

## International Trends in Inclusive Education Intervention Research: A Literature Review

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*Abstract: Although promoting inclusive education for students with disabilities has received significant attention internationally, reviews of the international intervention literature have not been conducted. This paper describes the results of a literature review of the past 15 years of peer-reviewed, empirical articles published in English- and Spanish-language journals to identify trends in research on supports implemented to enhance student-level outcomes in inclusive K-12 settings with students with disabilities. Intervention methods, findings, and trends were compared across the English and Spanish literature. Only 98 articles were identified that implemented and assessed outcomes in inclusive settings in the English-language literature, and the total number of participating students with disabilities was 12,896. Students with more extensive support needs were more frequently represented in the research than students with less extensive support needs. About one half of the studies targeted interventions to enhance instructional supports to improve students' general education curriculum-related skills and knowledge. The four intervention studies identified in the Spanish-language literature totaled 219 participants, and all four studies investigated participation supports. Implications for future research to advance inclusive practices internationally are discussed.*

Inclusion of students with disabilities in general education contexts has emerged as a major issue throughout the world. This necessitates evidence-based practices that can be implemented across contexts to support student access to and progress in the general education curriculum. In 2006, the *Convention on the Rights of Persons with Disabilities* (CRPD) was adopted by the U.N. General Assembly. Article 24 asserts the right of people with disabilities to education and states that part of this right includes that children with disabilities “can access an inclusive, quality and free primary education and secondary education

on an equal basis with others in the communities in which they live” (UN, 2006, p. 17). Approximately 160 countries are signatories to the CRPD, and the US, while not a signatory, has laws and policies that address the rights of children with disabilities to a free, appropriate public education and access to and progress in the general education curriculum, consistent with Article 24.

Despite these laws and policies, progress toward inclusive education that promotes meaningful access to and progress in the general education curriculum has proceeded slowly, particularly for students with more extensive support needs. For example, in the United States while almost 95% of students with disabilities are included in general education classes for at least some portion of the school day, it becomes evident that severity of disability impacts access to inclusive environ-

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ments when the numbers are broken down by disability label. Forty-nine percent of students with intellectual disability and 46% of students with multiple disabilities are included for less than 40% of the day, while 68% of students with learning disabilities are included for 80% or more of the day (National Center for Education Statistics, 2015). Further, students with extensive support needs tend to lag significantly behind their peers academically, and the degree to which students with extensive support needs have meaningful access to the general education curriculum remains limited (Ryndak, Jackson, & White, 2013).

In other countries, data are often collected and reported in different ways. Within the data that are available, trends are generally similar to those in the US. For example, in many Spanish speaking countries, such as Spain, a separate education system for students with extensive support needs, including students with intellectual disability, exists and remains the model of service delivery, although efforts are underway to change this model. Of students that are included in general education schools in Spain (which tend to be students with less extensive support needs), 80% of students with disabilities are in regular classrooms with their peers without disabilities although very few supports are provided in the general education curriculum (Navas, Gómez, & Verdugo, 2017).

Given the emphasis on inclusive education in policy around the world, it is critical that effective supports for inclusive education that are aligned with students' support needs are developed and disseminated across contexts to enable students with disabilities, particularly those with extensive support needs, to access and make progress in general education contexts. To enable this outcome, research teams from the US and Spain collaborated to undertake a systematic review of the literature on inclusive education in the English- and Spanish-language literature. The goal of this collaboration was to analyze trends in the literature to guide future research. In another analysis, we examined the general trends in the types of articles published (Amor et al., 2017), and one of the categories of research that emerged was empirical research on interventions implemented in inclusive classrooms. This category represented a

minority of scholarship in both the English- and Spanish-language literature (5% and 2% of total articles, respectively). There was a greater focus in the English- and Spanish-language literature on theoretical and conceptual justifications for the inclusion of students with disabilities as well as descriptive articles, which provided case examples of ways that inclusive practices could be implemented or descriptive data on the numbers of students included and the factors that impacted access to inclusive environments. Another large subset of the literature (25%) examined stakeholder perspectives of inclusion. The smallest amount of literature focused on empirical evaluation of strategies designed, implemented, and evaluated in inclusive settings in both the English- and Spanish-language literature. This suggests an ongoing need to focus on research establishing effective practices, moving beyond simply describing the importance, current status, and need for inclusion.

