Fostering Participation During Literacy Instruction in Inclusive Classrooms for Students with

Complex Support Needs: Educators' Strategies and Perspectives

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Abstract

Existing research has documented evidence-based practices that are effective for supporting students with complex support needs (CSN) to learn academic skills. However, there is a need to learn more about effective instructional strategies for students with CSN during literacy lessons in general education classrooms. Additionally, there is a need to understand general education teachers' perspectives on these strategies, including how they learned about them. The purpose of this study was to understand: (a) the extent of participation of students with CSN in literacy instruction and activities in general education classrooms, (b) the supports educators provide during these activities, and (c) how educators learned about the strategies they use in their classrooms. We observed nine students with CSN and conducted follow-up interviews with their classroom teachers. Overall, students participated in academic activities for a majority of observations, and these activities addressed a variety of different literacy skills. Educators used research-based instructional practices to support the students including prompts and visual supports. The perspectives of general education teachers gathered during follow-up interviews documented their descriptions of the strategies they use to support students with CSN as well as how they learned about these strategies. Implications for future research and practice are presented.

Keywords: inclusive education, inclusion, literacy, intellectual disability, significant disabilities

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Federal laws require all students to access and make progress in the general education curriculum (Individuals with Disabilities Education Improvement Act [IDEA], 2004). Yet students with complex support needs (CSN), defined as students with support needs across domains who are eligible to take their state's alternate assessment (Taub, McCord, & Ryndak, 2017), have been persistently excluded from general education settings and instruction (e.g., Morningstar, Kurth, & Johnson, 2017). Students with CSN may receive special education and related services under the categories of intellectual disability, autism, and/or multiple disabilities (Taub et al., 2017).

Inclusive education is defined as an education with same-grade peers, in a general education setting, whereby students with disabilities are taught in natural proportions, in similar settings as those without disabilities, and have supports and services provided to them to meet their educational and learning needs in general education settings (Jackson, Ryndak, & Wehmeyer, 2008-2009). Research over the past several decades has consistently supported the importance of an inclusive education as essential for ensuring access and progress in the general education curriculum. Notably, inclusive classrooms lend themselves to providing opportunities to learn grade level content (Jackson et al., 2008-2009).

An essential aspect of the general education curriculum is literacy. Literacy instruction in elementary, general education classrooms typically involves phonological awareness, phonics, fluency, vocabulary, and comprehension (NRP, 2000). Literacy is "a human right", and it supports individuals to connect with one another (Keefe & Copeland, 2011, p. 97). Students with CSN taught in inclusive settings are approximately ten times more likely to access literacy

instruction compared to those taught in special education settings (Ruppar, Fisher, Olson, & Orlando, 2018). Other research has also documented the importance of inclusive settings for accessing grade level literacy instruction (e.g., Kurth & Mastergeorge, 2012; Ruppar, 2015). Yet, specific strategies and supports for promoting access to literacy instruction for students with CSN within the naturally occurring routines of an elementary classroom are sparse in the extant literature (Toews & Kurth, 2019).

The identification of inclusive literacy instructional strategies and supports for students with CSN is essential for promoting greater access to literacy instruction linked with the grade level curriculum. Several instructional strategies have been documented as evidence-based practices for students with CSN. However, these practices (e.g., time delay, task analytic instruction, and systematic prompting in a massed trial format) have primarily been implemented in separate, special education classrooms (Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006; Spooner, Knight, Browder, & Smith, 2012).

Other recent research that has specifically addressed literacy skills for students with CSN has incorporated the use of a system of least prompts and adapted text to support comprehension skills of elementary-age students with CSN; however, components of these studies were implemented in special education classrooms (Hudson & Browder, 2014). The results of these studies have contributed to the understanding of practices that support comprehension for students with CSN; however, there is still a critical need to understand strategies for literacy instruction linked with the grade level curriculum. In particular, there is a need to understand strategies for instruction on a variety of literacy skills (e.g., vocabulary, phonemic awareness, written expression) for students with CSN. There is also a need to understand how this literacy instruction can be embedded in the naturally-occurring routines in the general education

classroom, such whole group activities, small group activities, and when the student is working independently to complete assignments.

