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An Investigation of IEP Quality Associated With Special Education Placement for Students With Complex Support Needs

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Abstract

Students with complex support needs require individualized education programs (IEPs) to describe their present levels of academic achievement and functional performance (PLAAFP), and the annual goals and supplementary aids and services (SAS) that will be provided to enable them to make progress in the least restrictive environment. Previous research has found that IEPs do not reflect recommended practices and that IEP quality varies by educational placement in inclusive and separate class settings. The purpose of this study was to evaluate a national sample of IEPs of elementary-aged students with complex support needs to determine whether placement predicts IEP quality. We used multilevel regression to measure the extent to which placement predicts overall IEP quality as well as the quality of IEP components, including PLAAFP, goals, and SAS. We did not detect statistically significant differences in IEP quality by placement for any of these IEP components or for overall quality; instead, we found the IEPs consistently failed to meet quality indicators across all four placement types. Given these findings, we suggest implications for future research aimed at improving IEP quality for students with complex support needs.

Keywords

IEP quality, complex support needs, educational placement

Since 1975, federal special education law (now known as the Individuals with Disabilities Education Improvement Act, or IDEA, 2004) requires students with disabilities to be provided a free and appropriate public education in the least restrictive environment. To achieve this, an individualized education program (IEP) is developed for each student with a disability. The IEP describes the student's current levels of performance, including strengths and needs, with goals, supports, and services to be provided to address student needs in the least restrictive environment. Members of the IEP team, which includes family members, the student, and general and special education teachers, among others, are tasked with a series of

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high-stakes decisions that affect everything from how, to what, and where students with disabilities are taught (LaSalle et al., 2013). IEP team decisions are critical in defining student learning expectations. For students with complex support needs, defined here as the 1% of students with significant cognitive disability who are eligible to take their state's alternate assessment and have frequent and intensive support needs across a variety of domains (Schalock et al., 2010), learning expectations have historically been low (Giangreco, 2020). However, recent developments, including the *Endrew F. v. Douglas County School District* decision (2017), compel IEP teams to set a higher bar for student achievement, including the development of measurable annual goals that have a meaningful benefit (i.e., an opportunity for significant learning; Yell & Bateman, 2018).

Components of IEPs

For students to achieve a meaningful benefit, IEP teams must develop high-quality, objective, and ambitious IEPs (Turnbull et al., 2018). IEPs include several required components, including present levels, goals, and supplementary aids and services. As discussed next, researchers have identified quality indicators for each of these IEP components.

Present Levels of Academic Achievement and Functional Performance

The IEP necessarily begins with a statement of the student's present level of academic achievement and functional performance (PLAAFP). The PLAAFP describes how the student's disability affects their involvement and progress in the general education curriculum and current levels of performance, serving as baseline data from which to measure subsequent progress (IDEA, 2004 [Sec. 614)(d)(1)(A)(i)(I)]). The PLAAFP provides a foundation for the ensuing content of the IEP, particularly goals and services. Extant research of PLAAFP statements primarily focuses on identifying and remediating student deficits that will be subsequently addressed in IEP goals and services. Research teams have examined the congruence between PLAAFP statements and IEP goals (e.g., Hott et al., 2021; Spiel et al., 2014), finding a large number of identified needs had no corresponding IEP goals. Other researchers have evaluated how students are described in the PLAAFP, including how student performance is described relative to the general education curriculum (Ruble et al., 2010). In summary of the extant research, quality indicators suggest PLAAFP statements should align with curricular standards and highlight student skills, strengths, and needs based on objective data. PLAAFP statements are central in framing other IEP components, notably, the development of IEP goals and supplementary aids and services that address identified areas of student need.

Goals

After developing the PLAAFP, IEP teams craft annual academic and functional goals and objectives to support the student to be involved in and make progress in the general education curriculum and to meet the student's educational needs that result from their disability (IDEA, 2004 [Sec. 614)(d)(1)(A)(i)(II)]). Academic IEP goals (i.e., reading, writing, math) should be based on grade-aligned state academic standards (Quenemoen & Thurlow, 2017) and IEP teams must decide how student progress on all goals will be measured and reported (IDEA, 2004 [Sec. 614)(d)(1)(A)(i)(III)]). Various research teams have analyzed goal quality, developing scales that assess the degree to which goals are measurable and objective (e.g., Rowland et al., 2015; Shriner et al., 2013) and align with state standards and PLAAFP statements (e.g., LaSalle et al., 2013; Ruble et al., 2010). These analyses of IEP goals include quality indicators related to measurability and relationship to the general education curriculum, signifying these are important characteristics when assessing IEP goal quality.

Supplementary Aids and Services

Members of IEP teams must also determine the supplementary aids and services (SAS) to be provided that will enable the student to achieve their goals, be involved in and make progress in the general education curriculum and learn alongside students without disabilities in general education contexts (IDEA, 2004 [Sec. 614)(d)(1)(A)(i)(IV)]). As noted in IDEA (2004), all areas of student need that are identified in the PLAAFP should be addressed through either goals or services (e.g., Spiel et al., 2014). Specifically, SAS and program modifications are to be provided to assist the student in achieving IEP goals and making progress in the general education curriculum (IDEA, 2004). Extant analyses of SAS are exploratory descriptions of the content of SAS and offer guidance for quality indicators. The findings of these studies suggest few differences in SAS across more and less restrictive settings (Toews et al., 2021). In an analysis of SAS content, Kurth and colleagues (2019) found the IEPs of students with complex support needs emphasized curricular accommodations and personnel supports (i.e., paraprofessional supports) versus curricular modifications and natural supports such as peers.

Factors Impacting IEP Quality

Special educators have been expected to have the knowledge and skills to develop high-quality IEPs since the start of IDEA (i.e., 1975). Furthermore, professional standards emphasize competency in IEP development, as have teacher preparation programs at institutes of higher education in relation to both coursework and fieldwork experiences (Tran et al., 2018). As noted previously, IEP quality tends to be low for all students with disabilities and IEPs are often not consistent with recommended practices (e.g., Ruble et al., 2010). Yet, the quality of student IEPs is a strong predictor of student outcomes; those students with higher quality IEPs make better progress toward goals (Ruble & McGrew, 2013). Determining factors associated with IEP quality is therefore of critical importance.

