# Sexual Education for All: Addressing Gaps and Measuring Quality for Students with Disabilities

Somer Matthews (corresponding author)

Southern Oregon University 1250 Siskiyou Blvd

Ashland, OR, 97520, USA

E-mail: matthewss@sou.edu


Hollie Mason

Western Illinois University 1 University Cir

Macomb, IL, 61455, USA

E-mail: h-mason@wiu.edu


Kari Alberque

East Carolina University 1000 E. 5th St

Greenville, NC, 27858, USA

E-mail: alberquek25@ecu.edu

**Abstract**

Students with disabilities, especially those who need moderate to extensive support, often do not receive the same quality of sexual education as their peers without disabilities. This lack of access increases their risk of sexual abuse and limits their understanding of healthy relationships, self-advocacy, and personal safety. In this study, we reviewed past research and existing tools to understand what makes sexual education effective for these students and to identify gaps that need to be addressed. Using a systematic process, we analyzed 34 articles and eight existing educational tools. We examined four key areas: the context around the student (such as family and school attitudes), the content of what is taught, the instructional strategies used, and the outcomes that result. Our findings showed that while topics like

anatomy, relationships, and safety are sometimes covered, major gaps remain in teacher training, family involvement, and cultural beliefs about disability and sexuality. Very few tools addressed how teachers should deliver instruction or how schools can create inclusive environments. We used these results to create the first draft of a self-guided reflection tool that teachers and schools can use to evaluate and improve their sexual education programs for students with disabilities, which will be outlined in a future publication. Our research highlights the urgent need for comprehensive, inclusive, and evidence-based sexual education that promotes safety, dignity, and quality of life for all students.

**Keywords:** Sexual education, Disability, Inclusive education, Teacher preparation, Comprehensive sexuality education

## 1. Introduction

It is impossible to overstate the importance of sexual education for students with disabilities. The United Nations has made clear that students with disabilities should have access to the same range and quality of sexual education as their nondisabled peers (Holmes, 2021). Despite this, students with disabilities, especially those with moderate to extensive support needs (MESN), are consistently denied access to sexual education in schools (Ailey et al., 2003; Collier, 2017; Waxman, 1994). To mitigate this historical and ongoing exclusion, the first author designed a multi-study dissertation whose purpose was to create a research-based self-guided tool that teachers and schools can use to improve sexual education for their students with MESN (Matthews, 2024). Using the Instrument Development and Construct Validation process described by Onwuegbuzie and colleagues (2010), we conducted a systematic literature and extant tool review to determine key indicators of effective sexual education for students with MESN. Based on the results of this review, the first author then created an initial draft of the tool and held a focus group with experts in the field to solicit feedback and eventually revise the tool. The following manuscript reflects the first study conducted in this process, the systematic literature and extant tool review.

### 1.1 History of Sexual Education for Students with Disabilities

Prior to the industrial revolution, sexual education for people with disabilities was essentially nonexistent, and the sexuality of people with disabilities was often denied or suppressed (Kempton & Kahn, 1991). As the popularity of the eugenics movement arose in the United States, people with disabilities who could not otherwise contribute to society were now considered to be nuisances and unworthy dependents (Griewe, 2019). It was thought that without education and intervention, this population would become a menace to society, and in some parts of the United States and other countries, ordinances were developed to keep people with disabilities out of the community (Griewe, 2019).

As a reaction, communities established institutions designed to care for and educate people with disabilities in order to shape them into productive members of society, but more often these were used to exclude them from society instead (Carlson, 2009). Eventually this led to the widespread adoption of institutionalization for individuals with disabilities (Smith & Polloway, 1993), especially for those with more moderate or extensive support needs. It was either in these institutions or from family at home that people with disabilities learned about sexuality, if at all.

Although society refused to educate people with disabilities about sexuality, this does not mean they did not consider their sexuality. For example, the act of forced sterilization, which currently persists in 31 states (Fletcher et al., 2023) and internationally (Hurtes, 2023), was commonly utilized throughout the 20th century. This invasive procedure was treated as the only way to ensure that supposedly sexually promiscuous "feebleminded" women (Stubblefield, 2007) did not have children. It was considered a necessity to forcibly sterilize these women due to the prevalent belief that "feeblemindedness" could be inherited genetically and cause irreparable damage to society (Kempton & Kahn, 1991). In the 1927 case that upheld involuntary sterilization, Supreme Court Justice Oliver Wendell Holmes

stated,

"It is better for all the world if, instead of waiting to execute dangerous degenerate offspring for crimes or let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind…Three generations of imbeciles are enough" (Kempton & Kahn, 1991, p. 96).

The paradox that institutionalization created is still evident in the current treatment of people with disabilities. On one hand, society has painted this population as vulnerable and needing to be cared for in all aspects of their life throughout their life. People with intellectual disabilities often face pervasive infantilization and rigid sexual morality, never being recognized as adults (Ailey et al., 2003). On the other hand, many parents of individuals with MESN ignore sexual education as they do not believe their child will ever have sex (Gürol et al., 2014). Whatever the myth, asexual or hypersexual, it is evident that people with disabilities are perceived as being outside of "normal" sexuality.

In the 1960s, President Kennedy brought more extensive disabilities into the public eye by candidly talking about his sister being diagnosed with an intellectual disability. He formed the Presidential Panel on Mental Retardation in 1962 which resulted in an increase in research and diagnostics for people with "mental disability" (Kempton & Kahn, 1991, p. 98). Further, the concept of normalization began influencing local and federal government programs and eventually played a role in the deinstitutionalization movement. However, because the majority of this population did not receive sexual education, rapid deinstitutionalization led to many former residents acting in ways that were acceptable inside the institution, but were indecent, or even illegal, in the community (Kempton & Kahn, 1991). The sexual revolution, mentioned above, led the way for people to begin talking about sexuality and eventually led to talking about sexuality for people with disabilities. Similarly, deinstitutionalization led the way for researchers and educators to consider the sexual education needs of this population. These educators would form some of the first programs developed for people with MESN, and strive to end the practice of forced sterilization (Kempton & Kahn, 1991).

With the reauthorization of P.L. 94-142 (1975) as the Individuals with Disabilities Education Improvement Act (IDEA, 2004), the transitional needs of students who are exiting high school were considered and addressed. As noted in the legislation, after graduating, students with disabilities often have difficulty adjusting to adult life in the community (Lipscomb et al., 2017a). To mitigate this issue and improve their quality of life, IDEA specifically requires that from the time they are sixteen, all students with disabilities have a transition plan with measurable postsecondary goals (IDEA, 2004). Chrastina and Večeřová (2018) describe sexuality as an essential human need, a central tenet of personal identity, and inextricable from an individual's quality of life. Further, Strnadová et al. (2021) specifically cite quality sexual education as a critical component for "a successful transition to life after school" (p. 303). Because of this, one might expect that transition planning, as required by IDEA, would incorporate sexual education as an essential component. However, Michielsen and Brockschmidt (2021) state that students with disabilities receive sexual education at much lower rates than their nondisabled peers. This is particularly problematic because people with

disabilities "…are at a significantly higher risk of sexual victimization than persons without disabilities…" (Amborski et al., 2022, p. 1338).

Conversely, studies have shown effective sexual education for all students prior to adulthood results in positive sexual outcomes later in life, such as increased use of contraception resulting in less sexually transmitted infections (Bourke et al., 2014; Lindberg & Maddow-Zimet, 2012). It has even been suggested that effective sexual education prior to adulthood results in decreased rates of sexual assault among college students (Santelli et al., 2017). Although these outcomes are widely accepted for students without disabilities, and transition planning has been outlined as an essential component for all students with disabilities, there has been little improvement in access to effective sexual education (Collier, 2017; Gil, 2015; Gürol et al., 2014) for this population, especially students with MESN. Further, it has been noted that increased risk for abuse is a direct result of the continued lack of sexual education provided to this population (McDaniels & Fleming, 2016; Güven & Işler, 2015). Because of this, it is imperative to investigate how sexual education for this population can be improved to mitigate their increased risk of abuse and enhance their quality of life.

## 1.2 Effective Sexual Education for Students with Disabilities

Given the still prevalent reluctance to talk about sexuality even within families (Gürol et al., 2014), it is understandable that sexual education for students with disabilities in public schools has stagnated since deinstitutionalization. Factors such as community political and religious leanings, parental reluctance, and perceived level of cognition all result in major differences in the quality and participation in sexual education in different regions within the United States. As a result, research for this population is typically focused on what effective sexual education should look like, rather than what curricula are being used and/or adapted in K-12 educational settings for this population. Often this research takes the form of individual or small-group interventions, rather than a comprehensive sexual education curriculum. Likewise, it is typically administered as a reaction to inappropriate sexual behavior rather than a proactive sexual education curriculum for students with MESN (Schmidt et al., 2021).

The United Nations Convention on the Rights of Persons with Disabilities states that youth with disabilities have a right to the same range and quality of sexual and reproductive health services, including sexual education, that youth without disabilities can access (Holmes, 2021). Despite this, students with disabilities are far less likely to be included in sexual education in public schools; Lipscomb et al. (2017) reported that only 53% of special education students indicated they had participated in sexual education. When asked about their own sexual education experiences in school, a group of youth with intellectual disabilities painted a similar image. In a qualitative study, Frawley and Wilson (2016) asked this group whether the schools did a good job educating them about sex. Their response was a resounding "No!" interspersed with laughter. One participant who was included in sexual education classes with their nondisabled peers added "except for mainstream classes, they give you heaps of information then" (Frawley & Wilson, 2016, p. 480). This begs the question: what would effective sexual education for this population look like?