The purpose of this review was to conduct a more in-depth review of the subset of literature focusing on empirical evaluations of the implementation of interventions to promote access to and progress in general education contexts that was identified, but not directly analyzed, in the Amor et al. (2018) review. We focused on reviewing this subset of the literature to identify the categories of supports that were typically focused on in interventions to promote access to and progress in inclusive environments. We excluded any literature that did not implement or evaluate interventions in inclusive contexts, consistent with a social-ecological approach to understanding disability and utilizing individualized supports to enhance outcomes. As such, a social-ecological perspective and the supports model that emerges from this perspective guided our review of this body of literature. The social-ecological perspective of disability defines disability as a mismatch between personal competencies and environmental demands (Schalock et al., 2010; World Health Organization, 2007). It also highlights the role that individualized supports play in addressing these mismatches (Schalock, 2013). From such a perspective, in the education context, supports become critical to the success of students with disabilities in general education settings as they can be used to address mismatches be-

tween student competencies and the demands of inclusive environments.

Supports are defined as “resources and strategies that aim to promote the development, education, interests, and personal well-being of a person and that enhance individual functioning” (Schalock et al., 2010, p. 18). With regard to inclusive education, supports can be any strategies, materials, or actions that are delivered with the intent of improving access to and progress in the general education context. The key consideration is that the intervention is delivered with the purpose of improving access and progress in the general education context by addressing mismatches between a student’s competencies and the demands of the general education context. A growing body of research has shown that students with disabilities, including students with more extensive support needs, can learn general education content when appropriate instructional and participation supports and effective curricular adaptations are made (Ryndak et al., 2013); however, a large subset of this research, particularly articles on curricular adaptations, has taken place outside of the general education context where data have been collected in segregated settings for students with disabilities. Such research does not fully address the issues related to systematically understanding mismatches experienced through support needs assessment and the supports model described above. For this reason, the purpose of this review was to specifically identify and analyze the literature published in English- and Spanish-language journals that focused on empirically evaluating supports for students with disabilities implemented in inclusive settings to improve access to and progress in those settings. The supports investigated in the interventions studies were organized according to the support categories introduced by Thompson, Walker, Shogren, and Wehmeyer (2018). The supports typology by Thompson et al. focused on support function (i.e., the purpose that supports serve in general education classrooms) as opposed to types (i.e., forms) of supports. Not only are types of support seemingly innumerable (e.g., consider the sheer number of apps available for mobile phones that could serve as supports), but many types of support can serve multiple purposes de-

pending on how people use them. The authors assert that there are three broad categories of supports relevant to general education contexts, including curricular adaptations, instructional supports, and participation supports. Table 1 provides definitions for the categories and subcategories of supports introduced by Thompson et al. (2018).

Based on the rationale for this literature review described above, our overarching research questions were as follows:

1. What were the participants’ characteristics (e.g., age ranges, gender, disability categories) in studies examining the efficacy of supports in inclusive contexts?
2. What research methods were used in the studies examining supports for inclusion implemented with students with disabilities in inclusive settings?
3. What categories of supports have been investigated with regard to their impact on student access to general education curriculum and settings, as well as on student learning?
4. How did participants and teachers rate the social validity of the supports in terms of feasibility and usefulness?

## **Method**

### *Literature Search Procedure*

As described previously, the present analysis was conducted using a subset of articles that were identified but not analyzed in a broader review of the literature on inclusive education in the English- and Spanish-language literature (Amor et al, 2018). Amor et al. (2018) reviewed all articles published between 2002 and 2016 on inclusive education and adopted a definition of inclusion that was used to guide the overall search: inclusion is when students with disabilities “are present, participate, learn, and receive instruction in the general education context with the same chronological age peers for all or part of a school day” (Amor et al., 2018). Based on the literature, Amor et al. used a systematic coding procedure to group the articles and examine trends; one of the categories was empirical interventions studies. This is the subset of articles that is the focus of this review. To be

TABLE 1

Categories and Subcategories of Support Based on Function/Purpose of Support

<i>Categories of Support</i>	<i>Subcategories of Support</i>
<p><b>Curricular Adaptations</b> function to change the gen ed. curriculum so that it is relevant to the student’s learning goals</p>	<p><b>Supplementary goal adaptations</b> function to provide additional content that is related to and complements the gen ed. curriculum</p> <p><b>Modified goal adaptations</b> function to change gen ed. curricular content so that the difficulty level is aligned with a student’s present level of achievement</p> <p><b>Alternative goal adaptations</b> function to provide additional content that is unrelated to what is taught in the gen ed. curriculum, but can be taught alongside gen ed. curricular content</p>
<p><b>Instructional Supports</b> function to align gen ed. teaching and learning activities with the student’s learning needs</p>	<p><b>Instructional adaptations</b> function to individualize how the teacher teaches and/or how the student demonstrates learning</p> <p><b>Alternative adaptations</b> function to coordinate classroom teaching and learning activities with individualized teaching and learning activities related to individualized learning outcomes</p>
<p><b>Participation Supports</b> function to assure full participation in educational settings and activities</p>	<p><b>Accommodations</b> function to provide alternative ways to access gen ed. instruction but do not change the difficulty level</p> <p><b>Modifications</b> function to provide alternative ways to access gen ed. instruction but change the difficulty level</p> <p><b>Personalized assistance</b> function to enable a student to more fully participate in learning activities by providing support from another person or through use of technologies</p>

*Note.* Adopted from Thompson et al. (2018).

included in this category, data had to be reported on the impact of a defined practice, intervention, or environmental arrangement on student-level outcomes in an inclusive, K-12 setting. Articles were excluded if they (a) targeted only postsecondary transition outcomes, (b) did not report in-school outcomes, (c) did not focus on students receiving special education services (e.g., mental health or medical conditions, but no stated eligibility for special education), and (d) did not implement the intervention and collect data in inclusive settings.

