Tutorial

Use of Design Thinking to Inform Eligibility Recommendations for Children With Spoken Language and Literacy Disorders in Schools

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Purpose: The purpose of this tutorial was to consider and apply design thinking to the clinical process of determining eligibility for special education and related services for students with spoken language and literacy disorders in school-based settings. Specifically, we will consider some of the predicaments that multidisciplinary assessment teams face when applying legal criteria and local procedures to referral and assessment processes, as well as the actual application of eligibility criteria, particularly when considering issues related to referral for an assessment for a suspected spoken language or literacy disorder.
Method: Design thinking is a human-centered, iterative process that can be used to problem solve issues at the individual and system levels. We applied the IDEO design thinking process model, which includes five phases (i.e., discovery, interpretation, ideation, experimentation, and

evolution), to the process of determining eligibility in school-based settings. Our exploration included a review of predicaments that sometimes arise during the eligibility determination process.
Results: We applied design thinking to a specific predicament in the eligibility determination process. We also used design thinking to develop several guiding questions for two additional eligibility predicaments.
Conclusions: Design thinking is a robust and structured framework used to make decisions and solve problems in a variety of settings. Given its human-centered focus, it is appropriate to use within the context of the Individuals with Disabilities Education Improvement Act of 2004. Using a human-centered approach helps retain the "I" in "IEP" (Individualized Education Program) and ensure that the unique needs of students with communication disorders are met.

Data indicate that the second largest disability category in special education is speech or language impairment (U.S. Department of Education, 2018). School-based speech-language pathologists (SLPs), therefore, are often part of teams that determine eligibility for special education under the Individuals with Disabilities Education Improvement Act (IDEA, 2004). Eligibility criteria include consideration of how the disability impacts a student's ability to learn and benefit from the general education curriculum in a general education classroom (Moore

& Montgomery, 2018). Those eligibility criteria apply to all disorders. SLPs are trained to identify and treat spoken language and literacy disorders when a student is not meeting milestones or exhibiting difficulty participating in the general education curriculum. There are multiple factors and sources of data that should be considered when making eligibility determinations. Often, these factors and data will vary widely due to individual differences among students. Students may have challenges with spoken language and literacy, but not meet the eligibility criteria under the IDEA. SLPs and the multidisciplinary assessment team (MDAT) must weigh many factors when determining if a student is eligible as a student with a disability (SWD). This can be

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challenging because there is not one clear and direct way to make eligibility decisions. In this tutorial, we present the tenets of design thinking and suggest this approach could be used to help identify problems and potential solutions during the process of gathering data and developing recommendations for eligibility decisions for students with spoken language and literacy difficulties.

Eligibility Determination Process

The requirements for determination of eligibility under the IDEA and ultimate determination of a need for special education and related services are outlined in federal and state law (IDEA, 2004, 34 C.F.R. § 300.304–300.311). Each local education agency establishes its own systems and methods, which likely include prereferral processes (e.g., multitiered systems of support [MTSS], response to intervention, Title I services, interventions in the classroom), along with referral and assessment processes. State and federal laws outline the eligibility categories, which establish if a student has an educational disability. These requirements differ in certain respects from state to state (e.g., Farquharson & Boldini, 2018). Challenges to school-based personnel and certainly to parents and others outside the education system will arise related to the local systems utilized, causing frustration for all concerned. For the purpose of this tutorial, we will consider some of the difficulties that MDATs face when applying legal criteria and local procedures to referral and assessment processes, as well as the actual application of eligibility criteria, particularly when considering issues related to referral for a spoken language and/or literacy assessment. This tutorial will not review mandatory processes for assessment and eligibility criteria but rather consider the systems aspects that create challenges for teams and in which we believe a design thinking approach may be helpful (for a full discussion of referral, assessment, and eligibility determination processes, see Ireland & Conrad, 2016; Ireland et al., in press; Moore, 2021; Moore & Montgomery, 2018).

For this discussion, however, some basics about eligibility determination are critical. The IDEA lays out some clear procedural requirements that must be followed and understood. These include the following:

- Students are to be assessed in all areas of suspected disability to determine if they meet criteria for one of 13 eligibility criteria under the law (see Table 1 for eligibility categories; 20 U.S.C. § 1414(b)(3)(B); 34 C.F.R. § 300.304(c)(4); Ed. Code, § 56320, subd. (f)).