Several studies have suggested various factors that may affect IEP quality for students with complex support needs, including student placement. For example, in a series of studies, Hunt and colleagues (1986, 1992) measured IEP quality, including age-appropriateness and generalizability of IEP goals and objectives, finding students with complex support needs who learned in general education settings had higher quality IEPs compared with matched students taught in special education classes. The quality and content of IEPs have been found to correspond with subsequent student outcomes: Students with complex support needs who learned in inclusive, general education classrooms have demonstrated more positive academic and functional outcomes compared with students taught in self-contained, segregated classrooms (e.g., Gee et al., 2020; Kleinert et al., 2015). Furthermore, researchers have identified negative ramifications for students with complex support needs taught in segregated settings, including limited access to the grade-level curriculum (Kurth et al., 2016), including academic literacy (Ruppar et al., 2018).

Purpose

Considering the importance of the IEP in specifying how, what, and where students with complex support needs learn and make progress, understanding the quality of IEPs is essential. A clearly articulated IEP is essential to document all student skills, strengths, and support needs and enables IEP teams to thoroughly address these needs through a combination of goals and services. However, a limited number of recent studies have investigated IEP quality for students with complex support needs and differences in IEP quality across educational placements. To address these gaps in the literature and to assist IEP teams in developing high-quality IEPs for students with complex support needs, the following research question was addressed: Does educational placement predict the overall quality of IEPs, and the quality of each essential IEP component (i.e., PLAAFP, Goals, SAS) for students with complex support needs?

Method

Members of the research team visited each student's school as part of a larger study, where teachers provided the research team with copies of participating student IEPs following approved Institutional Review Board research procedures. The research team then entered the PLAAFP, Goals, and SAS content of each student's IEP into corresponding boxes in an online data collection application (i.e., Qualtrics).

Participants

The IEPs of 112 elementary-aged students (67 males and 45 females) with complex support needs were analyzed as part of a larger project investigating the academic, social, behavioral, and communication outcomes of students with complex support needs ($N = 117$ in the larger study; the IEPs for five students were not obtained prior to the school closures associated with COVID-19). These IEPs were drawn from a national sample representing all four U.S. Census Bureau regions (i.e., West, Midwest, South, Northeast) across 35 local education agencies in 11 states. Elementary-aged students with complex support needs who received special education services in one of four placements were included. These were Placement A (80% or more of the day in general education with natural proportions), Placement B (40%–79% of the day in general education without natural proportions), Placement C (40% or less of the day in general education without natural proportions), and Placement D (separate schools). See Kurth and Jackson this issue, for further definitions of placement and student eligibility criteria. For purposes of this article, IEP data were disaggregated among the four placement conditions for analysis. There were 35 students in Placement A, 30 students in Placement B, 29 students in Placement C, and 18 students in Placement D. Students were clustered within schools, and schools were clustered within districts. Specifically, students were clustered within 57 schools, with an average cluster size of 1.96 ($SD = 0.89$), ranging from one to four participating students per school. Furthermore, schools were clustered within 35 districts, with an average cluster size of 1.63 ($SD = 0.81$) schools per district, ranging from one to five. IEPs were obtained from 11 states; participants were predominantly White (73.2%) and ranged in age from 5 to 12 years ($M = 8.4$ years). Students were assigned more than one disability by IEP teams; however, the most common disability labels were intellectual disability (30.4%), autism spectrum disorder (27.7%), and multiple disabilities (25%). Students' demographic information is presented in Table 1 of supplemental materials.

A total of 82 special education teachers participated; demographic information was available for 65 of these teachers. Most students in this sample ($n = 102$, or 91.1%) had only one special education teacher. One student did not have a special education teacher who participated in the study; therefore, their demographic data are not included. However, eight students had two special education teachers, and one student had three special education teachers. Most special education teachers ($n = 52$, or 63.4%) taught only one student who participated in this study, 22 teachers (26.8%) taught two students, seven teachers (8.5%) taught three students, and one teacher (1.2%) taught four students who participated in the study. Furthermore, most special education teachers ($n = 77$, or 93.9%) taught only in one placement; the other five teachers taught in a pairwise combination of Placements A to C. No teachers taught in a combination of Placement D and another placement type. Demographic information of the special education teachers is presented in Table 2 of supplemental materials. Most teachers ($n = 56$) held a special education teaching certificate (i.e., high or low incidence or cross-categorical). In addition, special education teachers ($n = 50$) were, on average, 37.6 ($SD = 11.24$) years old, ranging from 22 to 70 years old. Furthermore, special education teachers ($n = 65$) had, on average, 12.3 years of teaching experience ($SD = 9.39$), ranging from 1 to 37.

IEP Rating Instrument

Instrument Development. To address our research question, a rating instrument was developed following a review of extant research examining IEP content and quality (e.g., Hunt et al., 1986; Rowland et al., 2015; Shriner et al., 2013) related to PLAAFP, goals, and SAS components of the IEP. After quality indicators were identified in the research literature, an operational definition for each quality indicator was located from existing tools or developed by the first and second authors. The first two authors then grouped similar items identified across published studies to create a draft quality rating instrument to evaluate each IEP component. The remaining study authors then pilot tested this draft instrument with 10 practice (nonstudy) IEPs. Through this process, the IEP quality rating instrument was refined and a codebook was developed; this instrument was used for data extraction and analysis in the present study. The final instrument included four sections relevant to this study: (a) demographic information, (b) PLAAFP, (c) goals, and (d) SAS. All raters were naïve to student placement while rating all components of each IEP (see Table 3 of supplemental materials for the IEP rating instrument definitions).

IEP Data Collected

Demographic Information. In the first section of the instrument, researchers collected student demographic information found in the student's IEPs (see Table 1 of supplemental materials).

PLAAFP. The PLAAFP section of the instrument prompted researchers to enter data into text boxes for one of six corresponding areas: reading, writing, math, communication, behavior, or social skills text boxes. These data were analyzed using our PLAAFP rating instrument, which was developed based on the work of Rowland and colleagues (2015). Three areas were rated for each PLAAFP: (a) Student Description, (b) Setting, and (c) the extent to which the information was Data-Informed. Student Description rated the extent to which the student was described based on their strengths and abilities as opposed to deficits. Setting rated the extent to which the statement referred to instruction in the general education setting or activity through descriptions of the setting, people present, or activities. Finally, Data-Informed rated the extent to which the information reported was empirical, measurable, observable, and valid. Each of these three areas was rated on a 3-point scale where 0 was *not adequate*, 1 was *somewhat adequate*, and 2 was *adequate*.

Raw scores for Student Description, Setting, and Data-Informed were computed by summing the corresponding ratings across the available areas. Total raw scores for PLAAFP were computed by summing raw scores for Student Description, Setting, and Data-Informed. For descriptive statistics, we standardized raw scores by putting raw scores on a zero to 10 scale because not all students had the same number of PLAAFP statements. Specifically, we divided raw scores for Student Description, Setting, and Data-Informed, as well as Total raw scores, by the maximum possible scores based on the number of PLAAFP statements for the student. The resulting values were then multiplied by 10. We also recorded whether a given PLAAFP area (e.g., a reading PLAAFP) was present (coded as zero) or absent (coded as one).