Comprehensive sexual education (CSE) programs are those "that build a foundation of

knowledge and skills relating to human development, relationships, decision-making, abstinence, contraception, and disease prevention" (Holmes, 2021, p. 11). The International Technical Guidance on Sexuality Education defines CSE as a curriculum-based process of teaching and learning about the cognitive, emotional, physical, and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes, and values that will empower them to: realize their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others' and, understand and ensure the protection of their rights throughout their lives (UNESCO et al., 2018, p. 16). CSE is considered to be the most effective form of sexual education (Goldfarb & Lieberman, 2020) and is supported by both the United Nations and the World Health Organization (Herat et al., 2018).

Despite this, the United States has no federal mandate around comprehensive sexual education, and only 60% of states require schools to teach sexual education at all (Holmes, 2021). Further, overwhelming evidence suggests that abstinence-only education is scientifically and morally sub-standard and is rejected by many public health and medical professionals (Santelli et al., 2017). Despite this, 28 currently utilize abstinence-only sexual education for their students (Chevrette & Abenhaim, 2015). In a sidebar article from the American Psychological Association, Collier (2017) explains that sexual education for people with intellectual or developmental disabilities should not completely focus on the dangers, such as is often the case with abstinence-only sexual education, because it might cause them to associate sex with fear and abuse. This has led to many researchers calling for the improvement of sexual education for people with disabilities (Treacy et al., 2018), including those with MESN (McDaniels & Fleming, 2016; Güven & Işler, 2015). Schools and their special education departments are being called to work toward the improvement of sexual education for this population, but with such widespread differences in the delivery of sexual education and the influence of complex ecological systems in different regions of the United States it might be difficult to accomplish this task.

Research indicates that a students' ecological systems influence their educational services and the degree of their participation in general education settings (Lansey et al., 2023), as well as the sexual socialization of students with certain disabilities (Stanojević et al., 2021). To that end, we have applied the ecological systems theory to comprehensive sexual education for students with disabilities to create a conceptual framework. This framework consists of four components: the context around a student that can influence their sexual education; the content of the curriculum and topics provided to students; the instruction a student receives including strategies, materials, and inclusive practices; and the outcomes achieved or expected of students receiving comprehensive sexual education. A visual representation of this conceptual framework is presented in Figure 1.
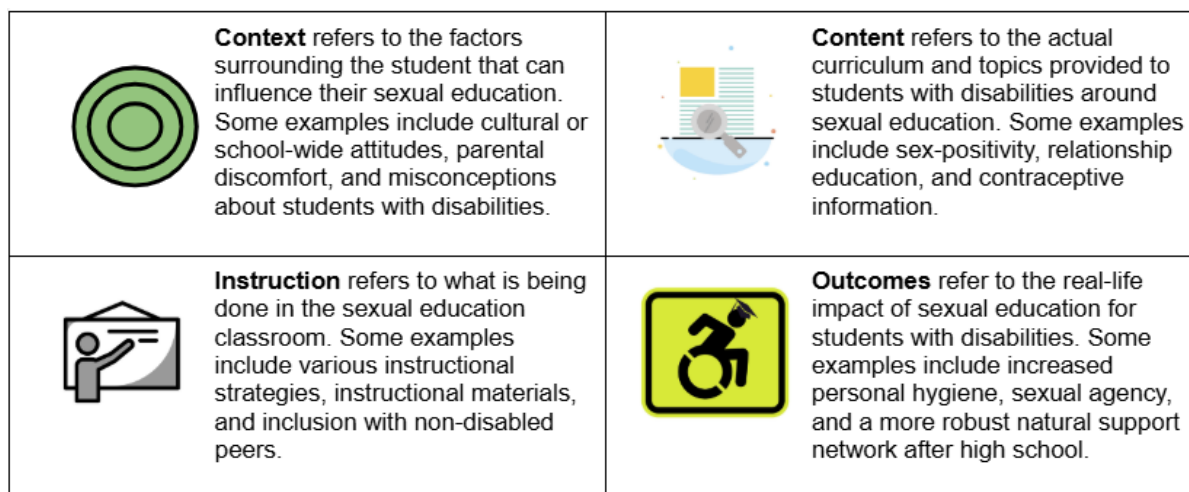
| | |
|---|---|
| **Context** refers to the factors surrounding the student that can influence their sexual education. Some examples include cultural or school-wide attitudes, parental discomfort, and misconceptions about students with disabilities. | **Content** refers to the actual curriculum and topics provided to students with disabilities around sexual education. Some examples include sex-positivity, relationship education, and contraceptive information. |
| **Instruction** refers to what is being done in the sexual education classroom. Some examples include various instructional strategies, instructional materials, and inclusion with non-disabled peers. | **Outcomes** refer to the real-life impact of sexual education for students with disabilities. Some examples include increased personal hygiene, sexual agency, and a more robust natural support network after high school. |

Figure 1. Sexual education and ecological systems theory: a conceptual framework

## 2. Method

The purpose of this two-phase review study was to identify themes in existing literature and practitioner tools related to potential indicators of effective sexual education for students with moderate to extensive support needs (MESN). This work represents the first phase of a larger instrument development and construct validation process (Onwuegbuzie et al., 2010) aimed at creating a research-based, self-guided reflection tool that school-level special education departments and teachers can use to improve sexual education for this population.

The study addressed two guiding questions:

1) What does the extant literature tell us about key indicators of effective sexual education for students with MESN in relation to context, content, instruction, and outcomes?

2) What do extant tools tell us about key indicators of effective sexual education for students with MESN?

To meet this purpose, we conducted two complementary reviews: (a) a systematic mixed-methods literature review and (b) an extant tool review. Both phases used directed qualitative content analysis (Hsieh & Shannon, 2005) to identify, compare, and organize themes across four conceptual domains: context, content, instruction, and outcomes. The process for conducting these reviews was systematic and iterative, with analysis from the literature review directly informing the design and coding of the tool review. For organizational clarity, the two phases are presented separately below. Both reviews were guided by the conceptual framework shown in Figure 1. Phase 1 involved conducting a systematic literature review to identify themes within the existing research related to sexual education for students with MESN.

*2.1 Phase One: Systematic Literature Review*

In Phase 1, we conducted a systematic mixed-methods literature review that included qualitative, quantitative, and non-empirical studies addressing sexual education for students

with MESN (Sandelowski et al., 2006; Stern et al., 2021). After identifying and screening relevant sources, we applied directed qualitative content analysis (Hsieh & Shannon, 2005) to the full texts. Using the four conceptual domains of context, content, instruction, and outcomes as an organizing framework, textual data were coded and categorized to identify recurring themes across studies.

### 2.1.1 Literature Search

We conducted two literature searches in PsycINFO, ERIC (EBSCO), Education Sources and ProQuest databases to find peer-reviewed scholarly journal articles about sexual education for students with moderate to extensive support needs from 1975-2023. The key words for the first database search were ("special educat* AND disab*"). However, to ensure the literature search specifically returned the target population of students with MESN, we conducted a second search using the following key word string: ("sexual educat* AND autism OR developmental disab* OR intellectual disab* OR multiple disab* OR cognitive disab*").

### 2.1.2 Inclusion Criteria

We conducted two literature searches in PsycINFO, ERIC (EBSCO), Education Sources and ProQuest databases to find peer-reviewed scholarly journal articles about sexual education for students with moderate to extensive support needs from 1975-2023. The key words for the first database search were ("special educat* AND disab*"). However, to ensure the literature search specifically returned the target population of students with MESN, we conducted a second search using the following key word string: ("sexual educat* AND autism OR developmental disab* OR intellectual disab* OR multiple disab* OR cognitive disab*").

### 2.1.3 Title and Abstract Screening

After removing duplicates, we screened 898 articles by title and abstract. The initial screening produced 168 conflicts, yielding an interrater reliability of 80%. We met to refine and operationalize the inclusion and exclusion criteria, then conducted a second pass of the title and abstract screening, which reduced conflicts to 19 and increased interrater reliability to 98%. After resolving the remaining conflicts, 189 records were selected for full-text screening.