Embedded instruction and curriculum modifications have been used to support students with CSN in general education classrooms. In a recent literature review, Jimenez and Kamei (2015) established embedded instruction as an evidence-based practice in general education classrooms. However, only four of the 11 included studies were focused on English Language Arts, and only five of the 11 included studies were implemented in elementary classrooms. Embedded instruction is a method for providing priority instruction in inclusive settings; however, research investigating its effectiveness for teaching a variety of literacy skills is limited (Jimenez & Kamei, 2015). In addition to embedded instruction, researchers have described the use of modified materials to provide inclusive literacy instruction. For example, Apitz, Ruppar, Roessler, and Pickett (2017) described a six step process for making grade-aligned text cognitively accessible for students with CSN. Others have found modifications to text promote student learning (e.g., Kurth & Keegan, 2014; Lee, Wehmeyer, Soukup, & Palmer, 2010).

Although existing research describes effective literacy instructional practices for students with CSN, this research has been largely completed in separate settings. Similarly, research describing educators' preparation for inclusive education and the factors that have contributed to their knowledge for teaching students with CSN is limited (Zagona, Kurth, & MacFarland, 2017). Given that pre-service general education teachers may only take one course focused on special education (McCray & McHatton, 2011) and then go on to include and support students with CSN in their classrooms, it would be important to understand how these teachers have learned about strategies for supporting students with CSN in their classrooms. There is almost no existing research that has investigated the perspectives and experiences of in-service general

education classroom teachers on inclusive practices and how they learned about the strategies they implement to support students with CSN in their classrooms. General education teachers serve as the primary educator for all students in inclusive classrooms, and it is critically important to learn about their perspectives and experiences on including students with CSN.

Given the importance of inclusive education and literacy instruction linked with the grade level curriculum for students with CSN as well as the critical need to identify instructional strategies to support students with CSN in general education classrooms (Toews & Kurth, 2019), the current research study aims to describe strategies used by teachers to deliver inclusive literacy instruction to students with CSN. The following three research questions are addressed: (1) What is the extent of participation in academic (literacy) and non-academic activities of students with CSN in inclusive general education classrooms?; (2) What strategies (observed and self-reported) do educators implement in general education classrooms to support students with CSN?; and (3) How do the educators describe learning about the strategies they use to support students with CSN who are included in their classrooms?

Method

We used an explanatory sequential design to investigate the research questions (Creswell & Guetterman, 2019). We collected data through classroom observations to learn about the strategies educators used as well as the participation of students with CSN during literacy lessons and activities. We conducted follow-up interviews with educators to learn more about the strategies they used as well as how they learned about the strategies they implemented.

Setting and Participants

After obtaining university IRB approval, we implemented this study at two elementary schools in the southwestern United States. These two schools were in the same school district,

and in this district, all students with CSN attend their neighborhood school. One school has grades kindergarten through fifth grade and a total enrollment of 840 students. The second elementary school has grades kindergarten through fifth grade and a total enrollment of 600 students. We recruited teacher participants by presenting at a faculty meeting at one school, and we met with several grade level teams of teachers at the second elementary school. During the presentation at a faculty meeting at one school, we presented the purpose of the study and asked teachers who were interested in participating to sign up so that we could follow up. We did not provide any professional development at this meeting. We followed up with teachers who thought they might have a student who met the selection criteria, and then we completed the recruitment and consent procedures with the teacher, paraeducator, and parent of the student.

Students with CSN (Taub et al., 2017) were recruited to participate in this study. The student selection criteria included all of the following: (a) the student was receiving special education and related services under the categories of intellectual disability, autism spectrum disorder (ASD), multiple disabilities, multiple disabilities with a sensory impairment, or other health impairment; (b) the student had complex communication, healthcare, physical, or learning needs across multiple settings; (c) the student needed additional academic, behavior, and/or communication support to successfully participate in the general education classroom; (d) and if the student was in grades three, four, or five, the student was eligible to take the state alternate assessment. Ultimately, nine students with CSN participated in this study. All students received additional support from a paraeducator in the general education classroom, and additional student demographic information is included in Table 1. The students who participated in this study qualified for special education and related services under the category of ASD did not have a secondary eligibility determination of intellectual disability.

