities. Most students receive services through an IEP (n=31) or a 504 plan (n=3). Parents responding to this survey were primarily female, white, non-Hispanic/Latinx, highly educated and had high annual family income. Participants lived in 16 states and the District of Columbia, with the most participants from Massachusetts (n=7), California (n=6), and Virginia (n=6). Demographic characteristics of parents and students are reported in Table 2.

Table 2

Demographic characteristics of students and parents

Parents	% *(n)*
Age, *M*	*M* = 43.8 (*SD* = 9.7)
Gender	91.9% (34) female
Race	
White	94.6% (35)[a]
Asian	0.0% (0)
African American/Black	0.0% (0)
Two or more races	0.0% (0)
Hispanic/Latinx	13.5% (5)
Annual family income	
<$20,000	10.8% (4)
$20,000-$44,999	10.8% (4)
$45,00-$139,999	29.7% (11)
$140,000-$199,999	27.0% (10)
≥$200,000	21.6% (8)
Highest level of education completed	
Some college or two year college degree	8.1% (3)
Four year college degree	45.9% (17)
Master’s degree	18.9% (7)
Doctorate degree	27% (10)
Students	*% (n)*

Age, *M*	*M* = 10.8 (*SD* = 4.5)
Gender	37.8% (14) female
Race[a]	
White	83.9% (31)
Asian	2.7% (1)
African American/Black	2.7% (1)
Two or more races	8.1% (3)
Hispanic/Latinx	10.8% (4)
Primary disability	
Autism	37.8% (14)
Intellectual disability	13.5% (5)
Orthopedic impairment	5.4% (2)
Mental or emotional health condition	5.4% (2)
Other health impairment[b]	32.4% (12)
Has a co-occurring mental health condition	40.5% (15)
Has multiple disabilities	64.9% (24)

[a] Data not available for one parent, one parent reported “Chilean American”

[b] Many parents selected "other health impairment” and listed multiple diagnoses, including some that may have belonged in other categories. Example diagnoses include: cystic fibrosis, Down syndrome, specific genetic syndromes, muscular dystrophy, cerebral palsy, Prader-Willi syndrome, cardiac disorder or defect

Virtual education experiences

Overall, parents reported that their students’ educational needs were not being met in the virtual environment. They shared that their student experienced difficulties with virtual learning and disruptions to related services (e.g., occupational and speech therapy) that support learning. To compensate for these losses, parents reported providing supports for their students’ learning. The need to provide often-intensive supports, resulted in parental frustration and stress. Parents projected that disruption to their students’ education would have long-term impacts with regard to academics, socialization, and mental health. The experience of parents can be summarized in one parent’s statement:

> It's important to remember he needs support while doing [online services] and most have to be implemented by parents. So even though I said he has virtual services, it's on us to make them all happen. On top of trying to work full-time, manage the house, and be there for the other family member living with us, we are not only tired and stressed, but also worried our son is falling further behind and not getting any socialization from peers.

Below we describe parents’ experiences in greater depth.

Virtual education modality: “This type of [virtual learning] system does not work”

Most parents reported that their student was receiving online (or virtual) education (n=34, 92%) and that their student was struggling with this educational modality (n=28/34, 82%). Parents reported the following challenges related to the virtual educational experience: 40.5% said their student learns best through doing, which occurs less through virtual instruction; 37.8% reported communication difficulties on the computer; 18.9% said their student could not see materials on the computer; 13.5% reported lack of access to educational materials; and 5.4% reported a lack of access to a computer/tablet or that their student had to share a device. Additionally, 35.1% of parents reported that their student was emotionally overwhelmed by all of the changes to their education. Open-ended responses also revealed difficulty with attention and engagement. For example, parents reported: “difficulty staying engaged remotely, [they] need my full assistance to participate”; “it is difficult for my son to focus and follow the conversation”; “my child cannot concentrate very long on the computer.” One parent summarized a range of challenges related to student engagement and access to educational materials and activities when stating, “My child has ADHD so it's difficult for him to get organized and follow through with assignments. School is providing almost no activities, homework, zoom classes, etc.” Thus, as evident in the multiple reported challenges, virtual learning was negatively viewed by parents.

Changes in services and supports: “Services on her IEP did not come home. It was tragic.” One reason that students may have had difficulty with online education may be loss of services that supported their participation in school. Prior to the COVID-19 outbreak, most students received allied-health services to support their learning, including speech (n=22), occupational (n=19), and physical (n=8) therapy and mental health supports (n=11) (Figure 1). For many students, multiple services transitioned to virtual delivery. However, many services were completely discontinued (Figure 1). The challenges of this service loss are summarized by one parent, who said, “It is impossible for a single mother to be a PT, OT, speech therapist, and [special education] teacher.” Parents’ perceptions of this service loss on their student’s education are discussed more below.

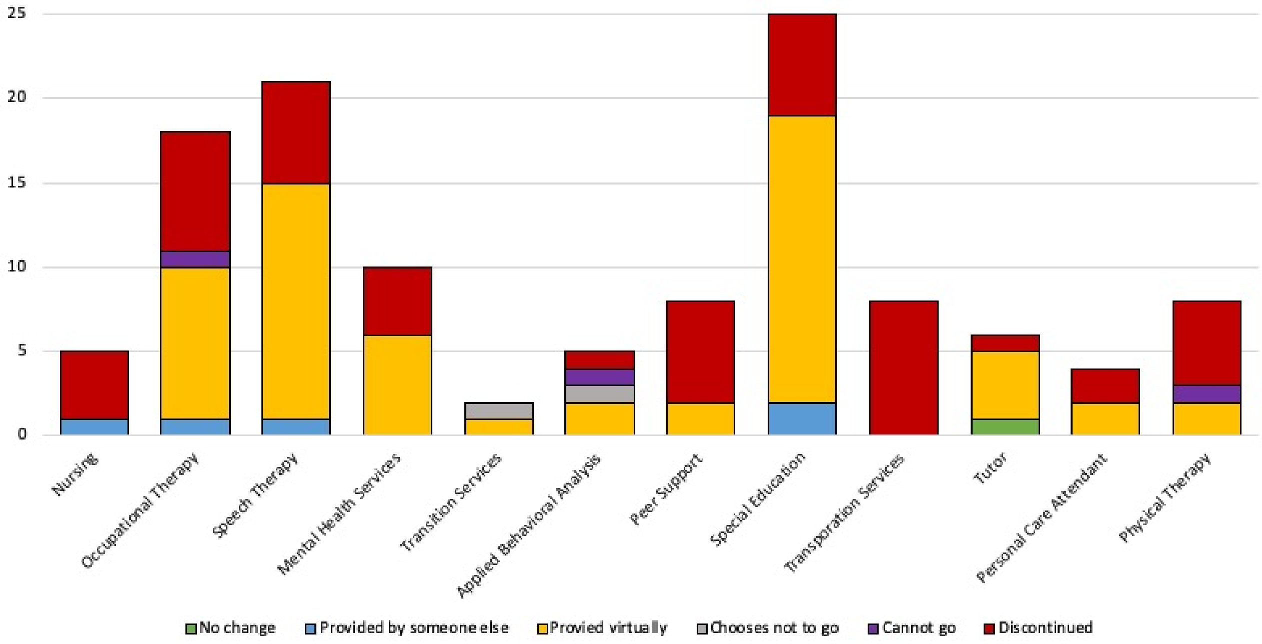

Figure 1. School service and support changes experienced during initial onset of COVID-19 pandemic in the United States.

Most students utilized multiple supports or services to engage in education prior to the COVID-19 pandemic (Figure 1). Unsurprisingly, 67.6% (n=25) of parents reported that their student also needed supports for online learning, but the supports they were receiving were insufficient (n =

17/25, 68.0%). In open-ended responses, several parents shared that their student is best supported when they receive one-on-one supports, and that these were not available during virtual instruction. Additionally, in open-ended responses parents expressed that access to special education teachers and related service providers was critical for their student's learning, and in some cases, felt that in-person supports might be the only effective delivery method. Support needs were so extensive for some youth, that one parent responded to the question about needed supports by saying, "I don't even know where to begin to answer that question. Learning online is not nearly as effective." Other parents echoed this statement, sharing, "he cannot learn remotely without all of his IEP supports in place, and he is not receiving any of these supports"; "She had 300 minutes a week of special education services on her IEP that did not come home. It was tragic." Herein, parents reported that a lack of supports posed significant barriers for their student to benefit from online instruction. This sentiment was exemplified by one parent who stated, "there is VERY little academic support from the school. I feel my child is not learning anything."

Eight of the 25 parents who felt their student needed supports for online learning reported their student "is getting at least some supports." However, of these parents, three reported that their students were "getting a few of the services they need," and two reported, "they are getting the bare minimum of the services they need." Examples of supports received included individual weekly meetings with special education teachers and related service providers (e.g., occupational and speech therapy); yet, few parents reported such supports. Thus, the data suggests that even when some services were provided, parents felt they were inadequate.

Parental burden: "Parents support 100%! It's all on us."

Parents' responses suggested significant frustration and stress, due to the lack of educational supports for their student. They expressed feeling that they had to take on the roles of being an educator and related-service provider, and that they were not equipped to fulfill these roles.

Due to the insufficient supports from their student's schools to participate in online learning, many parents reported providing significant support for their student themselves, with 43.2% stating they provided support 100% of the time their student is engaged in education and 27.0% provided support most of the time (16.2% reported rarely providing support, 2.7% reported not providing any support, data were missing from 10.8% of parents). Parents added, "I have to walk him through every step of every assignment"; "She requires one on one guidance and she is getting [it] from me at home." In response to these support needs, several parents (n=13) reduced their work hours to ensure their student's needs were met, and six parents reported that they or another caregiver had stopped working. Parents reported having to take on the roles of multiple providers, as exemplified by one parent who stated, "everything now falls on me, when before there were therapists, teachers, etc." Additionally, several parents reported that taking on these new roles was unsustainable. For example, parents shared: "You cannot work full-time and provide adequate academic instruction to a child, in particular a child with a disability" and, "As much as the school tries to provide a remote learning plan, it's pretty much impossible to execute it at home with all the other things we need to be doing for other children and work." Thus, the lack of educational supports available to students poses a considerable amount of burden on parents.

Additionally, parents shared concerns that they were unable to provide the same quality support as professionals. For example, one parent said that her student needed, "More one on one instructions with a [speech and language pathologist] and [occupational therapist] and her [special education] teacher... but I am not qualified to do any of these things" and another shared, "My child was getting a lot of one-to-one direct instruction. As a single, full-time working mom, I cannot provide this level of service to her." These parents suggest that service losses pose significant strain on families, and that even for those parents who managed to find the time and resources to provide supports, they could not replace the supports of professionals.

Impacts of educational changes: "All these changes will undoubtedly result in long term setbacks"

Most parents (n=24) reported negative education-related outcomes due to service disruption during the COVID-19 pandemic. These most commonly included academic regression, social concerns (e.g., loss of school-based socialization and regression in social skills), and significant mental health impacts (Table 3). Parents noted the importance of school not only to learn, but also to support the development of social skills and to provide social opportunities. Additionally, open-ended responses included concerns associated with students' mental health due to changes to their education and predictions of difficult transitions back to school resulting from changes in routine and concerns about disease transmission.

Table 3

Anticipated negative impacts of educational changes due to the COVID-19 pandemic

Area of concern	Example quotations
Academic regression	"He is at risk of losing the strides he had made in all areas" "I fear this has had a major impact at a critical time in his education as we transition to middle school" "He is missing out on a lot of his services and I expect major regression. His behavior has already deteriorated and it's only been 2 months...this is going to be a long road" "My child is not learning academic content required to continue making full progress."
Social participation	"Socialization, socialization, socialization. She didn't have any close friends before but really enjoyed being part of the group at school. Now she has zilch." "He complains about isolation from any peers" "My daughter really misses seeing (in person) her classmates, teacher, and [job placement personnel]."
Mental health	"School ended on March 12, [2020], with NO INDICATION that would be the last day. My child has become a shell of herself." "Going back to the school environment will likely be difficult...she will likely feel overwhelmed now that she is used to be[ing] home where it is quieter and not crowded" "I also think his anxiety about being in public will increase, making it harder to do school."

Eight parents did report positive education-related outcomes. The most commonly reported positive outcome was computer skills (n=4). Two parents reported improved collaboration with their student's educational teams, with one reporting increased communication with the school team, and another reporting that the school had accommodated their son: "our son will be able to use his preferred method of communication at school, after showing he can use it during online learning. He may be able to graduate with a diploma as a result." Two parents reported positive mental health outcomes: "The smaller groups...gave her more confidence to participate in discussions"; "The stress of school (being a square peg in a round hole) has been lifted."

Discussion

Students' access to FAPE hinges on the availability of supports in their least restrictive environment. The COVID-19 pandemic and consequent changes in how students are educated have created barriers to achieving FAPE for students with disabilities and chronic health conditions. Our data provides a snapshot of the service interruptions experienced by a sample of pre-K-12 students with a range of disabilities and conditions across many local education agencies during the first several months of the pandemic. These findings may highlight some of the major service vulnerabilities and remote learning challenges that are experienced consistently across school systems for youth with disabilities and chronic health conditions. Furthermore, our qualitative findings add depth to our understanding of parents' perceived impact of these disruptions on their students and themselves.

Parents in this sample reported service cessation for all types of services except for transition services. Physical therapy, occupational therapy, and peer support services were the most frequently reported to have ceased during the early stages of the pandemic. This is particularly important as services rendered by occupational and physical therapy can support educational attainment, as well as outcomes associated with the child's daily life (American Occupational Therapy Association, 2011). For example, occupational therapists likely face additional challenges addressing daily life skills in virtual formats, such as helping students learn to tie their shoes, cut their food or feed themselves lunch, and/or with typing or handwriting skills. Similarly, physical therapists may be unable to carry out important interventions to address gait and/or providing adaptive seating in virtual formats. Further, while we do not know the nature of peer support that parents reported was lost (e.g., formal mentoring or socialization with classmates), peer support is critical for developing friendships and supports academic engagement (Biggs, Carter, & Gustafson, 2017; Brock et al., 2016; Carter et al., 2015; Schaefer, Cannella-Malone, & Brock, 2018).

In addition to losing services, 92% of parents reported that their children were receiving virtual education and 10 of the 12 services included in the survey had transitioned to a virtual setting to some extent. Our accounts from parents demonstrate that students with disabilities and chronic health conditions are struggling with the virtual learning environment. While it is unknown how long and to what extent virtual learning will continue to take place, we provide a few suggestions that may help students, schools, and families adapt to persistent and future educational interruptions. First, it is critical that IEP or 504 plan teams systematically re-evaluate students' individual needs for each change in educational context. For example, a student who was previously able to access the general education curriculum in an inclusive classroom with few additional services may need more, and perhaps different, supports in this new virtual context. Second, school systems may consider implementing new intervention approaches, supports, and/or service/educational delivery methods that previously may not have been considered. For instance, as schools have been forced to utilize technology to provide virtual learning during the pandemic, they may need to explore new software or web-based applications to deliver instruction and services. Educators should look to recent research to identify interventions and service/educational delivery methods that have demonstrated effectiveness and potential to be delivered virtually, but have not yet been adopted in school systems (e.g., video modeling, virtual reality) (Grynszpan et al., 2014; Kim & Kimm, 2017). Finally, school administrators should prioritize safe in-person supports for those students for whom there may not be suitable alternatives. Many parents in our sample reported that their students need constant support when participating in virtual learning. Establishing procedures for in-person supports to facilitate online learning may be critical for some students to prevent academic regression. When in-person education or supports on school campus is simply not feasible, school administrators should consider synchronous, full-day supports delivered through other modalities for special education students. As suggested by participants in this study, full-time supports are essential for the provision of FAPE for some students with disabilities or chronic health conditions.

While we continue to face uncertainty about student's education in the coming months, parents are stepping in to try to help their students with disabilities access the educational curriculum and participate in school. This responsibility is shared by parents of students without disabilities too, specifically mothers who are reducing work hours or face additional unpaid labor efforts (Burki, 2020; Collins et al., 2020; Craig & Churchill, 2020; Dias, Chance, & Buchanan, 2020). However, unlike parents of students without disabilities or chronic health conditions, parents in our study also described the additional responsibilities associated with providing special education supports and services so that their child can participate in virtual learning. As reported by parents, taking on these time-intensive, novel roles, for which they are untrained, is unsustainable and frustrating. Increased frustration and stress for parents of children with disabilities and chronic health conditions due to the COVID-19 pandemic is particularly alarming since these parents generally experience more mental health challenges compared to parents of typically developing students (Barroso et al., 2018; Hsiao, 2018; Song, Mailick, & Greenberg, 2018; Zablotsky, Bradshaw, & Stuart, 2013). If school systems are not able to provide educational services that can mitigate some of these parental stressors, schools should instead provide supports for this parent population. Research demonstrates parent training programs and mindfulness interventions have increased parental self-efficacy and improved mental health outcomes (Hohlfeld, Harty, & Engel, 2018; Osborn et al., 2020). Therefore, school personnel should consider providing parent training to increase parent's self-efficacy in supporting their child to participate in online learning.

Schools may also consider utilizing strategies for service provision via virtual learning that may reduce parent stress and burden. Specifically, families may benefit from clearer expectations, recommendations for activity adaptation, and multimodal instructional tools that align with concepts of Universal Design for Learning such as videos, visuals, and handouts (Basham, Smith, & Satter, 2016; Coy et al., 2014). School personnel may also consider providing asynchronous learning opportunities for families who work during school hours and cannot provide the support their child needs during the regular school day. Schools can also partner with local universities to identify students who can volunteer or receive clinical training or observation hours to support families and children with disabilities through virtual and/or in-person tutoring sessions. And finally, educators could advocate for employment policies that support parents taking on the role of full-time educators/instructional aids.

In the present study, parent participants identified mental health, academic, and social concerns for their students as direct impacts of the COVID-19 outbreak and consequent changes in their students' schooling. Our findings also revealed that parents themselves have been heavily impacted by their students' virtual learning experiences. Parents described taking on new roles for their family (e.g., assuming tasks of a related service provider) to support their students' learning, which impacted their ability to fulfill other roles and responsibilities. Despite the challenges with virtual learning, parents also voiced concerns regarding a return to in-person school, such as their student's possible anxiety to be in public due to COVID-related health concerns or students' overwhelming feelings in returning to typical school dynamics that were previously challenging. While virtual learning presents significant challenges to families and professionals, returning to in-person learning when it is safe to do so may not eliminate all the challenges that COVID-19 has presented; rather, our findings suggest that there may be long-lasting residual effects of the COVID-19 disruption, that educators, administrators, and policymakers alike may be able to prospectively anticipate and prepare for.

Limitations and Future Directions

To our knowledge, this is the first study to describe parents' perspectives of how their student's educational needs are met during the acute period of COVID-19 related school shut-downs. While the small sample size limits generalizability, the findings in this study generalize best to white parents with relatively high socioeconomic status. It is likely that parents with different backgrounds and fewer resources have different perspectives. Gathering perspectives from racially and socioeconomically diverse families is critical during this time, given that the pandemic has had a disproportionate health, economic, and mental health toll on communities of color and those with "blue collar" jobs (Artiga, Corallo, & Pham, 2020; Artiga, Garfield, & Orgera, 2020; Sehra et al., 2020). These families, who have less access to resources, may be under additional stressors that make it even more challenging to support their child's education. Furthermore, white students with socioeconomic resources are more likely to attend well-funded public schools (Rothbart, 2020), suggesting that the students of parents we did not reach have experienced even greater service losses. Future research must be designed to reach a more diverse population. The use of targeted recruitment efforts (Ali et al., 2020), partnerships with schools (Parsons et al., 2013), engagement of community members (Frerichs et al., 2016), and incentives (Largent & Fernandez Lynch, 2018) may increase the reach of future studies. Additionally, our findings suggest that parents may benefit from supports for managing their roles as educators and service providers. Future work may address population-level interventions that could support parents during public health emergency-related school shutdowns. Finally, longitudinal research should address student progress/regression during virtual learning, to inform the supports in future public health emergencies and identify the differences in supports needed for students with diverse disabilities and/or chronic health conditions.

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The Efficacy of Rhyme Instruction in Early Childhood Special Education

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Abstract

Rhyme awareness is a typical component of preschool curricula, yet research evidence does not support a direct link between rhyming ability in typically developing preschoolers and later literacy acquisition. Since the evidence base on literacy development among typically developing children is often used to guide intervention among children with disabilities, it is critical that teachers of early childhood special education be aware of the misconceptions regarding the importance of rhyme awareness. The ability to blend and segment phonemes has consistently demonstrated a causal relationship to literacy acquisition, yet is not consistently addressed at the preschool level. This paper summarizes the evidence regarding the link between rhyme awareness and literacy achievement for children with disabilities. The evidence suggests a general trend toward deficits in rhyme awareness among individuals with disabilities yet no direct link to later literacy acquisition. Therefore, the implications suggest caution in teaching rhyme awareness to the exclusion of other early literacy skills that have a proven direct, causal link to literacy achievement.

Keywords: literacy, early intervention, evidence, best practice, disabilities, rhyming, preschool

The Efficacy of Rhyme Instruction in Early Childhood Special Education

Rhyme awareness is defined as the ability to hear, manipulate, and produce spoken words with auditorily similar rimes (i.e. the portion of a word or syllable composed of a vowel and the following consonants) in the absence of print (Macmillan, 2002). Teaching rhyme awareness is an accepted practice with young children. The National Association for the Education of Young Children includes rhyme as an essential component of early literacy instruction (Roskos, Christie, & Richgels, 2003). Similarly, Head Start includes the domain of phonological awareness (which includes rhyme awareness) as a child outcome addressed within the curriculum (The National Head Start Child Development Institute, 2001).

Although instruction and practice with rhyme seem to be provided in early childhood education without question, research evidence questions the impact of rhyme awareness on later literacy acquisition among typically developing children. Therefore, the efficacy of rhyme in the successful development of later literacy skills for children with disabilities must be examined. If rhyme awareness does not play a critical role in the development of later literacy skills for children with disabilities, then precious instructional time should not be spent on a skill that may be merely fun, but not instructional. The purpose of this article is to provide early interventionists with information needed to make informed decisions about evidence-based practices related to rhyme awareness and its contribution to later literacy acquisition.

Rhyme Awareness in Typically Developing Children

Phonological sensitivity has been identified as a causal factor in the development of conventional literacy (e.g. Byrne & Fielding-Barnsley, 1993). Phonological sensitivity represents a continuum of skills (Anthony & Francis, 2005; Anthony et al., 2002; Pufpaff, 2009) that emerge in a developmental hierarchy among typically developing children (Adams, 1990). Along that continuum, phonological awareness skills are acquired at a younger age than phonemic awareness skills. *Phonological awareness* refers to the ability to manipulate units of speech larger than the individual phoneme (e.g. word, syllable) (Ball, 1993; Catts, 1991) and includes tasks such as rhyming, blending syllables, and counting words in a sentence. *Phonemic awareness* refers to the ability to manipulate phonemes, the smallest units of speech sounds (Liberman & Liberman, 1990; van Kleeck, 1990), and includes tasks such as blending and segmenting individual sounds of words.

Rhyming has long been considered one of the easiest of the phonological awareness skills to master and often seems to be acquired by young children without specific instruction. Yet the evidence that rhyming ability in young children contributes to future literacy acquisition is equivocal. Among those who have studied the relationship between rhyming and later reading and spelling achievement among typically developing children, Bradley, Bryant and colleagues have consistently reported a link (Bradley & Bryant, 1978, 1983; Bryant, MacLean, Bradley, & Crossland, 1990; MacLean, Bryant, & Bradley, 1987). They suggested that the contribution of rhyme awareness to later reading and spelling achievement is the analytic ability required to determine whether two words share a common rime. The seminal work of Goswami and Bryant (1990) outlined their theory of reading and spelling by analogy, suggesting a causal connection between rhyme awareness and later reading ability.

There is ample contradictory evidence suggesting that rhyme awareness does not predict future reading ability (e.g., Nation & Hulme, 1997) or is a less powerful predictor than other phonological sensitivity skills such as alphabet knowledge (Christensen, 1997; Johnston, Anderson, & Holligan, 1996; Muter, Hulme, Snowling, & Taylor, 1997) and phonemic awareness (Duncan & Johnston, 1999; Lundberg, Frost, & Peterson, 1988; Muter et al., 1997). Yeh and Connell (2008) found intervention focused on teaching phoneme segmentation was more successful than a program teaching rhyming at promoting reading ability among 128 children across 16 Head Start programs. Therefore, they suggested phoneme segmentation is a better predictor of reading ability than rhyming skills and argued that the conclusion of Goswami and Bryant (1990) that rhyme might be a developmental precursor of phoneme awareness was not supported by research. Martin and Byrne (2002) specifically examined the causal relationship between rhyme awareness and phoneme awareness among typically developing preschoolers and found those who were taught rhyming skills did not increase their phonemic awareness skills over the control group. They concluded that while rhyme awareness may play a role in vocabulary development and enjoyment of early literacy activities, the inclusion of rhyming activities in early reading curricula should not supplant instruction directly targeting phonemes and their alphabetic representations.

Macmillan (2002) conducted a thorough critique of experimental research evidence for and against the connection between rhyme awareness and reading acquisition. Results revealed the methodological rigor of studies that found no relationship between rhyme awareness and reading was stronger than those that did identify a relationship. Furthermore, no conclusive evidence is available that rhyme awareness contributes to phoneme awareness which is conclusively related to reading acquisition. In fact, among the studies utilizing a rigorous methodology, letter-sound knowledge, not rhyme awareness, appeared to be responsible for producing phoneme awareness.

Stuart (2005) suggested different levels of phonological sensitivity (e.g., awareness of rhyme and alliteration) precede reading development, while others (e.g., phonemic awareness) were dependent on learning to read. Stuart pointed out that longitudinal and concurrent studies did not support the claim of a "developmental path from rhyme and alliteration awareness to reading" (p. 45). Martin and Byrne (2002), too, suggested early development of rhyme awareness may make the achievement of phonemic awareness, a known causal factor in literacy acquisition, easier once instruction in phoneme level skills is begun. The caution lies in the exclusion of phonemic level instruction during the preschool years based upon the misconception that rhyming is a more important skill to emphasize.

Teachers’ perceptions and practices often echo the emphasis on rhyming found in early childhood curricula. Troyer and Yopp (1990) surveyed 250 kindergarten teachers on their familiarity with literacy concepts. They asked teachers to rate the order of importance of literacy skills to a child's successful acquisition of literacy. Overall, the kindergarten teachers rated the development of a large vocabulary as being most important and the ability to rhyme as being second most important. They rated the ability to segment by phonemes as only fourth in order of importance. In a 2001 study by Mather, Bos, and Babur, similar perceptions were noted. Among the inservice teachers surveyed, 95% felt the ability to rhyme was a strong predictor of early reading success. More recently, Hawken, Johnston, and McDonnell (2005) surveyed Head Start preschool teachers and found that more than 70% of the 274 participants reported reading nursery rhymes and practicing rhythm games regularly. More teachers in their study focused on rhyming activities than on identifying and blending phonemes.