### 2.1.4 Full Text Screening

The first and second authors jointly reviewed the first full text to ensure a shared interpretation of the criteria, then independently screened the remaining records. After 118 full texts, the inclusion-to-exclusion ratio approached 50%, prompting a reevaluation of the criteria. Following deliberation and consultation with colleagues, the first and second authors added a domestic-only criterion to ensure contextual relevance to U.S. policy and practice. We then conducted a second full-text pass, which yielded 42 articles that met all criteria (interrater reliability = 82%). A PRISMA flow diagram (Figure 2) summarizes the selection process.
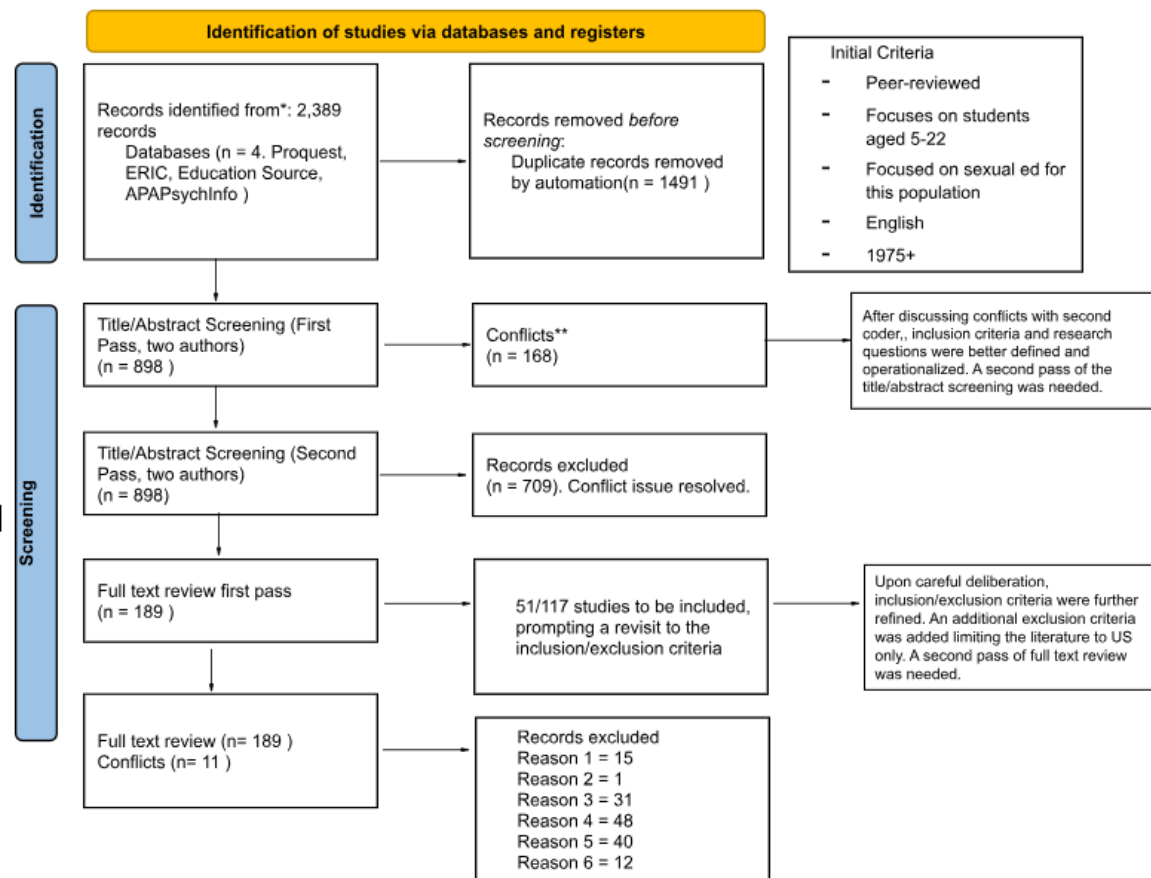
Figure 2. Systematic literature review PRISMA

### 2.1.5 Coding Procedures

After completing the full-text screening, the first author drafted an initial coding framework with five overarching categories reflecting the conceptual framework of the review: general article information, context, content, instruction, and outcomes. Because both this systematic review and the later tool development process were designed to be iterative, the framework was treated as a living document that evolved throughout the analysis as new patterns and insights were identified. As Maxwell (2013) notes, it is essential to "lay out a tentative plan for some aspects" of qualitative work while remaining open to substantial revision as understanding deepens (p. 89).

To establish consistency in coding, the first and second authors jointly coded one empirical and one non-empirical article to ensure a shared interpretation of the categories and coding procedures. The first author then refined the coding framework based on these initial articles. Of the remaining 40 articles, 25% were coded jointly to maintain coding consistency and interrater reliability, while the remainder were coded independently. Throughout the process, we met regularly to compare coding decisions, resolve discrepancies, and refine category definitions. Using a constant-comparison approach (Urquhart, 2013), codes were examined within and across studies to identify similarities and differences across domains.

During independent coding sessions, the first author coded the next five articles in alphabetical order by author, while the second author randomly selected one of every five articles to code concurrently. After each session, we met to reconcile differences and update the coding framework as needed. During these debriefing sessions, eight additional studies were excluded for not meeting inclusion criteria, resulting in a final analytic sample of 34 articles. The finalized coding framework included five major categories:

1) General Information: General article information is captured. Includes whether or not the article was an empirical study, the research design, the intended audience, the reported disability, among other relevant information.

2) Context: Information about contextually relevant factors around sexual education for students with MESN is captured. Includes subcategories such as barriers, misconceptions, and prevailing attitudes.

3) Content: Contains information about sexual education topics included or recommended for students with MESN in the literature.

4) Instruction: Contains information on how students with MESN were or were recommended to be taught sexual education curriculum. This included specific instructional strategies, and group size and demographics, among other relevant information.

5) Outcomes: Contains information about expected or actual instructional and life outcomes experienced by students with MESN in sexual education. This page also contains information about expected and experienced outcomes from a lack of sexual education for this population.

2.1.6 Data Analysis

The analysis followed a mixed-methods research synthesis approach integrating findings from qualitative, quantitative, and non-empirical studies to describe patterns of evidence across research traditions (Sandelowski et al., 2013). We conducted a directed qualitative content analysis (Hsieh & Shannon, 2005; Assarroudi et al., 2018) to identify and categorize data within the four conceptual domains: context, content, instruction, and outcomes, while also noting the frequency of thematic representation across studies. This approach organized data deductively according to the conceptual framework and allowed for inductive refinement as new insights emerged.

After coding was completed, the first and second authors engaged in an inductive comparative process consistent with the constant comparison approach to group related codes and categories within each domain. Similar codes were consolidated into broader categories and refined through iterative review and discussion. For example, within the context domain, codes such as reluctance, attitudes, refusal, and discomfort were combined into the category "parental participation."

To further interpret the data, we applied Bronfenbrenner's (1977) ecological systems theory as an organizing framework for situating findings within three interrelated levels: a) the

microsystem, involving the student's immediate environment; b) the mesosystem, involving the interaction between the student and different environments; and c) the macrosystem, involving the broader social and political structures in which the student is situated. For example, under the context domain the systems were labeled student and family (microsystem), school and teachers (mesosystem), and culture and climate (macrosystem). This framework provided a lens for understanding how contextual and instructional factors interact across systems to influence sexual education for students with MESN. Figure 3 presents a visual summary of this analytic framework.
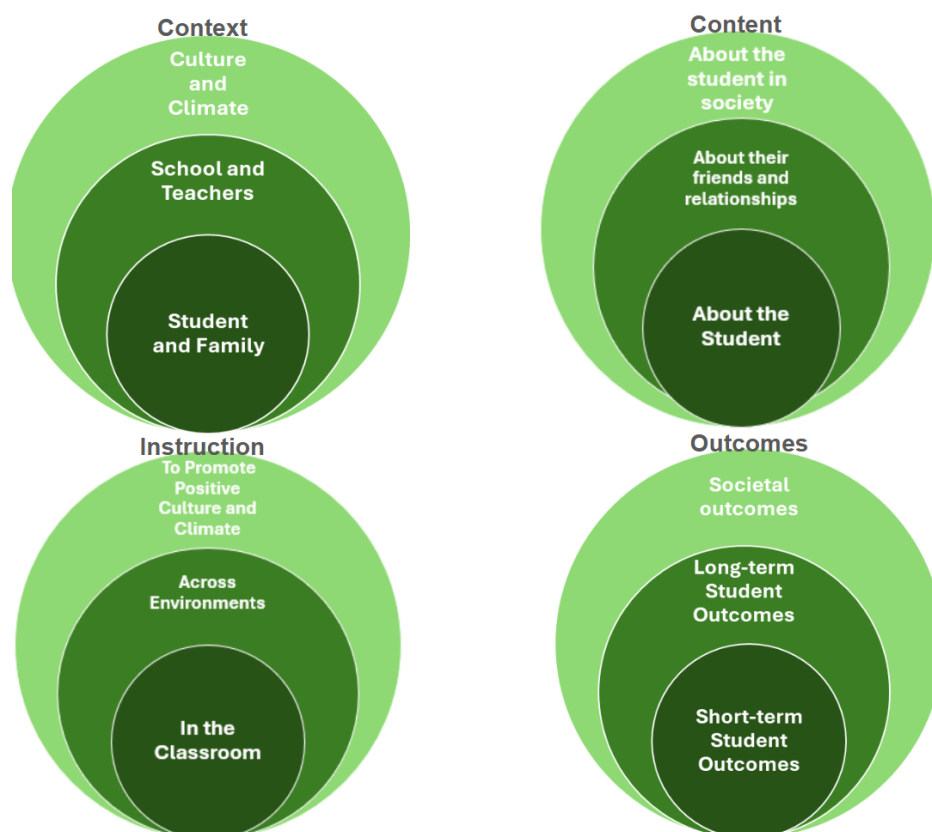


Figure 3. Sexual education domains across ecological systems

To complete the analytic process, we reviewed all themes to ensure that each code and category was accurately represented and cross-referenced against the data from the full-text review. Following Sandelowski et al. (2013), we summarized findings as clear, declarative statements to facilitate interpretation across study types. Finally, we transformed qualitative findings into frequency counts representing the number of studies in which each theme appeared, ensuring balanced representation and avoiding the over- or underemphasis of particular codes. These integrated results provided a foundation for identifying potential indicators of effective sexual education in subsequent research.