The specific procedures used to obtain the subset of articles utilized in this review are shown in Figure 1. Using the search terms identified in Figure 1, a total of 5,661 English-language articles and 5,041 Spanish-language articles were initially identified in the overall Amor et al. (2018) search. After removing duplications and screening each title and abstract based on inclusion and exclusion criteria described above, the corpus of literature

was narrowed to 2,078 English-language articles and 302 Spanish-language articles. These articles were classified into the broad categories defined by Armor et al. (2017): attitudinal, descriptive, theoretical, literature review, and intervention. As shown in Figure 1, the subset of articles in the intervention category after the search and classification procedures were applied was 98 articles in the English-language literature and four articles in the Spanish-language literature. These articles are the focus of this review as they were not analyzed in the Amor et al. (2018) review.

*Study Coding*

Each intervention article was coded for participant characteristics and study characteristics. Participant characteristics included: (a) total number of participants with disabilities, (b) disability categories, (c) number of male and female students, (d) age ranges, (e) race/ethnicity, and (f) inclusion of participants

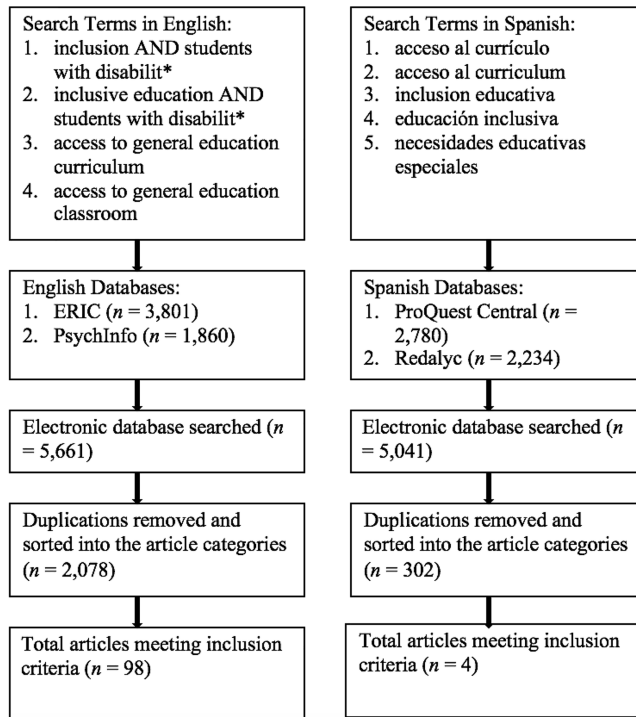


Figure 1. Search procedure for the English-language and Spanish-language literature.

without disabilities. When coding disability categories, we used the 13 disability categories recognized under the Individuals with Disabilities Education Act (IDEA, 2004), as well as “developmental delay.” Further, when a study reported more than one disability category per student we coded all the disability categories; therefore, in reporting the findings, the total number of students’ disability categories exceeded the total number of participating students. We also attempted to capture, based on study descriptions or disability classification, the intensity of the support needs of the participants in the studies. Based on the literature (e.g., Gage, Lierheimer, & Goran, 2012; Ryndack et al., 2014) and discussions among the research team, we categorized students into a less extensive or more extensive support need group. Students with intellectual disability, autism spectrum disorders, multiple disabilities, orthopedic impairment, visual impairment, and hearing impairment were categorized as students with more extensive support needs. Students with learning disabilities, emotional disturbance, other health impair-

ment, and speech and language impairment were categorized as students with less extensive support needs. In terms of study characteristics, we coded the research design, purpose of study, independent variable, dependent variable, intervention setting (elementary, middle, junior high, high school), location (i.e., country), results, and social validity information. If a study was implemented in more than one setting, all settings were coded. Finally, using the definitions of support categories shown in Table 1, we coded the independent variables according to their support function.

#### *Interrater Reliability*

To determine interrater reliability of coding procedures, 25% of the 98 English-language intervention studies ( $n = 25$ ) were coded by two coders. Because of the small number of articles identified in the Spanish-language search ( $n = 4$ ), all were coded for reliability. Agreement was established when the two coders agreed across all dimensions on the coding

sheets. When there were disagreements, the coders reanalyzed the disagreed upon dimensions by reviewing the studies again and coming to consensus about the appropriate coding. To calculate interrater reliability, the number of agreements was divided by the sum of the number of agreements and disagreements, then multiplied by 100. There was 98% agreement for the English-language literature, and 100% agreement for the Spanish-language literature.