Today it is commonly accepted practice in early childhood education environments to specifically address emergent literacy skills as part of the broader curriculum (Green, Patton, & Gallagher, 2014; Saracho & Spokek, 2003) and phonological awareness skills are often included. Yet early childhood programs that provide services to children with disabilities may still follow a readiness model where children are expected to master foundational skills before being provided instruction in reading and writing (Kliewer et al., 2004). As Yeh (2003) suggested, preschool teachers may consider rhyming and alliteration more developmentally appropriate activities than blending and segmenting phonemes although research has demonstrated that blending and segmenting phonemes are most predictive of reading success. Given the questionable contribution of rhyme awareness to later literacy acquisition, early childhood teachers should be cautious about teaching rhyme awareness to mastery before moving on to phonemic awareness skills.

Rhyme Awareness in Children with Disabilities

There is a limited, but growing body of evidence related to phonological sensitivity among specific disability populations and the impact of delayed or impaired phonological processing on progress in reading. Yet, relatively little research has been conducted examining the specific relationship between rhyme awareness and later literacy development among these populations. The remainder of this paper will present the available evidence regarding the contribution of rhyme awareness to later literacy acquisition for specific disability populations impacted by speech and language disorders, intellectual impairment, and lack of functional speech requiring augmentative and alternative communication supports. Educational implications are then drawn from the research evidence.

Impact of Speech and Language Disorders

Research conducted over three decades ago established deficits in early speech and/or language skills are related to later difficulty with literacy development (Aram, Ekleman, & Nation, 1984; King, Jones, & Laskey, 1982). Many researchers have reported that expressive phonological problems can place children at risk for difficulty developing necessary skills for reading (e.g., Leitao & Fletcher, 2004; Raitano, Pennington, Tunick, Boada, & Shriberg, 2004). Subsequently, children who receive speech/language services often have difficulties with phonological sensitivity tasks (Boudreau & Hedberg, 1999). Rhyming, due to the nature of its role as an earlier developing phonological skill, is often included in the evaluation and treatment of children with speech/language deficits. The role of the speech-language pathologist (SLP) in detecting and remediating written language risk factors among young children with speech/language impairments is critical. According to the National Center for Education Statistics (2015), 21% of school-aged children identified with disabilities received services for speech/language disorders during the 2012-13 school year. The SLP is in a unique position to offer intervention targeted toward early literacy due to his/her knowledge of spoken and written language. Watson and Gabel's (2002) survey of 273 SLPs revealed respondents were increasingly addressing phonological sensitivity skills in their services to young children and often included rhyme awareness. Approximately 43% of respondents reported generating rhyming words and 37% reported matching rhyming words as informal evaluation activities. Practice in rhyme awareness appears to be a common component of early intervention activities for children with speech/language disorders. Yet there is no evidence to date that rhyme awareness, alone, contributes to later literacy acquisition. In fact, the one study that examined the effects of individual phonological sensitivity skills found that rhyme awareness measured in preschool was not correlated with reading ability three years later (Bernhardt & Major, 2005) whereas alliteration production and final phoneme deletion were significantly correlated with both decoding and reading comprehension.

Young children with specific language impairment (SLI) have consistently demonstrated deficits in rhyme awareness as compared to reading-matched, cognitive-matched, and age-matched peers. For example, Boudreau and Hedberg (1999) found preschool children with SLI had rhyming skills far below their typically developing peers matched for age, gender, and socioeconomic status. In spite of this evidence, training in rhyme awareness may not be effective at improving rhyme awareness. Fazio (1997a; 1997b) compared the outcomes on rhyme awareness following intervention between preschool children diagnosed with SLI and IQ-matched participants without disabilities. Results of both studies revealed that participants with SLI made little gain in rhyming ability as compared to their typically developing peers.

Few definitive conclusions can be drawn about the efficacy of rhyme awareness instruction for children with speech/language impairments due to the limited evidence. Sufficient evidence exists that young children with speech/language impairments can benefit from intensive, systematic instruction in a variety of phonological sensitivity skills (see Al Otaiba, Puranik, Ziolkowski, & Montgomery, 2009 for a systematic literature review) and these benefits likely carry over to reading acquisition (e.g., Gillon, 2005), a finding that is aligned with evidence regarding typically developing children. The evidence seems to suggest children with speech/language disorders are likely at risk for deficits in rhyme awareness, although intervention may not improve their rhyme skills to the level of their typically developing peers. Most importantly, there is no evidence to date that rhyme awareness itself plays a specific role in literacy acquisition for this population.

Impact of Intellectual Impairment

Children who are educationally labeled as having an intellectual impairment constitute a broad array of medical diagnoses (e.g., Down syndrome, cerebral palsy, autism) and may present with a wide array of characteristics that could impact literacy acquisition such as expressive/receptive language disorder, sensory impairment, or multiple disabilities. Most research on reading instruction for students with significant intellectual impairment has focused on sight word recognition with limited exploration of phonological sensitivity (Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006). There is emerging evidence, though, regarding the phonological sensitivity skills of select populations of individuals with intellectual impairment.

Down syndrome. The development of phonological sensitivity and literacy among individuals with Down syndrome has been explored (e.g. Laws & Gunn, 2002; Lemons & Fuchs, 2010) with little consistency in findings. The most consistent results were that school-aged individuals with Down syndrome demonstrated some conventional literacy skills including phonological sensitivity (Boudreau, 2002; Cupples & Iacono, 2000; Gombert, 2002) but often in conjunction with specific deficit in rhyme awareness (Boudreau; Cardoso-Martins, Michalik, & Pollo, 2002; Næss, 2016; Roch and Jarrold, 2008; Snowling, Hulme, & Mercer, 2002). Individuals with Down syndrome have demonstrated significantly poorer performance on phonological sensitivity tasks as compared to typically developing children matched for reading ability (Gombert, 2002; Roch & Jarrold, 2008; Snowling et al., 2002). Conversely, Boudreau found, among individuals with Down syndrome matched to a control group on nonverbal mental age, no significant differences in performance on phonological sensitivity tasks except for rhyming and alliteration.

The relationship between phonological sensitivity and reading achievement among individuals with Down syndrome is unclear at this time. Boudreau (2002) and Gombert (2002) reported a near total lack of correlation between phonological sensitivity and reading ability among their participants, suggesting reading skills can be achieved in the absence of fully developed phonological sensitivity skills. Cardoso-Martins et al. (2002) found no evidence that ability to detect rhyme preceded development of ability to detect phonemes. They concluded "sensitivity to rhyme is not necessarily a developmental precursor of the ability to pay conscious attention to the phonemic constituents of speech" (p. 451). These results suggest instruction in rhyme awareness may not be a priority during early literacy intervention.

In the only known intervention study to date, Kennedy and Flynn (2003) conducted training in phonological sensitivity skills among three participants with Down syndrome aged 6-8 years.

Results revealed one participant made no gains in rhyme recognition in spite of making significant gains in the other skills. The second participant demonstrated gains in all skills. The third participant demonstrated improvement in alliteration detection and rhyme recognition to above chance levels, although not significantly, while simultaneously improving spelling skills significantly. The authors suggested the pattern of results might imply children with Down syndrome do not require rhyme awareness before developing higher level phonemic awareness skills and early literacy intervention, no matter the child's age, should target skills at the phoneme level.

Williams syndrome. Children with Williams syndrome, a genetic disorder that typically results in intellectual impairment in the moderate range, have consistently demonstrated the ability to learn to read yet the process does not seem to parallel that of typically developing children. Individuals with Williams syndrome have consistently demonstrated higher levels of reading achievement than would be predicted by their level of general intelligence (Pagon, Bennett, LaVeck, Steward, & Johnson, 1987; Bellugi, Birhle, Neville, Jernigan, & Doherty, 1993). A single study has examined not only the reading achievement of individuals with Williams syndrome, but the process by which they became readers (Laing, Hulme, Grant, & Karmiloff-Smith, 2001). A battery of assessments was given to 15 individuals with Williams syndrome (mean age 15 years 1 month) and a group of typically developing children who were matched for reading age and verbal mental age. Results revealed both groups were approximately equivalent in their phonological sensitivity skills (including rhyme awareness) and that phonological sensitivity showed a moderate to strong correlation with reading ability in both groups although the strength of the relationship was weaker for the group with Williams syndrome. Cognitive ability was a strong predictor of literacy achievement among the participants with Williams syndrome although not for the control participants. These results suggest rhyme awareness may play a role in literacy acquisition although the strength of the relationship is unknown.

Cerebral Palsy. One study to date has examined the rhyming skills of preschool-aged children with multiple disabilities (Peeters, Verhoeven, van Balkom, & de Moor, 2008). Fifty-four preschool children with cerebral palsy were compared on several factors to 71 same-aged, typically developing peers. The purpose of the study was to examine rhyming ability across both groups in comparison to general intelligence, speech ability, auditory perception, auditory short-term memory, and vocabulary. Participants with cerebral palsy scored below their typically developing peers on all measures. General intelligence and speech ability were the best predictors of rhyming performance among the children with cerebral palsy whereas auditory perception was the best predictor among the typically developing children. These results suggest both intelligence and articulation ability may play a role in the development of rhyme awareness for children with cerebral palsy.

Given the emerging evidence of rhyme deficit among children with intellectual impairment and the uncertain relationship between phonological sensitivity and literacy achievement, it may be important for these children to be exposed to rhyming activities and explicitly taught rhyme awareness, but lack of progress with rhyming should not preclude instruction in phonemic awareness. Mastery of rhyming may not be necessary for literacy achievement.

Impact of Lack of Functional Speech

A population particularly at risk for deficient literacy development is individuals who require augmentative and alternative communication (AAC) systems (Koppenhaver & Yoder, 1992). Reduced ability or inability to produce speech to meet functional daily needs can result from a variety of disorders (e.g., cerebral palsy, autism, traumatic brain injury). Individuals with such disorders often require the use of AAC systems to either supplement existing speech or replace unintelligible speech (Lloyd, Fuller, & Arvidson, 1997). AAC systems can include unaided components such as sign language, gestures, facial expressions and/or aided components such as picture symbols, alternative keyboards, or speech generating devices.

There is emerging evidence that individuals with AAC needs are particularly at risk for difficulties with rhyme awareness. Blischak (1995) explored the effects of rhyme instruction among nine children with AAC needs. Pre- and post-test scores on rhyme judgment, rhyme production, and rhyme recognition were compared. Results revealed the participants did not improve in rhyme judgment, but made slight gains in rhyme production and rhyme recognition following 6-8 weeks of intense, individual instruction. Vandervelden and Siegel (1999) compared performance on phonological sensitivity tasks among 32 students with AAC needs (mean age 11 years 5 months) and 32 younger, reading-level-matched controls. Although the two groups had similar sound-letter recognition abilities and were matched on reading comprehension and word recognition, the AAC group performed significantly more poorly on all phonological sensitivity tasks. Even though the AAC group scored near ceiling on the sound-letter recognition task and had some reading ability, the mean score on the rhyme judgment task was 53% compared to 91% for the control group. The mean scores for the AAC group were above chance on all other phonological sensitivity tasks.

Larsson, Sandberg, and Smith (2009) also found a specific weakness in rhyming ability for children with AAC needs. They analyzed the performance of 28 school-aged children who used AAC and typically developing children matched for receptive vocabulary on several assessment tasks including rhyming, phoneme identification, phoneme blending, reading, and spelling. The greatest difference between the two groups occurred on the rhyming measures. Additionally, although there were no significant differences between the two groups on phoneme awareness, the control group performed significantly better on both the reading and spelling tasks. The authors concluded that given the relative weakness in rhyming ability of the AAC group, and their lower performance on reading and spelling tasks in spite of similar performance on phonemic awareness tasks, intervention efforts should be focused on phoneme level skills with a proven causal relationship to reading and spelling.

The limited, but consistent, findings that children with AAC needs demonstrate weakness in rhyme awareness even when already demonstrating reading abilities suggest rhyme awareness may not play a causal role in literacy acquisition for this population. Therefore, intervention targeting phoneme level skills may be more effective at fostering literacy acquisition.

Discussion and Implications

Rhyming is one of the earliest phonological sensitivity skills to emerge among typically developing children and seems to be a naturally occurring skill as it is often present in nonreading children before formal schooling begins (e.g., Bryant, MacLean, & Bradley, 1990). Phonological sensitivity skills are related to oral language development and occur in the absence of print. Therefore, it is not surprising that children with disabilities, especially disabilities that are likely to have a negative impact on language development, have repeatedly demonstrated deficits in rhyming.

Research specifically examining the role of rhyme awareness in literacy acquisition for preschool-aged children with disabilities is rather limited which could be attributed to the fact that many disabilities are not specifically identified until children enter school and are engaged in academic instruction. Also, practice with rhyming may be less common in classrooms that serve young children with disabilities. Rhyme awareness may not be taught if it is viewed as too difficult or rhyme may not be taught explicitly, with teachers relying on simple exposure to nursery rhymes and rhyming books. Early literacy activities in general may be overlooked or shortchanged in favor of skills deemed more functional (e.g., self-help).

The processes required to master rhyming may explain the deficit in rhyme awareness identified in some disability populations. Research evidence has suggested that rhyme awareness among typically developing children may be more related to speech perception and production than are other phonological sensitivity skills (Mann & Foy, 2007) and thus may be more affected by hearing impairment, auditory processing difficulties, or expressive speech impairments. Cardoso-Martins (1994) suggested the ability to detect rhyme might be a skill of global phonological similarity. She explained, "rhyme perception does not involve attention to segments. Nor does it necessarily involve the ability to consciously identify the segment shared by rhyming words. To the extent that this is indeed the case, preschool children's ability to detect rhyme should not play a special role in learning to read and spell in an alphabetic orthography" (p. 39). In fact, instruction targeting rhyme awareness among pre-readers may hinder progress in reading by diluting instruction focused on phonemic awareness and letter-sound knowledge (Macmillan, 2002).

No matter the reason for rhyme deficit among some disability populations, it is apparent young children with disabilities will likely not achieve rhyme awareness incidentally. Explicit instruction in rhyming skills is necessary (Pullen & Justice, 2003). The caution lies in teaching rhyming skills to the exclusion of other phonological sensitivity skills. Given the lack of empirical evidence for a direct, causal link between rhyme awareness and later literacy achievement, it may be detrimental to spend inordinate amounts of time teaching rhyming skills if children do not respond to instruction within a reasonable amount of time. Efforts may be better spent on skills proven to enhance later literacy acquisition such as alphabet knowledge (Adams, 1990).

When considering implications for practice, teacher training is a crucial issue. McCutchen et al. (2002) referred to the vast numbers of children in the U.S. that are at risk for reading and writing disabilities and suggested preparing classroom teachers to focus on phonological sensitivity as one solution. The importance of phonological sensitivity is widely touted in literature and yet the concept is often not well understood by teachers (Moats, 1994). McCutchen et al. emphasized an ability to recognize rhyme does not necessarily imply that a student can isolate and manipulate sounds. Sufficient evidence exists that the development of rhyme awareness in some disability populations may not progress equivalent to that of typically developing children (Green et al.,

2014) and may not, in fact, contribute to later reading achievement. Early interventionists should therefore give careful consideration to the amount of time devoted to rhyme instruction given the questionable contribution of rhyme awareness to later literacy acquisition. Rather, a focus on letter-sound knowledge, phonemic awareness skills, sight words, and vocabulary development would provide a more solid foundation in the skills that are unequivocally linked to reading and spelling achievement.

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Legal Issues and Parent Rights for Culturally and Linguistically Diverse Students with Disabilities

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Abstract

Culturally and linguistically diverse families present schools with unique challenges related to eligibility and programming for special education. There has been a dearth in the literature for this population, especially from a legal standpoint. Existing literature has offered scarce information to address the legal rights and responsibilities of practitioners working with culturally diverse families whose children receive special education. In this article, the authors present information for practitioners to understand the policy and to implement best practices, particularly as relates to diverse families, based on the laws and policies in the U.S. The purpose is to offer resources, case law examples, and information for practitioners to educate families on laws and rights for working with culturally and linguistically diverse students with disabilities.

Keywords: bilingual, culturally and linguistically diverse, policy, civil rights, special education, English Language Learners.

Challenges and Barriers for Culturally and Linguistically Diverse Students with Disabilities

The number of families in U.S. schools whose first language is not English is increasing rapidly, as is the number of English language learners (ELL) who need special education (Cegelka, 1996). In 2016, the National Center for Educational Statistics reported that over 6 million students were served under the Individuals with Disabilities Education Act (IDEA) (National Center for Education Statistics, 2016). IDEA was signed in 1975, with several revisions made since it was first established. It was designed to assure students from 3-21 years of age receive free and appropriate care with individual needs (Yell, 2016). For the purpose of this article, ELLs are defined as students who are not fluent in English and who are from non-English speaking homes or backgrounds (Great Schools Partnership, 2013). From 1980 to 2010, there has been an increasing number of individuals in the US who speak another language by 156.2% in the United States (Ryan, 2013). With the increasing number of ELL students, there is an influx who enter a school system where they are socially pressured to learn a second language, which is a challenge for some students who are not fluent in their own native language due to their disabilities. Difficulties with acculturation and learning a second language increases the risk of dropping out and of academic failure for students who have disabilities (Amos, 2013). Practitioners are not well equipped to overcome those cultural and linguistic challenges (Cook & Schirmer, 2003).

There is a scarcity of literature for educators working with ELL students with disabilities to date (Jegatheesan, Miller, & Fowler, 2010; Yu, 2013). Evaluation for eligibility and educational programming often disregards the unique cultural and language needs of ELL students. As a result, children with disabilities who are ELL are typically diagnosed later than native English-speaking students (Mandell, Morales, Xie, Polsky, Stahmer, & Marcus, 2009; Morrier & Hess, 2012; Morrier, Hess, & Heflin, 2008; Magaña, Lopez, Aguinaga, & Morton, 2013). This creates problems for special education practitioners working with this population and for their families in accessing evidence-based and early intervention (Magaña et al., 2013).

The overrepresentation of ELLs in special education has also been considered a critical issue in the United States public school system. Students with disabilities who are also considered ELL benefit when family members are able to advocate for their educational needs (Duran, 1985).

Parent advocacy has been crucial to changing special education laws for ELLs with disabilities (Yell, 2016). However, many parents remain unaware of the rights and services available to them (American Bar Association, 2017). Language barriers or immigration issues can cause further isolation from groups or supportive communities (Khanlou, Mustafa, Vazquez, Haque, & Yoshida, 2015). Parents feel less welcome to have equitable access to special education services because of their low socioeconomic status, race, language, ethnicity, or immigration status compared to dominant groups (Holloway, Cohen, Domínguez-Pareto, 2018). Parents from other countries are not familiar with U.S. policy, which can be daunting for individuals who do not understand the legal jargon due to language barriers. If unresolved, these issues can prevent parents from advocating for their children, leaving parents feeling socially isolated (Khanlou, Mustafa, Vazquez, Haque, & Yoshida, 2015).

The Office for Civil Rights (OCR) emphasizes the need for ELL evaluation to comply with laws and regulations. Examples of failure to comply include but are not limited to (a) denying ELL services to students with disabilities, (b) evaluating ELLs for special education services only in English and not in their native languages, (c) failing to include staff who are qualified to provide appropriate services, (d) and not providing interpreters for parents at the individualized education plan (IEP) meetings (Walsh, Anderson, Gallegos, Green, & Treviño, 2015).

Practitioners, such as speech-language pathologists (SLPs), teachers, occupational therapists (OT), and clinicians play an important role in addressing parent concerns and questions regarding their children's disabilities (Yu, 2013). Without direction and resources from practitioners, parents may experience issues of frustration and stress (Khanlou et al., 2015). In particular, practitioners should share information about their legal rights to parents of children with disabilities (Duran, 1985). This communication is complicated by cultural and linguistic differences between the families and their places of residence. Practitioners are in need of more information regarding special education policy and how to work with CLD families to make recommendations that are supported by research.

Although issues of assessment, eligibility, and parent involvement for students with disabilities have been addressed in the literature (Hirano & Rowe, 2016; Lund, Miller, & Ganz, 2014), these resources do not provide information specifically targeting practices for practitioners working with this population. Miller & Katsiyannis, (2014), addressed the educational needs of children with limited language proficiency who may require special education. It offers some guidance and considerations for practitioners by stating legal requirements that schools must ensure they meet when a student has limited language proficiency.

The authors of this article describe case studies and discuss issues of disproportionality in order to inform educators in the field of Education on issues related to over representation and under representation. Our study differs because it offers a section on a) support for the family's native language b) support for ELL families in the evaluation process and c) data collection, monitoring goals and resources for classrooms. Lastly, they review information for best practices to ensure equal opportunity, nondiscriminatory assessments, and parent involvement. The purpose of this article is to address legal issues and rights for ELLs with disabilities and provide resources for practitioners working with this population. In this article, the authors discuss legal rights that protect this population from inequitable treatment. Additionally, the authors inform practitioners about culturally responsive strategies to disseminate, engage, and apply best practices with these populations, who are at significant risk of not receiving appropriate assessment and special education services. Lastly, resources and tools will be provided to support practitioners.

Issues of Discrimination for ELL Students with Disabilities

Decades ago, ELL students in the U.S. were not given legal rights to an education, particularly children with disabilities and those who were from culturally and linguistically diverse backgrounds (U.S. Department of Education, 2010). Students with significant disabilities were frequently expelled from school systems and sent to unregulated institutions (Yell, 2016). Although students with disabilities can no longer be excluded from public education, a number of issues related to civil rights and the practitioner's approach remain unresolved. Issues of discrimination and expulsion are still present, especially for ELL students with disabilities, (Lund et al., 2014). Case law involving parent advocacy eventually led to legislative changes necessary to aid students with disabilities to access educational opportunities. Several civil rights were granted due to efforts by CLD parent advocacy groups to prevent further discrimination and expulsion from happening in schools (Mayerson, 2018). Cases, such as *Brown v Board of Education* (1954), had an important role in equal opportunity for minorities, including students with disabilities. *The Civil Rights Act* of 1964 also helped establish federally enforceable rights for ELL students. This law prohibits discrimination based on color, race, and national origin by those who receive federal funds. Therefore, ELLs cannot be excluded from participation during activities or programs that are federally funded.

Further, practitioners cannot expel a child except for disciplinary reasons (Yell, 2016). If a child is expelled, the school is required, by the U.S. Department of Education, to state formally in writing the reasoning and length of expulsion (Murray, 2013). The *Equal Educational Opportunities Act* (EEOA) of 1974 requires that practitioners take necessary action to overcome language barriers that impede equal participation of ELL students. Additionally, disproportionality issues exist regarding over- and under-identification of students who are ELL with disabilities. Some researchers suggest there is an over-identification while others suggest there is under-identification of ELLs in Special Education. For instance, ELL are more likely to be identified as having learning disabilities or intellectual disability compared to non-ELL White peers (Sullivan, 2011). ELL often receive limited resources, less learning opportunities, low academic performance relative to their non-ELL white peers (Brayboy, Castagno, & Maughan, 2007). Lack of parent input will often lead culturally and linguistically diverse (CLD) families to receive less support to collaborate with the schools (Baker, Wise, Kelley, & Skiba, 2016). Parent advocacy in a child's education has been a catalyst for changes in the policies that help protect students with disabilities who speak more than one language (Mayerson, 2018). Parental involvement has also paved the way for practitioners to facilitate parents of children with disabilities from CLD backgrounds to become active voices for their children to better student outcomes.

Parental Involvement and Building Relationships

Parents are considered to be role models for their children. General theories of parental involvement include Piaget's cognitive development theory, Vygotsky's sociocultural theory, and Bronfenbrenner's ecological systems theory (Tekin, 2011). The theoretical perspectives for parent involvement can give a foundation for the impact from the schools into special education. Culture can also be a challenging part of parental involvement in schools, including special education (Malone, 2015). Parental involvement is not only important but necessary in the development of an Individualized Education Plan (IEP), which is the primary vehicle by which children with disabilities receive special education services (Mayerson, 2018). Parents and students should be able to make decisions and be involved in the assessment, goal planning, and service decision-making process. However, factors such as immigration issues, language barriers, or lack of acculturation may play a role in a disconnection between the school and CLD families (Alegria, Mulvaney, Woo, Torres, Gao, & Oddo, 2007). The Office of Civil Rights (OCR) from the U.S Department of Education issued a letter in January 2015, stating that under the federal law, all students are to be enrolled regardless of their parent's or guardian's actual or perceived citizenship or immigration status. In regard to their nationality, race, or color, school districts are obligated to build a meaningful partnership with all of the families they serve. Educators are encouraged to involve the parent in the educational goals and progress of their child. The following are suggested ways to establish school-home partnerships, particularly with regard to CLD families of students with disabilities.

- Appropriate IEPs require gathering information about the child and home background. Questions may include: What countries do the students come from? What languages are spoken in the classroom? Have families experienced some traumatic event? How many years has the student been in school in your native country? (Breiseth, Robertson, & Lafond, 2018).
- Being flexible with meeting times allows parent participation and helps build a collaborative partnership (Fahim & Nedwick, 2014).
- Practitioners can help establish a relationship with parents by offering to meet at a local café or conduct a home visit to ask questions about their daily living (Breiseth, Robertson, & Lafond, 2018).
- Educators should evaluate their own cultural beliefs and establish cultural habits between families (Rossetti, Sauer, Bui, & Ou, 2017).
- Start a graphic organizer that can help put together what educators know, what other staff works closely with the student, what you learned and what is missing (Breiseth, Robertson, & Lafond, 2018).

- Practitioners can have a better chance of student success and meeting goals with parent buy-in (Yell, 2016). Parent buy-in is increased when practitioners inquire and gather parent input that is centered on the person (Callicott, 2003).

Efforts to Support the Family's Native Language

If the caregiver speaks a different language than the educators, efforts should be made to minimize the language barriers, such as:

- Assuring that translators are available when meeting with the parent and to translate notes home.
- Educators should be prepared when meeting with parents from a different background, including considerations of cultural and family traditions and methods of communicating.
- Documents should be prepared ahead of the meeting and should include visuals that enable reduced reliance on language to illustrate an idea (Özerk & Özerk, 2017).
- Efforts should be made to recognize the family's experiences and cultures (Ijalba, 2016).
- Caregivers should be supported to use their native language at home with their children with disabilities (Ijalba, 2016).
- If possible, send information in the parent's native language to families about progress.

Legally, practitioners cannot prohibit the use of students' native languages unless they have an educational justification, and they may not discriminate against students based on disability, race, or ethnicity. According to the *Rehabilitation Act* of 1973 of Section 504, students are discriminated against when they are ostracized from programs or activities due to their disability. The *Rehabilitation Act* of 1973 of Section 504 is a civil rights law that prohibits discrimination against individuals with disabilities from activities and programs which are federally funded such as; public education, institutions of higher education, and agencies that are local or state. The *Rehabilitation Act* of 1973 of Section 504 pertains to an individual who is unable to perform a major life activity that someone in the general public can do. Interestingly, there is more coverage on the *Rehabilitation Act* of 1973 of Section 504 than with IDEA. Practitioners can prevent discrimination from happening by ensuring proper evaluation in the child's native language. Both education and proper evaluation in the child's native language is crucial for an accurate report of the child's skills. It is not only suggested to include the assessment in the child's native language, but it is necessary to ensure the civil rights of ELLs are being met. The following is a resource for practitioners to familiarize themselves with terminology.

The Rehabilitation Act of 1973 of Section 504 Resource

Free Appropriate Public Education (FAPE) for Students With Disabilities: Requirements Under Section 504 of The Rehabilitation Act of 1973.