- The assessment results must demonstrate that the student meets criteria for one of the 13 disability categories in order for the student to be determined to be an SWD (formerly known as an individual with exceptional needs). Additionally, following the determination of meeting criteria as an SWD, the Individualized Education Program (IEP) team must consider and demonstrate that the student is in need of special education and related services (34 CFR 300.8 (a)(1)).

Table 1. Eligibility categories under the Individuals with Disabilities Education Improvement Act.

Child with a disability (§ 300.8)
1. Autism
2. Deaf-blindness
3. Deafness
4. Emotional disturbance
5. Hearing impairment
6. Intellectual disability
7. Multiple disabilities
8. Orthopedic impairment
9. Other health impairment
10. Specific learning disability
11. Speech or language impairment
12. Traumatic brain injury
13. Visual impairment
20 U.S.C. § 1401 (3); §1401 (30)

- Eligibility determination, then, is a three-prong test:

  - *Prong 1.* Does the student have a disability? The student's difficulties must align with one of the 13 disabilities under IDEA (see Table 1).

  - *Prong 2.* Does the identified disability adversely affect the student's educational performance? The IEP team needs to determine how the skill areas affected by the disability are impacting the student's educational performance.

  - *Prong 3.* Does the student require "specially designed instruction" to receive a free appropriate public education? This is determined through the IEP process when the IEP team identifies areas of need that are impacting the student's education and then writes goals to address these areas of need. Even if a student meets the eligibility requirements for a disability and the skill areas affected by the disability adversely affect the student's education performance, the student must also meet this final prong. The student must require specially designed instruction to benefit from education. The IEP team is then charged with designing an IEP that will confer educational benefit in light of the student's unique circumstances (Endrew F. standard, U.S. Supreme Court, 2017; Moore, 2019, in reference to Rowley Standard, U.S. Supreme Court, 1982).

What does the application of the three-prong test mean in our daily work? First, students do not qualify for a service, but they qualify by meeting criteria for an educational disability, which is determined through the multidisciplinary assessment determination process. It is commonly misstated that a student "qualifies for speech and language services." However, in fact, that is not possible. Students are identified under the three-prong process identified above. Only after the team determines that a student has an educational disability and goals are identified based on areas of need can services be considered. Therefore, there is no such thing as

"qualifying" for a service. Second, we must remember that language is important. How we speak about our assessment results and determination of services will demonstrate the complexity of these considerations and also ensure the protection of students' rights. Third, SLPs must model for all team members that when we are making considerations for eligibility, it is a matter of carefully following the three-prong process. In so doing, we advocate for students with all disabilities who may have deficits in speech, language, and social communication and who, ultimately, through the IEP process are determined to require specially designed instruction through speech-language services.

Traditional Process—Referral and Assessment

Once a student is referred for a multidisciplinary assessment, the law requires (§ 300.304[4]) that they are assessed in "all areas of suspected disability." The prereferral and referral processes at the local school or district level should provide a method by which such areas of suspected disability are considered. In other words, how does an MDAT know which areas to assess? In the case of students who are having difficulties with spoken language and literacy development, there are wide variations in the types of prereferral interventions available, depending on the resources and/or local choices made regarding funding for such prereferral services and a variety of other complicated factors. Regardless, once a referral to determine if a student has an educational disability is made, the MDAT is required to respond. Depending on the student-specific situation, this response may be a prior written notice, but it may also be an assessment plan. The assessment plan should include evidence of assessment in all areas of suspected disability.

Any student with an educational disability of any nature may be experiencing difficulties with spoken language and literacy development. So, the necessity for the MDAT to assess in all areas of suspected disability is essential to correct identification and ultimate determination of goals and requisite services. Local referral and assessment processes and, ultimately, the MDAT must also address exclusionary criteria in the law, which prevent a team from determining a student has a disability if the reason for their educational deficits is due to lack of schooling or limited English proficiency (§ 300.306 (b)). Therefore, it would be expected that the prereferral interventions account for such variants in a student's experience, ensuring that the MDAT can adequately address such issues. Additionally, the IDEA (2004) included requirements for the specific type of reading instruction required before a student could be determined to have a disability (§300.306).