The following section presents the results of this mixed methods research synthesis, organized according to the four conceptual domains of context, content, instruction, and outcomes. Each domain summarizes the key themes identified through directed qualitative content analysis, along with the frequency of representation across the included studies.

2.1.7 Systematic Literature Review Findings

Directed qualitative content analysis was used to identify and categorize themes within the four conceptual domains: context, content, instruction, and outcomes. Themes represent recurring concepts and patterns identified across the included studies. Findings from 34 articles are organized across these domains. Of the 34 studies, 19 were empirical and 15 were non-empirical scholarly journal articles. The empirical studies included six qualitative designs, five large-scale quantitative studies, three survey studies, two single-case designs, two mixed-methods studies, and one systematic review. The non-empirical articles included six theoretical papers, five practitioner papers offering professional guidance, two curriculum development papers, and two viewpoint or supplemental articles.

Across domains, the themes illustrate both the breadth of issues addressed in the literature and the variation in emphasis among contextual, instructional, and outcome-related factors. The following sections summarize key themes within each domain and the frequency of representation across studies.

2.1.7.1 Context Domain

Twelve themes were identified in the context domain, reflecting attitudinal, environmental, and systemic factors influencing sexual education for students with moderate to extensive support needs. These themes captured barriers and misconceptions at multiple ecological levels, including family, school, and culture. Table 1 presents the themes and representative codes within this domain.

Table 1. Context themes

|  | # of Articles |
|---|---|
| **Articles coded under context** | 22 |
| *Student and Family Context (microsystem)* | |
| Parental participation: reluctance, attitudes, refusal, discomfort, limited support from parents, lack of collaboration | 7 |
| Parental unpreparedness: unpreparedness, lack of discussion at IEP | 6 |
| Accessibility: information inaccessible, parental "opt-in," social exclusion, perceived level of understanding | 5 |
| *School and Teacher Context (mesosystem)* | |
| Teacher unpreparedness: unpreparedness; lack of: policies and standards, curriculum, literature, training, accountability, administrative/staff support, parental support | 6 |
| Inability to learn about or participate in sexuality: incapable of appropriate sexual activity; unable to understand: gender identities, sexuality, LGBTQ identities, sexual education; unable to consent, ID is too profound, no benefit to student | 8 |
| *Culture/Climate Context (macro/exosystem)* | |
| Values/cultural issues: conservatism, legal issues, societal discomfort, ableism, lack of culturally sensitive planning | 10 |

| | |
|---|---|
| Perceived need to be protected: platonic relationships only, inherently victimized, should be put on birth control, should be sterilized, "for your own good," sex is not appropriate for this population, condescension, morality, no premarital sex, heteronormative, sex will not be part of life. | 6 |
| Intellectual superiority: eugenics, people with ID cannot care for themselves, against ID pregnancy, not capable of marriage, cognitive age | 4 |
| *Cross-cutting Context* | |
| Asexuality: asexuality, uninterested, incapable of sexual feelings, do not experience sexual attraction | 13 |
| Hypersexuality: lack of control, hypersexuality, population is incapable of appropriate sexual activity, teaching population results in increased activity | 10 |
| Childlike: childlike, sex will not be part of their life, sex is not appropriate for this population, ableism, cognitive age | 8 |
| Sexuality as a right: expression is a right, could make aware of dangers/protection | 2 |

2.1.7.2 Content Domain

Five themes were identified in the content domain, describing the specific sexual education topics addressed or recommended in the literature. These included biological and developmental knowledge, personal growth, explicit instruction, family and relationship education, and safety. Table 2 presents the themes and representative codes within this domain.

Table 2. Content themes

| | # of Articles |
|---|---|
| **Articles coded under content** | 26 |
| *Content about the student (microsystem)* | |
| Biology and anatomy: menstruation, puberty, anatomy, reproduction, STIs, gender differences | 19 |
| Personal development: self-esteem, exercise, nutrition, sex positivity, LGBTQ identities, self-determination, social skills, coping skills, health, wellness, reduction of fear and myths, anxiety, decision-making | 11 |
| Explicit sexual instruction: menstruation routine, masturbation, appropriate/inappropriate touching, sexual intercourse, public vs. private, wet dreams, sexual activities other than intercourse, sexual feelings and expression, condoms, sexual hygiene | 17 |
| *Content about the student's family and friends (mesosystem)* | |
| Family and relationship education: contraceptive information, family planning, relationship education, marriage, parenting, social sexualization, online dating, friendship education, choosing a partner, family types and roles, cultivating and keeping relationships, sexual responsibility | 17 |
| *Content about the student's safety in society (macro/exosystem)* | |

| | |
|---|---|
| Safety: safety/avoiding high risk behaviors, reporting, consent, abuse prevention, boundaries and personal space, self-defense, personal rights, sexual discrimination, LGBTQ safety, legal issues | 18 |

### 2.1.7.3 Instruction Domain

Three themes were identified in the instruction domain, highlighting strategies used to teach or facilitate sexual education for this population. These included classroom-level instructional methods, strategies that promote generalization across contexts, and approaches that shape climate and culture. Table 3 summarizes the themes and representative codes for this domain.

Table 3. Instruction themes

| | # of Articles |
|---|---|
| **Articles coded under instruction** | 22 |
| *Instructional strategies in the classroom (microsystem)* | |
| Classroom level strategies: social stories, task analysis, modified/simplified curriculum, prompting, role playing, behavior specific praise/ABA, concrete communication, visual aids, tactile/concrete objects, modeling, explicit instruction, corrective feedback, video modeling, individualized instruction, peer-led education | 15 |
| *Instructional strategies across contexts (mesosystem)* | |
| Strategies across environments: generalization activities, frequent review and update of curriculum, parental involvement, maintenance activities, collaboration with agencies, embedded socio-emotional strategies | 6 |
| *Instructional strategies to combat culture/climate (macro/exosystem)* | |
| Climate/Culture level strategies: adequate in-service training for faculty and staff, parent and community education, hiring from adequate preservice programs, collaboration with people with MESN, selecting trauma-informed curriculum | 6 |

### 2.1.7.4 Outcomes Domain

Three themes were identified in the outcomes domain, representing the intended or observed effects of sexual education across personal, life, and societal levels. These outcomes encompassed gains in knowledge and agency, improvements in quality of life, and broader community inclusion. Table 4 displays the themes and representative codes within this domain.

Table 4. Outcome themes

| | # of Articles |
|---|---|
| **Articles coded under outcomes** | 21 |
| *Personal Outcomes (microsystem)* | |
| increased sexual knowledge, increased personal hygiene, reduced inappropriate behavior, ability to report abuse, increased independence and empowerment, increased sexual agency, increased self-determination, decrease in frustrated behaviors, increase in sexual and reproductive health | 15 |
| *Life Outcomes (mesosystem)* | |
| enhanced quality of life, decreased rates of abuse, later age of first sexual experience, reduced rates of STDs, reduced rates of unintended pregnancy, more positive first sexual experience, decrease in parenting difficulties, decreased rates of bullying | 13 |
| *Societal Outcomes (macro/exosystem)* | |
| increased normalization among peers and community, decrease in potentially criminal behavior, increased natural support network and fulfilling relationships, improved adjustment to life after high school | 8 |

2.1.7.5 Summary Across Domains

Across domains, the literature review findings illustrate both the breadth of issues addressed in the literature and the variation in emphasis among contextual, instructional, and outcome-related factors. These results provided the foundation for the subsequent extant tool review, which examined how existing assessment and reflection tools represent or omit these same domains and themes.

*2.2 Phase Two: Extant Tool Review*

Building upon the themes identified in the systematic review, we next examined extant tools to determine which of these themes were already represented in practice. This review examined whether and how previously developed tools represented the same themes identified in the systematic review. Xiao and Watson (2019) describe a systematic literature review as a stand-alone empirical review designed to make sense of a body of existing literature, while background reviews are often used to identify gaps in the literature that an empirical study intends to fill. The intention behind the current study was to provide an accessible bridge across this research-to-practice gap in the form of a research-based, self-guided reflection tool that school-level special education departments and teachers can use to improve sexual education for students with MESN. To that end, this section describes a non-exhaustive review of extant sexual education tools for students with MESN utilized by practitioners.

In a systematic literature review, researchers often utilize academic databases to search for all of the relevant literature available that addresses the purpose of their review (Xiao & Watson, 2019). However, there are no databases that can reliably and accurately find and source all educational tools that practitioners use with their students, and many tools exist behind

paywalls (Joyner, 2022). Furthermore, the subject matter of sexual education for students with MESN is at a level so granular that any attempted systematic literature search for these tools could return an overwhelming number of irrelevant results for any researcher. Therefore, to conduct this extant tool review, a network of experts and teachers in the field of special education were consulted, and a non-exhaustive list of extant tools that fit the inclusion criteria were gathered through non-systematic web-based searches.

### 2.2.1 Search Approach and Inclusion Criteria

Because there is no comprehensive database that indexes practitioner-facing educational tools, and many tools are behind paywalls or distributed through proprietary channels, a conventional systematic search would have produced many irrelevant results and missed commonly used instruments (Joyner, 2022; Xiao & Watson, 2019). We therefore consulted a network of special education teachers and content experts and supplemented those recommendations with targeted, non-systematic web searches. We applied a single inclusion criterion: the tool must include a substantial focus on sexual education for people with MESN related to at least one of the four domains (context, content, instruction, or outcomes).