This resource can aid practitioners working with a child with disabilities to understand what FAPE is, how it is defined, and who qualifies. It shares useful information about the evaluation process and the way placement is considered.
https://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html

Support for ELL Families in the Evaluation Process

Proper evaluation is required for all students who show characteristics of having a disability from birth through age 21 years old (Yell, 2016). Once students have been evaluated for a disability, local education agencies must ensure early intervention strategies and appropriate services for all students, including ELL students with disabilities. The IDEA requires a nondiscriminatory identification and evaluation to determine if a child needs special education services upon a diagnosis of ASD, for instance. School districts are required to locate and evaluate ELL students who have a disability in a timely manner. Additionally, they require that the evaluation must be done in a valid manner and that their language needs are considered. If the assessment is conducted in a language the child is not familiar or comfortable in, the assessment results may not be valid. Child language proficiency should be evaluated prior to evaluating special education services to ensure they are able to read, write, and comprehend English. Personnel who administer the evaluation must also be trained and knowledgeable in the child's native language to properly administer the evaluation (U.S Department of Education, 2015). If no bilingual personnel is available in the child's native language, the school can administer non-verbal tests or use interpreters (Walsh, et al., 2015). However, the evaluation must be conducted using the instructions provided by the producer of the assessments, which often disallows on-the-spot translation of test protocols. Professionals should minimize the potential harm of using existing tests. The *Individuals with Disabilities Education Improvement Act* (IDEA) (2004) due to President Ford's signing of the *Education for All Handicapped Children Act* (EAHCA) (1975) (Yell, 2016).

Every local education agency must ensure that schools find all students with disabilities, regardless of the severity, and are identified, placed, and assessed under IDEA (Yell, 2016; Walsh et al, 2015; *Individuals with Disabilities Act* (IDEA) (n.d.). In special education, all recipients of a public school or afterschool programs should be evaluated annually to ensure proper services are allocated. Additionally, language assistance needs must also be evaluated to determine if a child needs both special education and bilingual services (Walsh, et al, 2015). This assessment must be racially unbiased and control for any language barriers that impede accurate portrayal of the child's abilities (Yell, 2016).

Provision of Special Education and English Language Services for ELL Students with Disabilities

Practitioners may face issues from school district policies that will either formally or informally prohibit dual services for students who require both English language services and special education services. However, these policies do not supersede under IDEA and other Federal Civil Laws, such as the *Rehabilitation Act* of 1973 of Section 504 (Kangas, 2018). Even if a parent or practitioner declines the child to be enrolled in both EL and special education services, the student is entitled to both services by federal laws only if eligible (Walsh et al., 2015).

The Free Appropriate Public Education (FAPE) is a concept under the *Rehabilitation Act* of 1973 of Section 504 and IDEA, which ensures that children with disabilities, including ELLs, have free education designed to meet their unique needs. FAPE requires that a school provide services additional to special education, such as Dual Language Education programs at no cost to CLD families. Bilingual education is one of the programs offered through Dual Language Education programs. It involves teaching content in two languages (Cohen, 1975). Not all states offer this program, only Alaska, Connecticut, Illinois, New Jersey, New York, Washington, Wisconsin, and Texas offer Dual Language Education programs (New America. (n.d.). Most states require districts to meet a particular student threshold; anywhere from 8 to 20 students per school to create a bilingual program. If a bilingual program is not possible due to requirement restrictions, teachers need to adjust their instruction to meet the needs of students (Cummins, 1994). Students with a disability under the rehabilitation law under 504 also qualify for FAPE. Students can qualify under 504 if they have a physical or mental impairment, which affects a major life activity. Major life activities are those such as, walking, talking, and breathing, among others (Yell, 2016). FAPE establishes the regulations that practitioners need when designing curriculum for ELLs with disabilities.

In a case such as *B.G. by J.A.G. v. City of Chicago Sch. Dist.,69 IDELR 177* (2017)*,* a 16 year old student who qualified for special education services under emotional disability and a learning disability received speech-language services, emotional services, and mental health services. He had an attendance problem due to his father passing and health issues resulting in hospitalization. His mother spoke only Spanish and took care of him and his four siblings. She decided to file a request for a due process hearing due to violations of IDEA. She reported that the district failed to provide FAPE and she requested reevaluation and intensive services for speech and language, psychological services, and emotional support. Evaluations were made for his health, hearing, gross motor skills, and intelligence, but his mother was not satisfied. Professionals conducted psychological assessments, speech and language assessments in English, because that was the student’s preferred language, physical therapy, occupational therapy, and other evaluations. Under IDEA, it is required that all professionals be experts and offer evaluations in the child’s native language. The hearing officer appointed to this case decided that the evaluations were justified. However, the evidence in the case showed that professionals were not experts or conducted the evaluations in the child’s native language. The IEP must consider the child’s language needs for evaluation and instruction. Because the child was proficient enough in English and could provide more information in that language, the professionals who evaluated him did not conduct an assessment in Spanish. The professionals should have conducted the evaluation in both languages. The plaintiff's request to reverse the motion of the hearing officer was denied (JUSTIA US Law (n.d.). The previous sections include parent collaboration, upon gathering information about the family, the practitioner can then make an assessment to gauge the child’s abilities and strengths. The child should build upon those abilities and be evaluated periodically to determine if proper progress is occurring.

In another case law Diana v. State Board of Education (1970), Diana a student who attended the Soledad Unified School District in central California experienced difficulties in her classes. At that time, she was assessed by a school psychologist with the IQ test indicating she had mild mental retardation. Therefore, she was placed on a “mentally retarded” classroom. These classes were designed to teach social and functional skills align to the school curriculum to students with disabilities. A lawsuit was brought on behalf of 9 Mexican-American children arguing that the IQ test was written and administered in English and the children like Diana were unable to comprehend for no other reason than language difference. The Court stipulated that if the children's primary language was not English, they should be tested in their primary language, if the school psychologist were to use the intelligence assessment they needed to reflect Mexican-American culture.

These two court cases made implications to English Language Learners in special education. One of them was to eliminate IQ tests as the sole measure of assessment for special education placement and increased the focus on culturally and linguistically diverse students in special education.

Data Collection, Monitoring Goals and Resources for Classrooms

Currently few research-based recommendations that also apply to ELLs (Hampton, Rabagliati, Sorace, & Fletcher-Watson, 2017). Yet, IDEA's requirement of research-based interventions has put an emphasis on scientific data. Taking into consideration their language needs, school districts are to provide assistance to students who are likely to improve academic outcomes and be responsive to the data collected. Data collection will help decrease racial bias when making evaluations and assessments that are in more than one language if needed. Only by collecting meaningful data and demonstrating that the data were collected over the course of the instruction will professionals meet FAPE (Drasgow, Yell & Robinson, 2001). This data can track progress and make sure that academic goals are met.

Monitoring goals is not only recommended for practitioners and educators, but mandatory for them (U.S Department of Education, 2015). A measurable goal is designed to help meet the needs of ELLs with disabilities. Practitioners are to develop measurable goals for students with disabilities, including students from diverse backgrounds. These goals must be specific enough to determine whether the student is making progress. They should also incorporate skills that the child will use at home, such as independent living skills (Wood, Karvonen, Test, Browder, & Algozzine, 2004). If paraprofessionals are needed, they must also demonstrate appropriate levels of writing, reading, and speaking in both languages.

When working with this population, there must be a program in place that is effective in teaching and monitoring ELL students with disabilities (Ortiz, 2019). Academic goals have to be in writing in the Individualized Education Program (IEP) of the child. Additionally, the IEP team should include the services that the school will be providing for the student to meet those goals (Drasgow et al., 2001). Practitioners need to evaluate if there is a program that is based on recommendations from experts in the field or is a legitimate strategy based on the literature. The program must also be effective in accordance with laws and regulations. There is a risk of violation if the program is not deemed effective and no other strategies have been put in place. Lastly, the practitioner needs to make sure the student has equal opportunity as the rest of the class and making progress with goals that are attainable. Educators, practitioners, and administrators should monitor goals once they have been established and track progress by taking data continuously.

One of the tools that will help evaluate the progress specifically ELL students is making accommodations. Practitioners can provide several accommodations that can help ELLs with special needs. Accommodations are a way to present information in a different manner to support success (Center for Parent Information and Resources, 2017). The following are different ways to provide accommodations.

- Educators can allow the student more time to complete and submit assignments (Coleman & Goldenberg, 2012). Additional time is an easy way to offer students space to be creative and work at their own pace.
- Educators can also offer breaks in between assignments so students have an opportunity to gather their thoughts and not get overwhelmed.
- Another accommodation is offering instruction in different ways of learning through audio, or written information, as well as visual presentations of the material. You can also use visuals in the classroom with more than one language written underneath the picture to emphasize and support students' cultures and backgrounds (Breiseth, Robertson, & Lafond, 2018). Practitioners can make visual charts or diagrams to help with student comprehension (Coleman & Goldenberg, 2012).
- Students can be encouraged to take class notes from peers and especially for them, if possible, to advocate for themselves by requesting the material with a bigger font or an outline.
- Allow for additional practice and repetition (Echevarría, Vogt, and Short, 2007).
- Practitioners should make instruction explicit, clear, and systematic (Coleman & Goldenberg, 2012).
- Choose reading that is familiar to the students (Coleman & Goldenberg, 2012).
- Additional accommodations include a different setting, scheduling assignments, organizational skills (e.g. a timer, a calculator, a planner), or curriculum modifications (Morin, n.d.).

Beyond being knowledgeable about the policies that are relevant to ELL with special needs, practitioners should be mindful of cultural practices, beliefs, and recommendations of this population. Below is a case law that protects CLD students with disabilities.

Case Law Including an ELL Student: *Marple Newtown School District v. Rafael N. (2007)*
Rafael was a seventeen year old ELL student from the Dominican Republic living in Pennsylvania who was diagnosed with mild to moderate intellectual disabilities. The student was eligible for Special Education and English as a Second Language (ESL) instruction. His parents were Spanish speakers who could not speak or read in English. The school failed to communicate with his parents in his native language. The parents filed a due process challenging the educational program and compensatory education. The district denied FAPE because the IEP did not include his language needs to receive a meaningful education. The court ruled that the school district did not meet his language needs and showed no meaningful progress in his IEP.

Another important court case that supports Equal Educational Opportunities for ELLs was the *Lau v. Nichols (1974)* case, Chinese American students sue the San Francisco Unified School District because they were placed in mainstream classrooms despite their lack of proficiency in English. The Court ruled that the school district was ignoring the needs of Limited English Proficiency (LEP) students. Even though the court decision does not mandate a particular approach in how to educate LEP students, the court requires districts to implement bilingual education programs for all LEP students.
In both cases, we can conclude that if a child has a disability or not, their first language has to be considered to be able to provide educational opportunities to all the students for them to be

successful in the classrooms. Educational agencies shall not deny equal opportunities to all the students regardless of the race, color, sex, background or disability.

Conclusion

Practitioners play a pivotal role in addressing issues associated with instruction for ELLs who require special education services (Yu, 2013). For parents who do not know English, language and cultural barriers are an issue when expressing concerns to practitioners. Additional issues of immigration may also lead to seclusion for families, which results in late identification of children with disabilities who are also ELLs. ELLs who have disabilities need advocates to help them get the services they need. Ultimately, parents whose families are familiar with the policies and the laws have the tools to be able to ask questions, be informed, and advocate for their child at an IEP meeting. Practitioners are encouraged to disseminate information about disability and anti-discrimination laws to inform the families of legal protections and available services. Practitioners should learn about CLD families by asking them questions about their native language and routine. Cultural differences such as eye contact, asking questions, and tone of voice, can vary and will play a role in how educators teach the students. The practitioner then needs to evaluate children in a language that they understand to allow for an accurate description of their skills. Furthermore, practitioners should evaluate the child’s strengths as well as allow the use of their native language in the classroom. Lastly, practitioners can take data collection to monitor progress and make goals that meet family needs on the IEP. Therefore, more resources are needed for CLD families with children who have disabilities to equip practitioners with resources that will help students succeed in the classroom. Practitioners must be sensitive about cultural beliefs and incorporate family input in the development of IEPs for students from CLD backgrounds with disabilities. These strategies will allow a collaboration between practitioners and families to help practitioners share information about policy.

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What the Medical Doctor Knows: Medical-Educational Partnerships for Success

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Abstract

Children and young adults who require special education services within schools often bring with them a complex medical history. At times, student needs are visible and apparent to all who interact with them, while other times these are harder to discern. Understanding a child's medical diagnoses, interventions and possible negative impact on a child's academic performance is an important component of educational assessment and support. Medical professionals often have knowledge and insight that can help make the identification of needs and development of intervention more transparent. As such, the multidisciplinary education team benefits from collaboration with a child's medical team. This paper seeks to demonstrate the tangible impact between medical factors and school challenges, methods and areas in which to work with the medical team to complete a comprehensive evaluation, and practice guidelines for how to approach this partnership.

What the Medical Doctor Knows: Medical-Educational Partnerships for Success

Children and adolescents who experience physical and/or mental health problems are at an increased risk for academic difficulties. It is important to identify and recognize these risks early as they can derail the student's long-term educational and professional goals. Further, if a young adult's educational course is disrupted, it does have significant social implications for the society at large (Needham, Crosnoe, & Muller, 2004). Children and young adults with academic difficulties are a special population. Though the medical and school environments tend to operate in isolation of each other, the best processes for early identification and treatment may lie in collaboration between school and medical professionals. There are many instances in which a partnership between these two areas is in the best interest of students. Research supports that many medical conditions have co-occurring diagnoses which may impact academic success. Within the academic arena, special education determination and supports under the Education for All Handicapped Children Act promotes child find identification, evaluation, and the development of individualized supports (PL 42-142). The medical field is increasingly recognizing their responsibility in recognizing and supporting children with academic needs as well (Authors, 2019; Committee on Children with Disabilities, 1999; DeSocio & Hootman, 2004; Gioia, 2016; Rey-Casserly, Mcguinn, & Lavin, 2019). The American Academy of Pediatrics, leader in the field of childhood medical care and the largest representative of pediatricians and pediatric medical allies in the United States, published a recent Clinical Report which puts new emphasis on the role of pediatrician in the care of children who are not making expected academic progress in school (Rey-Casserly, Mcguinn, & Lavin, 2019). The medical community asserts that families often seek guidance from their primary care providers for a variety of topics. Children present to medical specialty appointments with their caregivers, who often share a large amount of information as medical professionals work to learn about the child and his/her needs. This information can include any manner of school reports and evaluations, but families regularly confide details about the child's prenatal life, birth, and ongoing circumstances. In addition to this, families frequently confide sensitive information about other family members, challenging social situations, previous trauma, and many other pieces of information that can be the key to optimal intervention and care of the student.

Pediatricians are often the first to identify developmental delays and behavioral problems in young children due to the regular visits in early life. Pediatricians screen and engage in developmental surveillance with their patients, which allows them to talk to families and identify problems/concerns prior to enrolling in school (Committee on Children with Disabilities, 2001). Medical providers offer a unique perspective on early development and consideration of individual student risk factors in their overall treatment planning. Medical professionals also have the unique ability to screen, monitor, and treat other issues that impact educational success, such as conditions causing children to feel too unwell to engage fully in education, medical disorders resulting in chronic absenteeism, and disorders, which affect cognitive abilities and learning capacity. There is good evidence of a medical-school partnership already documented in the literature related to return to school following a medical diagnosis, injury, or extended treatment (Gioia, 2016).

When school personnel and medical professionals work together, they offer the child the best chance for academic success. Proactive strategies and monitoring a child with known medical risk factors can allow the school to intervene at a much earlier stage and help keep a child on the path to success and promote the best quality of life (Matteucci, Scalone, Tomasetto, Cavrini, & Selleri, 2019). The growing understanding around the role of collaboration between schools and medical home for children in a non-hospital setting is the next area needing exploration. This paper seeks to highlight an outline of how to engage with medical providers in the developmental of a holistic care plan for struggling students by sharing an overview of practical engagement. Additionally examples of medically related risk factors to be aware of and medical conditions that need treatment in both medical home and school for optimal school outcome are provided.

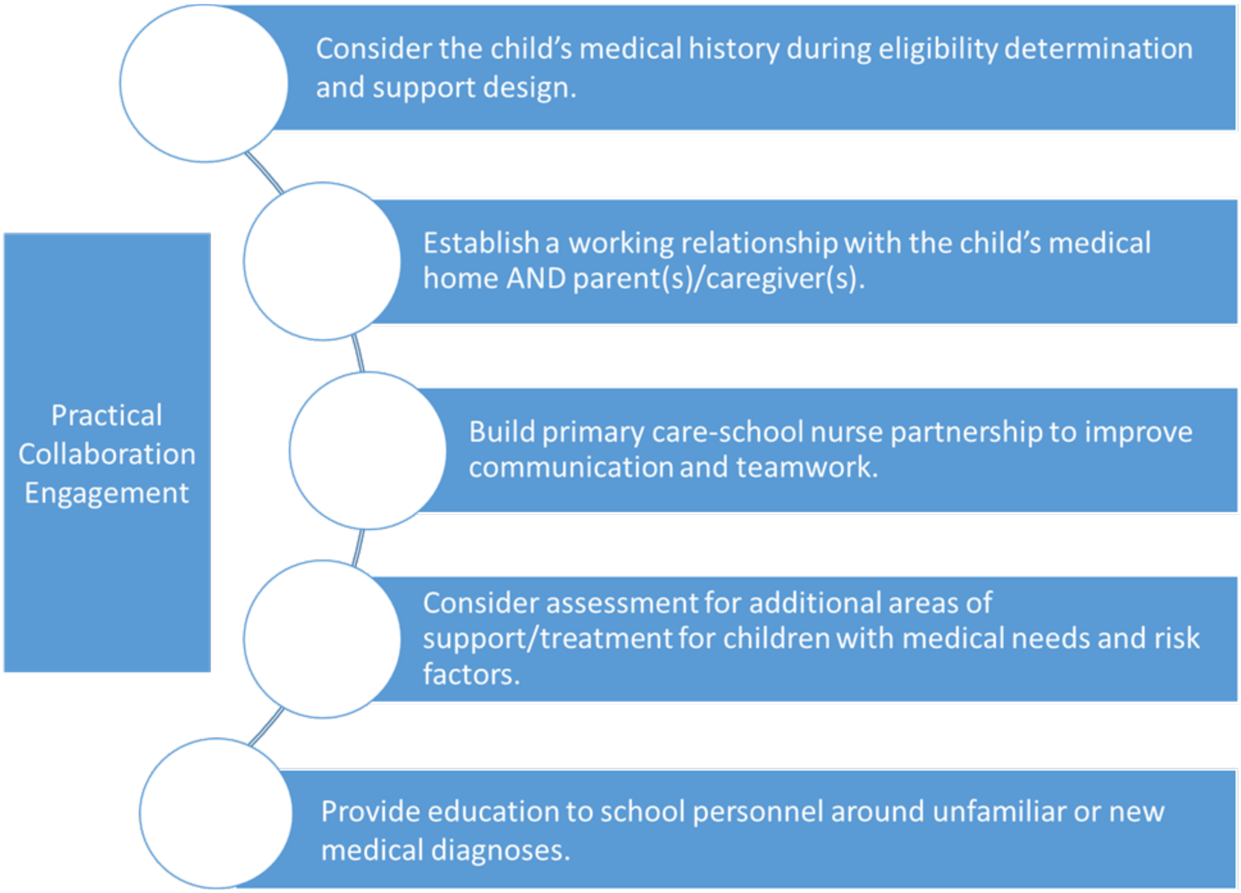

Figure 1. Practical collaboration engagement between educational and medical homes.

Practical Engagement: Overview

Consider the child's medical history during eligibility determination and support design.
a. Look at the student's medical risk factors (examples below):

- Pregnancy
- Early Life
- Family histories

b. Look at the student's current medical conditions/needs/treatments (examples).

Establish a working collaboration with the child's medical home and the child's parents/caregivers.
There are many ways in which the school and medical teams can collaborate:
Consider inviting a medical representative from the medical home to team meetings (either in person or via phone) to include the primary care team and specialists in the development of recommendations and interventions.

Seek out release of information (ROI) to gain access to medical records and medical diagnoses relevant to care planning.

Ask about specific learning related risk factors with clear requests and questions to the medical team (examples of questions below).
Share educational testing, plans and interventions with the child's primary care team so that it is included in the medical record.

Communicate at least each semester to discuss changes in interventions, diagnoses, and behaviors observed both in the home and in the educational setting.

Models of collaboration exist in the literature between family and educational settings which can also be applied, such as the *Conjoint Behavioral Consultation* model (Sheridan & Kratochwill, 2010).

Establish a primary care provider-school nurse partnership.
School nurses and primary care providers can work together to create a seamless example of team-based care. School nurses are able to interpret and implement medical recommendations within the school environment from the primary care provider and/or subspecialists, provide valuable feedback on student response to different treatment options back to the medical home, and liaise with teachers, school personnel, and parents/caregivers. School nurses are well positioned to identify and respond to developing behavior challenges, academic difficulties, and developing mental health needs. Finally, school nurses speak the medical language and are in position to take the lead on obtaining necessary information as well as to translate (e.g. risk factors, conditions) back to the school team.

Key Questions to Ask Medical Providers
Did the student have any medical concerns during the pregnancy or in early life, even if they were treated? Does the family have a history of anyone with difficulties in school or not graduating high school successfully? Does the student have any ongoing medical concerns? If yes, how do they impact his/her school participation? Does the student receive any medical treatment at this time?
Key Statements to Share with Medical Providers
Clearly list the IEP eligibility and what that eligibility means. Example: Child with an Autism eligibility is showing classroom behaviors impacting learning including repetitive movements like hand-flapping. Tell medical providers which eligibilities that the team is considering *need* medical input and what kind of input. Example: Other Health Impairment Tell providers what concerning areas are seen in the classroom. Example: staring episodes

Consider an individualized assessment and treatment for each child's clinical symptom presentation.

While previously made diagnoses can provide a strong starting point (see Global Developmental delay, speech-language delay, etc. above), it is important for school and medical professionals to consider each student and his/her own individual symptom presentation.

When considering strategies, it is best to evaluate each student individually and develop a plan that captures that supports that particular student needs to be successful.

Provide relevant, diagnosis specific training and education for school personnel to better support them in supporting the student.
When a child has a medical diagnosis impacting education, consider offering a training to school personnel who will be regularly interacting with this student (such as sources in Table 4 below). This allows school personnel to learn more about the child's life and needs as well as increasing the likelihood that information shared is evidence-based and factual (Gioia, 2016).

Important Examples of Childhood Academic Risk Factors

Risk Factors In a Child's Life & History
Exposure before birth to prescribed medications (e.g. opioid pain killers)
Exposure before birth to legal substances like cigarettes and/or alcohol
Exposure before birth to illicit substances (e.g. heroin, cocaine, methamphetamines, etc.)
Early/premature delivery (especially before 36 weeks)
Low birth weight (<1500 g or 3 lbs. 3 oz.)
Pregnancy complications
Hypoxia (brain oxygen restriction)
Early and prolonged hospital care
Developmental delay(s)*

*Areas described below in further detail.
Note: This inset should not be considered a comprehensive list of risk factors.

Risk Factors in a Child's Life & History
Understanding the pregnancy and early years of life can be instrumental in helping children succeed in an academic setting by promoting early identification of at risk students and allowing structured support development in the school and medical home. Before a child is born, rapid brain development is occurring. Because of this, the brain is very sensitive to the environment around it found in the womb. Exposure to prescribed medications, cigarettes, alcohol, and illicit substances can cause changes in how the brain develops (Behnke & Smith, 2013; Cho et al. 2013; O'Callaghan et al. 2010; Oei et al. 2017; Thackray & Tifft, 2001; Turchi & Smith, 2018). Many medical problems during pregnancy and early life, known as the perinatal time period, also impact the developing brain and have long term impact on childhood school performance, including being born too early (prematurity), being born too small (low birth weight), having a bleed in the brain (neonatal stroke or hemorrhage), as well as a host of others (Bonifacci, 2019; Johnson, 2016; Rouse & Fantuzzo, 2009). The more of these perinatal risk factors a child has, the more likely they are to need educational supports, representing a cumulative impact of factors leading to school difficulty (Rouse & Fantuzzo, 2009).

The term “developmental delay,” which captures children who have delays in meeting their developmental milestones (Petersen, Kube & Palmer, 1998), can impact any of the main developmental areas (gross motor, fine motor, cognitive, speech-language, or social-emotional). Children under the age of 5 who have delays in their development can be given a medical diagnosis of a developmental delay. Before entry into a developmental preschool between 3-5 years, it was estimated by Rosenberg, Zhang, and Robinson (2008) that approximately 13% of children had developmental delays that qualify them to receive early intervention services (Part C). Needing early intervention services is a risk factor for later educational needs even for those children that do not go on to enter developmental preschool or other initial special education supports. For example, speech-language delays are the most common developmental delay of childhood and many children in the United States receive care through early intervention and/or private therapy services prior to school entry, but even when successfully treated in early life, speech-language delay history puts children at risk for future specific learning disability in reading (Elbro, Dalby, & Maarbjerg, 2011).

School personnel should also have previous Global Developmental Delay diagnosis on their radar. If a child has a medical diagnosis of Global Developmental Delay, it means that the child has delays in 2 or more areas (Gupta & Kabra, 2014), which can be listed as school eligibility under “developmental delay” or a combination of specific delays (e.g. language impairment, speech impairment, orthopedic impairment). As a child ages, evaluation is needed to consider new eligibility/diagnosis (e.g. Cognitive disability).

Risk Factors in a Child’s Family
Parent(s) with a specific learning disability Parent intelligence Parent reading ability Early life experiences* Child maltreatment/abuse* Toxic stress* Family financial status (socioeconomic status)* Family educational status Homelessness

* Areas described below in further detail.

Risk Factors in a Child’s Family

Research has captured the critical importance of early childhood experiences and family risks in educational and academic achievement (Perlman & Fantuzzo, 2010). There are a number of parent and family medical conditions that can indicate educational risk for a child, making the family history a critical area of information around learning, such as having a parent with a learning disability (Gialluisi, Andlauer, Mirza-Schreiber, Moll, Becker, Hoffmann, et al., 2019; Swagerman, Bergen, Dolan, Geus, Koenis, Pol, & Boomsma, 2017). Some studies have shown that a parent with a specific learning disability has a 90% chance of having a child with a specific learning disability.

Sometimes parents have not gone through formal psychoeducational evaluation and are better equipped to share their school challenges by indicating his/her personal use of special education services, school therapies, graduation status, or private/medical supports during his/her school years. If a parent notes that he/she did not graduate from high school, additional questions as to the cause may be helpful, as maternal education has been linked to early developmental delays in young children (Rouse & Fantuzzo, 2009). Educators and/or school psychologists can specifically ask these items during the child's evaluation within Response to Intervention (RTI) or Multidisciplinary Educational Team (MET) evaluation(s). Parent skills directly impact a child's early life experiences, which play a crucial role in development and educational readiness (Hansgon et al. 2013; Tierney & Nelson, 2009). The frequency and intensity of early exposure to language and reading has critical impact on a child's development (Hart & Risley, 1995; Liebeskind, Piotrowski, Lapierre & Linebarger, 2013; Weisleder, 2013). In 1995, the term "30 Million Word Gap" was brought into the medical and educational vernacular (Hart & Risley, 1995). The critical study by Hart & Risley showed that children raised in low socioeconomic settings had heard 30 million words fewer compared to peers in high socioeconomic settings by age 4 years, explicitly linking vocabulary size and socioeconomic status. Children from economically disadvantaged and minority families consistently perform below their non-poor, non-minority peers in mathematics and reading across all grade levels (Rouse & Fantuzzo, 2009). According to Rouse & Fantuzzo (2009), school attendance was most affected by poverty.