For all of these reasons, schools and local agencies have systems by which a team of some nature (i.e., Student Study Team, Instructional Support Team, or Problem-Solving Team) considers the profile of a student who is experiencing academic or developmental challenges, recommends interventions, and, ultimately, may recommend an MDAT assessment to determine if a student meets eligibility criteria and is in need of special education and related services (i.e., requires specially designed instruction to address identified needs), including speech-language services.

Concerns Regarding Traditional Processes for Referral, Assessment, and Eligibility Determination

SLPs in schools may find themselves in a variety of predicaments in local practices related to referral, assessment, and eligibility determination, particularly as these pertain to issues of spoken language and literacy development, deficits, and concerns. These issues may include any of the following:

1. too many students referred for speech-language assessment;

2. inappropriate referrals;

3. failure to include the SLP on the MDAT for students suspected of presenting with an intellectual disability, traumatic brain injury, autism, or other disability where a communication impairment is a possibility;

4. failure of the team to consider all areas of suspected disability, by only considering one (such as specific learning disability);

5. no prereferral interventions;

6. assessment delayed due to presumed necessity of prereferral interventions;

7. failure on the part of any given team member to complete appropriate assessments in areas of suspected disability;

8. disagreement among team members about the eligibility criteria due to anticipated disagreement from the parents or teachers;

9. failure to consider dismissal due to anticipated challenges from the parent or teacher; and

10. negotiating area of criteria in an effort to attain certain types of services.

The list can continue. Some SLPs may have experience with one or all of the above. Others have different concerns about their local processes.

Eligibility Determination: Nonnegotiables and Negotiables

All SLPs, other related services providers, and colleagues in educational settings have training in assessment processes and procedures. Yet, there is often confusion with regard to requirements and necessary procedures, which are mandated to be legally compliant and defensible. Most importantly, the requirements and processes utilized are there to ensure that the student's rights are protected. In addition to all of the professional and ethical reasons for following the legal requirements and processes, ensuring that the rights and protections afforded persons with disabilities is paramount in our responsibilities. It is for this reason that local teams must have agreement about the processes used when engaging in an assessment to determine eligibility under the IDEA. As such, SLPs and their school team members

should be aware of what the "nonnegotiables" are in the eligibility determination process and what can be determined locally. In other words, what must be completed and considered according to the law (nonnegotiable) and what processes have some flexibility (negotiables). For example, the IDEA mandates that a written report is provided to the parent (nonnegotiable), but it does not require that each assessor completes their own report, so the MDAT may decide to complete a comprehensive multidisciplinary report, or they may decide that each team member completes their own report (negotiable).

Nonnegotiables for the determination of eligibility under the IDEA include the following:

- The processes and procedures for assessment and eligibility determination, including procedural safeguards, outlined in the IDEA must be followed. It is strongly recommended that each MDAT at every school sit down and review these requirements at least annually as a team, so that everyone knows what is and is not in the laws. This also allows a venue to discuss nuances and confusions, so as to avoid problems later.

- Each assessment *must* include an observation (§ 300.310). This is a legal requirement. The authors recommend that observations be made in multiple settings at different times with varying activities to allow a complete picture of the student's performance.

- Application of criteria to assessment results must follow both federal and state guidelines (Ireland & Conrad, 2016).

- Include a discussion of educational need and adverse impact in the report.

- Ensure a robust discussion of all aspects of the assessment and how these interface with the results of other team members, support eligibility determination, and ultimately facilitate the identification of needs requiring goals and services.

- Always follow the process of assessment, eligibility determination, goals based on identified areas of need, and then service recommendation to address goals (Moore & Montgomery, 2018).

- As discussed above, students qualify because they meet eligibility criteria for a specific disability category, and then goals are written for identified areas of need noted in the present levels of performance. Only then are services recommended (Moore & Montgomery, 2018). When making service recommendations, always remember considerations of free appropriate public education in the least restrictive environment and the application of the Rowley and Endrew F. standards (Moore, 2019). These concepts and standards all go back to appropriate assessment.

The eligibility determination processes that are "negotiable" or have some flexibility are the local procedures and processes. Some of these processes, which may need

reconsidering if they are problematic, may include the following:

- What is the SLP's role in spoken (i.e., listening and speaking) and written (i.e., reading and writing) language at the school?

