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**Evaluating Children in U.S. Public Schools with Speech Sound Disorders: Considering
Federal and State Laws, Guidance, and Research**

Marie Ireland, M.Ed.
Virginia Department of Education, Richmond, VA

Sharynne McLeod, Ph.D.
Charles Sturt University, Australia

Kelly Farquharson, Ph.D.
School of Communication Science and Disorders
Florida State University, Tallahassee, FL

Kathryn Crowe, Ph.D.
Charles Sturt University, Australia
University of Iceland, Iceland

Correspondence: Marie Ireland, marie.ireland@doe.virginia.gov

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ORCID:

Marie Ireland <https://orcid.org/0000-0002-5087-350X>

Sharynne McLeod <https://orcid.org/0000-0002-7279-7851>

Kelly Farquharson <https://orcid.org/0000-0003-1836-4681>

Kathryn Crowe <http://orcid.org/0000-0003-3496-5129>

Abstract

More than half of U.S. speech-language pathologists (SLPs) currently practice in the school setting and 92.6% of SLPs who work in schools provide services focused on children's speech sound production (articulation and/or phonology). This paper describes evaluation and eligibility requirements for children with speech sound disorders (SSDs) in the United States focusing on four sources of information: (1) federal requirements, specifically the Individuals with Disabilities Education Act (IDEA), (2) state and local requirements and guidance, (3) other sources of guidance (e.g., from professional associations), and (4) research. To be eligible to receive services under IDEA, three conditions must be met: (1) the student has an impairment, (2) that impairment results in an educational impact, and (3) the student requires specially designed instruction to make progress. Civil rights and diversity (cultural, linguistic, and gender) within these contexts are also considered. Case examples are provided to highlight eligibility criteria and to guide SLP practice. The information and examples provided in this article will enable SLPs in the United States to navigate IDEA evaluation and eligibility requirements to ensure children with speech sound disorders who are eligible under IDEA receive appropriate services.

Key words: speech sound disorders, school-based SLPs, service delivery, assessment, intervention, speech acquisition, developmental norms

In the United States, more than half of speech-language pathologists (SLPs; 51.3%) currently practice in a school setting (ASHA, 2019a). Of these, an overwhelming 92.6% work with children's speech sound production (ASHA, 2015). While SLPs in any work setting may evaluate and provide intervention for children with speech sound disorders (SSD), school-based SLPs primarily evaluate and provide service to children who are identified as "disabled" under the federal law, namely the Individuals with Disabilities Education Act (IDEA, 2004). IDEA guarantees all children with disabilities receive a free and appropriate public education. Speech and language services offered under IDEA are considered "special education and related services" (IDEA, 2004) and are provided at no cost to students with a disability using a combination of federal, state, and local tax funding. The final implementation of IDEA regulations were adapted in 2015 to align with the Every Student Succeeds Act (ESSA). In 2016, "speech-language impairment (SLI)" was the most prevalent disability category for children ages 3 through 5 with 323,789 children identified (U.S. Department of Education, 2018). An additional 1,016,212 students ages 6 through 21 received services for speech-language impairment under IDEA (U.S. Department of Education, 2018). Compliance with the requirements of IDEA reduce the risk of both over identification of children as "disabled" and civil rights violations. As Ireland and Conrad (2016) indicated:

It is critically important that speech-language pathologists understand the difference between educational identification of a speech-language impairment under the Individuals with Disabilities Education Act (IDEA) and the procedures used for a clinical determination of speech or language impairment (p. 78).

The aim of this paper is to support SLPs in the United States as they navigate evaluation and eligibility requirements and evaluate children with SSD focusing on four sources of information: (1) U.S. federal law, specifically "disability" eligibility requirements under the Individuals with Disabilities Education Act (IDEA, 2004), (2) state and local regulations and guidance, (3) other

sources of guidance (e.g., American Speech-Language-Hearing Association, World Health Organization), and (4) research. Expansion of these four sources of information is followed by a discussion of clinical implications, civil rights, diversity, and over identification, and are further explored in three case examples. Finally, alternative pathways for children with SSD who are not eligible under IDEA are provided. Terms that are important to differentiate in this paper include: *law*, *regulation*, *guidance*, and *research* and will be explained throughout the text. Additionally, this paper also may be of interest to SLPs throughout the world to prompt reflection on their own laws, regulations, guidance, and research frameworks for supporting children with speech sound disorders (e.g., McLeod, Press, & Phelan, 2010).