Goals. During on-site data collection, IEP goals were entered into text boxes corresponding to the following categories: reading, writing, math, science, social studies, other academic, communication, social skills, sensory skills, self-determination, behavior, functional skills, recreation/leisure, employment/vocational, or motor. Short-term objectives (or benchmarks) were not recorded unless the IEP goal could not be interpreted without them.

Each goal was rated on the same 3-point scale as PLAAFP (see Table 3 of supplemental materials) for the following three areas: (a) the presence of SMART indicators (e.g., Hedin & DeSpain, 2018), including clear and objective learning outcome, specific conditions, and if a goal specified an observable and measurable student response, and criteria; (b) Applied rated the extent to which the goal required the student's active, versus passive or rote, participation; and (c) Category-specific features (e.g., academic, communication, motor skills; see Table 3 of supplemental materials). Raw scores for SMART, Applied, and Category were computed by summing the corresponding ratings across all available goals. Total raw scores for goals were computed by summing raw scores for SMART, Applied, and Category. For descriptive statistics, we used standardized scores computed using the same procedure as for PLAAFP. We also recorded whether a given Category area (except for Employment) was present (coded as zero) or absent (coded as one). If there was a rating for at least one goal in a Category area, it was coded as present.

SAS. Each SAS listed on the IEP was written in the online data tool verbatim at the school site; there was no attempt to sort SAS by category at this time. Upon completion of data collection, the authors first assigned SAS into categories using the 21 categories of SAS defined by Kurth and colleagues (2019). These categories were expanded to 32 for further clarity in this analysis. For example, Kurth and colleagues included one category for environmental supports, defined as changes to the seating, setting, and location to support student learning; we eliminated the broad "environmental support" category and created two new categories: seating and location. Each SAS was assigned to one of these 32 categories (see Table 3 in supplemental materials).

Given SAS within IDEA intends to enable children with disabilities to be taught the general education curriculum in general education settings to the maximum extent appropriate, SAS were rated based on their clarity in supporting access to and participation in general education using the same 3-point scale as

PLAAFP and Goals (see Table 3 in supplemental materials). Two areas were rated: (a) Inclusivity rated the degree to which the SAS promoted inclusivity in the general education curriculum and/or setting versus separation (e.g., special curriculum) and (b) Specificity rated the degree to which the SAS was objective and specific. Raw scores for Inclusivity and Specificity were computed via summing the corresponding ratings across all available SAS, and total raw scores for SAS were computed via summing raw scores for Inclusivity and Specificity. For descriptive statistics, we used standardized scores that were computed using the same procedure used for PLAAFP and Goals. Eight students did not have any SAS; their scores were not computed.

Overall IEP Quality. Overall IEP Quality raw scores were computed via summing raw scores for PLAAFP, SAS, and Goals. For descriptive statistics, we used standardized scores that were computed via summing standardized PLAAFP, SAS, and Goals scores. For eight students who did not have SAS, overall IEP Quality scores were not computed.

IEP Raters and Training. All IEP data were rated by six special education faculty and doctoral students; all identified as White (non-Hispanic) and all identified as female. All raters had previous experience as members of IEP teams and were certified as teachers of students with complex support needs. First, each rater attended a virtual training session in which the first and second authors oriented each rater to the codebook and rating system, with practice coding of nonstudy IEPs occurring during this training. After the training, each rater independently evaluated 10 nonstudy IEPs to establish interrater agreement (IRA). IRA was calculated by dividing the number of agreements by the sum of the number of marked ratings in agreement and marked ratings in disagreement (total ratings), multiplied by 100 to obtain a percentage. A minimum IRA of 90% was required to move on to the rating of study IEPs. Upon successful training, each author rated the quality of only one component of the IEP to ensure rating expertise was developed for each component. Two raters were assigned to each of the three IEP components (i.e., PLAAFP, Goals, and SAS). In dyads, researchers independently rated approximately 50% of their assignment component of the IEP and 33% of the IEPs (n = 38) were double rated for IRA.

Procedures

IEP data entered into the online application were downloaded to MS Excel using secure university servers. Then, all 112 de-identified IEPs were rated using the instrument developed for this study.

Consensus Rating and Final IRA

At least 33% of the IEPs were double-coded by a second rater and IRA was calculated using an agreement plus disagreements formula. Initial IRA was 92% (PLAAFP = 93%; Goals = 86%; SAS = 96%). Discrepancies in ratings centered on difficulties in determining vague statements in the IEP. The rating dyads held consensus conversations and reviewed other components of the IEP, as necessary, to resolve rating discrepancies.

Data Analysis

Codes, outputs, and data for all conducted analyses are available on the project OSF webpage: https://osf.io/3j92y/. For each individual IEP component (i.e., PLAAFP, Goals, and SAS) and for the Overall IEP, the mean, standard deviation, and range of quality ratings were first calculated. All analyses were conducted in SAS, version 9.4 ("SAS/STAT 14.1 User's Guide," 2015). Because standard optimization algorithms failed to deliver maximum likelihood (ML) estimates, we switched estimation routes and used Bayesian methods (with flat priors). With this method, we recovered the Bayes estimates coinciding with the target maximum likelihood estimates. Hence, all estimates in this report retained their familiar maximum likelihood interpretation even though they were recovered through Bayesian estimation. The 12 dependent variables were

PLAAFP Total, Student Description, Setting, Data, SAS Total, Inclusivity, Specificity, Goal Total, SMART, Applied, Category, and Overall IEP Quality. The independent variables were placement options, with Placements B, C, and D being dummy-coded and Placement A being a reference category. Both research questions were investigated via a set of the same analytic models that differed only in the dependent variable. Specifically, we regressed the obtained sum score out of the maximum possible sum score on placement using a two-level binomial model (students nested within schools). We made the standard assumption that school effects were normally distributed with a mean of zero and unknown variance estimated from data. The link function was logit.