## Results

In the English-language literature, the range of the number of inclusive intervention studies implemented in inclusive contexts published each year between 2002 and 2016 ranged from one in 2010 to 12 in 2002. There was an average of six intervention studies published each year. In the Spanish-language literature, the four intervention studies were published between 2007 and 2014.

### *Participant Characteristics*

The total number of participating students with disabilities across all English-language studies was 12,896. There were almost twice as many male students ( $n = 7,922$ ) as female students ( $n = 4,626$ ), and 17 articles did not specify the numbers of participants by gender. Students' racial and ethnic background information was reported in 50 studies; 548 (60%) of the participants were Caucasian, 193 (21%) were African American, and 105 (12%) were Hispanic. There were 41 (5%) Asian students, and 22 students (2%) were identified as being from other racial and ethnic backgrounds. Frequently, the articles that were conducted in English-speaking countries other than the United States did not provide participants' racial and ethnic background information.

Among the English-language studies, 42 included students with learning disabilities ( $n = 793$  participants across studies), followed by 38 studies that included students with intellectual disability ( $n = 287$ ), and 36 with students with autism spectrum disorders ( $n = 540$ ). Students with other health impairments ( $n = 659$ ) participated in 13 studies, and students with emotional disturbance ( $n = 2,126$ ) participated in 19 studies. Moreover, one study

(Barlow, Humphrey, Lendrum, Wigelsworth, & Squires, 2015), conducted in the UK reported that some of the participants had learning difficulties ( $n = 6,481$ ), and this was left as a separate category given its non-congruence with the IDEA categories. Over 3,700 students without disabilities were included in studies in some fashion, with 857 participating in 23 studies that examined peer supports. Table 2 provides more specific demographic information across the studies.

Across the studies, a larger number of students were classified into the extensive support needs (e.g., intellectual disability, autism spectrum disorders) group. Students with more extensive support needs participated in 47 studies, and student with less extensive support needs participated in 40 studies. Students in both groups were included in 10 studies. When examining the trend of publications, there were more studies that included students with more extensive supports needs in 2002, 2007, 2008, 2013, and 2016. However, there were an equal number of publications which included either students with more extensive support needs or less extensive support needs in 2003, 2005, 2009, 2012, and 2014, suggesting no clear trends overall.

Within the Spanish-language sample, a total of 219 students participated, although one study (Yupanqui, Aranda, Vásquez-Oyarzun, & Verdugo, 2014) reported that students from 15 educational centers, including students with disabilities, participated without reporting specific numbers of participants in each center. Regarding demographic characteristics, the studies written in Spanish that met the inclusion criteria did not provide as much information as the English-language studies. In regard to the gender of participants, only one study (Lozano-Martínez, Alcaraz-García, & Colás, 2010) stated the gender of participants (four female students and eight male students). Only one study targeted students with autism spectrum disorders (Lozano-Martínez et al., 2010), another targeted students with behavioral disabilities (Escribano & González, 2014), and two studies did not report specific disability categories just that students received education services for a disability.

**TABLE 2**

**Participant Demographics in English-Language and Spanish-Language Literature**

	<i>English (n = 12,896)</i>	<i>Spanish (n = 219)</i>
Gender		
Female	4,626	4
Male	7,922	8
Not reported	435	207
School Setting <sup>a</sup>		
Elementary School	5,627	NA
Middle School	645	NA
Junior High School	3,123	NA
High School	3,516	NA
Not reported	30	NA
Race/Ethnicity		
Caucasian	548	NA
African American	193	NA
Hispanic or Latino/a	105	NA
Asian	41	NA
Other	22	NA
Not reported	12,679	
Disability Category <sup>b</sup>		
Autism Spectrum Disorder	540	12
Intellectual Disability	287	0
Learning Disabilities	793	0
Emotional Disturbance	2,126	10
Multiple Disabilities	6	0
Orthopedic Impairment	267	0
Other Health Impairments	659	0
Developmental Disability	9	0
Speech or Language Impairment	1,293	0
Visual Impairment	81	0
Hearing Impairment	161	0
Learning Difficulties <sup>c</sup>	6,481	0
Unclassified	159	
Not reported	63	197
Country <sup>d</sup>		
	United States ( <i>n</i> = 86)	Spain ( <i>n</i> = 2)
	Ireland ( <i>n</i> = 3)	Chile ( <i>n</i> = 2)
	Canada ( <i>n</i> = 2)	
	United Kingdom ( <i>n</i> = 2)	
	South Korea ( <i>n</i> = 2)	
	Israel ( <i>n</i> = 1)	
	Brazil ( <i>n</i> = 1)	
	Sweden ( <i>n</i> = 1)	

*Note.* <sup>a</sup> The number of participants at each intervention setting. <sup>b</sup> Since some participants had more than one disability category, disability categories were simply tallied; therefore, the number represented may add up to more than the total number of the participants. <sup>c</sup> It is a disability category used in the United Kingdom. <sup>d</sup> The number reported is the number of studies conducted in a country. NA = Not available.