General education teachers were eligible to participate in this study if they were currently

including a student with CSN in their classroom. Special education teachers were eligible to

participate in this study if they supported a student with CSN during data collection and served

as the case manager/ inclusion facilitator for the student, and classroom paraeducators were

eligible to participate in this study if they provided support in the classroom in which the student

with CSN was included. Nine general education teachers, one special education teacher, and

eleven classroom paraeducators participated in this study. All educators were female, and

demographic information is included in Table 2. A second special education teacher consented to

participate; however, she was not in the classroom while we were conducting observations.

Data Collection

Observations. We conducted observations in inclusive, general education classrooms.

The observation protocol included a brief observation of the whole class (part 1) and a longer

observation of the focus student with CSN and the educators (general education teacher,

paraeducator, special education teacher) who supported the focus student (part 2). Data were

recorded using paper copies of the observation form. We observed each student one or two times

in their general education classroom (Table 1). We intended to observe during time periods when

the class would be focused on literacy content, but in four activities (97 intervals, or 9.4% of

observed intervals), students were observed completing math activities. All observed math

activities took place in kindergarten classrooms (Participants E and C). These kindergarten

classrooms had "centers", and that time included both math and literacy activities. Additionally,

in two of the fifth grade classrooms (Participants I and A), students were observed working on

literacy skills integrated within science or social studies content. The observation began with a

focus on the whole class (part 1) and included a description of the lesson or activity, literacy

skills addressed, classroom arrangement, presence of environmental print, and other components of the class environment (e.g., schedule posted, objectives posted).

The second part of the observation was much longer, and it involved a specific focus on the student with CSN and the educators' supports. We used a time-sampling procedure to record data on four variables: teaching strategy, student participation, instructional arrangement, and the educator who was supporting the student at the time (i.e., general education teacher, special education teacher, and/or paraeducator). Definitions for teaching strategy and student participation codes are included in Table 3. During this part of the observation, researchers observed the student for 10 seconds, and when a digital timer vibrated, the researchers spent the next 10 seconds recording what they observed. Each interval was represented by a row on the form, and there was space for comments or notes at the end of each row. We recorded over one thousand intervals ($N = 1,029$) across nine students. In total, we spent 343 minutes observing students with CSN in their classrooms using the time-sampling method of 10 seconds of observation followed by 10 seconds of recording. The length of time each student was observed is included in Table 1. At the end of an activity or lesson, we recorded information about any modifications present during the observation, and we indicated if the student was participating in the same activity that was assigned to the rest of the class.

Pilot testing. Prior to finalizing the observation protocol and codebook, we pilot tested the form. After pilot testing, we changed the length of intervals from 30 seconds to 10 seconds. We also reorganized the teacher supports to ensure they represented separate strategies. To account for changing instructional arrangements within an observation (e.g., whole group then reading groups), we adjusted the observation form so that we recorded the instructional arrangement for each interval instead of only recording it at the beginning of the observation.

Inter-observer agreement. We completed inter-observer agreement during nine of the fourteen observation sessions, or 645 intervals (62.68% of total intervals). Interobserver agreement was calculated per variable (teacher code, teaching strategy, student participation, instructional arrangement, and activity/modification), and overall inter-observer agreement was 94.26%.

Follow-up interviews. Following the observation, the first author scheduled an interview with each general education teacher or special education teacher who was observed (*n* = 10; Table 2). The interviews took place over the phone or in person at the elementary school. The purpose of the interview was to ask questions that would provide a deeper understanding of: (a) the quantitative data gathered through observations, (b) any additional strategies they used to support the student with CSN, and (b) how the teachers learned about the strategies they used. The interview protocol included 11 questions (Table 4). The interviews were audio-recorded, and the average length of interviews was approximately 19 minutes. The interviews ranged in length from approximately 11 minutes to 28 minutes, and the total amount of audio-recorded interview data was approximately 196 minutes.