Six pairwise comparisons between all placements were tested. Consistent with traditional maximum likelihood methods, we adjusted tests for multiple comparisons by applying the Bonferroni correction that controls the familywise error rate (FWER; defined as the probability of any false positives—Type I errors—in the family of, in our case, six tests). We controlled the FWER at the level of alpha = .05; hence, the adjusted alpha level was .05 / 6 = .0083. This adjusted alpha level was used to construct confidence intervals—in this case, Highest Posterior Density (HPD) Intervals—for comparisons of logits, that is, natural logarithms of odds ratios (ORs), and for ORs. Critically, in this case, Bayesian HPD intervals will be identical to traditional maximum likelihood confidence intervals because of the use of flat priors and, thus, retain their familiar maximum likelihood interpretation. Accordingly, the exclusion of zero in these HPD intervals for logits and the exclusion of one in these HPD intervals for ORs indicate statistically significant test results at a specific alpha level. Furthermore, given that the estimated models were two-level, we also report the variance of the random school intercepts on the logit scale.

In addition, to help gauge the practical significance of estimated effects, we computed 95% HPD intervals for the model-implied probabilities of obtaining higher sum scores controlling for the possible maximum scores and placement. Specifically, we reported the probability of obtaining the point if only one total point was possible. However, the number of possible total points varied across students because of differences in the total number of IEP PLAAFP, Goals, and SAS. Thus, interested readers can enter the reported probabilities into the binomial distribution to examine probabilities at any maximum total points possible. For example, the reported probabilities can be entered into a binomial distribution to determine the probability that students in each placement option will get, for example, 30 points or higher when the maximum total points possible is 36. We only report the simplest case of one possible total point for transparency, as our conclusions about these relative probabilities will generalize to all numbers of possible total points. Suppose a 95% HPD interval included only values above .5 or below .5, comparing two students in different placements after controlling for school effects and the number of possible total points. In that case, we are 95% confident that their probability is above or below .5, respectively.

Taking advantage of the dual Bayesian/maximum likelihood interpretation of estimates, we also evaluated the Bayesian probability of the null hypotheses (i.e., the probability of the claim that there are no substantive placement effects given data). Specifically, we calculated the probability that the effect of placement (in logits) is within the region of practical equivalence (ROPE; that is, the region within which the difference is considered to be very small to the extent of being practically zero; Kruschke, 2011). If the calculated probability is equal to or greater than .9917 (i.e., corresponds to the Bonferroni-adjusted alpha level), then we "accept" the null hypothesis and determine that the effect of a given placement (in logits) is practically equivalent to zero. Otherwise, we present the probabilities without accepting or rejecting the null hypotheses. As is standard, we defined any effect estimate in the region [−0.18, 0.18] to being inside the ROPE. Effects in this [−0.18, 0.18] region on the logit scale correspond to effects scaled in standardized mean difference units (*d*; Cohen, 1988) in the region of [−0.1, 0.1].

Results

Descriptive Statistics

Descriptive statistics for the number of PLAAFP, Goals, and SAS are presented in Table 4 of supplemental materials, and all standardized scores are presented in Table 1. PLAAFP were identified for a maximum of six areas (i.e., reading, writing, math, communication, social, and behavior) and a minimum of one area.

Table 1. Descriptive Statistics for Standardized Scores.

Standardized score	Total			Placement A			Placement B			Placement C			Placement D		
	N	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
PLAAFP: Total	112	4.25	0.98	35	4.38	0.85	30	4.30	0.80	29	4.28	1.06	18	3.86	1.30
Student description		5.31	2.13		5.75	1.85		5.56	2.29		5.28	1.99		4.06	2.30
Setting		4.79	0.75		4.85	0.60		4.82	0.76		4.81	0.55		4.62	1.19
Data		2.65	1.83		2.54	1.68		2.52	1.63		2.77	2.15		2.90	1.99
Goals: Total	112	6.70	0.91	35	6.78	0.91	30	7.02	0.94	29	6.44	0.80	18	6.40	0.89
SMART		6.63	1.16		6.78	0.97		6.64	1.26		6.40	1.11		6.68	1.39
Applied		6.90	1.23		6.86	1.27		7.26	1.14		6.82	1.20		6.53	1.28
Category		6.56	1.49		6.71	1.61		7.15	1.26		6.10	1.31		5.99	1.55
SAS: Total	104	3.35	0.73	34	3.56	0.67	30	3.56	0.69	24	2.90	0.79	16	3.16	0.51
Inclusivity		4.93	0.33		4.95	0.29		4.93	0.24		4.80	0.35		5.05	0.47
Specificity		1.77	1.39		2.16	1.33		2.20	1.34		1.01	1.45		1.27	0.91
IEP: Total	104	14.38	1.76	34	14.83	1.30	30	14.88	1.90	24	13.71	1.64	16	13.48	1.97

Note. Eight students did not have SAS and, hence, were excluded from calculations of SAS and IEP standardized scores. PLAAFP = present levels of academic achievement and functional performance; SAS = supplementary aids and services; IEP = individualized education programs.

Students in Placement A had the largest number of PLAAFP statements (M = 5.5), and students in Placements C and D had the fewest number of PLAAFP statements (M = 4.4 and 4.4, respectively). Scores were standardized to have a total of 10 maximum points; however, the mean PLAAFP score was 4.3 points (ranging from a mean of 3.9 in Placement D to a mean of 4.4 in Placement A). The lowest rating area in the PLAAFP was the use of data to develop the PLAAFP statement (M = 2.7) and the highest was student description (M = 5.3).

Goals were similarly standardized to have a total of 10 maximum points; the number of goals in our sample ranged from two to 22, with a mean of 8.19 goals per student. Students in Placement B had the most goals (M = 8.7), and students in Placement C had the fewest (M = 7.8). The mean rating for goals was the highest of all IEP components (M = 6.7). Placement B had the highest mean points (7.0) and Placement D had the lowest (6.4). There was little variability in the goals subcomponents; Applied was rated highest (M = 6.9) and Category (M = 6.6) lowest.

The number of SAS in our sample ranged from zero to 55. The mean number of SAS across the sample was 10.89, with students taught in Placement C having the fewest SAS (M = 6.34) and students in Placement A the most (M = 12.91). SAS were also standardized to have a total of 10 maximum points, but had a mean overall rating of 3.4 points, ranging from 2.9 (Placement C) to 3.6 (Placements A and B). Specificity of SAS had a mean of only 1.8 points across the sample and was lowest in Placement C (1.01) and highest in Placement B (2.2). There was almost no difference across the sample in Inclusivity of SAS (M = 4.9).

Finally, 30 points were potentially possible for quality ratings of the entire IEP (i.e., PLAAFP, SAS, and Goals). The mean total rating was 14.4 points, with the highest overall ratings in Placement B (14.9) and the lowest in Placement D (13.5).