- What norms or "cutoffs" are being used/applied in either the prereferral or assessment process?

- What is the MTSS/response to intervention process and how does it interface with the consideration for assessment referral?

- Is the SLP a member of the Problem-Solving Team?

- Is the SLP part of the MTSS?

- How are goals written? (Goals should be written with consideration of the Endrew F. standard to ensure that they are "appropriately ambitious based on the child's unique circumstance" [citing Endrew F. decision, Moore, 2019, p. 35]. In doing so, the IEP team can consider what level of skill mastery is necessary for each skill. If the IEP teams write goals within reasonable attainment levels, then they will have more time to create goals and opportunities that are appropriately ambitious for individual student needs. See Nobriga and St. Clair [2018] for further discussion on goal writing).

- What evidence-based practices drive assessment and eligibility determination processes, for example, for students who are English learners?

Thus, it is not surprising that MDATs and SLPs can feel frustrated. We must all be on the same page to work thoughtfully together to understand the required processes, what is nonnegotiable, and what is negotiable in our eligibility determination process.

It is strongly recommended that collaboration on all parts of the process is necessary to really *think* about what the issues are at a school. To do this, we encourage SLPs in schools to consider a human-centered approach to working through these complex issues. Germane to the current discussion is the framework of design thinking.

Design Thinking

Design thinking has been defined as "the thinking skills and practices designers use to create new artifacts or ideas, and solve problems in practice" (Henriksen et al., 2017, p. 141) in a collaborative, iterative manner (Conway et al., 2017). Some researchers see design thinking as an organizational-level framework, whereas others have described its use at the individual level (Micheli et al., 2019). Foundational aspects of design thinking are abductive reasoning and human-centeredness (Adams & Nash, 2016). Abductive reasoning entails exploring a problem with the intention of identifying a solution. The human-centeredness aspect ensures that the solutions are desirable, making the user experience in implementing solutions of great importance. Other key components of design thinking include

interdisciplinary collaboration, creativity and innovation, application of analysis and intuition skills, and tolerance and allowance for ambiguity and failure as part of the solution discovery process (Micheli et al., 2019).

Over the past 2 decades, there has been a steady increase in the variety of professional settings within which design thinking is used. Along the way, several design thinking process models were developed, such as the Stanford (Plattner, 2015) and IDEO (2015) models. In an effort to further clarify how design thinking can be implemented and to demonstrate that different models of design thinking can lead to similar outcomes, two studies, one of the Stanford model and the other of the IDEO model, will be described below.

The Stanford model translates foundational aspects of design thinking into the following phases: empathize, define, ideate, prototype, and test (Plattner, 2015). Empathize refers to understanding a person's behaviors, emotional needs, way of thinking, and values relative to the problem at hand. Define is reviewing the information gathered from the person during the empathize phase and using that to more comprehensively define the problem at hand from your point of view. In the ideate phase, solutions are developed that consider what was learned in the empathize phase and the problem that was defined. The prototype phase includes the development of gadgets, resources, and/or methods, which are the physical manifestation of the solutions generated during the ideate phase. The final phase, test, involves seeking feedback from the person for whom you designed the prototypes to learn about their user experience.

Henriksen et al. (2017) applied the Stanford model to explore how teachers and other education professionals (e.g., nurses, school counselors, school administrators) experienced the process of design thinking and its impact on their teaching and thinking practices. In addition, the researchers were interested in how design thinking might evolve future teaching and thinking practices. Design thinking was implemented in the context of a graduate education course in which recursive exposure to the five phases of design thinking described above were integrated into readings and discussion, project work, lab modules, and a reflection paper. Through application of design thinking, study participants became aware of a disconnect in expectations for students in their schools and misconceptions about shared beliefs (empathize), self-reflected on their contributions to the identified problems in consideration of their deeper understanding of their students' perspectives (define), employed different strategies for reflecting on solutions (ideate), engaged in developing products that were the physical manifestations of the solutions they generated (prototype), and then engaged in testing their products with their students, which included utilizing information from failed attempts to revamp and retool solutions (test).