*Study Characteristics*

As shown in Table 2, the United States was the location for 86 of the 98 English-language

studies (88%). Ireland was the location for three studies, and Canada, the United Kingdom, and South Korea were the locations for two additional studies. Spain and Chile were

the locations for the Spanish-language investigations. Table 2 shows that studies in the both English and Spanish-language literature represented students with disabilities at all grade levels although the information on specific number of participating students per school level was not available for the Spanish-language studies. Almost one half of the studies ( $n = 44$ ) in the English-language literature conducted interventions in an elementary setting, and several studies were dually coded as they included elementary and middle school students. The second most common setting was middle schools ( $n = 32$ ). In the Spanish-language literature, elementary schools were the setting for two studies (Dávila & Velásquez, 2007; Escribano & González, 2014), while two studies targeted students in elementary through high school levels (Lozano-Martínez et al, 2010; Yupanqui et al., 2014).

Single-case design was the most common research method in the English-language studies ( $n = 64$ ), while in the Spanish-language literature there were no single-case design studies. In the English-language sample, 27 additional studies used a group experimental design. The total number of the students included across the single-subject-design studies was 232, and in the experimental-design studies was 905. Several studies ( $n = 3$ ) used a mixed method design and a quasi-experimental design. One of the quasi-experimental studies (Barlow et al., 2015) included 11,391 participating students with disabilities. In the Spanish-language literature, there were three quasi-experimental, pre/post-test without control group designs, and one quasi-experimental, pre/post-test with control group designs.

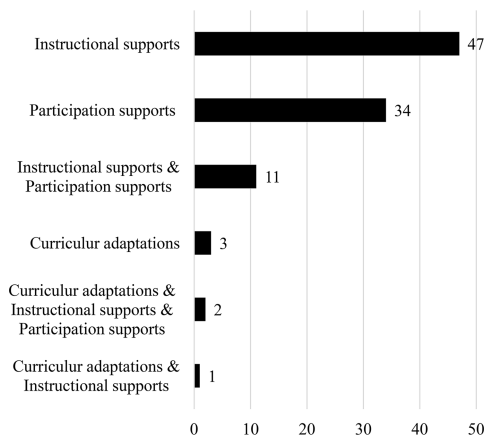
Overall, the purpose of the intervention studies was to examine the efficacy or effectiveness of an intervention strategy to improve student learning and performance in inclusive settings. Most of the studies targeted academic content knowledge, skills, and outcomes by implementing strategies to support student learning (e.g., Jameson, Walker, Utley, & Maughan, 2012). Other studies investigated the efficacy or effectiveness of an intervention to improve social outcomes, including social skills and social interaction with peers without disabilities (e.g., Hartzell, Liaupsin, Gann, &

Clem, 2015). A small group of the studies aimed to increase student task/academic engagement in an inclusive setting by introducing behavior support strategies (e.g., Strain, Wilson, & Dunlap, 2011). Additionally, another group of studies focused on promoting student self-determination. For example, Shogren and colleagues (2012) examined the impact of a self-determination intervention on students' academic and transition goal attainment as well as on access to the general education curriculum. Generally, the studies reported positive outcomes across dependent variables. Interventions targeted a variety of dependent variables, including academic progress and outcomes measured by a test or curriculum-based assessment. Other studies included observational recordings to monitor students' social interactions or task/academic engagement. Lastly, some studies explored student perceptions of change based on interventions in inclusive settings. For example, Meyer and Ostrosky (2016) used a protocol examining the number of best friends that students reported as the dependent variable in the study.

#### *Categories of Supports*

In order to identify the categories of supports investigated in the studies, the independent variable(s) for each study was coded based on the three categories of support (curricular adaptations, instructional supports, and participation supports) defined in Table 1. As shown in Figure 2 in the English-language studies, the most frequently examined category of supports was instructional supports ( $n = 47$ ). However, 14 of these studies implemented instructional supports in combination with another category of support. Figure 3 shows the 26 specific types (i.e., forms) of instructional supports investigated across the studies. The form of instructional support most frequently examined as an independent variable in an inclusive setting was teaching self-motivating skills ( $n = 8$ ; 13%), followed by teaching skills to promote self-determination ( $n = 7$ ; 11%) and teaching math skills ( $n = 7$ ; 11%). Out of the 61 studies using instructional supports alone or in combination with other support categories, 25 (41%) implemented interventions with students with more extensive support needs, 29 (48%) implemented interven-