Discussion among SLPs across the world, and particularly in the United States, about developmental norms for speech sounds and their impact on children's eligibility for SLP services (Informed SLP, 2018) was the impetus for this paper. First, McLeod and Crowe (2018) published a cross-linguistic review of consonant acquisition in 27 languages and concluded that 5-year-old children produced at least 93% of consonants correctly and had acquired the majority of consonants in their representative languages spoken across the world. With the publication of this paper and presentations at the 2018 ASHA convention (e.g., Storkel, Farquharson, & McLeod, 2018) summarizing these data for English-speaking children, rigorous discussion ensued within the United States, with one blog site describing it as "That one time a journal article on speech sounds broke the SLP internet" (The Informed SLP, 2018). The discussion continued with the publication of a special issue (Storkel, 2019a), and a paper by Storkel (2019b). The papers by McLeod and Crowe (2018) and Storkel (2019b) were the most downloaded of all papers published by ASHA in each of these two years (ASHA, 2019b; ASHA, 2020). With recent work by Crowe and McLeod (2020) to reanalyze speech acquisition data

from 15 studies of 18,907 children speaking English in the United States, it is timely to contextualize these studies and examine the regulations and guidance (federal, state, local, professional, research) regarding evaluation and eligibility for children with SSD who may be eligible to receive services in public schools in the United States.

Federal Requirements for Special Education

Public schools in the United States must follow IDEA federal regulations (and any state regulations) when evaluating children suspected of having a disability and serving children identified with disabilities. To qualify as a child with a disability, a team must determine that: (1) the student has an impairment, (2) the impairment results in an educational impact, and (3) the child requires specially designed instruction to make progress (IDEA, 2004). IDEA regulations¹ have many requirements, such as the composition of the team making the determination, components of the evaluation, and documentation of the eligibility decision making process (U.S. Department of Education, 2006; 34 CFR §300-301). School-based SLPs must work as part of an interdisciplinary team that uses a variety of assessment tools and strategies to gather developmental, functional, and academic information (U.S. Department of Education, 2006; CFR 300.304). This is different from most clinical settings in which SLPs may independently determine if an impairment exists. Once all evaluation data is gathered at the school, a team of professionals and the parents meet to determine if a child is eligible for special education and related services under one of the 14 identified disability categories and to determine the amount and type of services to be rendered.

¹ The Individuals with Disabilities Education Act (IDEA, 2004) is the federal special education law or statute that entitles children (including those with SSD) to be eligible for special education and related services in public schools. IDEA Regulations (U.S. Department of Education, 2006) address the implementation and interpretation of the IDEA and delineate specific requirements.

Federal Evaluation Requirements

Multidisciplinary teams are required to “draw upon information from a variety of sources, including aptitude and achievement tests, parent input, and teacher recommendations, as well as information about the child’s physical condition, social or cultural background, and adaptive behavior (U.S. Department of Education, 2006; CFR 300.306.a.c.i). IDEA prohibits the use of “any single measure or assessment as the sole criterion for determining whether a child is a child with a disability and for determining an appropriate educational program” (U.S. Department of Education, 2006, CFR 300.304 b. 2). Additionally, IDEA mandates that:

- (1) Assessments and other evaluation materials used to assess a child under this part –
 - (i) Are selected and administered so as not to be discriminatory on a racial or cultural basis;
 - (ii) Are provided and administered in the child’s native language or other mode of communication and in the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally, unless it is clearly not feasible to so provide or administer;
 - (iii) Are used for the purposes for which the assessments or measures are valid and reliable;
 - (iv) Are administered by trained and knowledgeable personnel; and
 - (v) Are administered in accordance with any instructions provided by the producer of the assessments (U.S. Department of Education, 2006, CFR 300.304 c.1).

Given this IDEA mandate, the SLP’s evaluation of the child is only one source of data that should be gathered by the team prior to determining eligibility for special education and related services. Standardized tests should never serve as the sole indicator of an SSD. Data to document the educational impact of the SSD and the child’s need for specially designed instruction may be the responsibility of the SLP, but also may be provided by classroom teachers, parents, children, and others (Colorado Department of Education, n.d.; Virginia Department of Education, 2018). In addition to ensuring that their evaluation practices comply with IDEA, SLPs encounter specific challenges in the use of common speech-language pathology assessment tools and techniques. This will be addressed in the research section below.