Statistical Modeling

Results of the statistical modeling are discussed next. Table 2 presents pairwise comparisons between four placements (on the logit scale) and variance estimates for school effects. Table 3 presents the accompanying ORs, computed for all pairwise comparisons between the four placements. An examination of HPD intervals for placement comparisons (on the logit scale) across outcomes suggested that none were statistically significant. An examination of HPD intervals for ORs provided a similar picture, although, in one comparison (C vs. A), the HPD intervals appeared to exclude one for two outcomes (SAS Specificity and Goal Category). However, given that the corresponding HPD intervals for logits included zero, we did not view

Table 2. Logits for All Pairwise Placement Comparisons and Variance Between Schools.

IEP component	Logits: *M* (*SD*) [99.17% HPD Interval]						Between school variance: *M* (*SD*) [95% HPD Interval]
	B-A	C-A	D-A	C-B	D-B	D-C	
PLAAFP: Total	−0.04 (0.14)	−0.01 (0.15)	−0.17 (0.21)	0.03 (0.15)	−0.13 (0.20)	−0.16 (0.21)	0.16 (0.04)
	[−0.40, 0.31]	[−0.41, 0.36]	[−0.69, 0.40]	[−0.38, 0.42]	[−0.72, 0.40]	[−0.68, 0.43]	[0.09, 0.23]
Description	−0.06 (0.24)	0.00 (0.26)	−0.59 (0.35)	0.06 (0.27)	−0.54 (0.35)	−0.59 (0.36)	0.44 (0.13)
	[−0.69, 0.57]	[−0.69, 0.70]	[−1.51, 0.34]	[−0.64, 0.73]	[−1.45, 0.45]	[−1.55, 0.38]	[0.22, 0.72]
Setting	0.01 (0.20)	−0.02 (0.21)	−0.03 (0.27)	−0.02 (0.22)	−0.03 (0.27)	−0.01 (0.28)	0.17 (0.04)
	[−0.50, 0.54]	[−0.56, 0.55]	[−0.69, 0.71]	[−0.59, 0.55]	[−0.72, 0.70]	[−0.75, 0.72]	[0.10, 0.26]
Data	−0.13 (0.26)	0.02 (0.27)	0.15 (0.37)	0.15 (0.29)	0.28 (0.37)	0.13 (0.37)	0.45 (0.14)
	[−0.83, 0.55]	[−0.72, 0.70]	[−0.86, 1.13]	[−0.63, 0.87]	[−0.72, 1.22]	[−0.84, 1.11]	[0.22, 0.72]
SAS: Total	−0.03 (0.13)	−0.26 (0.17)	−0.17 (0.20)	−0.23 (0.16)	−0.14 (0.20)	0.09 (0.22)	0.15 (0.04)
	[−0.37, 0.30]	[−0.71, 0.20]	[−0.68, 0.35]	[−0.69, 0.21]	[−0.65, 0.37]	[−0.45, 0.69]	[0.09, 0.22]
Inclusivity	−0.02 (0.15)	−0.07 (0.19)	0.01 (0.22)	−0.06 (0.19)	0.03 (0.22)	0.08 (0.24)	0.14 (0.03)
	[−0.40, 0.39]	[−0.58, 0.44]	[−0.54, 0.60]	[−0.55, 0.48]	[−0.57, 0.56]	[−0.53, 0.73]	[0.08, 0.21]
Specificity	−0.07 (0.21)	−0.75 (0.31)	−0.54 (0.33)	−0.68 (0.30)	−0.47 (0.33)	0.22 (0.39)	0.43 (0.13)
	[−0.66, 0.47]	[−1.59, 0.05]	[−1.36, 0.38]	[−1.44, 0.17]	[−1.35, 0.38]	[−0.83, 1.21]	[0.23, 0.70]
Goal: Total	0.10 (0.12)	−0.23 (0.13)	−0.21 (0.20)	−0.33 (0.14)	−0.30 (0.20)	0.02 (0.20)	0.18 (0.04)
	[−0.20, 0.42]	[−0.57, 0.09]	[−0.73, 0.31]	[−0.69, 0.01]	[−0.81, 0.25]	[−0.52, 0.56]	[0.11, 0.26]
SMART	0.10 (0.18)	−0.07 (0.19)	0.07 (0.26)	−0.17 (0.20)	−0.03 (0.26)	0.14 (0.26)	0.22 (0.06)
	[−0.34, 0.59]	[−0.55, 0.42]	[−0.60, 0.74]	[−0.68, 0.33]	[−0.71, 0.69]	[−0.54, 0.86]	[0.12, 0.34]
Applied	0.11 (0.19)	−0.08 (0.20)	−0.26 (0.26)	−0.19 (0.20)	−0.37 (0.26)	−0.19 (0.27)	0.24 (0.06)
	[−0.37, 0.61]	[−0.62, 0.42]	[−0.95, 0.41]	[−0.73, 0.33]	[−1.03, 0.39]	[−0.85, 0.58]	[0.13, 0.36]
Category	−0.01 (0.19)	−0.49 (0.20)	−0.46 (0.27)	−0.47 (0.21)	−0.45 (0.27)	0.02 (0.28)	0.27 (0.07)
	[−0.50, 0.50]	[−1.04, 0.01]	[−1.21, 0.21]	[−1.02, 0.06]	[−1.17, 0.27]	[−0.66, 0.82]	[0.14, 0.41]
IEP overall	0.13 (0.08)	0.08 (0.11)	−0.10 (0.17)	−0.05 (0.10)	−0.23 (0.17)	−0.19 (0.18)	0.16 (0.03)
Quality	[−0.11, 0.34]	[−0.18, 0.38]	[−0.56, 0.33]	[−0.32, 0.22]	[−0.64, 0.21]	[−0.63, 0.28]	[0.10, 0.22]

Note. HPD = highest posterior density; PLAAFP = present levels of academic achievement and functional performance; SAS = supplementary aids and services; IEP = individualized education programs.

these comparisons as statistically significant either. In sum, traditional statistical significance testing failed to reject the null hypothesis for any pairwise comparison across outcomes. Failure to reject the null is not the same as accepting the null.

Table 4 presents model-implied probabilities of average students obtaining a higher sum score controlling for the maximum possible sum score across placement options for each outcome. For PLAAFP Total, students in Placements A, B, and D were less likely than .5 to get points, whereas for students in Placement C, we could not determine whether they were more or less likely than .5 to get a point. For Description and Setting, we were also not able to determine whether students in each placement were more or less likely than .5 to get a point. In contrast, for Data, SAS Total, and Specificity, students in each placement were less likely than .5 to get a point. However, for Inclusivity, we could not determine whether students in each placement were more or less likely than .5 to get a point. For Goal Total, SMART, Applied, and Category, students in each placement were more likely than .5 to get a point. Finally, for IEP Overall Quality, students in Placement A were less likely than .5 to get a point, whereas for students in Placements B, C, and D, we could not determine whether they were more or less likely than .5 to get a point.