### 2.2.2 Coding Procedures and Data Analysis

The first author developed a codebook aligned with the domains and themes identified in the systematic literature review, including general tool information, context, content, instruction, and outcomes. General information captured details such as tool name, citation, year, format, scale or scoring, and description. The codebook also included an area to categorize each extant tool based on which of the four domains (i.e., context, content, instruction, or outcomes) were primarily addressed.

Following codebook development, the third author served as an independent coder, different from the coder in the previous phase, to reduce potential bias. Once consensus was reached on the domains most accurately represented in each tool, individual tool items were coded under their assigned domain to identify elements "considered most important by previous tool developers" (Joyner, 2022, p. 5). As subsequent tools were analyzed, new items were compared with those from previously reviewed tools, and novel items were added to the codebook as needed. To accomplish this, under each of the four codebook domains, one tool was coded to identify items, then coding for additional tools under the domain began. Items which were present in the previous tools are listed as "prior" items, and unique items not identified in previous tools are listed as "new."

Consistent with the directed qualitative content analysis used in the systematic literature review (Hsieh & Shannon, 2005), we applied the same deductive framework to code and compare items from the extant tools, ensuring alignment with the four conceptual domains of context, content, instruction, and outcomes while allowing new categories to emerge when appropriate. We used a deductive approach by applying the *a priori* themes generated from the systematic literature review as the start list for coding and classification. Each tool item was coded and examined against the pre-existing thematic structure derived from the literature to determine whether, and how, it represented these domains and themes (Gale et al.,

2013; Azungah, 2018).

2.2.3 Extant Tool Review Findings

The findings for the extant tool review are organized by the four domains: context, content, instruction, and outcomes. After consulting with experts and conducting non-systematic web-based searches, we included eight tools in this targeted review: the Attitudes to Sexuality Questionnaire (Individuals with an Intellectual Disability) Scale (ASQ-ID), the Attitudes Towards Sexuality of Individuals with Intellectual Disability (ASEXID), the Sexuality Education Protocol Tool (SEPT), the Sexuality Education Needs Assessment Checklist (SENAC), the Sexual Consent and Education Assessment Knowledge (SCEA-K) and safety (SCEA-S) sections, the Social Sexual Awareness Scale (SSAS), the General Sexual Knowledge Questionnaire (GSKQ), and the Tool for the Assessment of Levels of Knowledge Sexuality and Consent (TALK-SC).

Five tools addressed a single relevant domain (i.e., context, content, instruction, and outcomes) while the remaining three tools were found to have two relevant domains. Of the five single-domain tools, two addressed context, two addressed content, and one addressed outcomes. Two of the double-domain tools addressed content and outcomes, and one addressed content and instruction. Although we identified no single-domain tools that addressed instruction, the SEPT had an extensive section related specifically to instructional strategies and best practices (Wolfe & Blanchett, 2003).

2.2.3.1 Context Domain

We identified a total of 44 unique items across two tools coded under the context domain. Within these 44 items, we found seven of the twelve context themes identified in the systematic literature review were represented. These themes included: inability to learn about or participate in sexuality (n=3), values/cultural issues (n=3), perceived need to be protected (n=7), intellectual superiority (n=7), asexuality (n=3), hypersexuality (n=6), and sexuality as a right (n=8). We found three statements that did not align with any themes under the context domain, but these statements did align with subthemes under the content domain. For example, two of the statements are about people with intellectual disabilities and their right to privacy. Although this is not a theme explicitly outlined under context, it is explicitly represented by a subtheme under content about the student in society. We found two statements that did not align with any themes: "In general, sexual behaviour is a major problem area in management and caring for women with ID," (Cuskelly & Gilmore, 2007) and "Sexual education should only be provided to people with ID when they demand it" (Gil-Llario et al., 2021). We ultimately excluded both statements as they were not relevant to the creation of a K-12 educational tool. Table 5 presents the themes from phase 1 and the number of items in each tool representative of those themes.

Table 5. Context tool items

| Context | ASQ-ID | ASEXID | |
|---|---|---|---|
| | | **New** | (prior) |
| Inability to learn about or participating in sexuality | **3** | | (1) |
| Values/cultural issues | **3** | | |
| Perceived need to be protected | **4** | **7** | |
| Intellectual superiority | **3** | **4** | |
| Asexuality | **2** | **1** | |
| Hypersexuality | **5** | **1** | (1) |
| Sexuality as a right | **6** | **2** | (1) |

*Note.* Numbers in bold represent the new items from each instrument categorized under the context theme. Numbers in parentheses represent items already identified in previously reviewed instruments and also present in each current instrument.

### 2.2.3.2 Content Domain

We identified 70 unique items across four tools under the content domain. Within these 70 items, we found all five of the content themes identified by the systematic literature review were represented. These included biology and anatomy (n=18), personal development (n=8), family and relationship education (n=10), explicit sexual instruction (n=17), and safety (n=13). We also found that four statements contained or promoted explicit misinformation. For example, one of the items in the General Sexual Knowledge Questionnaire (Talbot & Langdon, 2006) asked "Where are men's sperm stored/kept?" and identified the correct answer as "In the testicles," which is factually inaccurate. Therefore, we excluded these four statements from consideration for tool development. Table 6 presents the themes from phase 1 and the number of items in each tool representative of those themes.

Table 6. Content tool items

| Content | SEPT | SENAC | | SCEA-K | | SSAS | | GSKQ | |
|---|---|---|---|---|---|---|---|---|---|
| | | **New** | (prior) | **New** | (prior) | **New** | (prior) | **New** | (prior) |
| Biology and anatomy | **2** | | (1) | **3** | (1) | | | **13** | (3) |
| Personal development | **8** | | (1) | | | | (1) | | (1) |
| Explicit sexual instruction | **5** | **8** | | **1** | (2) | | (5) | **3** | (2) |
| Family and relationship education | **9** | | | **1** | (1) | | (2) | | (4) |
| Safety | **9** | | (1) | **2** | | | (2) | **2** | (2) |

*Note.* Numbers in bold represent the new items from each instrument categorized under the content theme. Numbers in parentheses represent existing items from previously reviewed instruments that were found in each new instrument.

### 2.2.3.3 Instruction Domain

Only the SEPT aligned with the instruction domain (Wolfe & Blanchett, 2003), but not all of its items were explicitly related to instruction. For example, there is a large component of this tool that is dedicated to curriculum development and evaluation. Items like "Has the material undergone revision?" and "Was a theoretical framework used to design this program?" are not relevant to the instruction domain and were therefore excluded. We evaluated a total of 58 items from the tool and found that two of the themes (i.e., classroom level strategies [n=42] and climate/culture level strategies [n=12]) were represented. We did find that the third theme, strategies across environments, was present as well, however it only received three individual codes. Table 7 presents the themes from phase 1 and the number of items in each tool representative of those themes.

Table 7. Instruction tool items

| Instruction | SEPT |
|---|---|
| Classroom level strategies | 42 |
| Strategies across environments | 3 |
| Climate/Culture level strategies | 12 |

*Note.* Only one tool was found to have items that represented the instruction domain.

### 2.2.3.4 Outcomes Domain

We identified a total of 82 unique items across three tools under the outcomes domain. Within these 82 items, we found all three of the outcomes themes identified by the systematic literature review were represented. These included personal (n=19), life (n=30), and societal (n=31) outcomes. We identified two items that did not appear to represent any of the themes (i.e., "aroused by prepubescent children" and "unable to distinguish between fantasy and reality"), within the SCEA-S (Dukes & McGuire, 2009). We ultimately excluded both statements as they were not relevant to the creation of a K-12 educational tool. Table 8 presents the themes from phase 1 and the number of items in each tool representative of those themes.

Table 8. Items from outcomes tools

| Outcomes | SSAS | TALK-SC | | SCEA-S | |
|---|---|---|---|---|---|
| | | **New** | (prior) | **New** | (prior) |
| Personal Outcomes | 11 | 2 | (5) | 6 | |
| Life Outcomes | 11 | 14 | (7) | 5 | |
| Societal Outcomes | 8 | 13 | (3) | 10 | |

*Note.* Numbers in bold represent the new items from each instrument categorized under the context theme. Numbers in parentheses represent existing items from previously reviewed instruments that were found in each new instrument.

## 3. Integrated Findings across Domains

In the following section, we integrated the findings across both phases of the study. To do so, we described how themes identified in the systematic literature review and the extant tool review were represented across the four conceptual domains of context, content, instruction, and outcomes. These results provide a descriptive summary of representation across both phases, and make note of where themes and concepts may have been represented in one phase but not another. These integrated results served as a foundation for developing indicators of effective sexual education for students with MESN in subsequent work.

## 3.1 Context Domain

We identified twelve themes in the literature review within the context domain, reflecting attitudinal, environmental, cultural, and systemic factors that influence sexual education for students with MESN. In the subsequent tool review, seven of these twelve themes were represented across two tools. Represented themes included inability to learn about or participate in sexuality, values and cultural issues, perceived need to be protected, intellectual superiority, asexuality, hypersexuality, and sexuality as a right. Representation across phases in this domain was partial, with attitudinal themes more frequently represented than contextual or systemic themes. Themes related to parental participation, parental unpreparedness, accessibility, teacher unpreparedness, and childlike perceptions were not represented in the tool review, showing a gap between what the literature states influences sexual education and what is actually assessed by present tools. Therefore, these themes, present in the literature but absent in extant tools, must be considered when drafting indicators of effective sexual education for this population.