Federal Eligibility Requirements

It is important to note that for children in U.S. schools, it is possible to have a SSD but not meet the federal and state criteria for an educational identification as a child with a speech-language impairment under IDEA. This requires understanding of the eligibility requirements of IDEA with specific attention to (1) the data regarding impairment, (2) documentation of the adverse educational impact, and (3) need for specially designed instruction. While there is no federal definition of “adverse educational impact” (but see Thomas, 2016), IDEA includes references to determining what a child can do academically, developmentally, and functionally (U.S. Department of Education, 2006, CFR 300.304 c.1.ii).

Data regarding impairment often are generated from standardized tools. The use of non-standardized tools, criterion-referenced tools, and strategies such as questionnaires, interviews, and systematic observation are an important portion of a comprehensive speech sound evaluation; however, they are often overlooked (Krueger, 2019). When evaluating the educational impact of a child’s SSD, SLPs should carefully consider both social-emotional and academic impacts including spelling (encoding) and reading (decoding; Cabbage et al., 2019; Farquharson, 2019). Social-emotional impact may be assessed using observations of non-classroom settings like the lunchroom or playground, or an interview of the child (McLeod, 2004).

The third prong of special education eligibility is documenting the need for specially designed instruction. While there is no federal definition of what is required to meet this criterion, a variety of options are available to examine if a child requires specially designed instruction to correct a SSD. Techniques to examine stimulability or modifiability may be undertaken as part of a standardized norm referenced test, as part of a dynamic assessment, or as

a separate measure. Virginia guidance highlights that “Students who are stimulable would not need specially designed instruction to produce sounds correctly and may benefit from a home practice program or follow-up by classroom teachers” (Virginia Department of Education, 2018, p. 90).

State and Local Regulations and Guidance

Within the United States, states may promulgate additional regulatory requirements, which must be followed, or guidance, which highlights preferred practice. The significant differences among states are attributed to a combination of regulatory differences and state and local guidance.

State Regulations

State regulatory requirements must be followed and are one source of variability across the United States (e.g., Farquharson & Boldini, 2018). One example of differences between states is timelines for the evaluation process. IDEA provides a 60-day timeline for the evaluation or states are allowed to selected a different timeline if the “state establishes a timeframe” (U.S. Department of Education, 2006; 300.301a.c.1.ii). For instance, Washington state has a 35-day requirement (Washington Administrative Code; WAC 392-172A-03005) while Virginia has a 65-business-day requirement (Virginia Department of Education, 2010). Examples of differences in eligibility requirements related to SSD follow.

- West Virginia Eligibility Criteria for Articulation/Phonology Disorder (2011) states “An eligibility committee will determine that a student is eligible for special education and related services as a student who has an articulation/phonology disorder (speech impairment) when all of the following criteria are met:
 1. At least two procedures are used to assess the student, one of which is a standardized measure.
 2. Application of developmental norms from diagnostic tests verifies that speech sounds may not develop without intervention.
 3. The student’s disability adversely affects educational performance.

4. The student needs special education. (Speech/language therapy can be special education or a related service.)” (p. 48)

- Wisconsin regulations (2006) require “One of the following must be checked:
 - Scores at or below 1.75 SD on test of articulation or phonology. (or)
 - Has consistent speech sound errors when 90% of typically developing children produce sound correctly. (or)
 - Presence of one of more disordered phonological processes occurring at least 40%. (or)
 - Scoring in the moderate to profound range on a test of phonological process use.” (Section PI 11.36(5))

State and Local Guidance

State and local guidance is designed to assist school professionals and increase consistency in practice². State and local guidance align with state and federal regulations and may be written to address specific state or local practices or to increase consistency or address practice issues. “Many states provide guidance regarding the standardized tests to be used to determine eligibility and caution against overreliance on norm-referenced tests” (Ireland et al., 2013, p. 321). State-specific information may assist SLPs in determining whose responsibility it is to gather and share specific data or provide quantitative or qualitative thresholds to assist in determining eligibility. Some states provide guidance on normative data, specific assessment components, or provide evaluation tools and training. Some examples of state guidance include:

- **Colorado Department of Education’s Communication Rating Scales** that provide guidance on evaluation of SSD in five areas with online [Communication Rating Scales Webinar Videos](#): “articulation impairment does not exist when: (1) sound errors are consistent with normal articulation development; (2) articulation differences are due primarily to unfamiliarity with the English language, dialectal differences, temporary physical disabilities or environmental, cultural or economic factors; or, (3) the errors do not interfere with educational performance resulting in a denial of FAPE [free and appropriate public education] (n.p).”
- **Virginia Department of Education’s Comprehensive Communication Assessment System’s Speech Production Assessment Summary** (2018) suggests evaluation measures including percentage of consonants correct (PCC) and Miccio’s simulability probe (Powell & Miccio, 1996).

² “... regulations establish the framework of what must be done, whereas guidance describes how it can be done.” (Ireland, Hall-Mills, & Milliken, 2013, p. 321).

As can be seen, the application of state regulations and guidance directly impacts which children are determined eligible to receive intervention for SSD. Prior to using guidance from other states or localities, SLPs should ensure that there are not regulatory or procedural differences.

Other Sources of Guidance

SLPs should integrate guidance and best practice information from other high-quality sources including professional associations and international bodies. However, it is important that SLPs also comply with state and federal regulatory requirements and guidance. Where conflicts exist between best practice and federal or state requirements, school-based SLPs are required to follow their federal and state regulations (State Education Agencies Communication Disabilities Council, 2016). Identification of gaps between best practice and regulations may serve as a starting point for SLPs to advocate for change.

Guidance from Professional Associations

The American Speech-Language-Hearing Association (ASHA) provides guidance and professional development to SLPs in the United States. For example, the ASHA Practice Portal collates evidence about assessment and intervention for children with SSD (<https://www.asha.org/Practice-Portal/Clinical-Topics/Articulation-and-Phonology/>). ASHA also provides recommendations regarding person-centered assessment and functional goal setting (<https://www.asha.org/uploadedFiles/ICF-Speech-Sound-Disorder.pdf>). The ASHA (2004) admission and discharge criteria were developed to guide SLPs in all work settings. Admission factors such as being “unable to communicate functionally or optimally across environments and communication partners” or “communication skills negatively affect educational, social, emotional, or vocational performance” align with the tenants of IDEA. Other factors may be appropriate for use in non-school settings, but do not meet the requirements for eligibility under

IDEA. For example, using “failure to pass a screening assessment for communication” does not provide sufficient information to be identified as “disabled” under IDEA. Another admission factor, “The individual, family, and/or guardian seeks services to enhance communication skills” may provide an appropriate reason to seek services from a SLP outside of the public schools, but again is not sufficient to identify a child as “disabled” under IDEA.

Guidance from International Bodies

The World Health Organization developed an influential model for considering the impact of health conditions in the International Classification of Functioning, Disability, and Health (ICF; World Health Organization, 2001). The later Children and Youth version of the ICF (ICF-CY; World Health Organization, 2007) focused specifically on child health and development, and is relevant to children with SSD. The ICF and ICF-CY present a biopsychosocial model of health that provides insight into children’s abilities in the context of their development and environment (McLeod & Threats 2008; WHO, 2007). A simplified mapping of the ICF-CY onto the IDEA eligibility qualification criteria would be that the student: (1) has an impairment of (Body Structures and Body Functions), (2) that impairment results in an educational impact (limiting Activities and Participation), and (3) the child requires specially designed instruction to make progress (Facilitators within the Environmental Context). ASHA has adopted the ICF and ICF-CY as part of their scope of practice (ASHA, 2016). ASHA’s promotion of the ICF as a framework for practice rests alongside their commitment to evidence-based practice (EBP; ASHA, 2004, 2005). When identifying children with SSD, the best available research evidence should be considered as one of the pillars of EBP (Dollaghan, 2007; Roulstone, 2011).

Research

Evidence from research literature is important for ensuring all SLPs engage in evidence-based practice. Integrating the most recent and relevant research into day-to-day clinical practice is a hallmark of professionalism. Researchers develop and publish information that may inform both evaluation practices and eligibility decision making for children with SSD in U.S. public schools. Additionally, researchers have investigated the extent to which eligibility criteria are outlined and applied within and across states (Farquharson & Boldini, 2018; Farquharson & Tambyraja, 2019).