Finally, Table 5 presents results for each pairwise placement difference in the region of practical equivalence. As previously noted, traditional testing failed to reject the null hypothesis for any pairwise comparisons and outcomes. Hence, as a follow-up, we examined the Bayesian inductive probability of the null. Although we could not yet accept any null hypothesis, given that none of the probabilities were high enough to make the alternative hypothesis virtually impossible, we can highlight a few comparisons wherein the null has a decent probability of being true given the data (>.8). For SAS Total, there is a .83 probability that students in Placements A and B are practically equivalent in how likely they are to get a point. Furthermore,

Table 3. ORs for All Pairwise Placement Comparisons.

IEP component	OR: *M* (*SD*) [99.17% HPD Interval]					
	B-A	C-A	D-A	C-B	D-B	D-C
PLAAFP: Total	0.97 (0.14)	1.00 (0.15)	0.86 (0.18)	1.04 (0.16)	0.90 (0.19)	0.87 (0.19)
	[0.67, 1.36]	[0.66, 1.43]	[0.47, 1.43]	[0.67, 1.50]	[0.48, 1.48]	[0.47, 1.48]
Description	0.97 (0.24)	1.03 (0.28)	0.59 (0.22)	1.10 (0.30)	0.62 (0.23)	0.59 (0.22)
	[0.49, 1.73]	[0.44, 1.91]	[0.19, 1.32]	[0.47, 1.99]	[0.18, 1.43]	[0.19, 1.38]
Setting	1.03 (0.21)	1.01 (0.21)	1.01 (0.28)	1.00 (0.22)	1.00 (0.28)	1.03 (0.29)
	[0.58, 1.66]	[0.55, 1.68]	[0.45, 1.91]	[0.49, 1.62]	[0.42, 1.91]	[0.43, 1.98]
Data	0.91 (0.24)	1.06 (0.29)	1.24 (0.48)	1.21 (0.35)	1.41 (0.54)	1.22 (0.48)
	[0.39, 1.65]	[0.46, 1.98]	[0.36, 2.88]	[0.46, 2.24]	[0.38, 3.24]	[0.38, 2.81]
SAS: Total	0.97 (0.12)	0.78 (0.13)	0.86 (0.17)	0.81 (0.13)	0.89 (0.18)	1.12 (0.25)
	[0.69, 1.34]	[0.49, 1.22]	[0.47, 1.37]	[0.50, 1.23]	[0.51, 1.44]	[0.60, 1.93]
Inclusivity	1.00 (0.15)	0.95 (0.18)	1.04 (0.22)	0.96 (0.19)	1.05 (0.23)	1.12 (0.27)
	[0.64, 1.44]	[0.55, 1.54]	[0.56, 1.74]	[0.55, 1.53]	[0.56, 1.75]	[0.56, 2.01]
Specificity	0.95 (0.20)	0.49 (0.16)	0.62 (0.21)	0.53 (0.16)	0.66 (0.23)	1.34 (0.55)
	[0.50, 1.58]	[0.17, 0.98]	[0.22, 1.28]	[0.19, 1.06]	[0.26, 1.45]	[0.39, 3.29]
Goal: Total	1.11 (0.14)	0.80 (0.10)	0.83 (0.17)	0.73 (0.10)	0.75 (0.15)	1.05 (0.21)
	[0.80, 1.50]	[0.57, 1.10]	[0.46, 1.33]	[0.50, 1.01]	[0.41, 1.24]	[0.59, 1.75]
SMART	1.12 (0.21)	0.95 (0.18)	1.11 (0.29)	0.86 (0.17)	1.00 (0.27)	1.20 (0.32)
	[0.67, 1.74]	[0.54, 1.46]	[0.52, 2.03]	[0.49, 1.36]	[0.48, 1.95]	[0.55, 2.26]
Applied	1.13 (0.22)	0.94 (0.19)	0.79 (0.21)	0.85 (0.17)	0.71 (0.19)	0.86 (0.24)
	[0.64, 1.76]	[0.53, 1.50]	[0.37, 1.48]	[0.47, 1.36]	[0.31, 1.35]	[0.37, 1.64]
Category	1.00 (0.19)	0.63 (0.12)	0.65 (0.18)	0.64 (0.13)	0.66 (0.18)	1.06 (0.30)
	[0.58, 1.58]	[0.32, 0.98]	[0.29, 1.22]	[0.33, 1.01]	[0.29, 1.29]	[0.43, 2.05]
IEP overall	1.14 (0.10)	1.09 (0.12)	0.91 (0.16)	0.96 (0.10)	0.80 (0.14)	0.84 (0.15)
Quality	[0.90, 1.41]	[0.83, 1.45]	[0.55, 1.36]	[0.72, 1.25]	[0.50, 1.19]	[0.50, 1.27]

Note. OR = odds ratio; HPD = Highest Posterior Density; PLAAFP = present levels of academic achievement and functional performance; SAS = supplementary aids and services; IEP = individualized education programs.

for IEP Overall Quality, there is a .82 probability that students in Placements A and C are practically equivalent in how likely they are to get a point. Also, for IEP Overall Quality, there is a .89 probability that students in Placements B and C are practically equivalent in how likely they are to get a point.

Discussion

This study examined IEP quality for students with complex support needs across four educational placement types. Specifically, we examined whether placement predicts the following outcomes: (a) PLAAFP quality, (b) SAS quality, (c) Goal quality, and (d) Overall IEP quality. With our sample, we did not detect statistically significant differences between placements for any of these outcomes via traditional testing. Furthermore, with a follow-up examination of the inductive probabilities of the null hypothesis for each pairwise comparison, we could not accept the null hypothesis of no difference for any of the placement comparisons either. However, we found that the null did have a decent probability of being true for a few pairwise comparisons given these data, even if more data supporting the null is needed before conclusively accepting the null.

Consistent Areas of Concern in IEPs Across Placement Types

Instead of identifying differences in quality across placements, we found low-quality IEPs for students with complex support needs taught in all placement types. Our findings are consistent with reviews of IEPs for

Table 4. Model-Implied Probabilities of Obtaining One Point When One Point Is Possible.