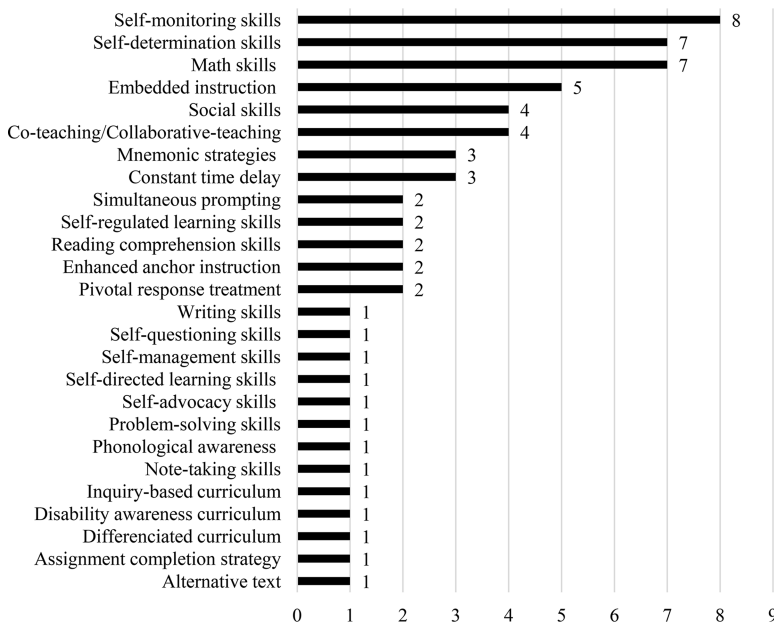




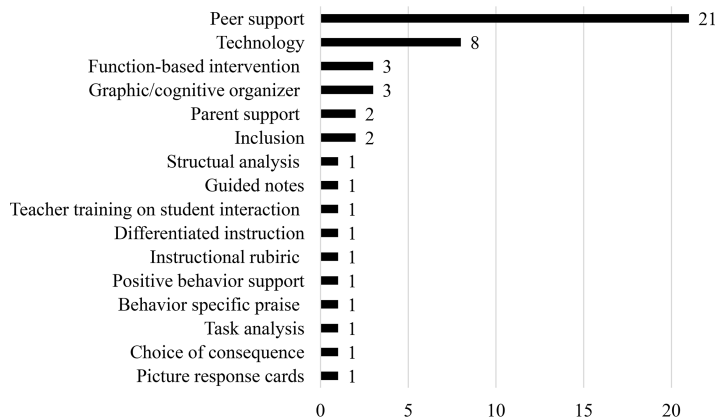
**Figure 2.** Number of English-language literature studies aligned with different support categories.

tions with students with less extensive support needs, and 6 studies (10%) implemented interventions with a combination of students with less and more extensive support needs. Only one study did not specify the participants' disability characteristics.

The next most frequently investigated support category was participation supports ( $n = 34$ ) or participation supports in combination with supports from other categories ( $n = 13$ ). As Figure 4 shows, peer support was the most frequently investigated form of participation support ( $n = 21$ ; 43%), followed by technology ( $n = 8$ ; 16%). Interestingly, 11 studies investigated interventions involving both instructional supports and participation supports. For example, Hundert and colleagues (2014) combined social script training (instructional support) and peer support (participation support) to increase peer interaction skills for children with autism spectrum disorders attending kindergarten. Additionally, Jimenez and colleagues (2012) implemented peer-mediated embedded instruction which functioned to engage students in small group learning (participation support) while providing students with opportunities to work on inquiry science lessons (instructional support) in an inclusive setting. Out of the 47 English-language studies documenting the implementation of participation supports, 25 (53%) included students with more extensive support



**Figure 3.** Number of English-language literature studies investigating various forms of instructional supports. The total number of the instructional supports exceeds the number of articles which use instructional supports because some studies used more than one instructional supports.



**Figure 4.** Number of English-language literature studies investigating various forms of participation supports. The total number of the participation supports exceeds the number of the articles that used participation supports because some studies used more than one participation supports.

needs and 20 (43%) included students with less extensive support needs. In the Spanish-language sample, all four studies used participation supports.