Research about Identification of Impairment

There are two key sources of data that have been informed by research and may be used to document eligibility of children with SSD for SLPs' services in schools: developmental norms and assessment tools and strategies.

Developmental norms. The United States has a long tradition of documenting children's consonant acquisition, starting in the 1930s. Until recently, common sources of normative data used by SLPs in the United States were a summary provided by Sander (1972) and the study of 997 children by Smit et al. (1990). Age of acquisition of consonants is variable and occurs along a continuum: individual children master consonants over time, and some children master consonants before others and some contexts (e.g., consonant clusters) may be easier or harder than others. However, many SLPs' interpretations of studies of speech acquisition focus on isolating consonant data based on the 90% criterion, a criterion that indicates that 90% of children of a certain age are able to produce a consonant correctly (e.g., isolating data from Smit et al., 1990 to indicate that 'r' (the phoneme /r/) is acquired at 8;0 years). Recently, McLeod and Crowe (2018) published a cross-linguistic review and re-analysis of 64 studies of consonant acquisition by 26,007 children from 31 countries in 27 languages. Within the paper, they

provided a summary of ages of acquisition for children learning English in six countries, including data to indicate on average most consonants are acquired by 5 years of age, including the phoneme /ɹ/. Subsequently, Crowe and McLeod (2020) undertook another review and re-analysis of studies of consonant acquisition, but this time only for studies of English consonant acquisition by children living in the United States. This research included published speech assessments and 15 studies that met the eligibility criteria with a combined total of 18,187 children. The Crowe and McLeod (2020) replication resulted in similar findings to McLeod and Crowe (2018). Again, they concluded that 5-year-old children had acquired the majority of English consonants. The age of acquisition for 18 of 24 consonants (including ‘r’) was the same in both studies (see Table 1). The main difference was that children in the U.S. studies acquired more consonants by age 2;0-2;11. Many of the normative studies used in these reviews did not separate norms for boys and girls, and the data in the summaries are presented in many different ways to enable the reader to see the variability across studies (e.g., Crowe and McLeod (2020) include a table to demonstrate the range of the age of acquisition of /ɹ / across studies).

Table 1. *Average Age of English Consonant Acquisition using the 90-100% Criteria from McLeod and Crowe (2018) and Crowe and McLeod (2020).*

Average age (years;months)	McLeod & Crowe (2018)	Crowe & McLeod (2020)
Sample	8 studies of 7,369 children from 6 countries ^a	13 studies of 18,187 children from United States ^a
2;0 – 2;11	/p/	/p, b, d, m, n, h, w/
3;0 – 3;11	/b, m, d, n, h, t, k, g, w, ŋ, f, j/	/t, k, g, ŋ, f, j/
4;0 – 4;11	/l, dʒ, ʃ, s, v, ʒ, z/	/v, s, z, ʃ, l, ʃ, dʒ/
5;0 – 5;11	/r, ʒ, ð/	/ð, ʒ, r/
6;0 – 6;11	/θ/	/θ/

Source: Crowe & McLeod (2020)

^a that used the 90-100% criteria

A difference in the age of acquisition of consonants has implications for state regulations and guidelines, and ultimately students and families seeking services in U.S. schools. For example, New Jersey state regulations require that students must exhibit “one or more sound production error patterns beyond the age at which 90% of the population has achieved mastery” and goes on to indicate that this is based upon “current developmental norms” (New Jersey Administrative Code, 2016, 6A:14-3.6.b.1.), although a specific set of developmental norms was not named. One negative implication is that if school SLPs use older normative data in New Jersey, children with SSD may not be evaluated or receive appropriate services until the age of 9 or older (Smit et al., 1990). Smit et al. (1990) stated that their data are not to be interpreted or used in this way (also see Storkel, 2019b). This state regulation is focused on normative data that

were never intended to be used for disability identification. One positive implication is that because a specific set of developmental norms was not named, this state can now provide guidance to update their practices and align with the results of the more recent reviews so that children with an ‘r’ error may now be evaluated by the age of 6 (Crowe & McLeod, 2020; McLeod & Crowe, 2018) if there is a suspicion of a disability.