	Probability: *M* (*SD*) [95% HPD Interval]			
IEP component	Placement A	Placement B	Placement C	Placement D
PLAAFP: Total	**.44 (0.03)**	**.43 (.03)**	.44 (.03)	**.40 (.04)**
	[.39, .49]	**[.38, .48]**	[.38, .50]	**[.32, .48]**
Description	.57 (.04)	.56 (.05)	.57 (.05)	0.43 (.07)
	[.48, .66]	[.47, .64]	[.47, .66]	[.29, .56]
Setting	.49 (.04)	.49 (.04)	.48 (.04)	.48 (.06)
	[.42, .56]	[.41, .56]	[.40, .56]	[.37, .59]
Data	**.26 (.04)**	**.24 (.04)**	**.27 (.04)**	**.30 (.06)**
	[.19, .33]	**[.17, .31]**	**[.18, .35]**	**[.18, .42]**
SAS: Total	**.36 (.02)**	**.35 (.02)**	**.30 (.03)**	**.32 (.04)**
	[.31, .40]	**[.30, .39]**	**[.24, .36]**	**[.25, .39]**
Inclusivity	.50 (.03)	.49 (.03)	.48 (.04)	.50 (.04)
	[.44, .55]	[.44, .55]	[.40, .56]	[.41, .59]
Specificity	**.21 (.03)**	**.20 (.03)**	**.11 (.03)**	**.13 (.03)**
	[.15, .26]	**[.15, .25]**	**[.06, .17]**	**[.07, .20]**
Goal: Total	**.69 (.02)**	**.71 (.02)**	**.64 (.02)**	**.64 (.04)**
	[.65, .73]	**[.67, .75]**	**[.59, .69]**	**[.57, .72]**
SMART	**.67 (.03)**	**.69 (.03)**	**.65 (.03)**	**.68 (.05)**
	[.61, .72]	**[.63, .75]**	**[.59, .72]**	**[.59, .77]**
Applied	**.71 (.03)**	**.73 (.03)**	**.69 (.03)**	**.65 (.05)**
	[.65, .76]	**[.68, .78]**	**[.63, .76]**	**[.55, .75]**
Category	**.71 (.03)**	**.71 (.03)**	**.60 (.04)**	**.61 (.05)**
	[.65, .77]	**[.65, .77]**	**[.53, .67]**	**[.51, .72]**
IEP overall	**.45 (.02)**	.49 (.02)	.47 (.02)	.43 (.04)
Quality	**[.42, .49]**	[.44, .52]	[.43, .52]	[.36, .50]

Note. In bold are results where HPD intervals exclude. 5. Importantly, although the maximum possible score varied among students because of differences in the number of goals on their IEPs, these reported probabilities can be plugged into the binomial model to recover the probability of obtaining a sum score given any maximum possible score. As an example, someone could calculate that the probability is .06 that a student in Placement A will obtain a 12 on PLAAFP Total given the maximum possible score of 36. These simple binomial calculations can be found via a Google search using free online calculators (e.g., https://stattrek.com/online-calculator/binomial.aspx). HPD = highest posterior density; PLAAFP = present levels of academic achievement and functional performance; SAS = supplementary aids and services; IEP = individualized education programs.

students with emotional behavioral disorders (e.g., Hott et al., 2021), attention deficit disorder (e.g., Spiel et al., 2014), and autism (e.g., Ruble et al., 2010), suggesting the development of low-quality IEPs is a problem that persists over time and across disability categories (e.g., LaSalle et al., 2013). Our findings differ, however, from those of Hunt and colleagues (1992) who found IEPs were of higher quality for students with complex support needs who were taught in inclusive versus self-contained settings. We hypothesize several reasons why we found no significant differences in quality across placement types.

First, present-day teachers have access to online IEP forms and goals databases. These tools enable teams to write IEPs more efficiently (More & Hart Barnett, 2014), which may be especially useful to support new teachers who often have difficulty developing IEPs (Shriner et al., 2013). However, More and Hart Barnett (2014) described the potential trade-off to the efficiency of online IEP forms as a loss of individualization. As such, the process of IEP development is simplified to filling out information on a generic form. Although the *Endrew F.* case (2017) recently clarified the IEP is not a form but should be a carefully designed document that thoroughly considers the child's present levels, disability, and potential for growth, it appears that IEP teams still treat the document more like a form than an individually constructed document. Furthermore, procedural compliance is often emphasized in IEP adjudication

Table 5. Probabilities of Placement Differences Being in the Region of Practical Equivalence (Based on Logits).

IEP component	B-A	C-A	D-A	C-B	D-B	D-C
PLAAFP: Total	.77	.77	.48	.74	.55	.49
Description	.53	.51	.10	.49	.13	.10
Setting	.63	.60	.50	.58	.50	.48
Data	.45	.48	.35	.41	.29	.36
SAS: Total	.83	.30	.49	.38	.54	.54
Inclusivity	.78	.62	.60	.64	.59	.51
Specificity	.61	.03	.12	.05	.16	.31
Goal: Total	.73	.35	.43	.14	.25	.64
SMART	.60	.62	.49	.48	.52	.44
Applied	.58	.61	.33	.45	.20	.41
Category	.64	.06	.14	.08	.15	.48
IEP overall quality	.73	.82	.63	.89	.37	.46

Note. These Bayesian inductive probabilities denote the conditional probability given data that the true effect is zero or close enough to zero for practical purposes (i.e., the true effect is in the ROPE to zero). As an example, the model estimates that the probability is .77 given these data that the effects of placement options B and A on PLAAFP Total are in fact equivalent for all practical purposes. However, despite this decent probability of the null being true, there remains a .23 probability that the true effect is not on the ROPE so we cannot yet accept the null without finding more data that also support the null. PLAAFP = present levels of academic achievement and functional performance; SAS = supplementary aids and services; IEP = individualized education programs; ROPE = region of practical equivalence.

(Zirkel & Hetrick, 2016), reinforcing the impulse to treat IEP development similar to completing a form, in which documenting specific tasks (e.g., developing measurable goals, ensuring parent participation) is paramount. We hypothesize that the introduction of online IEP forms and tools such as goal banks creates a “cookie-cutter” approach to IEP development. Consequently, IEPs are likely to be similar in content and quality across placements.

IEPs may be of similarly low quality across placements because students with disabilities are subject to low expectations in an ableist culture. This is particularly true for students with complex support needs, who have long been subjected to exceedingly low expectations across academic, behavior, social, and postschool domains (e.g., Giangreco, 2020). These low expectations are tied to the ableist systems in which people with complex support needs exist; there is an enduring view of people with complex support needs as deficient and wrong while pathologizing their ways of being and thinking (Dukes & Berlingo, 2020). Ableism is inherent in physical and curricular structures (e.g., absence of ramps, students are given only one way to learn or show knowledge). Furthermore, IEP teams operate within these ableist structures (Timberlake, 2020) that focus on “fixing” the student rather than investigating ways to eliminate barriers and provide supports for all students to succeed in inclusive learning spaces. We assert IEPs are also ableist, guiding teams to seek and remediate student deficits, all while positioning students as needing special instruction from special people in (usually) special places. IDEA itself constructs special education as a needs-based service; as such, students must have unusual or particularly intensive, or frequent needs to simply qualify for special education and related services. Consequently, IEP teams must position students as deviant to ensure their eligibility to receive necessary services. Given the ubiquitousness of ableism in society writ large and IEP guidance from IDEA, the low quality of IEPs across placement settings is unsurprising.