Data Analysis

Observations. We entered data from paper copies of the observation form into an electronic spreadsheet, and then we exported the data to SPSS and calculated frequencies and percentages of each code. We also transferred notes about the student assignments and modifications to an electronic spreadsheet file for further analysis.

Follow-up interviews. The audio files from each teacher interview were transcribed verbatim. All transcripts were uploaded into Dedoose (2019), an online, mixed methods analysis software. We used Saldaña's (2016) method for first and second cycle coding, and the first

author completed the first cycle of coding. The first cycle of coding resulted in the development

of a code book that included descriptive codes and definitions. This initial version of the

codebook included a set of codes aligned with the second research question and a set of codes

aligned with the third research question. The descriptive codes emerged from the transcripts and

were initially listed in alignment with the second and third research question. There were 15

codes associated with the category that aligned with the second research question, and there were

12 codes associated with the category that aligned with the third research question.

During the second cycle of coding, two members of the research team independently

coded each transcript. After coding two or three transcripts, the two researchers met to debrief

any coding disagreements and reach consensus on the codes applied. Through the process of peer

debriefing and second cycle coding, the codes and definitions were shifted and organized around

four broad categories that aligned with the research questions: (a) specific instructional strategies

and supports described by the educators (10 codes); (b) methods or processes of supporting the

student (6 codes); (c) how educators learned about the strategies they use to support students

with CSN (7 codes); and (d) educators' general perspectives on inclusive education (4 codes).

Examples of codes in the first category included supports such as modifications, special

materials, and visual supports. The second category included descriptive codes for self-reported

supports, which included broad descriptions of the ways they supported the students such as

getting to know the student and including and involving the student. The third category of codes

included descriptive codes for the ways the educators described learning about the strategies they

use in inclusive classrooms.

Findings

Throughout the observations, we observed the focus students with CSN participating in activities linked with the grade level curriculum that addressed the following literacy skills: comprehension, communication, writing, spelling, print awareness, phonemic awareness, handwriting, vocabulary, reading fluency, and summarizing. The following sections will describe the results of our observations of student participation, supports the educators implemented, as well as how the educators learned about the supports that they implemented.

Student Participation During Academic and Non-Academic Activities

Overall, students were actively participating in academic tasks ($n = 595$; 58.7%) or watching academic tasks ($n = 191$; 18.8%; Table 3) during the majority of the observations ($n = 786$; 77.5%). Students were actively participating in non-academic tasks such as transitions or managing materials during 12.5% of observations ($n = 127$). Additionally, students with CSN were watching non-academic tasks during 2.9% of the observed intervals ($n = 2.9\%$). Importantly, during only 7.1% ($n = 72$) of the observations, students were not participating (e.g., off task) in academic or non-academic tasks.

Observed and Self-Reported Supports

Observed supports. In nearly half of the observations, students with CSN received no additional support beyond the general supports available to all students in the class ($n = 472$; 46.5%). When students received no additional support, they actively participated in academic tasks ($n = 250$; 53.1%) or watched academic tasks ($n = 106$; 22.5%) during 75.6% ($n = 356$) of observations. During only 5.1% ($n = 24$) of the observations, students were not participating while receiving no additional support.

The most common strategy educators used to support students during observations was prompts and directions ($n = 449$; 44.3%). When students received prompts and directions from

educators, they were actively participating in academic activities ($n = 291$; 65%) or watching

academic lessons/activities ($n = 75$; 16.7%) during 81.7% ($n = 366$) of observations. An analysis

of the comments that members of the research team recorded during observations revealed four

main categories or types of prompts and directions: positive feedback that was academic,

directions and questions, providing instruction, and other.

Students were participating in whole group arrangements during 21.5% of the

observations, working individually during 49.2% of observations, participating in small group

arrangements for 15.8% of observations, and they were participating in a small group led by the

general education teacher for 10.9% of observations. During whole group instruction, the

students with CSN were participating with no additional support for 59.8% ($n = 131$) of the time.

In these classrooms, the general education teacher led whole group instruction. The students with

CSN received additional support from the paraeducator during whole group arrangements for

37.9% ($n = 83$) of the time.