Putting focus on techniques that enhance parent/caretaker skills in families that are at risk because of educational, social, and economic disadvantages allows for prevention of later learning challenges (Shonkoff & Fisher, 2013) with options for intervention, such as the Reach Out and Read program (Klass, Dreyer, & Mendelsohn, 2009).The concepts of "Toxic Stress" and "Adverse Childhood Events" (ACEs) explain the causative relationship between the impacts of significant stressors on the developing brain of a child. Toxic stress is a chronic, unmitigated form of stress that leads to long term changes in a child's nervous system development and genome (Shonkoff, Garner, Siegel, Dobbins, Earls, Garner, et al., 2012). ACEs cause Toxic Stress and include various types of trauma, typically under or unmitigated, in a child's life, such as abuse (verbal, physical, sexual). Child maltreatment and homelessness are often first experienced *before* a child enters school; yet the damaging effects remain (Perlman & Fantuzzo, 2010) with negative impact on multiple areas of development (e.g. cognition, language, literacy, social-emotional skills), academic experiences, increased school absenteeism, grade retention, and increased need for special education supports (Hong & Piescher, 2012). Additionally, children who experience homelessness and housing insecurities are often at a high risk for exposure to violence and social isolation with disproportionate impact on African American and Native American children (Hong & Piescher, 2012).

Medical Conditions Directly or Indirectly Impacting School

Children with a variety of special healthcare needs are a vulnerable population with increased challenges around mental health, social skills, and overall functioning (Chan, Lo, & Ho, 2019). There are clear correlations in the research that suggest that frequent school absence and an inability to complete assignments in a timely manner are associated with poor school performance (Needham, Crosnoe, & Miller, 2004). It should be kept in mind that while many medical issues impact school attendance, poverty is the most common cause of chronic absenteeism (Rouse & Fantuzzo, 2009). Asthma and headaches have been top reasons for illness-related missed school days since 1988 (Newacechk & Taylor, 1992). Any child with one or more chronic illnesses is at risk for missed school days and poor medical control of symptoms is linked to increased frequency of missed days. Chronic absenteeism and school failure decrease student academic knowledge and fundamental understanding of material that is built upon through the academic year, putting them at risk of additional academic challenges (Needham et al., 2004).

If a child is medically unwell, this impacts their ability to function outside of "survival mode." Medical issues can impact academic work in a variety of ways, some obvious, others less so. This table shows some examples of medical conditions that can impact education through chronic school absences and impact on performance ability.

Table 1.
Medical issues causing academic concerns/challenges

Mental health	Anxiety* (e.g. Generalized Anxiety disorder) Depression* (e.g. Major Depressive disorder) Disruptive Behavior disorder Eating disorder (e.g. Anorexia Nervosa, Bulemia Nervosa) Tics/Tourette's syndrome Obsessive Compulsive disorder
Pulmonary	Asthma* Cystic Fibrosis Respiratory allergies
Neurological/ Neurodevelopmental	Headaches* Seizure disorder(s) Neurodevelopmental disorders (e.g. Attention Deficit-Hyperactivity Disorder/ADHD)* Neurocutaneous disorders (e.g. Neurofibromatosis, Sturge-Weber) Traumatic Brain Injury Genetic syndromes (e.g. Down syndrome, Rett syndrome, Fragile X syndrome, Williams syndrome) Metabolic disorders (e.g. Phenylketonuria, Maple Syrup Urine Disease, Galactosemia) Spina Bifida Hydrocephalus
Sensorium	Vision impairment/disability* Hearing impairment/disability* Repeated ear infections
Sleep*	Obstructive Sleep Apnea Poor Sleep Quality or Inadequate duration Restless Leg Syndrome

Note: *Indicates items discussed in more detail below.
This table should not be considered a comprehensive list of medical concerns assessed by pediatric allied health professionals when school concerns or other issues arise.

Common medical issues impacting school performance

Sleep is a key example of a medical factor that impacts all areas of performance. Children with sleep problems such as snoring, sleep-disordered breathing or periodic leg movements or restless leg syndrome can experience daytime sleepiness (Shur-Fen, 2006). Daytime sleepiness manifests with sleeping at inappropriate times and a number of challenging daytime behaviors that may appear unrelated, including inattention, hyperactivity, oppositional behaviors, and/or school refusals (Cortese, Konofal, Yateman, Mouren, & Lecendreux, 2006; Shur-Fen, 2006). Lack of sleep also inhibits the ability to convert short term memories into long term knowledge (Ellenbogen, Payne, & Stickgold, 2006) with impact on memory and information retention (Born, Rasch, & Gais, 2006; Marshall, Helgadottir, Molle, & Born, 2006). .

Headaches are the most common pain syndrome in childhood (Arruda & Bigal 2012). Headaches impact the majority of children at some point in their lives with chronicity estimates of 10-33% of children with tension headaches and ~ 8 % of children suffering from migraines (Rocha-Filho & Santos, 2014). Headaches can be debilitating. Headache pain is associated with being unable to concentrate and focus (Rocha-Filho & Santos, 2014). Headaches can impair a student's ability to complete work and/or finish tests as well as causing student's to underperform even when tasks are completed. These symptoms of headache impact showcase how medical disorders impact multiple areas of school performance (Figure 2).

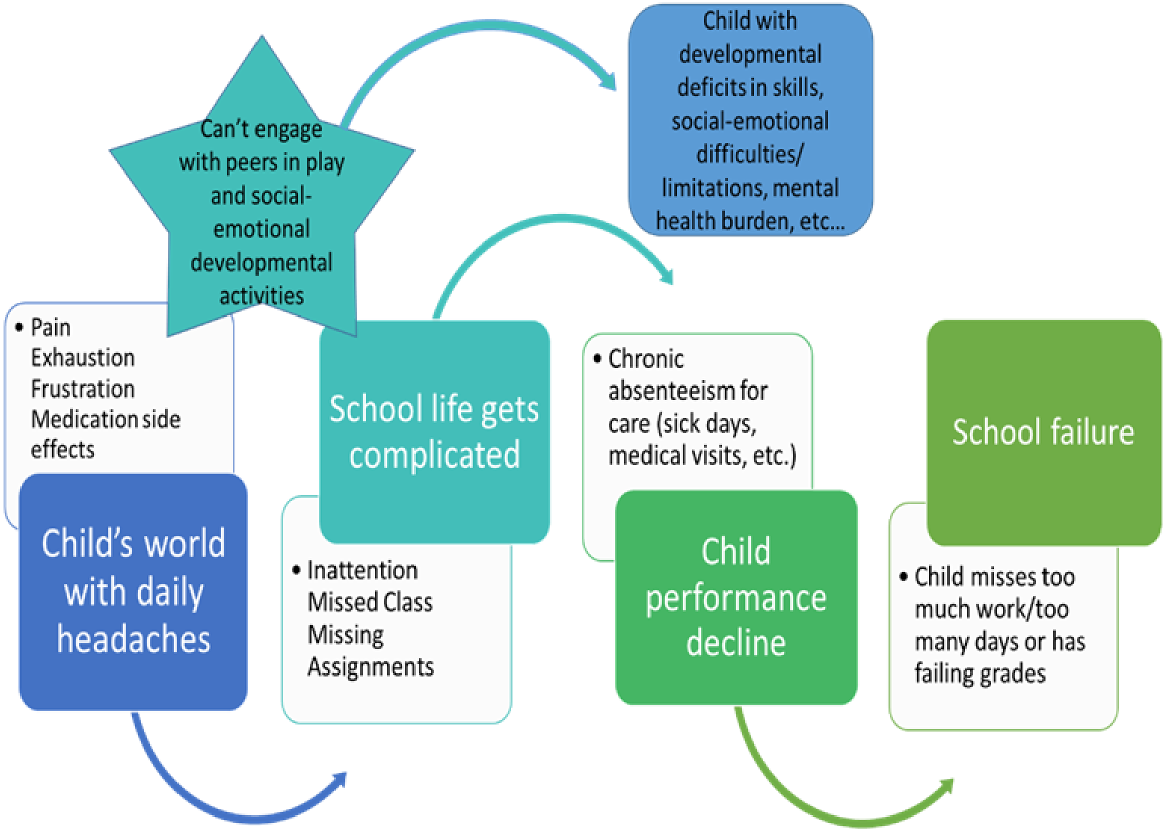

Figure 2. The multifactorial, negative impact of headaches in school performance.

A child's hearing and vision likewise impact classroom performance. A child with visual impairment may struggle to see text up close or be unable to distinguish what's on the board, but reading issues may also have other associations with vision (Creavin, Lingam, Steer, & Williams, 2015.). Children with even mild differences in hearing are at a disadvantage compared to classroom peers (Daud et al, 2010).

Attention Deficit Hyperactivity Disorder (ADHD), which can include symptoms related to inattention, hyperactivity, and impulsivity, causes children to have more difficulty with transitions and independent tasks in an educational environment (DeSocio & Hootman, 2004). These students also struggle with attendance and challenges with social relationships with higher rates of social rejection (American Psychiatric Association, 2013). Children diagnosed with ADHD may benefit from the development of a Section 504 Plan or an IEP and may receive school-based supports under the eligibility category of "Other Health Impairment" (Individual with Disabilities Education Act, 2004, section 300.8). This speaks to the significant nature of the diagnoses and the negative impact it can have on learning. Academic performance can also be negatively impacted by low self-esteem and feelings of worthlessness (DeSocio & Hootman, 2004). Treatment of ADHD requires a multimodal method of addressing core symptoms and common comorbidities (e.g. sleep difficulties, developmental differences, identification of academic needs, classroom behavior supports) (Figure 3).

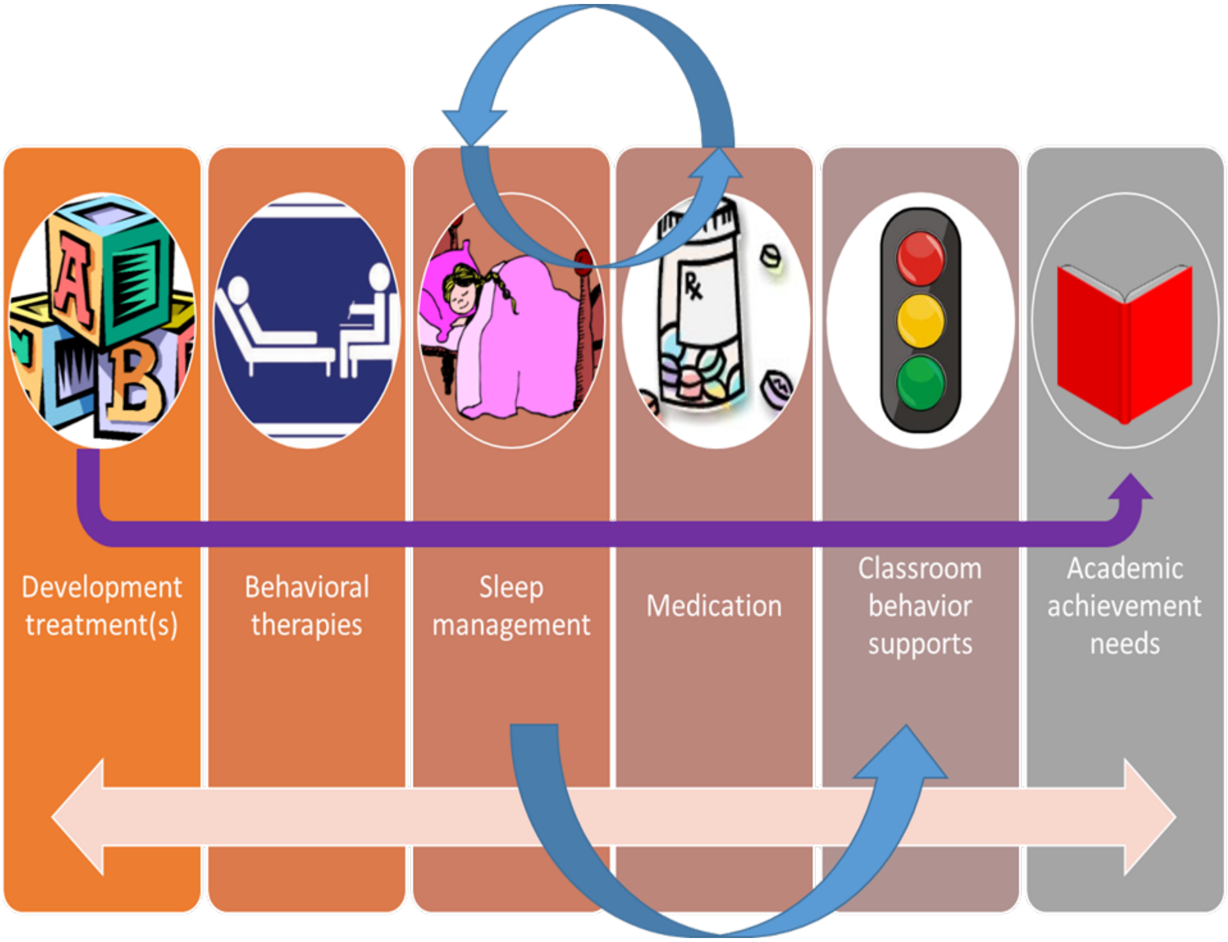

Figure 3. Multimodal treatment planning in ADHD. Note the connection between sleep management, medication, and classroom behavior supports.

There are numerous conditions that directly impact cognition such as neurological disorders, genetic disorders, and metabolic disorders, all of which impact the nervous system and brain (Gozal, 1998). Some conditions, like epilepsy, cause learning impairment, but also have learning issues associated with the medications used in their treatment (Eddy, Rickards, & Cavanna, 2011). Any medication that impacts the nervous system and brain can be a risk factor for school needs and academic supports where transient or long term (Loring, 2005).

The negative impact potential between mental health problems and academic functioning is well documented (Field, Diego, and Sanders, 2001) with the most common mental health disorder being forms of anxiety (Beesdo, Knappe, & Pine, 2009). Students with mental health diagnoses have an increase in absences, difficulty completing academic coursework, weak relationships with teachers and administration (Needham, Crosnoe, & Muller 2004). In the 1990's Achenbach & Howell (1993) demonstrated that the mental health problems of America youth was getting worse and that the proportion of children diagnosed with a mental health diagnosis had increased. Like in anxiety, children who experience depression are still very much at risk of school difficulties because of poor concentration, distractibility, insomnia/fatigue, irritability, low self-esteem and feelings of worthlessness beyond "behavioral" symptoms (e.g. psychomotor agitation) (DeSocio & Hootman, 2004; American Psychiatric Association, 2013). Depression and PTSD can lead to other disorders and issues; according to Atkins, Frazier, Abdul Adil, & Talbott (2003), girls diagnosed with PTSD were significantly more depressed and more likely to have failed a grade or to have been suspended from school compared to other girls. There is a bidirectional relationship academic needs and mental health disorders. Students with academic difficulties, school behavior problems, and inconsistent school attendance have more emerging mental health concerns during school years and those who drop out of school are at an increased risk for depression, drug involvement, and suicidal behavior (DeSocio & Hootman, 2004). As such, recognition of these early psychosocial symptoms of distress can allow for early identification and implementation of school and mental health supports. This early identification can be preventative for later difficulties in school and in the child's life (DeSocio & Hootman, 2004).

Children do best when a collaborative care model is used in treatment (Archer, Bower, Gilbody, Lovell, Richards, Gask, Dickens, & Coventry, 2012), but unfortunately, the majority of mental health concerns in children remained untreated (USDHHS, 1999). For those receiving treatment, 70% of children who need mental health services received them through the school system (USDHHS, 1999). While children who begin school with learning difficulties are at an increased risk for developing mental health problems (DeSocio & Hootman, 2004), children with mental health disorders or neurodevelopmental differences can have learning issues as well (Lindén-Boström & Persson, 2015; Schulte-Körne, 2016).

Educators can learn more about medical conditions and questions to ask through some high quality resources, such as those provided in Table 2.

Table 2.
Medical Information Resources

Organization	Sponsor/Area	Website
CHADD	ADHD	https://chadd.org/
Zero to Three	Early Childhood	www.zerotothree.org
Child Mind Institute	Mental health	https://childmind.org/
Epilepsy Foundation	Epilepsy Foundation	https://www.epilepsy.com/

Facts for Families	American Academy of Child and Adolescent Psychiatry/Mental health	https://www.aacap.org/aacap/families_and_youth/facts_for_families/fff-guide/FFF-Guide-Home.aspx
Genetic & Rare Disease Center	National Institute of Health/Genetic disorders	https://rarediseases.info.nih.gov/
Guide to Diseases and Conditions	Mayo Clinic	https://www.mayoclinic.org/diseases-conditions
Healthy Children	American Academy of Pediatrics/Childhood needs	https://healthychildren.org/English/Pages/default.aspx
Medicines for Children	Royal College of Paediatrics and Child Health, WellChild, Neonatal & Paediatric Pharmacists Group	https://www.medicinesforchildren.org.uk/
National Bullying Prevention Center	Pacer Center/Bullying	https://www.pacer.org/bullying/
Parent Med Guide	American Academy of Child and Adolescent Psychiatry/Mental health	http://www.parentsmedguide.org/
Reach Out & Read	Reading	http://reachoutandread.org/resource-center/

Conclusion

Though the medical and school environments tend to operate in isolation of each other, the best processes for early identification and treatment may lie in collaboration between school and medical professionals. There are many instances in which a partnership is in the best interest of the students. Within the field of pediatric medicine, the role of the medical home for children with academic progress concerns is being increasingly recognized with understanding that a failure to progress academically is nonspecific and requires integration of medical-educational knowledge to best serve the child (Rey-Casserly et al., 2019; Gioia, 2016; Committee on Children with Disabilities, 1999; DeSocio & Hootman, 2004). Teachers may likewise feel that more information is needed to best support and implement an educational care plan. Many components of a child's medical world impact their educational world, including medical risk factors from before birth, early infancy, environmental factors at home, family medical factors, and ongoing medical needs. As teachers approach the school needs of a child working with the medical home is a critical component of building an individualized care plan that spans all areas of the child's life. In light of these evolving perspectives, medical providers can play an important supplemental role in the implementation and continuation of educational services and planning for children who may qualify for school-based supports.

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Students as Causal Agents: Engagement in Course Selection

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Abstract

While significant evidence indicates that making complex choices and decisions contributes to self-determination, the authors found no studies to date in which the phenomenon of engaging students with disabilities in choosing their high school courses was examined as a dependent variable. This phenomenological study explored how course-selection might serve as a means of enabling self-determination, which contextual factors might influence student engagement in course selection and how students with disabilities typically participate in course-selection. The main findings point to the high readability demands of many high-school course descriptions and established proof-of-concept on the feasibility of having a small (n=15) group of students with autism and developmental disabilities use a newly developed website to select courses and share preferences. Recommendations for improving the site as well as suggestions for further research are included.

Keywords: self-determination, course-selection, decision-making, choice-making, assistive technology

Students as Causal Agents – Engagement in Course-Selection

When a student with a disability can freely make choices and decisions, they learn to become a causal agent in their own life. When meaningful choices are not available, students with disabilities are more likely to opt out of the choice-making process (Wehmeyer, 2007). Students are expected to gain experience in choice and decision-making during high-school to order to acquire self-determination skills. The Individual Education Program (IEP) meeting often serves as a mechanism for practicing these skills. According to the Individuals with Disabilities Education Act of 2004 (IDEA), students with disabilities ages 16 to 21, must be invited to participate in transition planning. They are important members of the IEP team.
Once postsecondary goals are developed, the team must develop a statement of transition services, including courses of study, needed to assist youth in reaching their goals. Course-selection presents a possible opportunity to make meaningful choices for students with disabilities. It is important to gain insight into how students with disabilities become aware of which courses are available and would best serve them given their personal and career interests.

Choice and decision-making have received much attention in research on self-determination (Shogren et al., 2013; Thompson et al., 2009). There is a complex relationship between choice and decision-making that influences student engagement in course-selection as a means of developing self-determination skills. Course-selection refers to a selection of courses that all students are required to complete before they can move to the next level in their education (Core Course of Study, 2014). Choice-making has been defined by Stancliffe as "an unforced selection of a preferred activity from available options" (2001, p. 91). Decision-making involves weighing a complex set of choices about a goal and a related problem (Saaty, 2008). Self-determination means: "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference" (Shogren & Wehmeyer, 2017, p. 252). In 2006, Wehmeyer and Mithaug began to examine *how* a person becomes self-determined. They developed the Causal Agency Theory (CAT) to explain how forces such as need (desire), motivation (purpose), and causal action (making something happen) enable self-determination. In 2007, Shogren, Wehmeyer, Palmer et al. further refined CAT clarifying that choice and decision-making are component elements of volitional (self-initiated) action which leads to self-determination.

Self-determination is favorably linked to outcomes in academic achievement, employment, higher-education, independent-living, leisure and recreation, and community engagement (Bush & Tasse, 2017; Fowler, Konrad, Walker, Test, & Wood, 2007; Lee, Wehmeyer, Soukup, & Palmer, 2010; Cobb, Lehmann, Newman-Gonchar, & Alwell, 2009; Lachappelle et al., 2005, and Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012). Skills in making choices and decisions (as part of self-determination) must be acquired through direct instruction and meaningful experiences (Wehmeyer, 2005).

Student engagement in choice and decision-making is also strongly linked to successful achievement of post-school outcomes. Findings from large, randomized trials show: a) involvement in the planning process (Gillespie & Turnbull, 1983; Field, Martin, Miller, Ward & Wehmeyer, 1998; Martin, Marshall & DePry, 2001; Martin, Marshall & Sale, 2004; Martin et al., 2006; Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2012); b) providing enhanced self-determination learning activities, (Palmer, Wehmeyer, Shogren, Williams-Diehm & Soukup, 2012; Wehmeyer, 2012); c) gaining access to the general education curriculum (Shogren et al., 2012), and d) experiencing positive employment and community inclusion (Powers et al., 2012; Shogren et al. 2012), all involve opportunities to make complex choices and decisions that have a causal effect on self-determination. None of these studies addressed course-selection as a dependent variable.

Studies have examined numerous conditions that motivates students without disabilities to make virtual course selections. A large meta-study by Repetto, Cavanaugh, Wayer and Feng (2010) identified how climate control, curriculum, community, instructional strategies, support staff, professional development, data systems, and standards, all have a role in enhancing motivation to engage with virtual learning opportunities. Absent from these contributing studies is any data on opportunities or motivation for engagement in course-selection by students with disabilities. A sociological analysis of the literature on self-determination by Shogren (2013), revealed that earlier studies examined: individual factors (e.g. disability, age, gender, race/ethnicity and culture), academic outcomes, family, leadership and access to inclusive settings.

Choosing a course is the first step in gaining access to the general education curriculum. The special education field has until now, focused on the right to gain access to the general education curriculum. It seems timely that we begin to examine student roles in course selection and to overcome a tendency among parents and educators to continue to make important decisions for instead of with transition-aged students with disabilities (Wehmeyer, 2007).

Self-determination is not automatically achieved simply by teaching students to make choices or decisions (Agran, Storey, & Krupp, 2010). The right kinds of choices and supports need to be present to impact volitional action. Research by Reeve, Nix, and Hamm (2013) shows that merely presenting a limited choice of options (you can choose course A or B), does not motivate a student to think and act on their own as a causal agent. Choice is more likely to influence motivation to act if it provides control over both options and actions. Course-selection involves making multiple, complex action-oriented decisions such as encouraging a student to decide which course to take (not limited to A & B) and to select courses of interest to share with other people. Complex choices and decisions are more likely to lead to self-determination than single instances of paired choices embedded in classroom activities (e.g., do you want to do the even or odd numbered math problems?). Action-oriented choices also need to be meaningful and consistently available to enable students to realized self-determination (Wehmeyer, 2015).

Sporadic opportunities to make meaningful choices or decisions (Wehmeyer et al., 2012) are not likely be effective. Yet providing a student with the means and opportunities to make choices and decisions often occurs only as the result of efforts by a dedicated teacher or administrator (Wehmeyer et al., 2014; Shogren et al., 2012). In addition, many students with disabilities are less skilled in making choices than their typically developing peers (Bratovic, Bilic & Nikolic, 2003). These students may require additional practice and support to make choices or decisions, which in turn necessitates additional educator time and resources. One way to provide continuous opportunities for learning and engaging in decision-making., may be to create systemic mechanisms for student engagement in course-selection.

Self-determination is also correlated with quality of life in school for students with disabilities (McDougall, Evans, & Baldwin, 2010). Most high-school students with disabilities spend a significant portion (greater than 80%) of their day in general education classrooms (McFarland, et al., 2019). These classes can positively or negatively impact achievement of post-school outcomes and may be meaningful and thus have the potential to positively impact a student's quality of life. The empirical evidence on the causal relationships between student choice, decision-making and self-determination answers the research question: How does course-selection serve as a means of enabling self-determination by providing evidence that student engagement in course selection would be a reasonable line of inquiry and could add meaningful insight to the body of knowledge on enabling self-determination and accessing the general education curriculum.

Contextual influences on course-selection. Contextual circumstances must also be understood in deciding how to enhance opportunities for student engagement in course-selection. Exploring a circumstance within its context using multiple data sources is a valid approach in conducting qualitative research (Baxter & Jack, 2008; Creswell, 2014). Shogren (2013) conducted a meta-analysis on the context in which self-determination is learned. She concluded, "studying factors with the potential to influence self-determination, can further our understanding of the complexity and pathways for addressing self-determination in research, policy, and practice, something that has been missing from the literature to date" (p. 6). Our study examined several contextual factors based on the literature to inform our understanding of course-selection as it relates to self-determination.

Eccles and Mittman (2006) define implementation science as “the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice” (p. 1). Wehmeyer, Field, Doren, Jones, and Mason, (2004) suggested that efforts to enable self-determination should be linked to school reform efforts that benefit all students; thus, increasing the likelihood of adoption. The extent to which course-selection systems engage students with disabilities has not been studied. Expecting educators to use a new approach bases on the strength of the evidence alone has proven largely unsuccessful (Horner, Sugai, & Anderson, 2010; Wehmeyer, 2007) and limited opportunities for choice making continue to be identified as a challenge within the service system (Shogren, 2013; Werner, 2012).

The multifaceted relationship between self-determination, student and school program characteristics (Shogren et al., 2007) can create obstacles to developing or accepting new approaches to engaging students with disabilities in course-selection at a meaningful level. Teachers report several barriers to engaging students in complex decision-making opportunities. These include: negative beliefs about whether the student will benefit, insufficient time, training and knowledge and insufficient planning time (Carter, Lane, Pierson, & Stang, 2008; Thoma, Pannozzo, Fritten, & Bartholomew, 2002). Perception of what professionals think that students with disabilities might like may also direct vocational decision-making (Martin, Woods, Sylvester, & Gardner, 2005). Decision-making opportunities can also be used to meet the needs and goals of service providers rather than the needs of students (Arnstein-Kerslatem, Watson, Browning, Martinis, & Blanck, 2017).