## 3.2 Content Domain

We identified five themes in the literature review within the content domain: biology and anatomy, personal development, explicit sexual instruction, family and relationship education, and safety. All five of these themes were represented within the tools analyzed, representing consistency between what the literature states are important sexual education topics for this population and what topics are assessed by present tools. Seventy unique items across four tools represented one or more of these content themes. Several items contained outdated or inaccurate information, which were excluded from analysis. Overall, representation across phases in this domain was strong, with all five themes present in both the literature and tools reviewed.

## 3.3 Instruction Domain

We identified three themes in the literature review within the instruction domain: classroom-level strategies, strategies across environments, and climate/culture-level strategies. Only one tool, the Sexuality Education Protocol Tool (Wolfe & Blanchett, 2003), included items represented within this domain, representing a significant gap between evidence-based instructional strategies for this population identified by the research and the assessment of these strategies. Of the 58 items evaluated, 42 represented classroom-level strategies, 12 represented climate or culture-level strategies, and 3 represented strategies across environments. Instructional approaches such as social stories, task analysis, and peer-led

education were represented, though items addressing generalization and maintenance across settings were limited, despite their emphasis in education for students with MESN (Jackson et al., 2008). Representation across phases in this domain was limited, with only one tool partially encompassing all three themes. Given the important role instructional strategies play in educating students with MESN (Johnson et al., 2022), this discrepancy must also be considered when drafting indicators of effective sexual education for this population.

*3.4 Outcomes Domain*

We identified three themes in the literature review within the outcomes domain: personal, life, and societal outcomes. All three of these themes were represented in the tool review, which included 82 items across three tools. Within this domain, 19 items represented personal outcomes, 30 represented life outcomes, and 31 represented societal outcomes. These items corresponded with literature findings related to sexual knowledge, quality of life, and community inclusion. Representation across phases in this domain was strong, with all three themes present, and should be a strong presence in subsequent indicators of sexual education for students with MESN.

*3.5 Summary across Domains*

Across both phases, the content and outcomes domains demonstrated strong representation between the literature and existing tools, whereas the context and instruction domains demonstrated partial representation. Themes related to attitudes and instructional strategies were represented to varying degrees, while contextual and cross-environmental themes identified in the literature were less frequently represented in the available tools. These findings indicate what should be present in and what might be missing from current tools geared toward improving sexual education, providing an initial evidence base for developing and refining indicators of effective sexual education for students with MESN in subsequent research.

## 4. Discussion and Implications

Ecological systems theory (Bronfenbrenner, 1977) challenges the notion that education exists in a vacuum. Instead, a student's education is inherently impacted by many contextually relevant systems and culturally relevant factors (Ruppar et al., 2017). To address this interaction, we chose to ground this study in ecological systems theory by conceptualizing sexual education across multiple domains (i.e., context, content, instruction, and outcomes) and systems (e.g., microsystem, mesosystem, macrosystem, etc.). The purpose of this study was to determine indicators of effective sexual education that would eventually yield a research-based self-guided reflection tool that school-level special education departments and individual teachers can use to improve sexual education for students with MESN. To answer the research questions and develop the initial draft of the tool, we conducted a systematic literature review and extant tool review. Analysis of these data resulted in 23 themes across the domains of Context, Content, Instruction, and Outcomes. These themes and subthemes illustrated a comprehensive list of what was necessary to include in a set of indicators to improve sexual education for students with MESN, and led to four main insights that we will

discuss in the following section.

The first insight centers around readiness and access to comprehensive sexuality education. Throughout both reviews and across multiple domains, it was evident that sexual education for students with MESN is dependent upon educators, schools, districts, parents, and even students having access to comprehensive sexuality curriculum and materials. Under the context domain, extant literature and tools revealed many barriers that prevent teachers and other practitioners from delivering appropriate sexual education to this population, including teacher unpreparedness and a lack of school-wide policies or standards (Ballan & Freyer, 2017; Barnard-Brak et al., 2014; Murphy et al., 2016). This was echoed in the instruction domain, where analysis of the literature revealed that practitioners must receive adequate training if they are expected to deliver effective sexual education to students with MESN (Murphy et al., 2016; Walter, 1982).

The second insight, largely represented by the context domain, centers around beliefs, protection, and cultural perceptions of sexuality and disability. Throughout both the tools and the articles, pervasive attitudes and misconceptions around students with MESN were often referenced (Cuskelly & Gilmore, 2007; Gil-Lario et al., 2021). These included assumptions like asexuality and hypersexuality, as well as the perceived need for students with MESN to be protected. The literature described effective sexual education for students with MESN as education that dispels these attitudes and misconceptions in favor of considering each student independently. Similarly, attitudes rooted in intellectual superiority and eugenics were described throughout the literature (Harader et al., 2009; Onstot, 2019) and explicitly assessed within multiple extant tools (Cuskelly & Gilmore, 2007; Gil-Lario et al., 2021). This demonstrates significant barriers to sexual education before the student ever enters the classroom: society at large including parents, teachers, government agencies, and other stakeholders have long lasting misconceptions and pervasive attitudes about the agency and capability of disabled people.

The third insight involves ensuring students with disabilities, including those with MESN, have access to inclusive and developmentally appropriate content and instructional practices. Across the literature and tool review, it was evident that students with disabilities need instruction in areas such as biology and anatomy, personal development, explicit sexual instruction, family and relationship education, and safety. Klett and Turan (2012) emphasized the importance of this student-centered instruction of sexual education topics when they recommended, for instance, explicitly teaching menstruating students with MESN the step-by-step process of changing their pads, a highly student-centered topic and need. Within the instruction domain, strategies such as individualized curriculum, social stories, task-analysis, and peer support emphasized the importance of inclusion and social instruction in sexual education for students with MESN (Tarnai & Wolfe, 2008; Wolfe & Blanchett, 1997).

The fourth and final insight, largely represented by the outcomes domain but present in other domains, centers around outcomes that extend beyond solely knowledge. The literature and tools revealed the expected interest in immediate outcomes, such as increased successful use

of sanitary products for menstruation (Klett and Turan, 2012). However, they also revealed the importance of longer-term outcomes that benefit not only the students themselves, but society as a whole. For example, Crehan et al., (2023) found that appropriate, comprehensive sexual education for students with developmental disabilities led to a decrease in their likelihood of sexual assault and a later age of their first sexual experience. As for the broader societal impact, even the earliest cited studies described sexuality education as a way to ensure students with disabilities can be better neighbors and enhance their quality of life overall (Kempton & Stiggall, 1989; Walter, 1982). The literature and tools reviewed for this study clearly indicate across decades of research that effective sexual education for all students, including those with disabilities, results in increased positive sexual outcomes later in life (Bourke et al., 2014; Lindberg & Maddow-Zimet, 2012).

*4.1 Implications*

A student's education is greatly influenced by a number of contextually relevant factors and ecological systems (Bronfenbrenner, 1977). Similarly, evidence gathered throughout this study suggested that sexual education for students with MESN is greatly influenced by research, practice, and policy. To improve sexual education for students with MESN, findings from this study can inform researchers, administrators, policymakers, and other relevant stakeholders about effective sexual education for students with MESN.

Though research is limited on sexual education for students with MESN, there is a robust enough literature base to conclude that comprehensive sexual education for this population leads to greater safety and an enhanced quality of life (Fader Wilkenfeld, 2011; Kempton & Stiggall, 1989). Yet, as mentioned above, students with MESN are still routinely denied access to sexual education curriculum and materials (Ailey et al., 2003; Collier, 2017; Waxman, 1994). The findings of this study lead to two main focus areas for continued research efforts (a) action research in authentic educational settings, and (b) professional development related to sexual education for students with MESN.

Extant literature and tools illustrated a cavernous research-to-practice gap in the provision of sexual education for students with MESN. To begin building a bridge, additional research, specifically in the form of action research, is needed. Mertler (2021) describes action research as "...a process that improves education by incorporating change and involving educators working together to improve their own practices." In terms of sexual education for students with MESN, action research should be conducted around the actual implementation of comprehensive sexual education for this population in authentic school settings.

Despite decades-spanning recommendations for teachers and other practitioners to receive professional development and training related to sexual education for students with disabilities (McDaniels & Fleming, 2016; Walter, 1982), limited research exists about professional development in this area. Of what is available, most of the literature is focused on contextually relevant factors like attitudinal shifts of teachers and other practitioners (Fader Wilkenfeld & Ballan, 2011; Schmidt et al., 2022). However, minimal research exists around professional development in other relevant domains of sexual education (i.e. content, instruction, and outcomes). Additional research on effective sexual education professional

development for in-service teachers is necessary to improve sexual education for students with disabilities and could utilize action research in an effort to bridge the gap between research and practice. In addition to in-service professional development, research should be conducted on pre-service teacher preparation programs in both general and special education related to teaching sexual education. This research is imperative in ensuring future teachers are provided with the necessary knowledge and skills to teach sexual education to all students, including those with MESN.

## 5. Conclusion

As mentioned in the methods section, the codes that were identified across this study were crafted into the first draft of indicators of effective sexual education for students with MESN. These indicators then went on to provide the foundation of the first draft of a self-guided tool, based on the findings of this study, that teachers and schools can use to improve sexual education for their students with MESN. That tool draft was then evaluated in a follow-up focus group study with experts in the field of sexual education for people with disabilities and/or tool development, which will be detailed in a future publication. Through this systematic literature and extant tool review, we created the first draft of a tool, grounded in relevant evidence and theory, with the potential to improve sexual education for students with MESN. This process led to three main conclusions around sexual education for this population.