Assessment tools and strategies. There are two key points that SLPs should bear in mind related to assessment tools and strategies used with children with SSD. First, standardized tests are not the sole indicator of a SSD (Fabiano-Smith, 2019; Farquharson & Tambyraja, 2019; McLeod, Verdon, & International Expert Panel on Multilingual Children’s Speech, 2017; Storkel, 2019a). Second, evaluation of the child’s speech sound productions is only one part of the data that should be gathered by the team prior to determining eligibility for special education and related services. Researchers studying speech acquisition have recommended the use of multiple measures for reaching a diagnosis (Crowe & McLeod, 2020; Farquharson & Tambyraja, 2019; McLeod & Crowe, 2018; Sander, 1972; Smit et al., 1990; Storkel, 2019b). This recommendation also aligns with the mandates of IDEA. Storkel (2019a) encouraged consideration of “a richer representation of development” beyond the use of “developmental norms” (p. 67). This can include (a) production of consonants, vowels, consonant clusters, polysyllables, and prosody, (b) perception, (c) phonology, (d) intelligibility, (e) stimulability, (f) phonological awareness, spelling, and reading, (g) academic and social impact, and (h) insights from children and significant others in children’s lives (see Crowe & McLeod, 2020). There are many assessment tools and strategies beyond traditional speech sound assessment which can aid SLPs in considering such broad areas. For example, the Intelligibility in Context Scale (McLeod, Harrison, & McCormack, 2012) is a free parent-report tool available in over 60 languages that

considers children's intelligibility with different communicative partners. Research across 14 countries shows that typically developing 4- to 5-year-old children are always to usually intelligible, even to strangers (McLeod, 2020). Dynamic assessment is another method of collecting information on children's stimulability or modifiability, with standardized norm referenced test available for this purpose (Glaspey, 2019; Hasson et al., 2013) or as a separate measure (Miccio, 2002). In addition to knowledge of a range of potential assessment tools and strategies, SLPs should be aware of research that informs practice related to the diagnostic accuracy of commonly used assessment tools (Betz et al., 2013; Flipsen & Ogiela, 2015; Kirk & Vigeland, 2014; McLeod & Verdon, 2014; Peña et al., 2006).

Research about the Educational and Social Impact of An Impairment

According to IDEA, educational impact may be documented in terms of academic impact or functional performance (CFR 300.320.a.1.).

Educational impact of an impairment. Extensive work has established a connection between speech sound production difficulties and related literacy impairments (Cabbage et al., 2019). Specifically, children with SSDs frequently exhibit difficulties with phonological awareness (Preston, Hull & Edwards, 2013), word decoding (McLeod et al., 2019), and spelling (Farquharson, 2019; Lewis et al., 2018). Not only are these literacy deficits apparent concurrently with the SSD, but longitudinal and follow-up studies also have documented the long-term educational impact of speech and language difficulties in preschool on literacy and numeracy outcomes throughout school (e.g., McLeod et al., 2019; Raitano et al., 2014). To determine the extent to which decoding or spelling may be impacted, SLPs may obtain data from a variety of sources. Examples include communicating directly with the classroom teacher, using a story book during the assessment process to examine the extent to which code-based skills may

be impacted by an SSD, and conducting assessments for literacy-based skills such as phonological awareness, letter and letter-sound knowledge, word reading, and spelling.

Social/functional impact of an impairment. Evaluating the functional or social/emotional adverse impact on a student's performance may be done using observations of non-classroom settings like the lunchroom or playground or by interviewing the child, teachers, and parents to learn about their views on the impact of the SSD (McCormack, McLeod, & Crowe, 2019; McLeod, 2004). Evaluation tools and strategies such as questionnaires, interviews, and systematic observation that examine social impact are an important portion of a comprehensive speech sound evaluation; however, they are often overlooked (Krueger, 2019).

Clinical Implications

Considering normative data for speech sound acquisition is never enough to make a decision about the presence of an impairment or to determine a child has a disability under IDEA. School SLPs are part of a team that must also document the educational impact and the need for specially designed instruction. Finding a child eligible under IDEA without sufficient data is inappropriate and is a violation of the child's civil rights. Additionally, over identification results in additional service time requirements added to school SLPs' already burgeoning caseloads. Across the country (and the world), large caseload sizes and a shortage of SLPs are ongoing concerns for SLPs and school administrators (Katz et al., 2010; McGill & McLeod, 2020; Squires, 2013). Strict adherence to the evaluation and eligibility determination requirements of IDEA is necessary to ensure that children who are truly disabled are identified and receive services. Conversely, children whose speech sound productions do not align with normative expectations, but are not exhibiting an educational impact and the need for specially designed instruction, should not be identified as disabled under IDEA.