Decision-making can be fostered using an appropriate interface to transform a choice activity into one that is intrinsically motivating (Assor, Kaplan, & Roth, 2002; Deci, Ryan, & Williams,1996). Two early meta-analysis of group and single-subject design studies on decision-making (Browder, Wood, Test, Algozzine, & Karvonen, 2001; Karvonen, Test, Wood, Browder, & Algozzine, 2004) showed that students with disabilities can acquire skills in choice making, problem solving, decision making, goal setting, self-advocacy, perceptions of efficacy, self-awareness and self-knowledge if they receive direct instruction on these skills. These same studies also revealed that student-directed learning strategies are extremely effective. A more recent meta-analysis on decision-making research, conducted by Werner (2012), showed that people with disabilities can express their views proactively, given the right environment and opportunity. In addition, Sparks (2013) showed that students with disabilities can be taught to make choices related to general scenarios which are not similar to their actual lives.

People with disabilities can act as decision-makers on an equal basis with typically developing people (i.e. substantive equality) when appropriate supports are available (Blanck & Martinis, 2015; Wehmeyer & Shogren, 2016). Their studies suggest that an appropriate support framework should provide 1) accessible opportunities to make choices; 2) instruction in choice-making skills; and 3) supports for taking initiative. The use of visual aids significantly improves advantageous decision-making and enables participants to weigh up evidence through a richer consideration of pros and cons (Werner, 2012). The availability of a suitable framework should help to raise our expectations about student decision-making during course-selection and strengthen efforts to engage students in opportunities to make complex decisions. The support interface should be a contextual fit for school-wide attempts to engage students in choice-making and designed using data from literature on Universal Design for Learning (Meyer, Rose, & Gordon, 2014).

Studies have produced several important recommendations on how best to support decision-making. In 2006, Brown and Bullitis, conducted a literature review showing that "meta-cognition and use of imagery, geared to ability level, can promote problem solving in choice situations." Other studies suggested that practitioners: 1) teach students to use assistive technology to enhance their ability to become independent learners; 2) promote opportunities for students to see themselves as causal agents in the outcome of events and 3) understand the elements of choice-making when providing opportunities and content (Blanck & Martinis, 2015; Izzo & Lamb, 2002; Shogren & Wehmeyer, 2007). Recent studies (Li, 2014; Sparks, Pierce, Higgins, Miller, & Tandy, 2016), also show that the use of photographs as aids may be helpful in assisting students with disabilities to acquire choice-making skills.

Several studies emphasize the importance of using web-based experiences to support students with disabilities in making complex choices that are relevant to their every-day lives as a preferred practice (ADA, 2017; Burgstahler, 2003). Students are more likely to engage with technology that provides the right amounts of access, challenge, choice and control (Bruhn, Hirsch, & Vogelgesang, 2017; Evans & Boucher, 2015). Students are also more likely to engage with technology that they deem to be personally relevant (Brophy, 1998; Katz & Assor, 2007; Rivet & Krajcik, 2008). Technology needs to be both accessible and useful to students with the widest variety of disabilities (Arnstein-Kerslate et al., 2017).

In response to the literature review on self-determination and contextual variables, we conducted a phenomenological qualitative study. This study consisted of observations and interviews in a non-experimental format (Creswell, 2014) and addressed the following research questions: Can students with disabilities successfully navigate a course-selection website (proof-of-concept) and what are student and teacher reactions to the site?

Methods

Study Design. Our approach in completing the study was two-fold. First, we sought to understand how students with disabilities are typically engaged in course-selection. The results suggested that a new web-based approach to course-selection might be a practical solution to student engagement. Next, we designed a proof-of-concept study to determine if it were feasible for students with disabilities to use the website to make choices and decisions about potential courses. Proof-of-concept research discovers how an idea may apply to a type of experience or event. The burden of proof at this level is relatively low. Any evidence that there is a causal connection between the approach taken and the results observed in a single case is usually found as meeting the burden of proof (Kendig, 2016).

Methods for identifying traditional course-selection content and procedures. A representative sample of course description content from 25 US urban and rural high schools was randomly selected for review. In addition, the websites of 10 national on-line high schools were also examined using a similar process. Finally, participants in the proof-of-concept study were interviewed to gain insight into how they typically made course selections.

Methods for analyzing traditional course-description content. Because most high school students with disabilities are reading several levels below their expected grade level (National Assessment of Educational Progress, 2017), the need for a measure on the general readability levels of each course description was indicated. A random selection of five course-descriptions from each of the 25 sites was reviewed using the Flesch-Kincaid Grade Level Measure of Readability (Flesch, 1948). It should be noted that the Flesch-Kincaid is insufficient as a measure of whether a specific text is suitable match for student's grade level reading performance because it does not consider fluency and other important indicators of readability. However, the Flesch-Kincaid does give a standardized measure of the sampled text at the paragraph level based on the number of words per sentence and the number of syllables per word and is suitable for the limited purposes of this study (Crossley, Allen, & McNamara, 2011).

Methods for building potential website course-description content. Descriptions of over 200 high-school courses taken from a Midwestern high-school were selected for the website. A landing page was designed to provide students with a list of available subjects with icons to add meaning to the text. Once a subject is selected, a selection of corresponding course titles is displayed in a new window. When a title is selected, a description for that title appears in bulleted 'learn and do' format. Guidelines on readability issued by the Centers for Medicaid and Medicare (McGee, 2010) were used to simplify the original course descriptions. Readability was reduced to a third grade reading level as calculated by the Flesch-Kincaid. Each course listing was reviewed by two people until a consensus was reached on the match between the shortened content and the original course description content. Five photographs were added to represent the activities referenced in each course description. Photographic match was also confirmed by at least two content reviewers. Ancillary information on coarse credits and pre-requisites was included. Students may add courses to a "class list" and print that list to share with others. Students are not required to provide identifying information to access the website and once a student leaves the computer, their chosen class list is not maintained. This assures student privacy. The website was made available in both English and Spanish. This full website is also available in the public domain at http://pathfinder-nd.org/ddcouncil.

Review of website design elements against the literature. A website review was conducted to assure that it met design criteria. Table 1 lists each element examined and its potential impact on and related studies.

Table 1
Research-based website design elements

Potential design element	Potential impact on self-determination	Supporting research
Provide a means to select available courses	Choice	Opportunities to choose among options, and explore interests helps students to become self-determined learners (Ryan & Deci, 2000).
Present visually with labeled photographs	Flexibility	When choices are presented visually, we have more flexibility in reaching students with disabilities (Antaki, 2008). The use of photos (anchoring) is effective in tying student learning to real world experiences (Brown, Collins & Duguide, 1989);
Provide easy-to-use website navigation tools	Motivation	To be motivated to engage in a task that requires prolonged effort and focus, a student must believe that they can achieve success and competence (Deci & Ryan, 1985)
Assure the content level is a match for students with reading challenges	Meaning Accessibility	Students are more likely to persist in using technologies matched to their abilities, interest and knowledge (Bruhn, Hirsch & Vogelgesang, 2017).

The reviewers determined that the website incorporated all listed elements. The authors also received some social validation for this website as part of a peer-review process used by the State Council on Developmental Disabilities (SCDD) for innovative projects. The SCDD subsequently funded website development.

Student selection criteria and processes. Three to 10 individuals are typically needed for phenomenological studies (Creswell, 2014) so a convenience sample of students with disabilities ages 16-20 (M=18), attending a local public high school that served 932 juniors and seniors were considered. Participants needed to be deemed a student with a disability by an IEP team and be taking at least one general education class. Potential students needed to read at or above a third-grade level and be able to use a keyboard and mouse unaided. The teachers verified that all students met the study's inclusion criteria. Ideally we hoped to include at least five students with intellectual disabilities (ID). Ultimately, only three students with ID agreed to participate. Before the study began, students or their legal decision-makers were required to read and sign an informed consent letter that was previously approved by the Institutional Review Boards for both the university and school district.

In social research, parents are not allowed to dictate their child's participation (Masson, 2004). Although only adults can give informed consent, researchers must make every effort to assure that the children are willing to participate (Dockett, Perry, & Kearney, 2013). In addition, protocols for working with a vulnerable population must also be followed. Protocols, identified from the research (Feldman, Batten, Shaw, & Luckasson, 2013; Freedman, 2001; McDonald, Contoy, Olick, & Panel, 2017) guided the assent interviews. Investigators met with every participant and followed the protocols in obtaining and documenting participant assent.

Setting. Students and teachers were interviewed separately in small groups in a school conference room or classroom. Professionals were not given access to the website independently until after the student orientation, website trials and interviews were completed. This approach prevented any attempts on the part of professionals to influence student responses to the website. An attempt to review the website with parents at a one-time meeting was also made, but no parents elected to participate.

Student participants. Eight females and seven males agreed to participate. Ten students were aged 18 and older, four were aged 17 and one student was 16 at the time of the study. One student self-identified as being Hispanic, the remainder (n=14) were Caucasian. Four students were served under a disability category of Significant Learning Disability; five under Other Health Impairment, three under Autism Spectrum Disorder and three under Intellectual Disability. Six of the students spent more than 80% of the day in the general education classroom. Nine of the students spent between 40 and 79% of their day in the general education classroom. The teachers stated that no student was reading above a sixth-grade reading level. No independent attempts were made to confirm student reading performance levels.

Professional participants. Several professionals from the same high-school were asked to consider participation. Acceptable professionals had to be aware of the traditional processes used to engage students in course selection. Six Caucasian special education teachers (female) and one guidance counselor (male) who had worked in the public schools for an average of 15.6 years volunteered to be in the study and to help to recruit students. The teachers described their classrooms as a resource room or as a transition classroom (not self-contained). All professionals read and signed an approved (IRB) informed consent document.

Students were given a brief demonstration (ten minutes) on how to use the website. The researchers checked the demonstration against a task-analysis of the process to assure all items were covered. Checklist items included establishing rapport before beginning, obtaining the student's attention, demonstrating how to access each level on the website and asking students if they had any questions. The students were given an opportunity to "try out" the website with side by side support provided by the researchers. After two days, students were given a chance to navigate the website with less help.

Interview protocols and process. The authors conducted qualitative observations of how the students interacted with the website based on protocols described by Creswell (2014) and took detailed notes. In addition, the authors designed qualitative semi-structured interviews that included both closed and open-ended questions. The interview questions were designed to align with the research questions (Table 2).

Table 2
Student interview questions

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Choosing Classes without a Website – In the past I . . .					
Read the Course Handbook to find classes.					
Found out from teachers, counselor or parents.					
Learned about classes from other students.					
Chose the classes I wanted to take.					
Using the Website to Learn About Classes – After you showed me the website I . . .					
Could find classes I wanted to check out without help.					
Could navigate the website without help.					
Was able to print a list of classes.					
Found the information easy to understand.					
Found the pictures were helpful.					
Using the Website to Make Choices and Decisions – In the future I . . .					
Want to use this website next time.					
Want to show my class list to others.					
Would show this website to a friend.					
Will bring this class list to my IEP					
Tell us what you liked/disliked about the website?					
Do you have any suggestions to make the website better?					

The researchers also reviewed guidelines established for interviewing students with learning difficulties (vulnerable population) approved by the IRB. These protocols assured that students did not feel pressured to respond positively to questions merely to please the interviewer. All face-to face interviews included at least two investigators to assure that interview protocols were followed. The length of each interview ranged in duration from 5 to 15 minutes. The investigators attempted to catch as many comments verbatim as possible. Although an attempt was made to video record participant keystrokes and audio record their comments, these methods tended to create a barrier to student spontaneity and were discarded after the first interview.

Trustworthiness. When researchers reveal their identities, it helps readers understand how data is interpreted (Mason, 2004). The lead author is the parent of an adult with an intellectual disability and conducted the review of course content and readability study. She played a significant role in designing the website. The other authors did not have experience using the website but did have experience in transition planning and self-determination.

Peer debriefers are commonly used in qualitative research (Denzin & Lincoln, 2011). Peer debriefing helps to limit researcher attempts to distort the results by correlating the interpretation of data with the researcher's preconceived notions (Miles, Huberman, & Saldana, 2014). The authors enlisted the help of a peer debriefer to reduce bias, assure accuracy and secure an alternative perspective in coding and interpreting data (Creswell, 2014).

Data Analysis Strategies. The authors used procedures recommended by Creswell (2014) to identify topical statements and separate relevant from irrelevant information before identifying small segments that reflected a single specific thought. We read through the interview notes several times. This provided an initial understanding of the content, and common themes. Creswell also suggests grouping the segments into categories that reflect various aspects of the phenomenon as it is experienced. We sorted the statements into themes written on the back of each card. Next our peer debriefer read each card and wrote her themes on the front of the card. We then read each statement and compared our identified themes. This provided an opportunity to discuss units of meaning and examine similarities and discrepancies. Categories emerged as we reviewed and made sense of the segments. Initial categories and themes were tested by searching for contradictory evidence. When contradictory evidence was discovered, the initial categories were revised to incorporate the new evidence. A comparison of categories subsequently resulted in replacement of two content headings that reflected researcher bias.

Results

The interviews revealed that all participating students had access to print information on course content and relied on educational professionals to inform them of course availability, eligibility and which ones might meet their unique disability-related needs or career interests. About 87% (*n*=13) of the students stated they got to choose their own classes before using the website. Ninety-three percent (*n*=14) had input from parents and professionals on which classes to take prior to using the website. Only 60% (*n*=9) of the students sought input from friends.

Although almost 93% (*n*=14) of the students told us they navigated the website without help, observations confirmed that 100% of the students independently navigated the website and printed out a class list without further assistance once the orientation was completed. Student comments also indicated that they felt comfortable enough with their skill level to easily show another person how to navigate the website.

All of the students indicated that using the website was a preferred method for choosing classes and wanted to show the website to a friend. Nancy noted that the course catalog (traditional) was not ideal "We have this book to look through. It is very long and confusing. It tells what is in there briefly but not really enough information." Eighty percent (*n*=12) of the students stated the website content was easy to understand.

Staff also gave examples of what they liked about website content and accessibility including that the format had less words and more images than the catalog and took less time and that it would appeal to students because of the brief content and its simplicity, as well as the visual layout. Teachers stated the website may be beneficial to parents who are not good readers or who simply don't have time to read the course catalog and may help with school-to-family connections. Layla also thought the website would be beneficial for English language learners and liked that the information was available in Spanish. When staff were asked if they would use a website like this Cindy stated, "Kids don't read manuals anymore. They Google everything! The website has a greater potential to draw them into the content."
Eighty-seven percent (*n* =13) of the students stated that the pictures helped them choose classes. Jennifer asserted, "It was very straight forward; easy to understand; that makes it [choosing classes] easier." Mary stated:

> The pictures are helpful because you can zoom in and see what you're looking at. I saw one photo of the human body – I never got to see anything like that at [previous school]. It helped me choose because it gives me more background on what the course is all about. It helped me plan for the next year like the science classes. It showed me choices I could make, based on what I'm interested in and what I want to do after high school.

Thomas summed up: "It's a lot easier than having to page through the registration guide, making sure you have the right number. It's nice to be able to click on the class, add it to your list and print it off."

Emily stated: "It gives me a more visual plan of that class. It's a great resource for when you have to choose classes. It's easier for all types of students and teachers as well and makes it so all students can get the information. It's easy to navigate." Nancy liked the fact that the information was also available for people who spoke Spanish. Mary alluded to the functionality of the website: *"*Papers wrinkle and can get lost. The website is more organized, the information is not all smashed together on one page. The colored page we get has too much information on one page and not enough detail.*"*

Students stated that it was easier to access the information to make decisions using the website. Nancy noted, "It was right there, and I didn't have to search. I like the different variety. The little description about each class was very helpful." Several students indicated the website provided exposure to classes they had not known were even available. Nancy noted, "I learned a lot more about classes than I (already) knew. I learned there was more than one option for mathematics and language arts." Mary asserted: "I like it. It's organized. It helped me understand what to expect, what I will be doing and learning in class, so I can make decisions."

William indicated he found more classes with the website than the course catalog. Mary liked how the classes were organized. She stated: "By looking at one area like Art and being able to find which class I want. I learned about different classes and how to find them." Only one student indicated they would like to use the catalog in addition to the SCW. He indicated a preference for using both and accessing the catalog first and then the website for more details. He explained, "I would go to the book (course catalog) first and then go to the website." All of the students demonstrated the ability to save items and print out a class list. Ninety-three percent (*n*=14) of the students stated they would like to bring their class-list to an IEP meeting. Teachers were more cautious in indicating if they might use the website in a transition meeting. One teacher stated she would use it when preparing for the IEP meeting. Another teacher stated the website would be helpful for promoting student and parent involvement. One teacher indicated the website could be helpful in involving students in leading the IEP process but did not volunteer details about how that might work. Teachers also pointed out that the bulk of decisions about their high school classes are made in middle school and at the end of 10th grade, and it would be good to show the website to those teachers and students in the future.

Teachers suggested the website should retain components that showed if classes were required or elective as well as the pre-requisites so students would understand what courses they had to take each year. Debby wanted the website to read the information to the student when they scrolled over the text. Darla stated the website could be simplified by organizing the classes by grade level and taking away any information that did not apply at that level. She also stated it may be helpful for students to have an indication of the level of difficulty associated with each class. Cindy suggested it would be better to have pictures of actual students instead of stock photos. Sam suggested he would also like to see the website list possible future career goals or paths for each class. The teachers pointed out that AP classes should be included, and other classes moved to new sections in the future. Pam wanted to use the term "wish list" instead of "my class list."

Discussion

Course-selection impact on choice, and decision-making. The results of the study indicate that participants provided with information and choice-making opportunities using a web-based tool prefer to use the web-based approach to select high school classes over a traditional approach (reading a course catalog). The study shows that students can select classes for themselves when using a simplified web-based platform. Students were able to independently navigate the website after a brief orientation. Students with intellectual disabilities (*n*=3) had no greater difficulty in navigating the website than did students with other types of disabilities. Teachers indicated they would like an opportunity to use the website when preparing students to participate in their IEP meeting and that the tool may allow for more parent participation. Decision-making about course selection typically occurred only twice a year, usually outside of the IEP process, at a time when school-wide schedules are planned for the semester. Courses were selected before the postsecondary goals were even written. The extent to which these practices are typical of a wide variety of high schools is unknown.

Relying on others to tell them what courses were available seems to limit a student's role in acting as a causal agent. For example, when one teacher was asked for a list of school courses, she provided a list of only 20 out of 250 which she described as courses that "our students had been successful in completing" (C. M. Haarstad, personal communication, March 20, 2018). Even if the course descriptions are read aloud to the students, the sheer number of descriptions that must be shared tends to limit student access to information. However, this website, in leaving out some courses, also limited student access to information.

Participating students experienced a significant barrier in getting and making sense of the information in written course descriptions without the help of a more sophisticated reader. The school was not asked about student access to speech-to-text technology nor did any teacher suggest that such adaptations were available to the students during the study. Oral presentation of text for students with disabilities helps their reading comprehension (Li, 2014; Wood, Moxley & Tighe, 2017). Multiple factors (e.g., disability status, subject area, delivery method) influence the effects of text-to-speech accommodations (Li, 2014). Student access to speech-to-text technology varies widely in U.S. high schools and may not be readily available when students access course descriptions. Information about courses can also be shared verbally. Those approaches continue dependence on others to get information which seems counter-intuitive.

Limitations of the Study. This study was exploratory in nature, and the number of participants limited. Research with a larger population of students is needed to generalize the findings. While some impact on student-decision making was observed, the study did not measure whether student decision-making within the IEP process was enhanced by access to the website. The ability of the website to support a significant number of users has not yet been determined. How teachers might use the site to enhance student decision-making was not measured. Interviews did not include questions about the availability of text-to-speech software and the results have not been independently verified.

Conclusions. Students with disabilities can benefit from visual aids to support decision-making (Sparks et al., 2016; Werner, 2012). This study established proof-of-concept and answered the study's inquiry questions by describing how course-selection relates to self-determination, what contextual factors can and should influence student engagement in course-selection and supporting the conclusion that a systemic process using web-technology represents a viable means to enable choice and decision-making in course selection. Several potential research questions merit further study. We could benefit from a greater understanding of typical practices used to support students with disabilities in selecting courses based on pertinent selection criterion. We might also benefit from a greater awareness of student perceptions of the course selection process and how course selection impacts a student's awareness of the link between a specific course and postsecondary goals. It seems reasonable to explore to what extent students with disabilities even have opportunities for making course selections, to learn whether these experiences have a positive impact on the student's self-determination and finally to better understand what aspects of course selection would best support student opportunities to act as a causal agent.

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An Examination of the Correlation Between Administrator Teacher Support and Teacher Self-Efficacy Level

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Abstract

This quantitative perception study explored the relationship between (a) the amount of administrator support given to teachers who teach special needs students and (b) teacher self-efficacy with regard to teaching special needs students. Electronic surveys were utilized to collect data for this study. Data were collected from 31 administrators and 226 teachers in 13 states across 19 school districts and 77 schools. A Pearson correlation was utilized to analyze the data collected in this study and revealed a significant correlation between administrator support and teacher self-efficacy.

An Examination of the Correlation Between Administrator Teacher Support and Teacher Self-Efficacy Level

Administrators are the leaders of every school, as they are tasked with significant responsibilities, including, but not limited to, public relations, building maintenance, student discipline, and legal matters (National Association of Elementary School Principals [NAESP], 2013). With the shift in what is expected of administrators, many now find themselves at a disadvantage and unable to be knowledgeable about all students, including those with disabilities (Schaaf, 2015). As a result, administrators may be unable to provide the proper support needed to teachers of students with special needs, and administrators may not be able to support teachers when it comes to classroom instruction and behavioral strategies needed for the special needs student teachers serve.

The first genuine effort to educate those with disabilities was in the late 1700s by Valentin Hauy, who opened an institute for the blind (The Editors of Encyclopaedia Britannica, 2013). By the mid-1800s, advocates for students with disabilities searched for ways to better teach and care for people with disabilities while in these institutions. However, by the late 1800s, the push for the education of people with disabilities dwindled (Spaulding & Pratt, 2015).

Additionally, if children with disabilities did receive some form of education or training, their family paid for it. Many families had to pay for children with disabilities to receive an education because, before 1961, public schools in the United States did not educate any children with disabilities (Arkansas State University, 2016). In the early 1950s, parents of children with disabilities began advocating for services for their children in public schools and would often have to sue for better treatment for their children (Spaulding & Pratt, 2015). In 1954, *Brown vs. Board of Education* opened the door for equal treatment, not just for people of color, but also for others who had been treated unequally because of personal traits (Spaulding & Pratt, 2015). Parents of children with disabilities continued their push for equal treatment and free education for their children in the public school setting with little success (Spaulding & Pratt, 2015). Consequently, the idea of special education in the public school setting was initially born with the introduction of Public Law 94-142 in 1975, or the Education for All Handicapped Children Act, as it was also known (Education for All Handicapped Children Act, 1975).

According to a Children and Youth with Disabilities report (National Center for Education Statistics, 2017), there are about 6.5 million children with disabilities that are served within the United States public school system. It is imperative that administrators and teachers adequately equip themselves to help these students, given the high number of students with disabilities in the public school setting and the push for them to be in the general education classroom (Nierengarten, 2013).

Therefore, the type of preparation required for administrators to be effective in supporting their staff and setting the tone for their schools has changed because the number of special education students they are serving has increased (Schaaf et al., 2015). Petzko (2008), as cited in Schaff (2015), noted that although administrators perceived providing services for students with special needs and ensuring proper implementation of a special needs program was vital to them, they did not receive adequate training in these areas. In fact, administrators are tasked with making sure the rights of students with special needs are not ignored and that they are receiving the appropriate supports to make educational gains, in many cases without the proper knowledge of how to do this (Schaaf, 2015). Consequently, this lack of knowledge can cause ineffective leadership practices regarding special education students and those who are tasked with teaching them (Christensen et al., 2013).

Administrators play a critical role in teacher effectiveness in the classroom. According to one study, student academic performance was impacted by administrators and how they applied their knowledge (National Association for Elementary School Principals, 2013). Although more students with disabilities have been included in public education since the passage of Public Law 94-142, there is a significant discrepancy in the success of these students in several subject areas (McLeskey & Waldron, 2015). As asserted by McLesky and Waldron (2015), administrators are an important factor in having a productive and genuinely inclusive school and are considered an essential part of increasing the success of special needs students. For instance, a major study in Minnesota and Toronto identified a positive correlation between student performance and the leadership of the school (The Wallace Foundation, 2013). Additionally, leadership practices have been linked to teacher effectiveness (Emmanouil et al., 2014). Flores (2007) asserted that an administrator's style of leadership impacts a teacher's growth in general as well as in the classroom (as cited in Emmanouil et al., 2014). Finally, research on preparing effective administrators attested to the need for better preparation for administrators to be successful in leading schools that teach students with disabilities (Milligan et al., 2014).

Teachers sometimes make the most significant impact on students academically, and in many instances, students have to interact with their teachers 5 days a week for up to 7 hours a day (Peterson-Deluca, 2016). Given that administrator knowledge and practices impact teacher effectiveness (Emmanouil et al., 2014), a need existed to determine if an administrator's lack of support of teachers who teach students with disabilities impacts a teacher's perceived self-efficacy, which, in turn, can affect student achievement.

Since the passage of the Education for All Handicapped Children Act and the introduction of special education students into the public school system, administrators have struggled with their knowledge of how to best help these students (McLeskey & Waldron, 2015). In many instances, administrators lack the proper education needed to help serve these students appropriately (Christensen et al., 2013). This study sought to examine and determine if there was a correlation between the support administrators provide to teachers of special needs students and the influence it has on the teachers of students with special needs. This study yielded data that helped clarify the relationship between (a) administrator support of teachers and (b) teacher self-efficacy related to teaching special needs students.

Review of Literature

Since the introduction of the Education for All Handicapped Children Act (1975), the number of students in public schools receiving special education services has increased. Consequently, this has caused the role of the administrator to change and evolve as well. Administrators are now expected to provide a multitude of supports, which include having the ability to support the teachers of students with special needs. Unfortunately, in many instances, administrators lack the knowledge needed to help support teachers of special needs students (Schaaf, 2015). The deficits administrators may have in their ability to lead the school because of a lack of knowledge could negatively impact teacher self-efficacy and job satisfaction (Ali & Dahie, 2015; Hoxha & Hyseni-Duraku, 2017; Johnson, 2017). As was reported by McLesky and Waldron (2015), administrators are essential in ensuring a school is productive, fully inclusive, and victorious in helping special needs students be successful.

One major theoretical framework that formed the foundation of this study was the self-efficacy theory (social cognitive). Self-efficacy is the belief people have in their abilities to yield levels of performance that may have an impact on a variety of aspects of their lives (Bandura, 1994). These beliefs determine much in people's lives, including how they feel, what they think, how they may motivate themselves, and even how they behave. Additionally, people's self-efficacy can impact the activities they choose to participate in, how much of an effort they put into something, and how long they will continue to persevere in the midst of difficult challenges and uncomfortable experiences (Bandura & Adams, 1977).