While students were working individually, they either received additional support from

the paraeducator ($n = 269$; 53%) or worked independently with no additional support ($n = 191$;

37.9%) for the majority of observations. During small group instruction, the students with CSN

either worked independently with no additional support ($n = 96$; 59%) or received additional

support from the paraeducator ($n = 45$; 27.8%) for the majority of observations. Small group

instruction was implemented with natural proportions, and the student with CSN was

participating in the instruction or activity with their classroom peers.

Educators' use of a special material, such as a visual support or iPad, paired with a

prompt or direction was observed being used during 6.1% of the observations ($n = 62$). When

students received these supports during observations, they were actively participating in

academic activities 79% (*n* = 49) of the time. When special materials and a prompt or direction

were observed, there were zero instances of students not participating. During the follow-up

interviews, almost half of the teachers (*n* = 4) described special materials they have used

previously, including supplemental materials such as magnets or whiteboards, as well as

materials that the student could use to respond such as stickers. One second grade teacher

described providing special pointers such as popsicle sticks or wands for the student to hold

while following along with text being read aloud or to point to something to give an answer.

Additional educator strategies included behavior supports (*n* = 22; 2.2%), such as

redirection when a student was off-task or using an individualized reward system. During follow-

up interviews, more than half of the general education teachers (*n* = 7) described different

behavior supports including incentive systems, praise, offering breaks, and teaching the

classroom expectations for the student. The strategies used least often were communication

supports (*n* = 7; 0.7%) and special materials without the use of a prompt or direction (*n* = 2;

0.2%).

Activities and modifications. Across all nine students, we observed 30 different activities

focused on a broad range of literacy skills including comprehension, writing, spelling,

phonological awareness, vocabulary, and summarization. Twenty of the 30 activities that we

observed were the same as what the students' peers were doing in class. Examples of these

activities included the listening center (student E), a whole group phonemic awareness activity

with letter sounds -ey, -oi, c, g (student B), spelling word practice (student B), and a writing

activity about famous Americans (student I). During the writing activity about famous

Americans, a fifth grade student used a laptop with word prediction enabled to complete his

assignment.

Five of the 30 activities were modified. For example, a student in kindergarten was writing and tracing letters on an iPad app using his index finger while the rest of the class was writing whole words using a pencil and paper. In another example, a second-grade student was supported to work on a letter-writing activity while the rest of the class was doing an independent writing activity. Importantly, the students were not participating in a way that was drastically different than their peers because other students were also working independently.

We observed five instances of students completing alternate activities. One example of an alternate activity we observed was when a kindergarten student used a magnet board with letters to practice spelling his name while the rest of the class did individual or partner reading on the rug. In this example, students in the class had finished the assignment and then sat on the rug to look at books independently.

Self-reported supports. In addition to the observable supports documented during our observations, we also learned about the educators' descriptions of the supports they provided to the students with CSN in their classrooms. One of the primary themes that emerged from the analysis of follow-up interview transcripts was the educators' descriptions of the students' preferences, and how the educators used that information to support the students. For example, one fifth grade, general education teacher (#9; Table 2) described the student's preference for doing what the other students in the class were doing when she said, "we try to take... what we can, from the 5th grade work, because he wants to do what his peers are working on. He really does. He doesn't want to stand out. He loves to blend in." This fifth-grade, general education teacher recognized and learned about what the student "likes" and "loves," and she prioritized grade level content when she made decisions about modifications to support his participation. In a different example, a second-grade general education teacher (#6; Table 2) explained several of

the student's preferences as well as how she incorporated those preferences into the classroom as a way to support the student. She explained that the student loves music and likes to dance, and then she explained how she incorporated that into the classroom: "if the kids are quietly working on independent practice, just playing music while they're working... it helps her."