The first conclusion is that in order to improve sexual education for students with MESN it must be comprehensive and student-centered. To achieve this, sexual education for this population should address multiple domains (i.e., context, content, instruction, and outcomes) across various ecological systems (e.g., microsystem, mesosystem, macrosystem, etc.). The findings from this study suggest that effective sexual education for students with MESN includes information around their biology and anatomy, personal development, explicit sexual instruction, relationships and family planning, and participation in society. The second conclusion is that in order to improve sexual education for students with MESN, teachers must be provided with appropriate professional development, resources, curriculum, and any other relevant materials.

The final conclusion is that in order to improve sexual education for students with MESN, schools must demonstrate values aligned with inclusion, sociosexual well-being, and the presumption of competence for students with MESN (Biklen & Burke, 2006). In the systematic literature review conducted in this study, every single article cited values and attitudes rooted in eugenics as a barrier to sexual education for students with MESN. The long history of eugenics in the United States continues to influence policies and practices for special education students to this day (DeMatthews, 2020). To improve sexual education for students with MESN, school-level administrators and other relevant stakeholders should consider implementing school-wide values that promote a culture of inclusivity and dismantle pervasive attitudes rooted in eugenics.

The importance of sexual education for students with disabilities cannot be overstated, and the consequences of failing to address it are dire. Without effective sexual education, students

with MESN experience an increased risk of sexually transmitted infections and unintended pregnancy, and a decrease in their quality of life. This population is already seven times more likely to be sexually assaulted than their nondisabled peers (Shapiro, 2018), and without effective sexual education, the risk could be even higher (Frank & Sandman, 2019; Hartwig & McMullen, 2021). It is imperative that researchers, practitioners, policymakers, and other relevant stakeholders work together to improve sexual education for students with disabilities, including those with MESN.

## References

Ailey, S. H., Marks, B. A., Crisp, C., & Hahn, J. E. (2003). Promoting sexuality across the life span for individuals with intellectual and developmental disabilities. *Nursing Clinics of North America, 38*(2), 229-252. https://doi.org/10.1016/S0029-6465(02)00056-7

Assarroudi, A., Heshmati Nabavi, F., Armat, M. R., Ebadi, A., & Vaismoradi, M. (2018). Directed qualitative content analysis: the description and elaboration of its underpinning methods and data analysis process. *Journal of Research in Nursing, 23*(1), 42-55. https://doi.org/10.1177/1744987117741667

Azungah, T. (2018). Qualitative research: Deductive and inductive approaches to data analysis. *Qualitative Research Journal, 18*(4), 383-400. https://doi.org/10.1108/QRJ-D-18-00035

Ballan, M. S., & Freyer, M. B. (2017). Autism spectrum disorder, adolescence, and sexuality education: Suggested interventions for mental health professionals. *Sexuality and Disability, 35*, 261-273. https://doi.org/10.1007/s11195-017-9477-9

Barnard-Brak, L., Schmidt, M., Chesnut, S., Wei, T., & Richman, D. (2014). Predictors of access to sex education for children with intellectual disabilities in public schools. *Mental Retardation, 52*(2), 85-97. https://doi.org/10.1352/1934-9556-52.2.85

Biklen, D., & Burke, J. (2006). Presuming competence. *Equity & Excellence in Education, 39*(2), 166-175. https://doi.org/10.4324/9781315453217-34

Bourke, A., Boduszek, D., Kelleher, C., McBride, O., & Morgan, K. (2014). Sex education, first sex and sexual health outcomes in adulthood: Findings from a nationally representative sexual health survey. *Sex Education, 14*(3), 299-309. https://doi.org/10.1080/14681811.2014.887008

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513-531. https://doi.org/10.1037//0003-066x.32.7.513

Carlson, L. (2009). *The faces of intellectual disability: Philosophical reflections.* Indiana University Press. https://doi.org/10.2979/5854.0

Chevrette, M., & Abenhaim, H. A. (2015). Do state-based policies have an impact on teen birth rates and teen abortion rates in the United States? *Journal of Pediatric and Adolescent Gynecology, 28*(5), 354-361. https://doi.org/10.1016/j.jpag.2014.10.006

Chrastina, Jan & Večeřová, Hana. (2020). Supporting sexuality in adults with Intellectual Disability—A short review. *Sexuality and Disability, 38*(2), 285-298. https://doi.org/10.1007/s11195-018-9546-8

Collier, L. (2017). Sex and intellectual disabilities. *Monitor on Psychology, 48*(11). Retrieved from http://www.apa.org/monitor/2017/12/seeking-intimacy-sidebar

Crehan, E. T., Schwartz, A. E., & Schmidt, E. K. (2023). Who is delivering sexual health education content to young adults with intellectual or developmental disability? A survey of US-based school-based professionals and parents. *Sexuality and Disability, 41*(2), 189-200. https://doi.org/10.1007/s11195-023-09790-2

Cuskelly, M., & Gilmore, L. (2007). Attitudes to sexuality questionnaire (individuals with an intellectual disability): Scale development and community norms. *Journal of Intellectual and Developmental Disability, 32*(3), 214-221. https://doi.org/10.1080/13668250701549450

DeMatthews, D. (2020). Addressing racism and ableism in schools: A DisCrit leadership framework for principals. *The Clearing House, 93*(1), 27-34. https://doi.org/10.1080/00098655.2019.1690419

Dukes, E., & McGuire, B. E. (2009). Enhancing capacity to make sexuality-related decisions in people with an intellectual disability. *Journal of Intellectual Disability Research, 53*(8), 727-734. https://doi.org/10.1111/j.1365-2788.2009.01186.x

Fader Wilkenfeld, B., & Ballan, M. S. (2011). Educators' attitudes and beliefs towards the sexuality of individuals with developmental disabilities. *Sexuality and Disability, 29*(4), 351-361. https://doi.org/10.1007/s11195-011-9211-y

Fletcher, J., Yee, H., Ong, B., & Roden, R. C. (2023). Centering disability visibility in reproductive health care: dismantling barriers to achieve reproductive equity. *Women's Health, 19*, 1-11. https://doi.org/10.1177/17455057231197166

Frank, K., & Sandman, L. (2019). Supporting parents as sexuality educators for individuals with intellectual disability: The development of the Home BASE Curriculum. *Sexuality and Disability, 37*(3), 329-337. https://doi.org/10.1007/s11195-019-09582-7

Frawley, P., & Wilson, N. J. (2016). Young people with intellectual disability talking about sexuality education and information. *Sexuality and Disability, 34*, 469-484. https://doi.org/10.1007/s11195-016-9460-x

Gale, N.K., Heath, G., Cameron, E., Rashid, S., Redwood S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology, 13*, 117. https://doi.org/10.1186/1471-2288-13-117

Gil-Llario, M. D., Fernández-García, O., Castro-Calvo, J., Caballero-Gascón, L., & Ballester-Arnal, R. (2021). Validation of a tool to assess attitudes towards sexuality of individuals with intellectual disability (ASEXID): A preliminary study. *Sexuality and Disability, 39*, 147-165. https://doi.org/10.1007/s11195-020-09650-3

Gill, M. (2015). *Already doing it: Intellectual disability and sexual agency.* University of Minnesota Press. https://doi.org/10.5749/minnesota/9780816682973.001.0001

Goldfarb, E. S., & Lieberman, L. D. (2021). Three decades of research: The case for comprehensive sex education. *The Journal of Adolescent Health, 68*(1), 13-27. https://doi.org/10.1016/j.jadohealth.2020.07.036

Griewe, E. (2019, May 11). How an ugly law stayed on Chicago books for 93 years. *The Chicago Tribune.* Retrieved from https://www.chicagotribune.com/2016/06/23/how-an-ugly-law-stayed-on-chicagos-books-for-93-years/

Gürol, A., Polat, S., & Oran, T. (2014). Views of mothers having children with intellectual disability regarding sexual education: A qualitative study. *Sexuality and Disability, 32*(2), 123-133. https://doi.org/10.1007/s11195-014-9338-8

Güven, S. T., Işler A. (2015). Sex education and its importance in children with intellectual disabilities. *Journal of Psychiatric Nursing, 6*(3), 143-148. https://doi.org/10.5505/phd.2015.64936

Harader, D. L., Fullwood, H., & Hawthorne, M. (2009). Sexuality among adolescents with moderate disabilities: Promoting positive sexual development. *The Prevention Researcher, 16*(4), 17-21. https://doi.org/10.1037/e630642009-006

Hartwig, R., & McMullen, B. (2021). Teaching self-protection to students with disabilities. *Teaching Exceptional Children, 54*(1), 16-24. https://doi.org/10.1177/00400599211038369

Herat, J., Plesons, M., Castle, C., Babb, J., & Chandra-Mouli, V. (2018). The revised international technical guidance on sexuality education-A powerful tool at an important crossroads for sexuality education. *Reproductive Health, 15*(1), 1-4. https://doi.org/10.1186/s12978-018-0629-x

Holmes, L. G. (2021). *Comprehensive sex education for youth with disabilities: A call to action.* SIECUS: Sex Ed for Social Change. Retrieved from https://siecus.org/wp-content/uploads/2021/03/SIECUS-2021-Youth-with-Disabilities-CTA-1.pdf