Civil Rights, Diversity, and Overidentification

Identification of a child as disabled, who does not meet the federal definition of special education, may have negative educational consequences and is a violation of the child's civil rights (U.S. Department of Education, 2016) and a violation of IDEA. Special education and related services in schools – including speech-language therapy – are provided only to students who are disabled under IDEA. To address overidentification, IDEA requires states to submit Disproportionate Representation in Specific Disability Categories data on every new eligibility determination in five disability categories, and “speech-language impairment” is one of these categories. SLPs should carefully consider cultural and linguistic differences that may impact children's performance (Ortiz, 2012) and dialectal differences that are not disordered productions (Craig et al., 2003; Edwards et al., 2014; Farrugia-Bernard, 2018; Oetting & McDonald, 2002). Guidance is available for undertaking speech assessments in languages not spoken by the SLP (McLeod, Verdon, & International Expert Panel on Multilingual Children's Speech, 2017), and selection of speech assessment tools in languages other than English (McLeod & Verdon, 2014).

Case Examples

Table 2 provides three examples where all children are 6-years-old and in first grade and were referred for a speech and language evaluation by their classroom teacher. These cases represent realistic examples of school-based referrals regarding speech sound production abilities with each child being referred for different reasons. For instance, Riley's speech was difficult to understand whereas Jaiden exhibited reading and spelling errors (see Table 2). Importantly, these examples illustrate the variety of data that the team should gather, how the data inform each eligibility question under IDEA, and the different outcomes. Using the most recent normative data (Crowe & McLeod, 2020), all speech sound errors in these cases are considered non-

developmental, however, when examining data to inform decisions about the educational impact and need for specially designed instruction, the cases are quite different. As a reminder, in practice, each team along with the school-based SLP also must review any state criteria or requirements set forth in state regulations or rules governing special education evaluation or eligibility.

Table 2. Case Examples of Three 6 Year Old Children with Speech Sound Production Errors

IDEA Eligibility Questions	Data Sources	Student Names		
		Riley	Kendall	Jaiden
1. Evidence of Impairment?	Informal and Standardized Norm Reference Assessment	Yes: Consonant inventory: consistent [f] for /θ/ substitutions, [w] for /l/ and ‘r’ /ɹ/ substitutions across all word positions	Yes: Standard score on Arizona-4 = 73 (> 1.5 S.D. below the mean) Interdental lisp on /s, z, ʃ, ʒ, ʒ, dʒ / and all s-clusters in all word positions	Yes: Consonant inventory: consistent [w] for ‘r’ /ɹ/ substitutions across all word positions and consonant clusters
2. Educational Impact?	Academic Impact	Yes: Teacher ICS = 2 (rarely intelligible); No: Typical decoding and spelling	No: Teacher ICS = 4 (usually intelligible) No: Typical decoding and spelling	Yes: SLP data shows consonant errors are mirrored in spelling/writing; No: teacher does not notice speech sound errors; ICS = 5 (always intelligible)
	Social Emotional/ Behavioral Impact	Yes: Teacher reports peers tease student about speech errors; difficulty with /l/, interferes with ability to say name; student refuses to present in class	No: Sound errors are noticeable on some words; no issues with social interactions reported	No: Errors are consistently noticeable, but do not substantially impede intelligibility; no issues with social interactions reported
3. Need for Specially Designed Instruction?	SLP Assessment Data	Yes: Miccio stimulability probe revealed not stimulable for /l/ or ‘r’ /ɹ/ by vowel or word position	No: Arizona-4 stimulable for all sounds in all word positions	Yes: Miccio stimulability probe revealed stimulable for ‘r’ /ɹ/ only in initial position with front vowels
Team reviews data for each criteria to determine if the student is eligible as a child with a disability.		Yes: Data show an impairment, educational and social impact, and a need for specially designed instruction.	No: Data show an impairment, but no educational impact or need for specially designed instruction.	Yes: Data show an impairment, educational impact (social), and a need for specially designed instruction.