A second theme that emerged from the educators' descriptions of the supports they provided to the students with CSN was the educators' efforts to include and involve the student. During the interviews, educators used broad statements to explain that they support students simply by including and involving them in the classroom instruction and routines: "always constantly inviting him", "I always try to just make him feel included," and "it's just a given to me, that he's gonna [*sic*] join us." Many of the teachers described more specific strategies they implement to include the student, and one fifth grade general education teacher (#1; Table 2) explained how she includes the student throughout the day by greeting him. She explained that the student takes breaks and leaves the classroom, but whenever he leaves and enters the classroom, she and the other students in the class greet him because "that's what a community does." In a similar example, a kindergarten teacher (#8; Table 2) explained how she and the rest of the class talk with the student to include him throughout the day: "the main thing we try to do is just get him involved in everything we're doing and try to be involved with him."

How Educators Learned about the Strategies they Used to Support Students with CSN

The third purpose of this study was to understand how educators have learned about the strategies they use to support students with CSN who are included in their classrooms. Two themes emerged from the educators' descriptions of how they learned about the strategies they used to include students with CSN in their classrooms: (a) the educators have talked with their grade level colleagues and watched members of the special education team support the students

in their classroom, and (b) the general education teachers have learned about inclusive

instructional strategies through their own experiences.

       Educators have learned from their colleagues. The general education teachers

described learning about inclusive instructional strategies by talking with other general education

teachers in the same grade level, the student's previous teachers, and members of the special

education team. This was evident across eight of the nine general education teachers. Three

current kindergarten teachers and one first grade teacher who had previously taught kindergarten

emphasized the value of talking with other general education teachers because kindergarten is

"different" and "hands-on." One of the first grade teachers (#2; Table 2) described being a

member of a "special team" when she taught kindergarten, describing how they ate lunch

together and talked together. She explained that she learned about including students with CSN

when she talked with her colleagues. The kindergarten teachers described the convenience of

being able to talk with each other when their classrooms are close in proximity to each other, and

it was also important that they understood the special considerations involved in a kindergarten

classroom. Across all grade level teachers in this study, the ability to talk with the other general

education teachers about strategies to support the student with CSN was important for their

development of knowledge related to inclusive instructional strategies.

       In addition to talking with their grade level colleagues, the general education teachers

also explained that they learned about inclusive instructional strategies by talking with members

of the special education team at their school, including the special education teacher. They

described learning about how to support students with CSN included in their classroom through

ongoing conversations with special education team members throughout the school year. For

example, one of the second-grade teachers who was including a student who used an

augmentative and alternative communication device and qualified for special education under the

category of multiple disabilities (#6; Table 2) said:

> The special ed team has been great... we do lots of brainstorming. [The special education teacher's] really good about weekly updates and check-ins, and anything she can do so, om, if there's any time... that there's something going on with [the student] that's changing, we'll talk and get together to see what we could do to support her, in the classroom, to make it better.

As this general education teacher continued to explain how talking with the special

education team has helped her learn about the supports for the student included in her class, she

also said, "you need that relationship, I think. Because... I'll run out of ideas, and then she'll

come up with them. And just talking with somebody, and then you get that aha moment."

In addition to learning about supports for students CSN by talking with their colleagues,

the educators also described learning about inclusive instructional strategies by watching special

education team members support students with CSN in their classroom. Several general

education teachers talked about the value of being in their own classroom together with the

special education team members and that it was helpful to observe the strategies being

implemented for the student with CSN in real time. For example, one general education teacher

described a team of special education and general education teachers with whom she worked in

the past. She said they would come into her classroom, "ask what I was teaching and then...

include the student the way they should be included, right there alongside me. So, it was kind of

like co-teaching almost." These experiences supported this general education teacher to learn

about how to support students with CSN who are included in her classroom.

In a similar example, a kindergarten teacher explained that she learned how to include

students with CSN from the special education team members who came into her classroom

during the school day: "we've always been lucky to have good inclusion teachers, that were able

to come in and... they got to know the student and then were able to communicate with us what works best for that kid." She explained that the inclusion teachers "would come down and spend time in our classrooms during the lessons." This general education teacher described the importance of the special education team members coming to her classroom, as it related to supporting her to learn about inclusive instructional strategies: "I think it helps when they have suggestions or ideas. It's easier for me if I know the inclusion teacher, and I see how invested they are in coming into our class." For this general education teacher, the special education teacher's presence in the class seemed to contribute to the general educator's ability to learn from her and her suggestions. In addition to learning about inclusive instructional strategies by talking with their colleagues and watching special education team members who are in their classroom, the educators also described their own experiences as contributing to their knowledge of strategies for inclusive education.