#### *Social Validity*

Among the English-language literature, 57 studies examined the social validity of the interventions. Most commonly, studies asked teachers, including special and general education teachers, about usefulness and effectiveness of the interventions ( $n = 37$ ; e.g., Prater, Redman, Anderson, & Gibb, 2014; Reeves, Umbreit, Ferro, & Liaupsin, 2013). Across all studies, teachers rated the interventions as acceptable, appropriate, or not intrusive. Some articles also included suggestions made by the teachers. For example, Dore, Dion, Wagner, and Brunet (2002) found that teachers wanted more information on how to engage paraprofessionals in implementing supports. Students provided their feedback on the intervention in 22 studies. Generally, students reported satisfaction with the intervention process and outcomes; however, some made suggestions on the content or procedures of the interventions such as using animation rather than an instructor talking in a video-based intervention and to make the program shorter (Lancaster, Lancaster, Schumaker, & Deshler, 2006). Additionally, in 10 studies peers without disabilities provided data on

their experiences and perspectives during the intervention. Findings showed peers perceived their experience positively, reporting it was enjoyable to learn an instructional strategy and support students with disabilities (e.g., Brock, Biggs, Carter, Cattey, & Raley, 2016; Klavina, Jerlinder, Kristén, Hammar, & Soulie, 2014). Many peers also said they were willing to continue providing peer support to students with disabilities after a study was completed (e.g., Brock et al., 2016). Further, paraprofessionals who were trained as intervention agents or participated in the interventions perceived them to be favorable and effective (e.g., Robinson, 2011). Finally, three studies obtained social validity information from parents of student participants with disabilities. Overall, parents thought their children gained effective skills and knowledge to improve their school performance. For example, Bui and colleagues (2006) implemented an intervention to improve students' writing performance, and parents rated their satisfaction about writing outcomes based on writing samples students brought home. At the end of the intervention, parents saw an improvement in their children's writing performance.

All the Spanish-written studies solicited information on perceptions of the participating teachers, families, peers, and/or students with disabilities toward usefulness and effectiveness of the interventions. Overall, the participants

reported being satisfied with the interventions and student outcomes.

## Discussion

The purpose of this literature review was to explore the characteristics of empirical research that examined the impact of interventions implemented with students with disabilities in inclusive settings in the English- and Spanish-language literature. The goal was to better understand the categories of supports being researched to provide directions for the field, particularly to promote greater international-collaborative research (Lau et al., 2014) that advances the values of inclusive education set forth in Article 24 of CRPD, notably student access to and progress in the general education curriculum.

## Limitations

Before exploring the implications of the outcomes of the review, several limitations must be acknowledged. First, it is possible different research teams may have identified other articles if they used different inclusion and exclusion criteria or conducted ancestral search and manual searches. However, we identified and adopted clear and consistent procedures across research team members across the different language literature. Second, in conducting research across international contexts, there are country- and language-specific issues that emerge, particularly in classifications used for personal factors that may impact the outcomes of inclusive practices. For example, differing disability categories and definitions are used across countries. Further, different contexts consider differing demographic variables, and some studies do not provide person-level demographic information. This limits the degree to which comparisons based on personal factors can be analyzed and used to provide guidance on individualizing interventions based on varying student characteristics. Third, our intention was to review inclusive intervention studies to capture the international trends in inclusive practices; however, we reviewed literature from only two languages as English and Spanish were the languages and contexts represented in our research groups. Expanding

this collaboration to look at trends in additional contexts will be an important direction for future research. Finally, our main focus in this review was to explore descriptively the categories of supports examined and the application of these supports to students with more and less severe disabilities. We did not specifically evaluate the quality of the research or systematically review the impact on outcomes across studies. Future research can address these issues; however, this review provides a starting point for considering how to expand the use of the supports model and the integration of supports for instruction, participation, and curriculum access into research and practice.

## *Implications for Future Research*

As the findings of this literature review suggest, researchers in the United States have conducted more intervention research aimed at understanding instructional supports and student access to inclusive settings than in other English-language countries. The history of inclusive education in the United States and the passage of P.L. 94–142 in 1975, now the Individuals with Disabilities Education Act (IDEA, 2004), may have influenced the emphasis on research in inclusive settings in the US. However, the relatively small number of articles that examined interventions fully implemented and evaluated in inclusive contexts even within the US reflects the ongoing tendency, as discussed in the introduction, to separate students with disabilities for some portion of their instructional day (National Center for Education Statistics, 2015), particularly students with more extensive support needs (Feldman, Carter, Asmus, & Brock, 2016; Kurth, Morningstar, & Kozleski, 2014). Further, the lack of studies implementing curricular adaptations in inclusive settings likely reflects that fact that when research is conducted in inclusive settings, the greater focus is on building student skills (through instructional supports) or enhancing participation supports rather than on adapting the curriculum to meet the individualized learning needs of students with disabilities (Janney & Snell, 2013). A strong area of focus continues to be remediating deficits and modifying the environment. Turnbull, Turnbull, Wehmeyer, and

Shogren (2016) suggest there have been three generations of inclusive practices. The first wave focused on getting students access to general education contexts, the second focused on promoting participation in those contexts, and the third focused on promoting progress in general education contexts through curricular adaptations and other supports that promote a match between the demands of the general education environment and student needs. Third generation practices are only now emerging and have yet to be systematically tested when applied in general education environments, particularly as issues with access and participation remain ongoing challenges (Kurth & Mastergeorge, 2012).