Arizona-4, Arizona Articulation and Phonology Scale–Fourth Edition (Fudala & Stegall, 2017); ICS, Intelligibility in Context Scale (McLeod, Harrison & McCormack, 2012), maximum score = 5 indicating always intelligible.

Source: Author

Alternative Pathways for Children with SSD Who are Not Eligible under IDEA

This section of the paper provides alternative service-delivery pathways for children with SSD who are *currently* not eligible under IDEA and how they may receive speech-language pathology services outside of the IDEA regulations. If children do not meet the criteria to be found eligible for services under IDEA, options to ameliorate SSD include (1) clinical services outside of the school setting and (2) school services in general education programs.

Clinical Services Outside of the School Setting

When a child is not eligible under IDEA, clinical services are available outside of the school setting (e.g., private practice, outpatient clinic, university clinic, or community clinic) as an option for children whose SSD does not result in an adverse educational impact or who do not require specially designed instruction. As previously mentioned, ASHA's admission and discharge criteria (ASHA, 2004) highlights using "failure to pass a screening assessment for communication" and "the individual, family, and/or guardian seeks services to enhance communication skills" as appropriate reason to seek services in the private sector. Families may seek services in the private sector when children exhibit SSD without an educational impact. To promote a better understanding of the federal and states requirements for services in public schools, school documentation should highlight IDEA and state criteria for services and include specific information about the lack of educational impact in addition to documenting the child's speech sound production difficulties.

School Services in General Education Programs

SLP services may be offered in general education in some states and local school districts for children with SSD who are *currently* not eligible under IDEA. In response to concerns about disproportionate representation in special education, the U.S. Department of Education called for the adoption of a culturally responsive multitier system of supports (MTSS). MTSS is a

continuum of evidence-based, systemic practices to support a rapid response to students' needs (U.S. Department of Education, 2018). MTSS is a framework that provides supports and interventions to assist students who are struggling. Because MTSS initiatives are provided in general education, they have different requirements and funding. MTSS services may be appropriate for students with speech sound disorders that are stimulable (e.g., Farquharson Schussler, 2008) or that do not adversely impact them educationally. Because MTSS is a general education initiative, classroom teachers may work to facilitate skill development. In schools where MTSS programs are not established, SLPs may elect to provide additional services such as home practice programs for families or before/after school programs. In some states, SLPs may be permitted to offer services in collaboration with general education administrators, teachers, and families using small groups and homework activities. These groups may provide time limited practice (e.g., 6-8 weeks) to children when there is no suspicion of a disability under IDEA, no educational impact, or because the children are stimulable for correct sound productions. SLPs who provide services in general education should clarify and document for parents and educators that services are not being provided under IDEA. In these situations, if a "suspicion of a disability" is noted, a referral for special education evaluation should be made and all IDEA timelines and requirements must then be met.

Discussion and Recommendations

In U.S. public schools, current information from the literature must be incorporated into team decisions about presence of a speech sound disorder. While the publication of recent U.S. normative data for speech sound acquisition (Crowe & McLeod, 2020) greatly decreases the expected age of acquisition for many sounds and eliminates gender-based norms, SLPs and their teams must reinforce that, in order to meet eligibility criteria under IDEA, data from teachers,

parents, and the student are necessary to document the child's SSD, the resulting adverse educational impact, if any, and the child's need for specially designed instruction. This documentation also ensures that children's civil rights are not being violated and addresses longstanding concerns with over identification. School SLPs must consider multiple sources of data and document all three prongs of the definition of special education without prioritizing one source (e.g., standardized test scores or norms) over others. Strict adherence to these federal and state requirements also may help address the caseload challenges faced by many school SLPs.

Existing state regulations and guidance that reference gender-specific normative data or provide specific requirements that do not align with current research should be updated. With the majority of SLPs in the United States working in schools, use of current evidence-based information is critical to ensure compliance with federal and state laws and regulations and consistency in decision making. Professionals outside of the school setting also should be aware of the differences required for services under IDEA in the public school setting to ensure that recommendations do not conflict with the law. Finally, graduate training programs and clinical supervisors should update curriculum and experiences to ensure that their students and clinical fellows clearly understand how to use current normative data for evaluation and decision making and the differences that exist between states and work settings for both evaluation of impairment and eligibility for services.

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