In another study (Chia & Elangovan, 2015), design thinking was applied in case studies that detailed special educators' use of design thinking to not only develop viable solutions to challenges in serving their students but also to infuse collaborative practice and facilitate systemic change within their schools. They applied the following five phases of the IDEO design thinking process model: discovery, interpretation, ideation, experimentation, and evolution (IDEO, 2015). In the discovery phase, the educator becomes aware of a challenge and its characteristics as well as develops a plan of action. In the interpretation phase, educators expand their understanding of the challenge by exploring colleagues' perceptions of the challenge. The ideation phase involves developing and refining ideas. Next is the experimentation phase in which the educator develops and tests several prototypes of the idea concepts to determine the best prototype to address the challenge. The final stage, evolution, informs future application of prototypes by considering how to improve upon the process and prototypes.

In both studies (Chia & Elangovan, 2015; Henriksen et al., 2017), a design thinking method was applied to assist educators in thinking about how to improve their instruction and support of students, yet the focus in one was in training educators in a graduate-level course, whereas the other was an effectiveness study implemented in the school setting. The studies had different implementation focuses but similar outcomes (i.e., better understanding of how to support students), which suggests that design thinking models can be applied to other education processes, such as special education eligibility decision making for IEPs.

Henriksen et al. (2018) took a broader look into implications of design thinking application in an educational setting through the lens of educators newly introduced to design thinking. Some of the authors' reflections and teachers' responses support the exploration of the application of design thinking to the special education eligibility determination process. At the outset of the tutorial, the authors noted that design thinking can be used to put a problem in context and then determine a novel solution. Another key point raised by the authors is that one-size-fits-all solutions do not apply in education. Instead, collaborative brainstorming to generate student-centered solutions is warranted. The teachers, who were introduced to the Stanford design thinking process model, reported three main takeaways: They should value empathy, become open to uncertainty, and see the practice of teaching as "design." The following response from one participant about seeing the practice of teaching as "design" clearly aligns with considerations of team's charged with working through the special education process: "Education is entirely about understanding students' needs, defining problems, goal setting, generating ideas, fostering self-direction, creating engagement and evaluating performance. It is the essence of design" (Henriksen et al., 2018, p. 15).

Some researchers (Baker & Moukhliss, 2020) have emphasized that the decision about which design thinking process model should be applied to a new context should in part be dependent upon whether that model has been used successfully to address similar challenges. Both the IDEO and Stanford models have been used effectively in

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the field of education. Since the IDEO model was described above in a case scenario pertaining to special educators, that model will be used below to explore its application to the special education eligibility determination process.

Applying Design Thinking to Eligibility Determination

Next, we will take a more fine-grained approach to the application of design thinking for SLPs using the IDEO design thinking process model. Specifically, we will apply design thinking to eligibility determination for children with spoken language and literacy disorders within school-based settings. Above, several example predicaments regarding local practices for referral, assessment, and eligibility determination were raised. We will walk through the process of solving one of those problems within a design thinking framework.

We will start with the example issue of the MDAT team failing to consider all areas of suspected disability by, instead, only considering one (such as specific learning disability). The crux of the design thinking framework is that it is a human-centered approach. So, when we begin this process with the "discovery" step, we note that the team is not keeping the child at the center of the eligibility process. Without focusing on the whole child, it can be easy to miss an area of a suspected disability. Thus, this step requires empathy—to approach the problem from the perspective of the child and the family who are needing support in light of a potential spoken language or literacy disorder. Once the team refocuses to keep the child at the center, conversations regarding the child's educational performance can extend beyond a traditional approach and can perhaps broaden to include other professionals who may not always be a part of the MDAT team. For instance, this could include the SLP, a reading specialist, an educational audiologist, and so forth. Once we have discovered the problem, we can move into the next stage of interpretation.

For this particular eligibility predicament, we will need to interpret it within the specific state and district regulations as well as the unique dynamics of an individual school. For instance, if it is the case that language was omitted from the realm of possible areas of weakness for a child who has been referred, then we need to ensure that the SLP is invited to the meetings and at the table for the discussions. However, interpreting that within the context of an individual school district could raise a few additional issues. It could be the case that the SLP is assigned to three elementary schools in the district. For this reason, it is not possible for them to be at every MDAT meeting at each school. Learning this is an important part of the problem-solving process.