Furthermore, the efficacy beliefs of a person tend to have a significant impact on how much stress and depression a person experiences throughout his or her lifetime. If people have a higher perceived self-efficacy level, they are more likely to persevere in the face of adversity and eventually conquer whatever problems exist. However, people with a lower perceived self-efficacy level will be more likely to discontinue tasks that cause them discomfort or problems (Bandura & Adams, 1977). Additionally, another critical aspect of this theory is reinforcing people's beliefs in their abilities so they can reach their full potential (Bandura, 1988). Bandura (1989) emphasized this significance by asserting there is nothing more important than what people perceive their abilities to be because it directly impacts their motivation level in completing a task, the feelings they have toward a task, and the actions they take to complete a task.

Self-efficacy is the belief people have in their abilities to successfully perform in such a way as to reach mastery of the task or goal that is set before them (Bandura, 1988). This theory of belief in one's abilities also applies to teachers. Teachers' beliefs in their own self-efficacy when it comes to helping students learn can impact their classroom environment and the amount of academic progress students achieve while in their classroom (Bandura, 1993). To be effective, teachers must have a high sense of self-efficacy in their ability to successfully teach their students in a way that the students will learn the content presented. Teachers must learn how to create an environment in their classroom that is geared toward learning. Multiple studies (Bandura, 1993; Holzberger et al., 2013; Tai et al., 2012) have shown that much of what determines the environment within a classroom is dependent on teacher self-efficacy in their instructional strategies. Without a high level of self-efficacy, teachers can often find themselves having a lack of commitment to teaching and spending little time on academic matters.

Teacher self-efficacy has been shown to impact teachers in a multitude of ways, including, but not limited to, quality of instructional content, student achievement, attitude about inclusion of students with disabilities, and job burnout (Montgomery & Mirenda, 2014; Shahzad & Naureen, 2017; Shoji et al., 2015; Tai et al., 2012). Having positive self-efficacy is an essential part of the teacher's ability to be successful in the classroom. Several studies (Bandura, 1993; Holzberger et al., 2013; Tai et al., 2012) have also shown that teacher self-efficacy can impact a multitude of factors that directly impact student learning and performance.

One longitudinal study completed by Holzberger et al. (2013) revealed through the measurement of teacher self-efficacy and instructional quality that teacher self-efficacy had a positive impact on teacher instructional quality. Additionally, in a study completed by Tai et al. (2012), self-efficacy was also found to have a positive impact on student learning satisfaction, which is directly impacted by the instructional quality of the lessons the teacher is teaching. The studies by Holzberger et al. (2013) and Tai et al. (2012) supported the findings from a similar study conducted by Bandura (1993) that consistently indicated a positive correlation between a person having a high level of self-efficacy in regard to a task and his or her ability to produce that task.

Multiple studies over the years have consistently shown that a teacher's level of self-efficacy has a direct impact on student achievement as well (Ahmad & Rehman, 2014; Bandura, 1993; Shahzad & Naureen, 2017; Wong et al., 2017). Ahmad and Rehman (2014) confidently asserted that the attitude or efficacy of the teachers did, in fact, impact the achievement of the student. The environment the students were taught in, whether a nurturing, friendly environment by a supportive teacher or one that lacked these characteristics, had a direct impact on the achievement of the student (Ahmad & Rehman, 2014).

Similarly, a study by Wong et al. (2017) found that if a teacher had negative self-efficacy, it had a direct impact on the academic achievement of students. In addition, research carried out by

Shahzad and Naureen (2017) on the impact of teacher self-efficacy on secondary students' academic achievement was also able to show that high teacher self-efficacy had a positive impact on secondary student achievement.

The self-efficacy concept has a major impact on many areas of a teacher's life. Within the literature (Damanick & Aldridge, 2017; Hoxha & Hyseni-Duraku, 2017; Mehdinezhad & Mansouri, 2016; Sein et al., 2016), another area that is often studied regarding self-efficacy is administrators and the impact they have on self-efficacy. Research has shown that leadership can have an impact on teachers' levels of self-efficacy. In a study by Hoxha and Hyseni-Duraku (2017), the relationship between teachers' perceptions of principal or administrative behaviors and their self-efficacy was investigated. Hoxha and Hyseni-Duraku concluded that leaders in their study had a positive influence on teachers' self-efficacy levels. They were able to determine that idealized influence and self-efficacy in schools had the strongest correlation and that the strongest predictor of teacher self-efficacy was intellectual stimulation from leaders. Similarly, in studies by Damanick and Aldridge (2017) and Sein et al. (2016), it was found that there were significant relationships between leadership style and teacher self-efficacy.

Additionally, research conducted by Mehdinezhad and Mansouri (2016) on the relationship between school principals' leadership behaviors and teachers' self-efficacy also determined there was a relationship between principal leadership and teacher sense of self-efficacy. The findings from their study showed there was a significant positive relationship between teacher sense of self-efficacy and leadership behaviors. In particular, the influence of a leader had the highest correlation to teacher sense of self-efficacy in regard to students in educational activities. Mehdinezhad and Mansouri asserted that a leader's behavior could influence factors such as values, beliefs, and the goals of their followers. Subsequently, they gave recommendations to implement programs or actions that would encourage and boost the level of self-efficacy in teachers and, in turn, increase the level of achievement in students.

Similarly, in research conducted by Gallante (2015) to determine whether a relationship existed between administrator leadership and teacher self-efficacy, the correlation between leadership and teacher self-efficacy was again demonstrated. The researcher determined there were significant relationships between instructional leadership and the engagement of the teacher, as well as with conflict and teacher engagement. Other connections to self-efficacy found in this study were with the principal, principal support, principal guidance, and structure (Gallante, 2015). Consequently, Gallante asserted that principal human relations, trust, instructional leadership, control, and conflict management all play a part in teacher self-efficacy, and as a result, this should be something that is taught to future administrators in principal training and development programs. Moreover, Gallante asserted that administrators should be "master teachers" and be required to show they can appropriately model effective teaching strategies so teacher efficacy can be increased. In studies by Stipek (2012) and Crosby (2015), they found that the support teachers received from their administrators positively impacted teacher self-efficacy, further supporting Gallante and his assertion that administrators should be "master teachers" and able to support teachers with effective teaching strategies. As the previous studies (Crosby, 2015; Damanick & Aldridge, 2017; Gallante, 2015; Hoxha et al., 2017; Mehdinezhad & Mansouri, 2016; Sein et al., 2016; Stipek, 2012) have shown, when it comes to administrator leadership and the impact it has on teacher self-efficacy, a factor that consistently played a part was the support of the administrator.

Talley (2017) investigated what teachers perceived as a lack of administrator support and how it impacted teacher self-efficacy. The findings suggested that the teachers felt that specific elements of expressive and instrumental support were the most impactful. In particular, lack of discipline, trust in being fair, lack of consistency, lack of respect, lack of modeling, being unapproachable, and an inability to build self-esteem were all areas that impacted teacher self-efficacy negatively (Talley, 2017). The participants in this study expressed a lack of commitment to the school when they were lacking in these much-needed areas of support. Suggestions from Talley include, the need for administrators to support teachers with classroom management when needed, build a respectful and trusting relationship with staff members, visit classrooms, and provide constructive feedback. Administrators should also be sure to recognize teacher achievements and build up teacher self-efficacy and self-esteem, be approachable, allow for collaboration, outline expectations, and be consistent, as noted by Talley.

Furthermore, research conducted by Lambersky (2016) in Canada also demonstrated that the administrator was a factor that impacted teacher self-efficacy. Lambersky determined that the administrator had an impact on teacher self-efficacy in several ways, including lack of professional development provisions, alterations to teaching schedules, not providing adequate support to teachers, comparing teachers to one another, lack of acknowledgment, having favorites, and mindless bureaucracy. Lambersky further stressed the need for better preparation programs for administrator candidates and for additional training for those who are already administrators in order to have a better impact on their teachers, students, and school as a whole.

Finally, Skaalvik and Skaalvik (2016) conducted similar research to explore how seven stressful school variables predicted teacher self-efficacy and were able to further assert that lack of administrative support was significant to teacher self-efficacy. Their findings suggested that, for the teachers in this study, self-efficacy was negatively associated with a lack of supervisory support and low student motivation (Skaalvik & Skaalvik, 2016).

Administrators

The field of administration, prior to the 19th century, started with teachers already involved in the work of teaching reading, writing, and math taking on additional leadership duties within the school (Allen, 2014). The role and title of "principal" or "administrator" came about largely due to political, economic, and social issues in the United States. Due to attendance laws in place, the population within schools increased, presenting the need for someone to be responsible for the management and supervision of the daily operation of the school and school staff. During the 1920s, the United States recognized that there should be preparation for elementary school principals, which should include four years of college and an additional year with a focus in education (Allen, 2014).

During the 1930s, the work of a principal began to be viewed as primarily administrative and not instructional. In response, universities first started programs for the training of administrators with classwork that reinforced the view of the administrator as administrative and not instructional because they were essentially the "managers" of the school (Ediger, 2014). Toward the end of the 1930s, though, with the Depression at its fullest, the role of administrator added to its duties by providing support to staff, students, and the community.

The 1940s brought changes again to the role of the administrator, with the focus shifting to the supervision of teachers and improving instruction. During this time period, leadership theories emerged that would help guide administrators in decision-making and thinking for years to come. According to Allen (2014), during this decade, a full-time administrator that was no longer expected to split time between teaching and the duties of an administrator would replace the teaching principal.

The 1960s introduced even more change for the administrator. Due to lower test scores during this decade, the accountability movement began and greatly influenced the role of the administrator (Allen, 2014). Other political and social issues of this era, such as school integration, also contributed to changes for administrators. Administrators soon learned that participation of stakeholders was needed to fully achieve school goals.

During the 1970s, administrators again received additional duties, which included ensuring the community, businesses, and the public in general were involved in what was happening in the schools. Other legislative laws passed during this decade provided for a Free Appropriate Public Education (FAPE) for everyone, even those with disabilities who had not typically been included in the public education system. The 1980s, 1990s, and 2000s consisted of educational reforms for administrators and schools to help improve student achievement. Administrators were soon viewed as the managers and instructional leaders of schools during this time period (Allen, 2014).

According to Elliott and Clifford (2014), administrators are currently expected to lead and improve schools. They carry out a multitude of duties, such as being visionaries, instructional and curriculum leaders, masters of assessments, providers of discipline, community leaders, the face of the school, school managers, program administrators, and experts of all laws, policy mandates, and initiatives (National Association of Elementary School Principals, 2013). Administrators can no longer just be the “managers” of schools; they must become leaders who can construct teams that can present effective instruction to students (The Wallace Foundation, 2013).

Administrators must now shape visions for academic success in all students, create a good work climate for teachers and students that is safe, encourage leadership in others within the school to help it achieve its vision, improve instruction, and manage people. According to Fink and Rimmer (2015), all that administrators must now oversee can be grouped into four separate areas: vision/mission and culture building, improvement of instructional practice, allocation of resources, and management of people and processes. In order to understand the reasons for areas of deficit in school administrators, it is important to understand how the role of the administrator has changed over the years, turning once effective administrators into ineffective administrators if they are not trained properly.

Administrators are vitally important to the school as a whole because of all they do, but especially to students and teachers. According to Herman and Gates (2016), because administrators influence school climate, school culture, and curriculum, they are very important to the school. Furthermore, according to Chubb (2014), administrators have an impact on teachers within the school as well. The relationships they form with teachers as coaches, mentors, or supporters are integral factors in the overall performance of the teacher, student, and school; perhaps the most important impact an administrator can make on students. Elliot and Clifford (2014) asserted that what principals do or the way in which they lead makes a difference to all students and teachers. They further argued that in effective schools, in which almost all students reach performance targets, administrator leadership has been shown to make a difference. Research conducted by Dhuey and Smith (2014), in which the effect of administrators was measured, found that administrators could have a significant positive impact on reducing achievement gaps in students. Findings from their study further suggested that an administrator could substantially impact student achievement in reading and math (Dhuey & Smith, 2014).

Administrators are also able to influence teacher effectiveness, self-efficacy, and morale by their leadership styles. Dumay et al. (2013) conducted research on the effects of administrator leadership on student achievement. The findings stated that administrator leadership most impacted student achievement through the influence it had on teacher collaboration and collective efficacy. This finding suggests that administrators should ensure teacher collaboration and collective efficacy are viewed positively in their schools in order to help increase student achievement.

An area of concern for many teachers, in regard to their administrators, is the amount of support they receive. Administrator support of teachers has a great impact on teacher job satisfaction, job performance, and whether teachers choose to remain or leave the field of teaching (Learning Policy Institute, 2017). Administrator support can be given in many ways, such as emotional or instructional support, instructional resources, teaching materials, or professional learning opportunities. In a study by Sipes (2014), it was found that the administrator’s ability to support teachers impacted teacher performance in the classroom. When the administrator supported the teachers appropriately, this support positively impacted their performance. Likewise, when administrators failed to support teachers appropriately, it negatively impacted teacher performance in the classroom (Sipes, 2014). Support or lack of support from administrators can negatively impact teacher performance and, in turn, negatively impact student performance. Additionally, in research by Combee (2014), participants in the study placed a high value on administrators’ emotional, instructional, and classroom management support. Teachers who had high levels of self-efficacy in this study had an increased level of administrator support. Combee suggested that administrators investigate their level of support to determine what impact it may have on teachers’ self-efficacy. The researcher further asserted that administrators and teachers should collaborate in order to ensure appropriate supports are provided that will help with the retention of teachers and student achievement.

A significant consensus among several studies (Christensen et al., 2013; Decker & Brady, 2016; Espinoza & Cardichon, 2017; Nichols & Sheffield, 2014; Pinder, 2017; Simon, 2014) noted the need for better administrator preparation programs. Christensen, Williamson, Robertson, and

Hunter (2013) found that current administrators in their study believed they needed more training in several special education areas, including curriculum, discipline, state testing and accommodations, special education laws, inclusive school culture, and mentoring new special educators. A majority of participants in their study noted that their preparation programs did not prepare them for special education at all. Another study conducted by Nichols and Sheffield (2014) found that administrators needed additional training in cultural sensitivity, co-teaching techniques, and administrative support. Yet another study by Pinder (2017) found that administrators did not feel as though their preparation programs prepared them to be instructional leaders. Pinder gave several suggestions for improvement, including preparation programs with embedded practice opportunities, programs with more emphasis on being instructional leaders, and continued support for new administrators after program completion.

It is important to note that as schools of teacher education make a shift and attempt to better prepare their teachers for teaching in inclusive settings, the need for administrator training programs to teach these concepts may decrease. Since the rise of awareness about the need for inclusive teaching strategies for all educators, several teacher training programs have increased the level of instruction they provide in this area. Similarly, school districts across the United States have provided professional development opportunities for their teachers in inclusive settings. This increase in the level of knowledge teachers now have about special education may decrease the need for administrators to be so knowledgeable in this area. Research conducted by Gordon (2017) showed a positive correlation between teacher self-efficacy and knowledge of special education. In another study by Wells (2016), research showed that teachers of special needs students with severe disabilities had a high self-efficacy rate. Finally, in a study by Antoniou et al. (2017), it was found that teachers of special needs students possessed a high self-efficacy rate when it came to teaching these students.

The role of school administrator has changed and evolved since its birth in the early 19th century. Administrators' additional responsibilities have caused them to wear a great multitude of hats and oversee a wide variety of tasks (Allen, 2014). The various hats administrators wear and additional responsibilities without adequate preparation have, in some cases, had an impact on student achievement, teacher effectiveness, teacher self-efficacy, and teacher job satisfaction (Chubb, 2014; Damanik & Aldridge, 2017; Dhuey & Smith, 2014; Herman & Gates, 2016; Mojsa-Kaja et al., 2014). Occasionally, school administrators are expected to oversee and ensure compliance of laws, initiatives, and strategies for which they have very little knowledge or training (Sciullo, 2016). This lack of knowledge can negatively impact the performance of administrators in knowing how to be effective in inclusive settings. Failure to provide the proper support to teachers in regard to instructional support, providing a culture of inclusiveness, and promoting teacher collaboration have led to a decrease in school administrator self-efficacy in some cases, which can impact teacher efficacy and teacher job satisfaction, as well as student achievement (Dumay et al., 2013; Gallante, 2015; O'Reilly, 2014).

Methods

Participants

A total of 263 participants from a convenient sample of administrators and teachers (general education inclusion teachers and special education teachers) participated in the study. Participants were recruited through district networking and social media (i.e., Facebook).

Approval was sought from superintendents from school systems that provided services to students with disabilities. These superintendents were contacted via email. Once approval was obtained, then approvals from building-level principals within the district were obtained. Principal and teacher surveys were then sent utilizing employer emails. All participants were asked to consent prior to completing the one-time, anonymous survey

Specifically, 31 administrators from 19 school districts located in 13 states across the United States completed the survey. The demographic data obtained from administrators revealed that 55% (*n* = 17) of the administrator respondents were male and 52% (*n* = 16) were between 35-44 years old. Approximately 32% (*n* = 10) of respondents had between 1 to 5 years of experience as an administrator. Over 45% (n = 14) of administrators came from a suburban school district. Additionally, 42% (*n* = 13) of administrator respondents worked at the elementary school level, and over half were administrators in a suburban school district. Administrator demographics are provided in Table 1.

Table 1
Administrator Demographics

Variable	*n*	%	Cumulative %
Gender			
Male	17	54.84	54.84
Female	14	45.16	100
Age			
20-24	2	6.45	6.45
25-34	8	25.81	32.26
35-44	16	51.61	83.87
45-54	5	16.13	100
Years as a Principal			
1-5	10	32.26	32.26
6-10	9	29.03	61.29
11-15	7	22.58	83.87
16+	5	16.13	100
Grade Level of School			
Elementary K-5	13	41.94	41.94
Middle School 6-8	9	29.03	70.97
High School 9-12	9	29.03	100
Community Type			
Urban	4	12.90	12.90
Suburban	14	45.16	58.06
Rural	13	41.94	100
SPED Certified			
SPED Certified	4	12.90	12.90
Not SPED Certified	27	87.10	100
SPED Experience			
SPED Experience	11	35.48	35.48
No SPED Experience	20	64.52	100
Percent of SPED Population			
0-10%	14	45.16	45.16
11-20%	16	51.61	96.77
21-30%	1	3.23	100

Degree			
Master’s	8	25.81	25.81
Master’s +30	6	19.35	45.16
Specialist	5	16.13	61.29
Doctorate	11	35.48	96.77
Bachelor’s	1	3.23	100
SPED Courses Taken			
0 SPED Courses	6	19.35	19.35
1-2 SPED Courses	11	35.48	54.84
3-4 SPED Courses	7	22.58	77.42
5+ SPED Courses	7	22.58	100
SPED Instruction Received			
A Little	17	54.84	54.84
Some	10	32.26	87.10
A Lot	4	12.90	100

Teacher participants included 226 teachers from 19 school districts located in 13 states across the United States. Teacher demographics are provided in Table 2. Demographic data obtained from teachers that participated in the study revealed that 80% (*n* = 181) of the teacher respondents were female and 81% of the respondents were Caucasian. Approximately 35% (*n* = 80) were between 45-55 years old, and 37% had obtained at least a bachelor’s degree. Over half of the teachers had at least 16+ (*n* = 113) years of experience, and 42% worked at the elementary school level. Many teachers came from suburban school districts, with over 52% (n = 119) of respondents choosing it as the community in which they work.

Table 2
Teacher Demographics

Variable	*n*	%	Cumulative %
Gender			
Male	36	15.86	15.86
Female	181	79.74	95.59
Unknown	10	4.41	100
Race			
Caucasian	184	81.06	81.06
African American	18	7.93	88.99
Hispanic	3	1.32	90.31
Native American	2	0.88	91.19
Other	2	0.88	92.07
Unknown	18	7.93	100
Age			
20-24	10	4.41	4.41
25-34	38	16.74	21.15
35-44	66	29.07	50.22
45-54	80	35.24	85.46
55+	33	14.54	100
Years Teaching			
1-5	40	17.62	17.62
6-10	30	13.22	30.84
11-15	44	19.38	50.22

16+	113	49.78	100
Grade Level of School			
Elementary K-5	96	42.29	42.29
Middle School 6-8	81	35.68	77.97
High School 9-12	50	22.03	100
Community Type			
Urban	30	13.22	13.22
Suburban	119	52.42	65.64
Rural	78	34.36	100
Certification in SPED			
Certified SPED	68	29.96	29.96
Not Certified SPED	159	70.04	100
SPED Experience			
SPED Experience	127	55.95	55.95
No SPED Experience	100	44.05	100
Percent of SPED Population			
0-10%	96	42.29	42.29
11-20%	84	37.00	79.30
21-29%	31	13.66	92.95
30-49%	11	4.85	97.80
50+%	5	2.20	100
Degree			
Bachelor's	83	36.56	36.56
Master's	81	35.68	72.25
Master's +30	32	14.10	86.34
Specialist	25	11.01	97.36
Doctorate	6	2.64	100

Research Design

This study was designed as a quantitative, explanatory correlational study to determine the association between administrators' support of teachers that teach special needs students and teacher self-efficacy using a perception survey. Administrators were provided an opportunity to consent and complete the survey electronically through their email and a link provided through social media. Data from the surveys were analyzed to determine if correlations existed between the variables. The 0.05 level of significance was used to accept or reject the null hypothesis. The research question used to guide this study was: *Is there a correlation between (a) teacher perception of administrators' support toward teachers and (b) teacher self-efficacy level in teaching students with special needs?*

Two electronic instruments were utilized to collect data for the purposes of this study. The *Methner Administrative Support Survey* (Methner, 2013) was used to determine the perceived amount of support provided to teachers by their administrators. This instrument was utilized to help determine if there was a correlation between administrator support and teacher self-efficacy in teaching special needs students. This instrument consisted of 22 questions. The scoring method for this instrument consisted of a five-point scale and included the following choices: Strongly Disagree (scored as 00), Disagree Somewhat (scored as 01), No Opinion (scored as 02), Agree Somewhat (scored as 03), and Strongly Agree (scored as 04). In order to quantify this survey, the scores in the survey were averaged.

According to Cresswell (2015), a source of validity evidence, in regard to content, can come from an expert in the field that is being studied. This survey was validated by use of an expert panel, a MASS pilot group with focus group discussion, and literature on the topic (Methner, 2013). The panel consisted of 11 experts in a variety of areas, including four professors with K-12 expertise, four practicing K-12 teachers, and three current administrators. Those in the expert panel group examined the subscales, test items, and format of the survey. Those in the pilot group were teachers who were also graduate students. The focus group discussion followed the pilot of the MASS survey. Pilot group participants were asked two questions about each item relating to the quality of the subscales, item clarity, and redundancy of items. Additionally, they were asked to examine the format and ease of reading the questions. Information was obtained from the expert panel, pilot group, and group discussion. This information was used to make changes and improvements to the MASS prior to approval for use to begin the study (Methner, 2013).

To ensure reliability for the final version of the *Methner Administrative Support Survey*, the draft version was given a pilot study (Methner, 2013). The participants were asked to identify problem items and administrative issues as well as assess the reliability of the instrument. Changes were made according to the feedback received from the pilot study. In addition, reliability coefficients and Cronbach's alpha were calculated for overall administrative support, overall follower readiness, all subscales, and the MASS instrument as a whole. Cronbach's alpha for the perception of administrative support section of the instrument was 0.898, confirming good internal consistency. The following variables were negatively correlated with support: Question 18, Question 19, and Question 21. These variables were automatically reverse coded to improve reliability.

The *Teacher Sense of Self-Efficacy Survey* (Tschannen-Moran & Woolfolk Hoy, 2001) was also utilized in this study to obtain perceived self-efficacy among teachers in regard to teaching students with special needs. This instrument helped determine whether or not there was a correlation between administrator support and teacher self-efficacy in teaching special needs students. This instrument consisted of 12 questions. The scoring method for this instrument consisted of a scale, one to nine, with the following choices: None at All (scored as 1), Very Little (scored as 3), Some Degree (scored as 5), Quite a Bit (scored as 7), and A Great Deal (scored as 9), with each representing a degree on the continuum. In order to quantify this survey, the scores in the survey were averaged.

According to Cresswell (2015), a source of validity evidence, in regard to content, can come from an expert in the field that is being studied. To establish the content validity of this instrument, ten expert reviewers, including two researchers and eight graduate students with teaching experience ranging from 5 to 28 years, were chosen to help develop the instrument (Tschannen-Moran & Woolfolk Hoy, 2001). Each member of the group contributed questions to the initial instrument. Initial items were discussed and eliminated according to the discussion of the group. Three separate studies were conducted to examine the validity of the instrument. The original study started with 52 questions. Those items were reduced to just 32 after the first study. In the second study, the items were further reduced to 18 questions. Due to results of the final study, the instrument was finalized into two different forms: a long form with 24 questions and a short form with 12 questions (Tschannen-Moran & Woolfolk Hoy, 2001). Validity of both the long and short forms was further examined by comparing the correlation of the new measure with other existing measures. The results indicated this measure could be considered valid (Tschannen-Moran & Woolfolk Hoy, 2001).

The reliability of the *Teacher Sense of Efficacy Scale* was examined through the use of two factor analysis tests. The first test given to measure reliability of the *Teacher Sense of Efficacy Scale* was the principal-axis factoring with varimax rotation. Additionally, a second-order factor analysis was conducted to further measure the reliability of this instrument. This analysis revealed a strong factor, with factor loadings from 0.74 to 0.84. According to these, the *Teacher Sense of Efficacy Scale* can be considered able to measure efficacy. This type of testing helped establish reliability by examining the stability of the scores over a period of time as well as by identifying items on the instrument that were alike (Cresswell, 2015). Additionally, reliability coefficients and Cronbach's alpha were calculated for the *Teacher Sense of Efficacy Scale* since it helps test for internal consistency (Cresswell, 2016). Cronbach's alpha for the long and short versions of the scale was 0.94 (long form) and 0.90 (short form), meaning both could be used to measure efficacy (Tschannen-Moran & Woolfolk Hoy, 2001).

Findings

This study sought to determine whether there was a correlation between teacher support from administrators as perceived by teachers and teacher self-efficacy level regarding teaching students with special needs. A Pearson correlation analysis was utilized to answer the research question. Prior to the analysis, the assumption of linearity was assessed. A Pearson correlation requires that the relationship between each pair of variables is linear (Conover & Iman, 1981). This assumption is violated if there is curvature among the points on the scatterplot between any pair of variables. This assumption was not violated since there was not a curvature among the points on the scatterplot between any pair of variables. Figure 1 presents the scatterplot of the correlation. A regression line has been added to assist the interpretation.

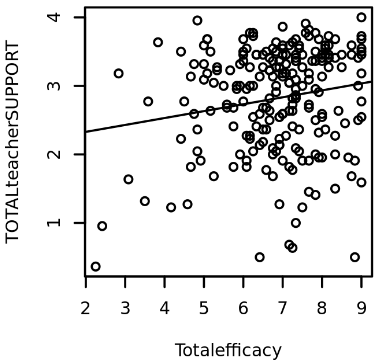

Figure 1. Scatterplots between each variable with the regression line added.

The correlations were examined based on an alpha value of 0.05 to ensure there was a small margin of error. Cohen's standard was also used to evaluate the strength of the relationship, where coefficients between .10 and .29 represent a small effect size, coefficients between .30 and .49 represent a moderate effect size, and coefficients above .50 indicate a large effect size (Cohen, 1988). A significant positive correlation was observed between teacher self-efficacy level and perceived administrator support (n= 227, r_p = 0.17, p = .009). The correlation coefficient between administrator support and teacher self-efficacy was 0.17, indicating a small effect size. This correlation indicates that as teacher administrator support increases, teacher self-efficacy tends to increase. Thus, the null hypothesis is not accepted, and it is found there is a correlation between (a) teacher support from administrators and (b) teacher self-efficacy level in teaching students with special needs. Table 3 presents the results of the correlation.