This review suggests the need for thinking about access and progress concurrently, and ensuring that efforts to promote general education curricular outcomes, including outcomes related to academic, social, and other skills, are designed, tested, and evaluated in integrated contexts. Research on supports that are not implemented in the context that they are meant to be used is not consistent with the supports model, which asserts that the general education context must be the reference environment when designing and implementing effective supports to enhance student outcomes (Copeland & Cosbey, 2008/2009). The fact that there were so few studies in the Spanish-language literature suggests the relative newness of this consideration in Spanish contexts given the ongoing segregation of students with disabilities, particularly with extensive support needs. Further work is needed across contexts, given the growing recognition of the fundamental right of students with disabilities to access inclusive, community-based environments for their education and socialization established in CRPD. There have also been calls to increase the focus on international-collaborative work to ensure countries work together to address these issues and do not duplicate work across contexts. For example, the Salamanca World Conference on Special Needs Education called for the importance of exchanging knowledge among countries which have experience with inclusion (UNESCO, 1994). However, the actualization of such international research has not advanced (Amor et al., 2018). International-collaborative research is multifaceted, but

should serve as a starting point for exchanging knowledge, strategies and evidence on inclusive education as it has the possibility of providing multiple advantages for all stakeholders involved (Lau et al., 2014).

One promising finding is that relatively equivalent numbers of studies targeted supports for students with more and less extensive support needs, particularly in the English-language literature. This likely reflects the ongoing push in the severe disabilities field to promote meaningful access to inclusive opportunities. However, as discussed previously, the strong focus on instructional and, to a lesser degree, participation supports rather than curricular adaptations reflects an ongoing need to move beyond simple considerations of placement and participation in general education setting and to progress in the general education curriculum. It is also critical to ensure that researchers focus not only on academic outcomes, as this is not the only domain targeted in the general education curriculum, but also social, behavioral, and self-determination skills. As such, it is imperative that ongoing work explore all forms of support, while specifically targeting curricular adaptations. Additionally, there is a need for work to examine the most effective combination of supports (e.g., providing instructional supports + participation supports more effective than instructional supports alone) as well as the most effective strategies to individualize support plans for students in general education settings and align them to support needs. Research that links support needs assessment, using tools such as the Supports Intensity Scale – Children’s Version (SIS-C; Thompson et al., 2016), with the planning, implementation and evaluation of supports plans is also a pressing need (Thompson & Viriyangkura, 2014).

#### *Implications for Practice*

Jackson, Ryndak, and Wehmeyer (2009) suggest three essential characteristics of access to general education: curriculum, context, and learning. Access to general education occurs only when students with disabilities have opportunities to be in general education contexts, access the general education curriculum, and learn grade-level general education

content with appropriate supports. Considering all of these factors when planning and implementing supports is critical in practice, along with assessing support needs and using the data to plan for and evaluate supports aligned with the categories introduced by Thompson et al. (2018) and a social ecological model of disability (Schalock et al., 2010). Teacher education programs should introduce pre-service teachers to the concept of a social ecological model of disability and ways to assess students' support needs with tools such as the SIS-C. This knowledge will ensure teachers are able to assess, plan for, and implement instructional and participation supports along with adapting existing general education curriculum to be used in inclusive settings. Moreover, teachers need to make ongoing efforts to assess student support needs and use a variety of supports which match individual students' strengths and needs so that students with extensive support needs can successfully make progress in general education contexts. Existing research suggests effective instructional supports and, to a lesser degree, participation supports that teachers can utilize in general education context. The role of self-directed learning and supports for autonomy appears to be particularly important in the general education contexts (Browder et al., 2014), perhaps as these strategies have been found to better enable students with disabilities to engage with curricular content (Shogren et al., 2012). Teachers must also consider how to ensure that they are not only focusing on instructional and participation supports for students with extensive support needs, but also curricular adaptations and ways to deliver these supports in general education contexts through effective partnerships between general and special education teachers to enhance outcomes for all students (Ryndak et al., 2013).

## Conclusion

The findings from this international literature review suggest there is a need to continue to focus, across language and culture contexts, on comprehensive research-based supports that enable students to access and progress in general education settings. This includes accessing curricular content and building skills

and social relationships that are critical to development and quality of life. Ongoing work is needed to explore how to access inclusive settings and promote meaningful progress, with advance recognition that the adoption of a supports model necessitates empirical examination of interventions in inclusive settings. Teaching skills in segregated settings and assuming students will generalize the skills in the general education context does not recognize the critical intersection of personal characteristics and environmental demands in shaping the implementation and efficacy of supports that lead to positive outcomes. As such, interventions must target access to general education curriculum and progress in inclusive settings through curricular adaptations, instructional supports and participation supports, aligned with understanding of student support needs.

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