Moving to ideation, how might we create a system in which the MDAT team considers language and the role of the SLP in each meeting? One tool to consider is Crucial Conversations (Patterson et al., 2002). A crucial conversation is one that often has high stakes, can be emotionally charged, and in which opinions may vary. These conversations can often be difficult because they are spontaneous or because there are challenging interpersonal dynamics. However, the Crucial Conversations guidebook by Patterson et al. (2002) offers robust and empirical suggestions for how to navigate these types of situations. It is plausible that engaging in a conversation about including language in the MDAT team meetings could be emotionally charged with varying opinions. For instance, it can be frustrating for SLPs to feel as though their role is not well understood or that they will now have to screen every single student for a possible language disorder. It can also be frustrating for the building principal, for instance, who may want the SLP to spend more time in one building over another. There are multiple ways in which this conversation could be challenging; however, it is necessary to have due to the high stakes outcomes for students.

We can use the momentum from the Crucial Conversation to move into the experimentation stage. How might we expand the current MDAT process so that language is always part of the conversation? Here, it is important to start small, but the SLP must remember that they are an expert in spoken and written language. One way to start small is to obtain multiple sources of data and to pay particular attention to the part of IDEA that states that the teams will "ensure that information obtained from all sources is documented and *carefully considered*" (IDEA §300.306). For instance, it is possible that this school district currently only uses one standardized assessment of language and that the scores from it are weighed more heavily than other sources of data. This could create situations in which students are both under- and overidentified in a school system. As an example, a student could potentially receive a standardized score that is within the average range on a test of academic achievement. However, the SLP may notice that the assessment that was used does not actually measure the area of language that is reported to be difficult for the student in question. For instance, the assessment may have been more representative of the student's receptive and expressive vocabulary, but not one that evaluates morphological use and knowledge. The team could ensure that assessments are multidimensional and that multiple sources of data are used to augment one standardized test score. A few options here include language samples (Kemp & Klee, 1997; Miller et al., 2016; Pavelko et al., 2016, 2017), narrative retells or constructions (Heilmann, Miller, & Nockerts, 2010; Heilmann, Miller, Nockerts, & Dunaway, 2010; Squires et al., 2014), dynamic assessments (Bridges & Catts, 2011; Gillam et al., 1999; Hasson & Botting, 2010), and curriculum-based measures (Fuchs et al., 2003; Gettinger & Stoiber, 2012; Meaux & Norris, 2018; Spencer et al., 2017). The exact outcomes here will differ for individual students, but this gives the team the opportunity to carefully consider the results of these additional data. Through repeated exposure to these situations, the MDAT team may collectively

improve their ability to acknowledge the role of spoken and written language in literacy and academic success.

Lastly, we move into the evolution stage. In this stage, we recall that this process is iterative and continual. The goal in this design thinking process is not to make one change one time and not revisit how it works for the system. The goal is to make small changes and gather data about their impact and effectiveness. What did we learn from the first iteration of this design thinking process that we can take into the next round? Were there aspects of the process that worked well? What felt too overwhelming? Did this result in an overload of screening or testing for the SLP? Importantly, reviewing these data—no matter what they are—in a positive light is important. That is, it is okay to "fail" at one or more of these stages. However, that "failure" should be viewed as important data used to improve the problem/system in the next iteration. For instance, it is possible that the crucial conversation activity in the ideation stage was not well received. This provides an opportunity for a launching point for the next round of design thinking. Perhaps, it was not well received because it created discomfort. It is important to distinguish comfort from safety. Users of design thinking should feel comfortable with testing out new and different approaches to work through discomfort in safe spaces. This is continual work to learn and grow, all the while keeping the child at the center.

Using Design Thinking With Eligibility Predicaments and Processes

Above, we provided a detailed walk-through of the application of the design thinking process to an eligibility predicament for a student with a suspected spoken language/literacy disorder. However, the application of design thinking can be extended to any clinical scenario and to all of the eligibility predicaments presented in a previous section. We believe that a design thinking approach can help to broaden horizons to help SLPs consider the variety of services they provide along a spectrum. To that end, in addition to the detailed example above, Figure 1 walks through two additional educational predicaments by asking simple questions related to each stage of the design thinking process. Design thinking may also be useful for several clinical scenarios, such as a student who has limited speech ability and needs to trial multiple augmentative and alternative communication devices; a student who has new cochlear implants and needs an FM system, which has never been used in a particular school before; and a student with a traumatic brain injury, whose needs evolve and change—sometimes rapidly—depending on the lesion site, progression of the injury, and the demands of the curriculum. Each of these students presents real and complex cases that school-based SLPs may face every day. In light of rising caseload sizes, it is important to ensure that systems are in place to solve problems in a child-centered way.