Table 3

Pearson Correlation Results Between Teacher Support from Administrators and Teacher Self-efficacy Level

Combination	r_p	Lower	Upper	p
Teacher support from administrators-teacher self-efficacy level	0.17	0.04	0.30	.009

Note. The confidence intervals were computed using α = 0.05; n = 227.

Discussion

The education of students with disabilities is a relatively new concept (Spaulding & Pratt, 2015), having begun in the early 1800s. In the world of public education, the idea of educating students with disabilities with their non-disabled peers has only been around since the introduction of Public Law 94-142 in 1975 (Education for All Handicapped Children Act, 1975). Although many positive changes have been made when it comes to educating students with disabilities since 1975, there are still areas in need of improvement (McLesky & Waldron, 2015). One such area is the preparation of future administrators. Research completed on the training of administrators has asserted that there is a need for better preparation of administrators in order to increase success in leading a school that teaches students with disabilities (Milligan et al., 2014).

Another study of administrators found that many in the study believed there should be more training on special education during administrator training programs and felt their own preparation programs did not prepare them at all (Christensen et al., 2013). These administrators suggested better preparation on special education topics such as curriculum, discipline, state testing and accommodations, special education laws, inclusive school culture, and mentoring new special educators during future administrator training. Although many administrators asserted that they, themselves, do not have much special education training, they are still expected to lead teachers in a way that has a positive impact on them and the students under their guidance (Dhuey & Smith, 2014; Dumay et al., 2013). This is of particular importance since leadership practices of administrators have been linked to student performance (The Wallace Foundation, 2013) and teacher effectiveness (Emmanouil et al., 2014).

In a study by Koonkongsatian (2017), the area of administrative support was found to be lacking. The participants of this study suggested practices such as better communication, support with curriculum and materials, and additional support with IEP paperwork and meetings as ways their administrators could better support them. Additionally, Arrah and Swain (2014) found that teachers of special needs students often lack appropriate support from administrators and suggested better training to help increase the level of support they receive. Lastly, Sipes

(2014) found that positive administrator support had a positive impact on teacher performance and negative administrator support had a negative impact on teacher performance.

This research study sought to determine if there was a correlation between the support an administrator gave teachers of students with special needs and the self-efficacy level of teachers who teach students with special needs. The researcher presumed there would be a correlation between administrator support of teachers who teach students with special needs and the self-efficacy level of teachers who teach students with special needs given administrator support has been shown to impact teacher performance in the classroom (Sipes, 2014). Additionally, in many instances, when teachers had a high level of self-efficacy, they also had an increased level of administrator support, according to Combee (2014). On some occasions, the lack of support that teachers of special needs students experienced was a factor in poor teacher performance (Arrah & Swain, 2014). Arrah and Swain's research (2014) asserted it is important to have positive administrator support in order to have a high level of effectiveness in the classroom.

Analyses indicated there was a significant positive correlation between the pair of variables ($p < 0.05$). Thus, the hypothesis was accepted, and the researcher concluded there was a correlation between (a) administrator support of teachers who teach students with special needs and (b) the self-efficacy level of teachers who teach students with special needs. This data showed that, for this sample, the level of support a teacher received from an administrator and a teacher's self-efficacy with regard to teaching a student with special needs had a significant positive correlation. As the level of support from an administrator increased, the level of self-efficacy a teacher had in teaching students with special needs increased. Similarly, as the level of support from an administrator decreased, the level of self-efficacy a teacher had in teaching students with special needs decreased.

This finding aligned with previous research about administrator support and teacher self-efficacy. In previous research, administrator support has been found to have an impact on the self-efficacy of teachers (Mehdinezhad & Mansouri, 2016). Similarly, another study concluded that administrator support impacts many areas of teacher self-efficacy, including their emotional well-being, morale, stress, and commitment (Lambersky, 2016). Skaalvik and Skaalvik (2016) found that a low self-efficacy level in teachers was associated with a lack of supervisory support.

A factor that could have impacted the correlation between the two variables was the knowledge level of the teacher in regard to special education. As more awareness is brought to light about the need for inclusive teaching strategies for all educators, teacher training programs have been revamped to provide instruction in this area. Additionally, school districts across the nation have also provided more professional development opportunities to their teachers in inclusive settings. An increased level of knowledge about special education may decrease the need for administrator support without impacting the level of self-efficacy in teachers. In research by Gordon (2017), results showed a positive correlation between teacher self-efficacy and knowledge of special education. Similarly, research conducted by Wells (2016) showed that teachers of special needs students with severe disabilities had a high self-efficacy rate. Finally, Antoniou et al. (2017) found that teachers of special needs students in their study had high self-efficacy scores when it came to teaching special needs students.

Limitations

The nature of this study design limited the researcher in a number of ways. Given this study was a quantitative study, the researcher was not able to fully explore the perceptions of teachers about principals. The researcher was not able to obtain additional feedback and the rationale of participant answer choices to help determine additional factors that could have impacted the study results. Additionally, due to the number of participants linked to each principal, the researcher was not able to compare principals with the specific teachers they served in regard to administrator knowledge of special education laws and procedures and perceived administrator knowledge of special education laws and procedures. Furthermore, this study was considered a perception study, which means all responses were dependent upon the participants' views, and responses may have been chosen based on bias. Although the researcher assured participants of anonymity, the participants may have had difficulty answering all questions honestly without worrying about how it might impact their administrators.

Though the researcher attempted to gather a wider sample size, this study included a convenience sample of no more than 300 participants; thus, the results of this study can only be generalized to the final population, given there was no random sampling utilized. Additionally, participants in this study were surveyed during the spring semester of the school year, which can often be overwhelming for teachers due to the accountability of standardized testing. This factor may have resulted in hasty attempts by teachers to complete the survey, thus yielding less accurate data. Finally, this study did not pair administrator responses with teacher responses to determine if there was a correlation between the two variables. Additional insight may have been obtained from the pairing of these two variables.

Implications and Recommendations for Practice

Data from this research did find there was a correlation between administrator support of teachers who teach special needs students and the self-efficacy of teachers who teach special needs students. This finding supports previous research that has shown a correlation between the degree to which an administrator provides support to a teacher's self-efficacy (Combee, 2014; Sipes, 2014). In some studies, teachers lacking administrator support was an important factor that contributed to poor performance in teachers (Arrah & Swain, 2014).

Based on the findings, the following are recommendations for education stakeholders regarding future practice. School districts and school administrators should develop professional learning communities (PLC) throughout their districts and their schools to help increase teacher self-efficacy among special education and general education teachers (Carter, 2017; Stegall, 2011). School districts and administrators may be able to successfully implement PLCs within their districts and schools by utilizing strategies and concepts by Dufour et al. (2016). Dufour et al. (2016) provided recommendations on successfully implementing a PLC, which included determining a mission, identifying a vision, stating values, and determining goals. They also placed an emphasis on establishing a collaborative culture that values and supports all teachers involved in the PLC process, which can increase teacher self-efficacy.

Co-teaching is another practice that can be implemented by administrators to help increase the self-efficacy levels among teachers in their schools (Gonzalez, 2017; Martin, 2018). Teachers should receive training on co-teaching, including the different models of co-teaching (Foarde, 2016). Prior to the implementation of co-teaching, the administrators and teachers should determine the type of co-teaching they would like to utilize in their classrooms. Administrators should also ensure that the teachers come together to co-plan, co-assess, co-teach, and value each other as teachers in the classroom to ensure co-teaching is effective in increasing teacher self-efficacy. When an administrator pairs teachers for co-teaching to increase teacher self-efficacy, it may be more beneficial to pair teachers with differing areas of expertise to co-teach (Gonzalez, 2017).

An additional practice that school districts and administrators can implement to help increase the self-efficacy level in teachers is peer observation (Hendry & Oliver, 2012; Mousavi, 2014). Administrators should incorporate time within each week or month by providing teachers with classroom coverage so they can observe colleagues who are successful in a particular skill or strategy teach. Allowing teachers to observe other teachers who are successful can increase their self-efficacy level and help build collaboration and support among teachers in a district and school (Hendry & Oliver, 2012).

Future Research

Additional research should also be done to determine what administrators can do to best support their teachers who teach special needs students and the training needed for them to carry out what the research found. Future qualitative research should also be conducted to determine the ways administrators believe they could best be taught by administrator training programs to be more knowledgeable about special education in inclusive settings and able to support teachers of special needs students. Additionally, research should be conducted to determine what kind of training would be most beneficial in helping teachers increase their self-efficacy level in teaching students with disabilities, especially general education inclusion teachers. Furthermore, research should also be conducted to determine the appropriate steps teacher preparation programs should take in order to properly train teachers on how to be successful in an inclusive classroom setting. Finally, since this research did not determine the types of support that teachers of special needs students perceive to be most important to them, future research that identifies the best types of support for these teachers would be beneficial.

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Enhancing Self-Determination for Students with Complex Communication Needs using the Self-Determined Learning Model of Instruction

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Abstract

Supporting the development of skills associated with self-determination (e.g., goal setting and attainment, problem solving) and providing opportunities to practice those skills impacts valued school and postschool outcomes of students with complex communication needs. To address this need, the Self-Determined Learning Model of Instruction (SDLMI) is designed to enable practitioners (including those with special education expertise) to teach students to self-regulate goal setting and attainment processes and self-direct their learning to achieve meaningful goals. When using the SDLMI with students with complex communication needs, there are specific supports that are particularly useful; therefore, this manuscript describes strategies that practitioners can use when implementing the SDLMI with students with complex communication needs to enhance overall self-determination and positive postschool outcomes and provides guidance for the inclusion of students with complex communication needs in self-determination research.

Keywords: self-determination, complex communication needs, Self-Determined Learning Model of Instruction

Enhancing Self-Determination for Students with Complex Communication Needs using the Self-Determined Learning Model of Instruction

In the disability field, self-determination has been defined as a:

> …dispositional characteristic manifested as acting as the causal agent in one's life. Self-determined people (i.e., causal agents) act in service to freely chosen goals. Self-determined actions function to enable a person to be the causal agent in his or her life. (Shogren, Wehmeyer, Palmer, Forber-Pratt, et al., 2015, p. 258)

In education contexts, students who are self-determined make or cause things to happen in their lives by setting and going after goals based upon their interests and preferences. Therefore, to act in self-determined ways, students use specific abilities to achieve their goals, including choice making, decision making, problem solving, goal setting and attainment, planning, self-management, self-advocacy, self-awareness, and self-knowledge. As a developmental construct, self-determination develops across the lifespan as students have multiple experiences and opportunities to engage in goal-directed action.

Evidence of the relationship between instruction in skills associated with self-determination coupled with experiences and opportunities to practice those skills and positive school and postschool outcomes has accumulated over the past 30 years (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Burke et al., 2018). Specifically, instruction in skills associated with self-determination has been linked to enhanced academic achievement (Raley, Shogren, & McDonald, 2018; Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012), advanced transition knowledge and skills (Wehmeyer, Palmer, Lee, Williams-Diehm, & Shogren, 2011), improved employment outcomes (Dean, Burke, Shogren, & Wehmeyer, 2017), and increased community access (Shogren, Wehmeyer, Palmer, Rifenbark, & Little, 2015). For example, Wehmeyer, Palmer, Shogren, Williams-Diehm, and Soukup (2013) conducted a randomized trial placebo controlled study examining the impact of teachers' efforts to promote self-determination of 371 high school students with intellectual disability or learning disabilities and found that students in the intervention condition showed significantly greater growth in self-determination than their peers in the control condition over the 3 years of the study. In a follow-up study including the students in Wehmeyer et al. (2013), Shogren, Wehmeyer, Palmer, Rifenbark, et al. (2015) found that self-determination status upon exiting high school predicted positive outcomes (i.e., employment, community access) one year postschool.

With a particular focus on students with complex communication needs, self-determination is critical to success beyond school life (Wehmeyer, 2005). Students with complex communication needs are defined as students who have extensive communicative support needs in areas including speech, language, reading, and/or writing, and might be served under the educational classification of intellectual disability, autism spectrum disorder, developmental disabilities, autism spectrum disorder, or multiple disabilities (Beukelman & Mirenda, 2013). Instruction in skills associated with self-determination (e.g., choice making, self-advocacy) and opportunities and experiences to practice those skills are critical for students with complex communication needs as they are at risk of restricted access to their environment, limited interactions with communication partners, and fewer opportunities to communicate (Light & Drager, 2007). For example, in the United States, 90% of students with complex communication needs transition to adulthood without acquiring functional literacy skills (Foley & Wolter, 2010), which can negatively affect their educational achievement, postgraduation employment options, social networks, and access to independent living. As a result, at least in part, of a lack of effective and efficient communication, less than 5% of jobseekers in the United States with complex communication needs are employed even part-time (e.g., McNaughton & Bryen, 2007). With respect to self-determination, students with disabilities, including those with complex communication needs, are less self-determined than their peers without disabilities (Shogren, Shaw, Raley, & Wehmeyer, 2018). Shogren, Shaw, and colleagues (2018) identified that the largest disability-based differentiations in scores on a validated measure of self-determination resulted from comparisons between White adolescents without disabilities and youth with autism spectrum disorders, intellectual disability, and other health impairments across racial-ethnic backgrounds. To address this gap, systematic and research-based interventions to enhance self-determination of students with disabilities, including those with complex communication needs, have been developed to teach them how to make decisions about all aspects of their lives, which may include recruiting support from others (e.g., family members, friends) to make decisions taking into account their preferences, interests, values, and abilities.

One such intervention, the *Self-Determined Learning Model of Instruction* (SDLMI; Shogren, Raley, Burke, & Wehmeyer, 2018), is an evidence-based model of instruction designed to enable educators to teach students to self-regulate their problem solving to (a) set goals, (b) create an action plan to achieve those goals, and (c) revise the action plan or goal after self-evaluating their progress. Upon reviewing empirical studies evaluating the efficacy of the SDLMI, Hagiwara, Shogren, and Leko (2017) reported a consistent theme: the SDLMI enabled practitioners (e.g., special education teachers) to support students with disabilities to learn to self-direct problem solving in service to goals across curricular areas. Of the total sample of 21 studies, 13 studies (62%) implemented the SDLMI with students with intellectual disability to improve their skills associated with self-determination and/or access to general education curriculum. When using the SDLMI to enhance self-determination for students with complex communication needs, it is important to remember that all students have varying levels of self-determination and student-directed learning does not mean that the student has to perform every task independently. Rather, student-directed learning is based on the premise that students are actively engaged in the process by making or causing things to happen through involvement in setting and working toward goals for their learning (Shogren, Wehmeyer, Palmer, Forber-Pratt, et al., 2015). In this way, students assume the role of active learners by collaborating with practitioners and assuming direction of the learning process, with necessary supports for learning and implementing these skills. Thus, the SDLMI provides a mechanism for practitioners to support students in building skills associated with self-determination by identifying and creating action plans to achieve meaningful and valued goals related to their academic achievement or postschool aspirations (e.g., securing competitive employment, pursuing higher education).

To support practitioners in using the SDLMI with students with complex communication needs, the subsequent sections present specific instructional strategies and associated examples to support effective and successful intervention to enhance student self-determination. Thus, the overall purpose of this paper is to provide guidance for future inclusion of students with disabilities who have complex communication needs in self-determination research. Additionally, with knowledge of practices to support self-determination for students with complex communication needs, practitioners can actively engage in bringing about the advancement of services for people with disabilities and more positive long-term outcomes, including community participation and quality of life.

The Self-Determined Learning Model of Instruction

SDLMI Phases

Before using the SDLMI to support students with complex communication needs to set and work toward self-selected goals, practitioners engage students in multiple *Preliminary Conversations* to introduce students to (a) the concept of self-determination, (b) how the SDLMI can support them in achieving their valued goals, and (c) the roles of practitioners and students in the SDLMI process, as described in the *SDLMI Teacher's Guide* (Shogren, Raley, et al., 2018). These *Preliminary Conversations* can take many forms for students with complex communication needs, including verbal, picture-based, and experiential. Because most students likely will be unfamiliar with the concept of self-determination before using the SDLMI, introducing self-determination as a characteristic and discussing how students use self-determined actions (e.g., making choices, setting goals) in their everyday life to make or cause things they want to happen is an important introductory activity.

Additionally, practitioners can also use *Preliminary Conversations* to describe how engaging in learning and applying skills associated with self-determination transcends students' current environments (e.g., K-12 classrooms, home) and will be invaluable in future contexts (e.g., college or university, workplace). It is also important for students and practitioners to clearly delineate and mutually agree upon on the expected roles and responsibilities in the SDLMI process to establish the students as self-directed and active learners and self-advocates and the practitioner as the instructor, facilitator, and advocate. Supporting students in their self-advocacy role using the SDLMI is particularly important for students with complex communication needs who may have had limited self-directed supports in the past and may need repeated opportunities and specialized supports to take on advocacy and leadership roles.

After engaging students in *Preliminary Conversations*, practitioners are poised to begin the three distinct phases of the SDLMI that guide students in the self-regulated problem-solving process in service of a valued goal (Shogren, Raley, et al., 2018). Each SDLMI phase presents an overall problem that students must solve by posing and answering specific questions, which provide multiple opportunities to learn skills associated with self-determination and practice using them to achieve self-selected goals. Figure 1 provides an overview of the three phases of the SDLMI. In the following sections, we describe each phase, and in subsequent sections expand upon supports to engage students with complex communication needs with the SDLMI process during each phase.

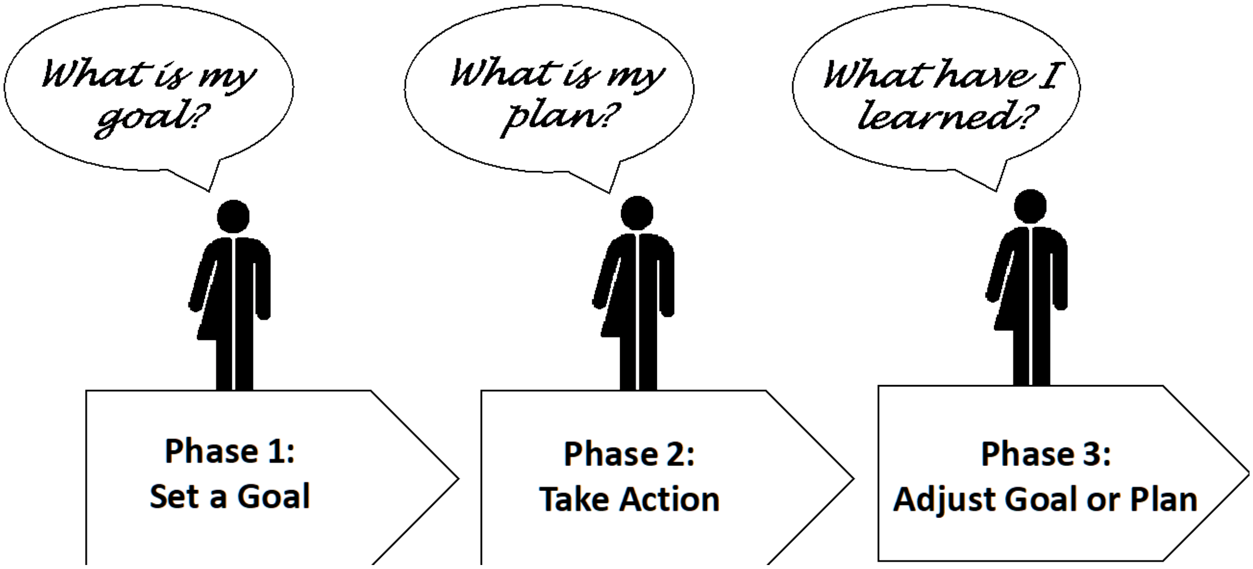

Figure 1. Three phases of the SDLMI. Reprinted with permission from Shogren, Raley, et al. (2018).

Phase 1: Set a goal. The overall problem in the first phase of the SDLMI is "What is my goal?" In this phase, students answer specific questions related to their awareness and knowledge of their preferences, interests, and support needs to ultimately set a goal that they work toward during the later SDLMI phases. This goal can be related to academic achievement (e.g., improving note-taking in a specific class to earn a better grade), postsecondary education (e.g., exploring higher education options), career design (e.g., identifying paid internship opportunities), or community participation (e.g., joining a recreational community group).

Phase 2: Take action. In Phase 2, students work toward solving the problem "What is my plan?" by answering questions that guide students in identifying the actions required to achieve their self-selected goal. Practitioners support students in this phase by providing opportunities for them to identify barriers that may prevent them from taking action and potential ways they can remove identified barriers, learning how to act flexibly in response to their environment. For example, a student might identify reliable transportation as a barrier to securing a paid internship and collaborate with the practitioner to explore transportation options to remove that particular barrier. Additionally, the practitioner supports the student to identify an effective self-monitoring system to keep track of progress toward the goal, which they will use when self-evaluating their progress in Phase 3.

Phase 3: Adjust goal or plan. Phase 3 guides students through the process of answering "What have I learned?" The practitioner supports students to answer questions that enable them to evaluate the progress they have made toward their goal and decide if they (a) have achieved it, (b) need to continue to work on it, or (c) need to adjust their plan or goal. If the student indicates they have achieved their goal, they begin the SDLMI process again with a new goal, which can be related to the previous goal they worked on. For example, if a student first sets out to explore postsecondary education options, then their second goal using the SDLMI may be related to completing an online application to attend the selected college/university. However, if the student determines they did not meet their goal, then the practitioner supports the student to decide if they need to make adjustments to their goal (e.g., making it more specific) or action plan (e.g., identifying smaller action steps). Students work through the three phases of the SDLMI repeatedly so they have numerous opportunities to learn and practice skills associated with self-determination with multiple goals.

SDLMI Components

In each phase of the SDLMI, there are three components: Student Questions, Teacher Objectives, and Primary Educational Supports. There are four *Student Questions* in each phase, and they are intended to be answered by the student and guide them through the self-regulated, problem-solving process to solve the problem presented in each phase (e.g., Phase 1: What is my goal?). Each of the 12 Student Questions is linked to specific *Teacher Objectives* to guide practitioners in enabling students to solve the problem stated in the Student Question. For example, the Teacher Objective associated with Student Question 6: What could keep me from taking action? states that practitioners should enable students to determine action steps to bridge the gap between their current and goal performance. Therefore, if the practitioner meets the Teacher Objective, the student is enabled to answer Student Question 6. The third SDLMI component is *Primary Educational Supports* associated with each phase, which are specific supports that practitioners can provide to meet the Teacher Objectives effectively. For example, in Phase 1, one of the Primary Educational Supports is communication instruction, aligned with Teacher Objective 1b: Enable the student to communicate preferences, interests, beliefs, and values. Therefore, the practitioner can provide explicit instruction on how to communicate preferences, interests, beliefs, and values and model how the student can communicate these through the student's preferred communication method so they can set a goal by the end of the phase. The *SDLMI Teacher's Guide* (Shogren, Raley, et al., 2018) provides more information on the SDLMI phases and components and is publicly available on www.self-determination.org.

Using the SDLMI with Students with Complex Communication Needs

As a model of instruction, the SDLMI can be used by practitioners across a variety of contexts (e.g., transition planning, core content areas) to enable all students, including those with complex communication needs, to take an active role in directing their learning by setting and going after goals and solving problems encountered in the process. Unlike stand-alone curricula, a model of instruction can be overlaid on any instructional area, meaning practitioners can use the model to support students to set and attain goals in academic, transition, or social-emotional domains (Joyce & Weil, 1980). As such, the SDLMI was designed to be used with any student focused on any goal area; however, this necessitates specific instructional planning to address students' unique needs. Students with complex communication needs are likely to need specific supports to fully engage with the content and process of the SDLMI. Subsequent sections highlight specific strategies when using the SDLMI with students with complex communication needs that have emerged from ongoing research (Shogren, Burke, Anderson, et al., 2018; Shogren, Burke, Antosh, et al., 2018) and are useful to consider in future research and practice.

Multiple Ways to Communicate the SDLMI Student Questions

Although the SDLMI Student Questions follow a specific order to guide students through the self-regulated problem-solving process to solve the problem in each phase, the way in which these questions are communicated to students and how students are enabled to respond to them can vary depending on each student's communication needs and preferences. Verbally posing the Student Questions may be effective for some students, but visually representing the questions can promote accessibility for students with complex communication needs. For example, practitioners can use visual representations of possible goal topics (e.g., exploring postsecondary options, joining a specific community-based interest group) to support a student to communicate preferences and interests while working through Phase 1: Set a Goal. Additionally, practitioners can support students to use the communication method with which they are most comfortable to answer the Student Questions. This may entail using a technology device to ensure that a range of possible responses to the Student Questions are available and then allowing the student to select the response that best aligns with their self-assessment. Overall, integrating principles of Universal Design for Learning (UDL; i.e., providing multiple means of engagement, representation, and action and expression) provides practitioners with a framework to guide the design of instructional materials to meet individual student needs (Meyer, Rose, & Gordon, 2014). As an instructional, scientifically-based framework, UDL works to support the variability of all students by both proactively and iteratively designing learning with a focus on the integration of providing multiple means of engagement, representation of information, and action and expression of understanding.

Utilizing the SDLMI Educational Supports

As mentioned previously, the Educational Supports associated with each phase of the SDLMI provide instruction on specific skills as students work toward answering the Student Questions. Practitioners can adjust their instruction to provide specific Educational Supports with varying intensity based on student needs. For example, as students are working toward answering Student Question 5: What can I do to learn what I don't know?, practitioners may provide a lesson on goal attainment instruction in which they support the student to identify action steps to achieve their self-identified goal status. First, this lesson can include an example that provides a model of how to identify small action steps to achieve a longer-term goal (e.g., searching online job postings for competitive employment options to ultimately secure a part-time job). Then, practitioners can provide students with an opportunity to discuss their small action steps with a peer and answer Student Question 5. To support students with complex communication needs, the intensity of the support related to goal attainment may be increased and include visuals of what the student can do to learn what they do not know by matching each visual with the step number. Figure 2 provides an example of this visual for a student that has set a goal to research postsecondary options using online search engines and compiling a list of facts learned. Additional examples of how practitioners can utilize Educational Supports to support students with complex communication needs are provided in the SDLMI Teacher's Guide Complex Communication Needs Supplement (Shogren, Burke, & Raley, 2019), which can be accessed via self-determination.org.

Possible Action Steps

Write down things you learn

Log into the computer

Use the search engine

Sit at the computer and focus

Step 1	**Step 2**	**Step 3**	**Step 4**

Figure 2. Example visual action planning sheet for Student Question 5: What can I do to learn what I don't know?

Natural Opportunities to Learn and Practice Skills Associated with Self-Determination

When conceptualized as a universal support, practitioners can use the SDLMI to actively engage *all* students in learning skills associated with self-determination that are essential for life beyond their academic careers (Conley, 2012; Morningstar, Bassett, Kochhar-Bryant, Cashman, & Wehmeyer, 2012). Because all students (including students with complex communication needs) would benefit from enhancing skills associated with self-determination (Shogren, Wehmeyer, & Lane, 2016), utilizing natural supports (e.g., peers with and without disabilities) can enable students to set goals and create action plans to achieve them. For example, practitioners can create intentional opportunities for students with complex communication needs to work in small groups with peers in inclusive settings to identify academic-related or community participation opportunities that are of interest and then work in pairs based on similar fields of interest. Students with complex communication needs and their peers without disabilities mutually benefit from collaborating as they can learn from each other's findings and shape their goal attainment processes with additional information. Thus, by utilizing natural supports, practitioners can enable students with significant support needs to work toward their self-identified goals and collaborate with peers to enhance overall goal achievement.