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. https://doi.org/10.1177/1049732305276687

Hurtes, S. (2023, November 25). Despite bans, disabled women are still being sterilized in Europe. *The New York Times*. Retrieved from https://www.nytimes.com/2023/11/25/world/europe/europe-disabled-women-sterilization.html

Individuals with Disabilities Education Act, 20 U.S.C. §1400 (2004)

Jackson, L. B., Ryndak, D. L., & Wehmeyer, M. L. (2008). The dynamic relationship between context, curriculum, and student learning: A case for inclusive education as a research-based

practice. *Research and Practice for Persons with Severe Disabilities, 34*(1), 175-195. https://doi.org/10.2511/rpsd.33.4.175

Johnson, H. N., Wakeman, S. Y., & Clausen, A. M. (2022). Inclusive supports and strategies to increase opportunities to respond for all learners. *TEACHING Exceptional Children, 56*(2), 72-80. https://doi.org/10.1177/00400599221114432

Joyner, D. (2022). Teaching at scale: Improving access, outcomes, and impact through digital instruction. *Routledge*. https://doi.org/10.4324/9781003274834

Kempton, W., & Stiggall, L. (1989). Sex education for persons who are mentally handicapped. *Theory into Practice, 28*(3), 203-210. https://doi.org/10.1080/00405848909543404

Kempton, W., Kahn, E. (1991). Sexuality and people with intellectual disabilities: A historical perspective. *Sexuality and Disability 9*, 93-111. https://doi.org/10.1007/BF01101735

Klett, L. S., & Turan, Y. (2012). Generalized effects of social stories with task analysis for teaching menstrual care to three young girls with autism. *Sexuality and Disability, 30*, 319-336. https://doi.org/10.1007/s11195-011-9244-2

Lansey, K. R., Burnette, K. K., & Ryndak, D. L. (2023). Disrupting the system: How social systems perpetuate educational segregation of students with extensive support needs. *International Journal of Special Education, 38*(1), 58-68. https://doi.org/10.52291/ijse.2023.38.6

Lindberg, L. D., & Maddow-Zimet, I. (2012). Consequences of sex education on teen and young adult sexual behaviors and outcomes. *The Journal of Adolescent Health 51*(4), 332-338. https://doi.org/10.1016/j.jadohealth.2011.12.028

Lipscomb, S., Hamison, J., Burghardt, J., Johnson, D. R., & Thurlow, M. (2017). Preparing for life after high school: The characteristics and experiences of youth in special education. Findings from the National Longitudinal Transition Study 2012. Volume 2: Comparisons across disability groups. Full Report. (NCEE 2017-4018). *National Center for Education Evaluation and Regional Assistance.* Retrieved from https://ies.ed.gov/ncee/pubs/20184011/pdf/20184011.pdf

Mailhot Amborski, A., Bussières, E. L., Vaillancourt-Morel, M. P., & Joyal, C. C. (2022). Sexual violence against persons with disabilities: A meta-analysis. *Trauma, Violence & Abuse, 23*(4), 1330-1343. https://doi.org/10.1177/1524838021995975

Matthews, S. D. (2024). *The development of a research-based self-guided reflection tool toward the improvement of sexual education for students with moderate to extensive support needs* (Doctoral dissertation, The University of North Carolina at Greensboro). Retrieved from https://www.researchgate.net/publication/388036815

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach.* SAGE.

McDaniels, B., & Fleming, A. (2016). Sexuality education and intellectual disability: Time to address the challenge. *Sexuality and Disability, 34*(2), 215–225.

https://doi.org/10.1007/s11195-016-9427-y

Mertler, C. A. (2021). Action research as teacher inquiry: A viable strategy for resolving problems of practice. *Practical Assessment, Research, and Evaluation, 26*(19). Retrieved from https://scholarworks.umass.edu/pare/vol26/iss1/19

Michielsen, K., & Brockschmidt, L. (2021). Barriers to sexuality education for children and young people with disabilities in the WHO European region: A scoping review. *Sex Education, 21*(6), 674-692. https://doi.org/10.1080/14681811.2020.1851181

Murphy, C., Lincoln, S., Meredith, S., Cross, E. M., & Rintell, D. (2016). Sex education and intellectual disability: practices and insight from pediatric genetic counselors. *Journal of Genetic Counseling, 25*(3), 552-560. https://doi.org/10.1007/s10897-015-9909-6

Onstot, A. (2019). Capacity to consent: Policies and practices that limit sexual consent for people with intellectual/developmental disabilities. *Sexuality and Disability, 37*(4), 633-644. https://doi.org/10.1007/s11195-019-09580-9

Onwuegbuzie, A. J., Bustamante, R. M., & Nelson, J. A. (2010). Mixed research as a tool for developing quantitative instruments. *Journal of Mixed Methods Research, 4*(1), 56-78. https://doi.org/10.1177/1558689809355805

Ruppar, A. L., Allcock, H., & Gonsier-Gerdin, J. (2017). Ecological factors affecting access to general education content and contexts for students with significant disabilities. *Remedial and Special Education, 38*(1), 53-63. https://doi.org/10.1177/0741932516646856

Sandelowski, M., Voils, C. I., & Barroso, J. (2006). Defining and designing mixed research synthesis studies. *Research in the Schools, 13*(1), 29. Retrieved from https://www-ncbi-nlm-nih-gov.libproxy.uncg.edu/pmc/articles/PMC2809982/

Santelli, J. S., Kantor, L. M., Grilo, S. A., Speizer, I. S., Lindberg, L. D., Heitel, J., Schalet, A. T., Lyon, M. E., Mason-Jones, A. J., McGovern, T., Heck, C. J., Rogers, J., & Ott, M. A. (2017). Abstinence-only-until-marriage: An updated review of U.S. policies and programs and their impact. *The Journal of Adolescent Health, 61*(3), 273-280. https://doi.org/10.1016/j.jadohealth.2017.05.031

Schmidt, E. K., Hand, B. N., Havercamp, S., Sommerich, C., Weaver, L., Darragh, A. (2021). Sex education practices for people with intellectual and developmental disabilities: a qualitative study. *The American Journal of Occupational Therapy, 75*(3). https://doi.org/10.5014/ajot.2020.044859

Shapiro, J. (2018, January 8). *The sexual assault epidemic no one talks about.* NPR. Retrieved from https://www.npr.org/2018/01/08/570224090/the-sexual-assault-epidemic-no-one-talks-about

Smith, J. D., & Polloway, E. A. (1993). Institutionalization, involuntary sterilization, and mental retardation: Profiles from the history of the practice. *Mental retardation, 31*(4), 208-214. Retrieved from https://pubmed.ncbi.nlm.nih.gov/8412725/

Stanojević, Č., Neimeyer, T., & Piatt, J. (2021). The complexities of sexual health among adolescents living with autism spectrum disorder. *Sexuality and Disability, 39*(2), 345-356. https://doi.org/10.1007/s11195-020-09651-2

Stern, C., Lizarondo, L., Carrier, J., Godfrey, C., Rieger, K., Salmond, S., João, A., Kirkpatrick, P., & Loveday, H. (2021). Methodological guidance for the conduct of mixed methods systematic reviews. *JBI Evidence Implementation, 19*(2), 120-129. https://doi.org/10.11124/jbisrir-d-19-00169

Stubblefield, A. (2007). Beyond the pale: Tainted whiteness, cognitive disability, and eugenic sterilization. *Hypatia, 22*(2), 162-181. https://doi.org/10.1111/j.1527-2001.2007.tb00987.x

Talbot, T.J. & Langdon, P.E. (2006). A revised sexual knowledge assessment tool for people with intellectual disabilities: Is sexual knowledge related to sexual offending behaviour? *Journal of Intellectual Disability Research, 50*(7), 523-531. https://doi.org/10.1111/j.1365-2788.2006.00801.x

Tarnai, B., & Wolfe, P. S. (2008). Social stories for sexuality education for persons with autism/pervasive developmental disorder. *Sexuality and Disability, 26*(1), 29-36. https://doi.org/10.1007/s11195-007-9067-3

Treacy, A. C., Taylor, S. S., & Abernathy, T. V. (2018). Sexual health education for individuals with disabilities: a call to action. *American Journal of Sexuality Education, 13*(1), 65-93. https://doi-org.libproxy.uncg.edu/10.1080/15546128.2017.1399492

United Nations Women., & UNICEF. (2018). *International technical guidance on sexuality education: an evidence-informed approach.* UNESCO Publishing. https://doi.org/10.54675/uqrm6395

Urquhart, C. (2013). Grounded theory for qualitative research. SAGE Publications, Ltd. https://doi.org/10.4135/9781526402196

Walter, E. (1982). Continuity of sexuality education in programs serving people with mental handicaps. *Sexuality and Disability, 5*(1), 9-13. https://doi.org/10.1007/BF01243807

Waxman, B. F. (1994). It's time to politicize our sexual oppression. *The ragged edge: The disability experience from the pages of the first fifteen years of the disability rag*, 82-87.

Wolfe, P. S., & Blanchett, W. J. (2003). Sex education for students with disabilities: An evaluation guide. *Teaching Exceptional Children, 36*(1), 46-51. https://doi.org/10.1177/004005990303600106

Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research, 39*(1), 93-112. https://doi.org/10.1177/0739456X17723971

**Copyright Disclaimer**