Characteristics of IEPs

As noted, the IEPs in our national sample for students with complex support needs are best characterized as low quality. However, goals were the highest rated IEP component in our sample. This is perhaps not unexpected, considering the myriad tools available to support teams in writing goals (e.g., Hedin & DeSpain, 2018). Far less guidance exists to support teams in developing PLAAFPs or SAS; these were also the lowest rated IEP components in our analysis. These findings point to the need to develop better guidance to support teams in writing high-quality PLAAFPs and SAS that are anti-ableist, embody high expectations, and seek modifications to the environment (i.e., SAS) that support student learning.

The IEPs in our national sample also ranged significantly in length, with some having as few as two and as many as 22 goals, and as few as zero and as many as 55 SAS. The length of the IEP is somewhat of a double-edged sword; lengthier IEPs might contain more specific details and supports to guide teams. However, IEPs that contain many goals and SAS often resemble a brainstorming activity versus a cohesive set of plans that can be reasonably implemented by IEP team members (Ruppar & Kurth, in press). Relatedly, all IEP components in our analysis (PLAAFP, Goals, and SAS) were often vague and nonspecific. Consequently, it would be nearly impossible for the different members of the IEP team to implement these plans with any degree of certainty or fidelity.

Limitations

Obtaining a national sample of IEPs for elementary-aged students with complex support needs across all four placement types was a strength of our sample; however, the relatively small sample size of 112 IEPs limited our ability to obtain more precise estimates and limited power to detect smaller differences in IEP quality. A second limitation is that we cannot infer causality in our analysis, given that our data are observational. Hence, we can consider placement differences in quality but not the causal effects of placement on quality. Finally, members of the research team were not present during the IEP meetings, nor were we able to access supplementary materials, such as notes, which may have offered further explanations of decisions made and factors considered during the development of these IEPs. Relatedly, we cannot determine the impact of factors such as IEP forms or goals-banks on how IEPs are constructed. Because IEPs are protected documents, obtaining IEPs for research remains difficult; however, further research is needed to overcome these limitations of our study.

Future Directions and Implications

Students with complex support needs deserve high-quality IEPs that are carefully designed to promote positive outcomes grounded in high expectations and dignifying of the student, highlighting individual students' potential, strengths, priorities, and preferences. Our findings, consistent with others, reveal students with complex support needs have IEPs that fail to detail high-quality services and supports. Future research is needed to correct this and we suggest five specific lines of research to address the issue of low-quality IEPs for students with complex support needs, described next, all of which may improve practice.

Future research is needed to investigate the role of the IEP form in how teams discuss and construct IEPs. IDEA (2004) states each local education agency may create its own IEP form (Section 613); accordingly, school districts use a variety of mostly online IEP forms. As a result, there is great variability in IEP systems, content, and structure between districts and states (Luft & Amiruzzaman, 2018; Serfass & Peterson, 2007). Because IEP forms provide different prompts and response options, IEP content necessarily varies significantly. An investigation of the more common online IEP systems, their alignment with indicators of quality IEPs, ease of use, and procedural compliance is needed to support local education agencies in selecting IEP forms and training IEP teams in their use.

The second area of research relates to teacher training. Although IEP teams are composed of many team members, teachers remain integral members of IEP teams in terms of both development and implementation. Preparing teachers to develop IEPs compliant with procedural and substantive standards is necessary (Yell & Bateman, 2018) and this should be embedded within a broader focus on anti-ableist and strengths-based, inclusive IEP development for both pre- and in-service teachers. Research must also consider how the working conditions of special education teachers (e.g., Stark et al., 2022), particularly the time-consuming nature of IEP paperwork and large caseload sizes, relate to issues of IEP quality.

Third, research related to broader indicators of IEP quality is needed. Our present analysis was limited to analyzing three components of the IEP in isolation: PLAAFP, Goals, and SAS. However, we did not measure the extent of congruence across these components. Others (e.g., Hott et al., 2021) have found a lack of congruence across IEP components. Certainly, ensuring that needs identified in the PLAAFP are subsequently addressed in other IEP components is a critical quality indicator and future analysis should consider this. Similarly, our analysis did not assess family and student participation in IEP development, although their participation is essential to developing quality IEPs that are meaningful from the point of view of the student. However, extant research suggests family input is often cursory (e.g., Miller et al., 2019) and this research is primarily from the point of view of White mothers. Limited research examines the perspectives of families with intersectional identities (e.g., non-English speaking, people of color, parents with disabilities), and still less research examines IEP development from the perspectives of students with complex support needs.

The fourth line of needed research resulting from the present analysis relates to disrupting the deficit-based narrative foundational to current IEPs (Duke, 2014). The current IEP process focuses on identifying and remediating deficits; some assert the IEP process contributes to segregation (e.g., Timberlake, 2020) through its focus on individual needs deemed pathological. In collaboration with people with complex support needs, researchers can identify mechanisms to re-cast the IEP as a tool for identifying strengths to build upon and as a process for ensuring full membership, belonging, and learning in inclusive settings. Policy changes, including new requirements for eligibility for special education services and the least restrictive environment, would logically arise from this line of research.

Finally, research investigating IEP implementation is needed. Important differences in teaching practices have been observed in general and special education classes where students with complex support needs learn, with resultant differences in student outcomes (e.g., Gee et al., 2020). These different teaching practices are likely related to student IEPs and the discourse, curriculum, and materials used in these settings. In this issue, Zagona and colleagues observed the classrooms where the students in the present study learned, finding significant differences in learning activities by placement. Because we relied on data from the same set of teachers and students in these studies, it is evident that teachers write IEPs that are translated into practice in different ways. In other words, teachers in inclusive settings wrote IEPs that were of no greater quality than teachers in segregated settings, yet teachers in the inclusive settings enacted those IEPs in ways that resulted in improved experiences for students with complex support needs who were taught in general education settings compared with students taught in segregated settings. Further research exploring this is needed, including how teachers translate the IEP into day-to-day decisions about supports, services, instruction, and lesson planning.

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Supplemental Material

Supplemental material for this article is available online.

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