Engage Families in the SDLMI Process

Involving families in the SDLMI process is critical to enhancing student self-determination as it allows practitioners to integrate the family's vision, beliefs, and values into the goal setting and attainment process and learn from their insights about student strengths and areas of needed improvement across domains (e.g., academic achievement, transition planning). When practitioners take the time to listen to the family's vision for the student's future adult life, they build trust – the cornerstone in the family-professional partnership (Turnbull, Turnbull, Erwin, Soodak, & Shogren, 2015). After gaining family members' trust, practitioners might suggest a goal area and possible goal that match the family's and student's vision for the future. Additionally, in their in-person meetings or written communication with families, practitioners can include SDLMI updates that inform family members of the progress students are making toward their goals and specific ideas about how families can support goal achievement at home. Communication with families throughout the SDLMI process is critical when supporting students with complex communication needs, as families can then leverage natural opportunities for students to work toward their goals outside of the school context. Similarly, practitioners can encourage students to discuss their goal and progress toward goal attainment with their families, as students and their families are the most invested in their goals, progress, and aspirations for postsecondary experiences (e.g., competitive employment in a particular field). Thus, opening a dialogue with family members might provide an opportunity for practitioners to involve families in the SDLMI process and share the instructional strategies to support self-determination that are being used in the school context so that families can integrate similar supports at home.

Conclusion

The SDLMI is effective for supporting students with complex communication needs to set and work toward valued goals and enhance overall self-determination. When using the SDLMI to promote self-determination of students with complex communication needs, practitioners can use specific strategies to support students, including: (1) providing multiple ways to communicate and respond to Student Questions by integrating principles of UDL, (2) utilizing the Primary

Educational Supports with varying degrees of intensity to align with student support needs, (3) creating natural opportunities for students to collaborate with their peers in inclusive contexts to set and work toward similar goals, and (4) engaging families in the SDLMI process so they can provide insight and support the goal setting and attainment process at home. It is worth noting that the strategies discussed to enhance SDLMI implementation with students with complex communication needs would also support students with other disabilities and their peers without disabilities. Further, skills associated with self-determination are infused throughout college and career readiness frameworks which include *all* secondary students (Conley, 2012; Morningstar, Lombardi, Fowler, & Test, 2017), and implementing the SDLMI as a universal support for all students and then providing targeted support for students with complex communication needs would benefit all students in a school. Further, the in practice examples provided throughout are also intended to provide guidance for the inclusion of students with complex communication needs in self-determination research to extend knowledge on specific strategies and supports that would result in positive in- and post-school outcomes. Thus, practitioners and researchers alike, including those with expertise in general and special education, can utilize the SDLMI to enable students with complex communication needs to act as causal agents, or people that make their goals happen and ultimately improve meaningful life outcomes.

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Individual Education Plans and Teams: Principals' Roles and Responsibilities

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Abstract

The demand of providing adequate services for students with disabilities has evolved over the years requiring districts to provide free and appropriate public education in the least restrictive environment. As districts are held increasingly accountable for meeting these demands, the roles and responsibilities of the school principal has become greater. However, the roles and responsibilities of public school principals in the development of the individualized education plan (IEP) remain unclear. In this study, public school principals were interviewed to determine the role principals play in the IEP process and supports provided by districts to assist principals in being an effective leader in special education on their campuses. Results of the surveys are reported and implications for current practice are discussed.

Keywords: principals, Individualized Education Program (IEP), special education

Individual Education Plans: Principals' Roles and Responsibilities

Principals may not directly teach students with special needs, record their grades, or develop their annual goals, but they play an integral role in the development and implementation of student individual education plans (IEPs). As the leaders in their school, principals are the overseers of the instruction that goes on in their building. As the official designated representative (ODR) over the special education program on their campuses, principals are responsible for understanding not only best practices in instruction, but also for understanding the law, ethics, and the components of effective services for students with disabilities. Do principals get enough training and exposure in their preparation programs to be competent special education leaders? Do principals feel confident in their abilities to lead as effective ODRs? Being the ultimate educational leader on a campus, the principal's experience and knowledge of special education programming is critical to teacher and student success.

IDEA and the IEP Process

Principals have the responsibility regarding IEPs to have a very clear understanding of the federal, state, and district special education practices and requirements. Warger, Eavy, & Associates (2001) stated that principals are given the daily task of following and supporting the legal requirements of Individuals with Disabilities Education Act (IDEA) through requiring the implementation of research-based practices proven to assist in the education of students with disabilities. Yell, Shriner, and Katsiyannis (2006) supported this theme by providing recommendations to special educators, administrators, and teacher trainers in light of the newest updates to IDEA. Among the suggestions were that teachers and administrators "understand the essence of the IDEA" and that "special education teachers understand how to develop educationally meaningful and legally sound IEPs" (p.19). The authors explained their recommendations further, stating that administrators, such as principals, need to "understand the IEP process and ensure that their special education teachers are developing educationally meaningful and legally correct IEPs" (p.22). This theme is continued by Bertrand, Roberts, and Dalton (2009) when it is suggested that new administrators be provided with information and advice for creating and sustaining an effective special education program in their schools. In particular, Bertrand et al (2009) stated that administrators should "review the adopted state plan of regulations for implementing federal legislation" in order to understand how their state addresses the requirements of IDEA (p.2). In addition, the authors suggested reviewing their district's special education policies in order to better understand the available services and the current structure of the district's special education department. In particular, principals need to be aware of Least Restrictive Environment (LRE), especially with the current movement towards inclusive educational practices. Principals should be aware of all of the school's and district's options for students with disabilities to provide support in the general education environment before removing the student from the general education environment.

Principal's Mandated Roles and Responsibilities

The principal must have the knowledge and skills to advocate for appropriate placement and services of all students enrolled in their school as mandated by federal and state legislation (Roberts & Guerra, 2017). Both in Roberts & Guerra's 2017 and Frost & Kersten's 2011 articles, it is noted that there is little to no research on the detailed proficiencies that are essential for principals to be effective special education leaders. The principal needs to ensure that students with disabilities are receiving the services they need, and that regulations and guidelines are being followed (Bateman & Bateman, 2014). School building leaders can assign duties to administrative staff related to coordinating and overseeing the IEP's development and implementation.

The principal has a responsibility to be an active member by analyzing the components of a proposed IEP. Principals are required to evaluate the IEP's components, such as goals, extended year services, and schedule of minutes for resource or in-class support. They need to ensure that the language contained in the IEP is appropriate and stresses student's strengths as well as their areas in need of growth. They should also be speaking up if an IEP is lacking or contains unrealistic goals. In their leadership role, it is the principal's responsibility to make certain that the student's annual goals are appropriate and measurable. Paige (2017) presents a commentary on the case *Endrew F. v. Douglas County School District*, 2017 by using a cautionary tale for principals and advises them that they have a duty to cooperate with parents. In this case, parents took the school to court because their child was not progressing due to insufficient goals. They argued that the school's goals set for the child were not ambitious enough. The parents won the case and the courts decided that the services on the IEP cannot just be "minimal." The principal in this case failed to resolve conflict before it got to legal action. In fact, principals should know that IEPs can be high stakes issues - principals have been terminated due to failing to take responsibility in ensuring that IEPs are appropriate or implemented properly (McElhinny 2014).

Other Roles and Responsibilities of the School-based Leader on the IEP Team

Many school leaders are unaware of the importance of their role on the team, and/or may misunderstand the greater role they play in facilitating the plan throughout the student's school years. Besides the administrator's commonly-known responsibilities, there are other aspects of being the school leader of that special education student. Administrators must be prepared to lead all students on their campus, regardless of their abilities.

Are school-based administrators trained and prepared to lead all students, even those with special learning needs? Co-authors Karge and Lasky (2006) conducted a study of principals in California. In 2006, more than a third of the respondents had no direct experience with children with disabilities as part of their credentialing coursework to become principals. In 2015 when they revisited their research topic, they found that the statistic dropped to 18%, while 4 out of 5 said they had only one course. Research results of a study conducted in Nebraska found that the extent to which administrators without formal knowledge and/or coursework in special education can be supportive of and actually lead schools and their faculty in today's inclusive environment were of concern to the researchers (Cruzeiro & Morgan, 2006).

A responsibility of administrators that emerges from the existing literature on this topic is the need for administrators to have some degree of legal expertise. Christina Samuels in her 2018 article says that principals who effectively manage special education in their schools have to be one part lawyer, one part counselor. It is critical for the school leader to be familiar with and understand the basic legislation that is in place to protect special education students, going back to 1954's *Brown v. Board of Education*. Working knowledge of the Individuals with Disabilities Education Act (IDEA) is critical in enforcing and abiding by a student's IEP. Also, a firm understanding of the Americans with Disabilities Act (ADA) is necessary to be sure the school is fulfilling its responsibility to accommodate students.

Another responsibility is the capacity to build a culture of inclusion and emphasize its importance among staff, students, and all other stakeholders. "Today's school administrator must be a leader who promotes the success of all students, including those with disabilities, by facilitating the development and implementation of a vision of learning that is shared and supported by the school community. Principals need to ensure that special education students, teachers, and services are fully integrated into the vision and ongoing operations of their school" (McLaughlin & Nolet, 2004, p.27). Two of Beyer and Johnson's (2005) roles of a school principal include (a) creation of a supportive and accepting environment between all stakeholders, and (b) skills in relationship-forming, problem-solving methods, conflict resolution, and outsourcing for expertise and assistance. Guzman (1997) noted the necessity of establishing a communication system allowing staff to discuss with administrators issues for refining special education policies and procedures. The Ontario Ministry of Education (2000) IEP resource noted that the principal or vice principal is expected to coordinate and oversee the work of the special education team...in developing, monitoring, and reviewing each student's IEP. It is also noted in this document that the school leader shall facilitate collaborative planning, evaluation, and updating of the IEPs.

A characteristic closely tied to the above mentioned is building familiarity and trust with the student's family. This personal skill is built through effort, experience, and evaluation of the student and his/her records. Guzman (1997) emphasizes the responsibility of "building and sustaining a rapport with parents of students with disabilities" (p. 440). David Bateman, author of *A Principal's Guide to Special Education* (2014), said that principals often have to develop these kinds of skills on their own. One step principals can take is to communicate regularly with special education teachers and parents of children with special needs...be proactive and be preemptive in dealing with any knowledge deficits that may exist with teachers and staff (McElhinny & Pellegrin, 2014).

Moreover, there is a need to ensure that students receiving special education services participate in state and local assessments and that data are utilized in the school improvement process (McLaughlin, 2009). Also, principals are undereducated on how to discipline a special education student. According to Bateman (2014), discipline procedure is the area that most principals struggle to understand the most. They are under the impression that individuals with disabilities cannot be disciplined.

In looking beyond the standard roles of an administrator on an IEP team (instructional leader, teacher evaluator, collaborator, enforcer), this literature review had many themes emerge about *other* roles and responsibilities (understanding law, connecting with families, collecting data, building culture). The most profound theme is that principals who fail to take responsibility and exercise leadership to ensure that IEPs are followed can face serious consequences (McElhinny & Pellegrin, 2014).

Purpose of the Study

The purpose of this study was to determine the current roles and responsibilities public school principals have in the individualized education plan process as well as proficiencies principals feel are necessary to be an effective leader in the individualized education plan process. This study used the following research questions to guide the research:

1. What are the roles and responsibilities of public school principals in the development of the individualized education plan?
2. What do districts do to support principals as educational leaders?

Methods

Participants

The researchers emailed survey links to 25 principals in public school systems. Of the 25 emails sent, 18 responded, resulting in a 72% response rate. The names and contact information for participants were collected using snowball sampling. Respondents were elementary (11%) and high school (55%) principals and assistant principals (33%). Seven participants had 1-5 years' experience, seven had 5-10 years' experience, and four had 10-15 years' experience. All eighteen participants had a Master's Degree, three had a current special education certification, one participant had an Educational Specialist Degree, and four had a doctorate degree in Educational Leadership. The majority of degrees obtained were from a public university in southwest Louisiana or a public university in southeast Texas. Table 1, below, provides some data on respondents from the survey.

Table 1

Demographics of Respondents to Survey n=18

Experience	*1-5 Years* *7*	*5-10 Years* *7*	*10-15 Years* *4*

Sped Certification	*Yes* *3*	*No* *15*	
Highest Degree Obtained	*Master's Degree* *13*	*Educational Specialist* *1*	*Doctorate Degree* *4*

Survey

Principals were contacted via email and provided a description of the study for voluntary participation. Once they agreed to participate, they answered digital survey questions, which were qualitative in nature. The prompts were open-ended to allow for explanation, examples, and detailed information at the participant's discretion. Survey questions focused on five topics: preparation, course work, district trends, district support, and desired training. This survey was open to any public school administrator willing to participate. The platform was an easy to access, user-friendly digital survey. The time and place for taking this survey was flexible, allowing each participant to contribute by logging online at his/her convenience. The survey could be taken from any online device in any location. The researchers reviewed the results from the open-ended questions and manually coded them to identify existing themes. Once coded, the researchers placed all responses with similar content into groups to identify the most frequently occurring themes.

Results

Results of the study are presented in five sections below based on the topics of the survey: preparation, course work, district trends, district support, and desired training.

Preparation

The first topic of the study explored perceptions of teacher preparation programs by asking the respondents if they perceived their teacher preparation program as beneficial in preparation for special education leadership. Results: 44% indicated they were not prepared, 33% indicated they were somewhat prepared, and 22% indicated that they perceive themselves as prepared. Of the 33% of respondents that did not feel prepared, six felt that their programs focused on leadership in general and offered very little more than a few discussions of special education law. One respondent indicated that they may not have been prepared but that their district supervisor does an excellent job of keeping them informed of new laws and regulations. Of the 33% of respondents that felt somewhat prepared, 3 indicated that they did not learn about special education leadership in detail through their preparation program but that they learned from on the job experience. Of the 22% of respondents that felt prepared for special education leadership, three held a special education certification, and only one indicated that their teacher preparation program was solely responsible for adequately preparing them for special education leadership.

Coursework

The second topic explored course work by asking respondents if they have taken higher education coursework in special education law, special education advocacy/culture/management, or special education IEP development. Twelve respondents reported they had NO coursework experience. Four respondents noted that there were some Special Education /IDEA topics presented within the greater context of a law class. Two responded that they have been exposed to special ed topics at workshops and conferences but not higher education courses.

District Trends

The third topic of the study explored district trends in special education leadership by asking respondents if they serve as ODR (Official Designated Representative) for their respective school's IEP (Individualized Education Plan) team, if their district has training in special education leadership available to school administrators, and how comfortable they felt discussing special education topics/actions on their campus with parents and other stakeholders. Results: 61% percent of respondents indicated that they serve as the ODR for their school's IEP team. 72% percent of respondents indicated that their district provided training in special education leadership. A satisfactory comfort level discussing special education topics/actions on their campus had respondents split with 50% comfortable and 50% having little to no comfort discussing this topic.

District Support

The fourth topic of the study explored district support by asking respondents what kind of support they perceive as beneficial from their district-level special education supervisor. The majority of respondents (61%) indicated a need for training from their district level supervisor. Several respondents (16%) indicated that their district level supervisor gives them adequate support and no additional support is needed. The remaining respondents (23%) indicated that support is needed on campus for paraeducators, teachers, and staff on various topics including: discipline, IEPs, accommodations, and laws. One respondent indicated that it would be nice to have an online refresher course on these topics for both administrators and faculty and staff each year.

Desired Training

The fifth, and final, topic of the study explored desired training by asking respondents if they had the opportunity to receive local training on special education, what specific topics/skills they would request. General legal issues as well as legal requirements for disciplining students with disabilities was perceived as being desired with 72% of the respondents indicating that they would benefit from training in this area. Forty-four percent of respondents indicated that they would benefit from training in academic support for students with disabilities. Twenty-seven percent of respondents indicated that supplemental training in the area of IEP writing and IEP accommodations would be beneficial as well. Also mentioned by respondents were flow charts of district special education policies, and training in the topic of post-secondary transition for students with disabilities.

Limitations and Implications

A primary limitation for this study lies in the small sample size. Only 18 responses were collected for this study. With a larger sample size, more data could have been collected to give more insight to the topic being studied. While survey participation was not purposefully limited to one geographical location, the respondents were mostly from two states: Texas and Louisiana. Having only a small geographic area represented limits the diversity of settings administrators are working in and restricts access to a wider geographic representation of data that could provide a stronger dataset to answer the research questions. Researchers recognize that a larger dataset would be ideal, however, they felt the response sample was fairly representative of principals from the small geographic area represented. Additional replication of this study with a larger sample is desirable.

Recommendations

In light of the above findings, it is suggested that principals, at a minimum, understand who is on an IEP team and how the process progresses from beginning to end. This knowledge should provide a springboard to launch principals into a better understanding of how they can support their teachers and ultimately their students.

Who is on an IEP Team?

IDEA specifically outlines who is required to be a part of an IEP team as well as who is allowed, but not required, to attend IEP meetings. According to Section 300.321 of IDEA, the following individuals are required members of an IEP team: the student's parent, a general education teacher, a special education teacher/service provider, a representative of the public agency, an individual who can interpret and explain the evaluation results, any other individuals who have knowledge of the student when appropriate, and the student when appropriate. The school district is responsible for ensuring that all required parties attend the IEP meeting and participate in the development of the student's IEP. IEP teams have the authority to determine the student's needs, develop and measure goals and progress towards meeting goals and identify necessary special education and related services (Yell, Katsiyannis, Ennis, Losinski, and Christle, 2016). Making these decisions cannot be the sole responsibility of only a few individuals, this should be a team effort, involving the legally required participants as well as others who may have significant input that would assist the IEP team in better meeting the student with disabilities' needs.

The most basic requirement of IEP teams is the student's parents or guardians. It is essential that parents or guardians be included in every aspect of the IEP process, including the development of the IEP. According to Yell (2016), parents are equal with the district when it comes to the development of their child's IEP. Being equal participants included the rights to provide input into the IEP, participation in all discussions during IEP development, and placement decisions.

A representative of the school or school district is required for each IEP team. The individual selected to represent the school or school district must meet three criteria: be qualified to provide or supervise the special education services as outlined in the IEP, be knowledgeable regarding school districts resources and have authority to comment on them, and also have an in-depth knowledge of general education curriculum (IDEA Regulations, 34C.F.R. § 321 (a) (4) (i-iii).

The student's special education teacher is an essential member of the IEP team. Special education teachers are required to implement the IEP; therefore, it is imperative that they be involved in educational decisions for their students. It is important to note that the special education teacher included in the IEP team should be the teacher who is implementing the IEP and not just any special education teacher on campus (Commentary on the IDEA regulations, Fed. Reg, 46,761, 2006).

While the extent of participation is not specifically outlined, IDEA requires a general education teacher to participate in the IEP team. The purpose of having a general education teacher's participation is to ensure that someone with knowledge of the general curriculum is participating in academic planning for the student. Participating in the IEP process also allows general education teachers to assist in the development of behavioral interventions, have a general knowledge of what supplementary services are being provided to the students with disabilities in their classrooms, and determine what program modifications are appropriate in their classrooms (Yell, 2016).

An individual who can interpret the instructional implications of the evaluation results, often a school psychologist or educational diagnostician, is required to be a member of the IEP team. Many school districts use another core IEP team member to fill this role. This individual must be able to assist all IEP team members in understanding the student's individual needs based on the evaluation results and how these needs affect the student's instructional needs (Yell, 2016).

If the student qualifies for related services, the related services personnel should attend the meeting. The related service provider(s) is only required to participate in the original development of the IEP. According to Yell (2016), if related service providers are unable to attend the actual IEP meeting, they should provide written recommendations to the IEP committee specifying the related services that will be provided to the student.

When post-secondary transition services are required to be addressed in the IEP, the school must not only invite the transitioning student, but also invite a representative of a local agency that may be likely to provide or pay for transitional services. The transition member may not be a regular participant of the IEP team but shall be from an outside agency. These individuals may be business owners, representatives from local agencies, or even representatives from colleges or vocational schools. If the transition service personnel invited to the meeting cannot attend, the school should make sure that they, at a minimum, participate in the planning process.

Parents must be informed that their child has a right to participate as an IEP team member, when appropriate. If the parents or guardians determine that the attendance of the child would be meaningful, the child is allowed to attend. If the IEP is addressing transitional services, then the child must be invited to attend the IEP meeting (IDEA Regulations, 34 C.F.R. § 300.321 [b][1]).

Requirements for school and parents are different when it comes to inviting people, other than the traditional IEP team members, to meetings. Schools are required to inform parents when they are inviting someone to the IEP meeting. It is required that parents give consent, in writing, for anyone not employed by the school district to attend the IEP meeting. This rule does not apply to attorneys or related service providers who are working for the school district. Parents are not required to inform or get consent to include additional people to the IEP meeting. Parents may also request that other school personnel, a professional who is familiar with educational law, or someone familiar with the student's educational needs attend their child's IEP meeting.

The IEP Process

According to the Individuals with Disabilities Education Act (IDEA), the Individual Education Program (IEP) process is a problem-solving process where Local Education Agency

(LEA)/district personnel and parents and/or caregivers work together in order to develop an educational program that meets the unique educational needs of a student with a disability (Yell, 2019). The product (the written IEP document) of the IEP process is the most important document for a student with disabilities (Pierangelo, R. & Giuliani, G.,2007, Yell, 2019). The IEP is the foundation of a free appropriate public education (FAPE) for each child with a disability (Texas Education Agency, 2017).

The IEP process begins during the pre-referral. The purpose of the pre-referral process is for the general education teacher, other education specialists, and parents to engage in problem solving in order to meet the needs of students demonstrating difficulties in the general education classroom. The information that is gleaned from the pre-referral is to be used to move forward in the process. According to the IDEA:

§ 300.111 Child find.
(a) General.
(1) The State must have in effect policies and procedures to ensure that—
(ii) A practical method is developed and implemented to determine which children are currently receiving needed special education and related services **(**Texas Education Agency, 2017**).**

Each state's policies and procedures ensure that a practical method is unique but have many similarities. For example, § 89.1011 of the Texas' Commissioner's/State Board of Education Rules state (Texas Education Agency, 2017):

> Referral of students for a full individual and initial evaluation for possible special education services must be a part of the district's overall general education referral or screening system. Prior to referral, students experiencing difficulty in the general classroom should be considered for ***all support services available to all students***, such as tutorial; remedial; compensatory; response to scientific, research-based intervention; and other academic or behavior support services. ***If the student continues to experience difficulty in the general c***lassroom after the provision of interventions, ***district personnel must refer the student for a full individual and initial evaluation***. This referral for a full individual and initial evaluation may be initiated by school personnel, the student's parents or legal guardian, or another person involved in the education or care of the student. (Texas Education Agency, 2017, p. B-23, emphasis added)

Once the prereferral process has been thoroughly exhausted, the next step is to conduct a full individual evaluation (FIE) in order to determine if the student has an identified disability and educational need for specially designed instruction. Following the completion of the FIE a meeting needs to be held to discuss if the student meets eligibility for services through special education. The initial IEP meeting includes some significant actions. The first action is to review the FIE and to identify the student's educational needs for specially designed instruction. It is important to understand that it is the IEP members that determine if the student is eligible for services in special education. The next action in this process is to identify the student's present level of academic and functional performance (PLAFP). Once identified, the team determines the critical needs in four areas. Academic and educational achievement and learning characteristics, social development, physical development, and management (including behavioral, environmental, and material) (Bateman, 2006; Pierangelo, R. & Giuliani, G., 2007, Texas Education Agency, 2017, Yell, 2019).

The next action is the consideration of special factors. The IDEA has identified these special factors:
Consideration of special factors. The IEP Team must—

1. (i) In the case of a child whose behavior impedes the child's learning or that of others, consider the use of positive behavioral interventions and supports, and other strategies, to address that behavior;

2. (ii) In the case of a child with limited English proficiency, consider the language needs of the child as those needs relate to the child's IEP;

3. (iii) In the case of a child who is blind or visually impaired, provide for instruction in braille and the use of braille unless the IEP Team determines, after an evaluation of the child's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in braille or the use of braille), that instruction in braille or the use of braille is not appropriate for the child;

4. (iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode; and

5. (v) Consider whether the child needs assistive technology devices and services. (Texas Education Agency, 2017, p. D-41)

The next action in the IEP process is the development of measurable academic and functional annual goals and objectives. These goals and objectives will help guide the IEP team members in the educational program for the academic year (Bateman, 2006; Pierangelo, R. & Giuliani, G., 2007, Texas Education Agency, 2017, Yell, 2019). In addition to the development of the goals and objectives, the IEP document should also include how progress will be reported to the student's parents. The IEP team is required to act on and document how the student will be educated in the Least Restrictive Environment (LRE) appropriate to the student. Once these actions are completed, the IEP team needs to determine placement options for the student and the potential harmful effects of the placement (Bateman, 2006; Pierangelo, & Giuliani, 2007, Texas Education Agency, 2017; Yell, 2019). As the IEP team continues to deliberate, the team should consider related services, modifications, accommodations, supplementary aids and services including testing accommodations for state standardized testing, assistive technology devices and services, support services on behalf of the student, extended year services (EYS), a statement of secondary transition service needs and needed transition services for the student (beginning at IEP meeting after the student's 14th birthday), and finally, the IEP team must develop a statement of the transfer of parental rights to the student upon reaching the age of majority (Bateman, 2006; Pierangelo, & Giuliani, 2007, Texas Education Agency, 2017; Yell, 2019).

Once all these actions are completed and the IEP team has agreed upon each of these actions, the written document is provided to the parents of the student, and placed in the student's permanent special education file. The IDEA requires that the IEP team review the student's IEP at least annually (CITE). It is important to understand that each individual member of the IEP team plays an important and critical role (Bateman, 2006; Pierangelo, Giuliani, 2007, Texas Education Agency, 2017; Yell, 2019).

Conclusion

This study provides valuable information to higher education institutions, school districts, superintendents, and principals that can be used to increase the likelihood that principals are both comfortable with their role and are involved in the IEP process to the maximum extent possible. Higher education institutions should require instruction and experiences related to the field of special education in their educational leadership courses, requiring all candidates to build a knowledge base of their future roles in special education as a principal. If a principal graduates from a program where special education is not part of the educational leadership course work, districts should plan and provide extensive professional development before the principal's first year as an administrator. Annual workshops that address leadership in special education, the IEP process, and legal aspects of the IEP process should be provided by districts regardless of the background experience and knowledge of the principals. Local districts and higher education institutions should work together to provide these workshops to ensure pre-service principals and practicing principals are all up-to-date on current issues and trends. Districts that provide support to administrators for the IEP process and special education leadership should continue to do so, but should update the training each year indicating legal changes and mandates. Districts should survey principals to determine what training is desired and perceived as necessary prior to designing annual training and support. School districts should recruit candidates with special education certification and training to maintain integrity and high competency in their special education leadership positions.

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