Figure 1. Two examples of eligibility predicaments with design thinking guiding questions.

Eligibility Predicament	Design Thinking Questions
Too many students referred for speech-language assessment	**Discovery**: How do we approach this issue?
	Interpretation: How do we interpret this within the context of the specific school district within a specific state?
	Ideation: How do we create a system that ensures that children receive the special education services they need while also balancing service provision across multiple professionals so as to not overwhelm the workload of any one profession?
	Experimentation: How do we implement a referral process that promotes interprofessional collaborative practice so that the workload of any one profession is not overwhelmed?
	Evolution: How do we expand this referral process, in light of what we have learned so far?
Disagreement among team members about the eligibility criteria due to anticipated disagreement from the parents or teachers.	**Discovery:** How do we approach this issue?
	Interpretation: How do we interpret this issue within the context of this specific family and teacher dynamic?
	Ideation: How do we create a system that ensures that all team members opinions are equally considered?
	Experimentation: How do we implement a system so that we are keeping the child's needs as the primary focus?
	Evolution: What did we learn from this system that we can bring with us to the next iteration?

Conclusions

Eligibility decisions, which determine if students meet legal criteria demonstrating needs such that they should receive speech and language services within special education, may be the most difficult thinking we do. The decisions can be viewed from many different vantage points—parents' expectations, assessment team functions, legal criteria, school procedures, students' ages, and, perhaps the most ominous, eligibility criteria. None of these are completely right or even completely wrong. Determining eligibility was discussed from numerous vantage points in our examples. Problem solving is at the heart of eligibility decisions. There are many avenues to pursue. We proposed a relatively new one—design thinking.

Design thinking is human centered and fluid. We conclude that it is a good fit for school-based settings and system-wide problem solving. We chose to use "predicaments" as the human-centered word to highlight the five phases of the process. Educators, clinicians, students, and their families are encouraged to anticipate and embrace the numerous predicaments that individuals and teams face to address and improve communication skills. Many discussions are held during the processes; however, when applying design thinking, these discussions are human centered, not process centered. Discussions vary with each individual's needs, yet they swirl around that student's specific challenges identified through the five phases: discovery, interpretation, ideation, experimentation, and evolution.

Until recently, an underutilized highlight of the design thinking process was its flexible use of this five-phase iterative process. It may not work immediately. It may work differently. *It is okay to fail.* The order, though useful, is not critical. Perhaps the team (student, family, clinician, and educators) will discuss and start with *experimentation* and then circle back to *interpretation.* The team uses the gathered data to inform therapeutic decisions for next steps. Using a human-centered approach focuses on the "I" in IDEA and IEP, ensuring that the unique needs of students with communication disabilities are met.

As we attempted to present with our examples, design thinking is a robust and structured framework in numerous settings and a good match for schools. If you recognize your current approach to problem solving in our description, then we encourage you to fully implement this framework for the individual students on your caseload. The approach begins with individual needs—perhaps why it is not yet in wide use in schools. Design thinking is appropriate to use within the context of IDEA requirements, informs the eligibility determination, and centers the "individual" in the educational content of schooling. SLPs and other educators can benefit from a human-centered approach to help solve complex and challenging predicaments related to individualized eligibility decisions for students. We can provide our valuable children the option of design thinking to enhance their individuality and address their communication issues.

Note to the Readers

We would be remiss if we did not address some large issues facing our world at the time of this writing. In particular, we acknowledge the incredible challenges that schools have had to overcome in 2020 in the face of the global pandemic caused by COVID-19. The pandemic has created situations in which many schools were required to pivot from in-person instruction to online learning—all within a very short time frame—and that the new school year began with distance education in many places. We know that this has impacted service delivery for all children, particularly children with disabilities, including those with speech and language impairments (Farquharson et al., 2020), and next steps for 2020–2021 school year are evolving as of the writing of this tutorial. We would like to encourage our school-based SLP colleagues to consider a framework such as design thinking to aid in problem solving and finding solutions that keep the child's individual needs at the heart of the discussion.

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