Educators have learned from their previous experiences. The general education teachers explained that their previous experiences have also helped them to learn how to support students with CSN who are included in their classrooms. Several general education teachers talked about learning through trying different strategies in their previous teaching experiences, or in their previous experiences of including a student with a disability. A fifth-grade teacher (#7; Table 2) explained that she has learned over the years that "repetition and routine" are important. This particular teacher described one of her previous teaching experiences in another state in which she "was able to do some parallel teaching and try some different things... with the special education department." These prior experiences supported this fifth-grade teacher to develop an understanding of the strategies that would support students with CSN in her classroom. Other

teachers described the experience of learning different strategies that work for different students as well as teaching in other grade levels.

Discussion

The purpose of this study was to describe how students with CSN participated in literacy lessons and activities in general education classrooms and to understand the strategies educators used to deliver inclusive literacy instruction to these students. An additional purpose of this study was to understand how teachers learned about these strategies. Overall, students with CSN were participating in academic activities for over 75% of observations. This finding is consistent with recent research that has documented the potential for general education classrooms to offer a context for academic instruction (Ruppar et al., 2018). The academic activities observed during this study were focused on a range of literacy skills linked with the grade level curriculum including comprehension, writing, spelling, print awareness, phonological awareness, vocabulary, and fluency. In prior work, researchers have documented the limited amount of instruction on literacy skills in self-contained classrooms (Ruppar, 2015). The findings of this study contribute to the understanding of literacy instruction in general education classrooms and the potential for that instruction to be focused on a variety of skills (e.g., writing, phonological awareness, vocabulary). In the present study, educators most commonly used prompts and directions to support the students with CSN. The frequency of educators' use of special materials, modifications, communication supports, and behavior supports was relatively low. Similar findings regarding the infrequent use of curriculum modifications and added supports have been documented in prior work (Soukup et al., 2007), and there is a need for further investigation into educators' knowledge of and access to training related to these supports (Zagona et al., 2017).

During follow-up interviews, teachers described additional strategies they use, including the ways they involve the student in classroom routines and activities as well as the ways they get to know the individual student and use that information to support the student. The general education teachers described learning about inclusive instructional strategies from their own experiences, talking with their colleagues, and watching special education team members support the student in their own classrooms. There is a very limited amount of existing research that has documented the perspectives of general education teachers who include students with CSN in their classrooms. However, in a recent study, Zagona et al. (2017) documented a significant relationship between general and special education teachers who have completed university coursework and their readiness to demonstrate skills associated with inclusive education. The educators in the present study seemed to predominately rely on their collaborative experiences, which could be due in part to only two general education teachers reporting having taken coursework in inclusive education.

Limitations

There are limitations within this study that we must acknowledge. We completed one or two observations per student, and this small number of observations poses a significant limitation given that the results may not be representative of the student's participation across the school year. We recruited students with CSN at two elementary schools, and nine students ultimately participated. This relatively small sample size posed challenges for a more complex analysis. Additionally, the way teachers supported students with CSN at these two elementary schools may not be representative of the ways other inclusive general and special education teachers support students with CSN to participate in learning activities. Additionally, we did not collect data on the number of special education teachers in each school or the number of

paraprofessionals in the school. This information about the special educator's caseloads would be important to document in future research.

Implications for Research and Practice

Overall, the findings of this study documented high levels of participation during observations of academic tasks for students with CSN in inclusive, general education classrooms. Because of the importance of literacy skills and the need to ensure students with CSN have access to literacy instruction linked with the grade level curriculum, there is a need for future research to not only document the participation of students with CSN in these activities, but it must also document other outcomes such as progress in learning different literacy skills (e.g., comprehension, writing, vocabulary, and phonological awareness). Future research should be implemented over longer periods of time in inclusive classrooms and it should involve data collection to explain the possible reasons why students made progress (e.g., presence of modifications, systematic instruction, visual supports). An important aspect of this research would include the development of assessment tools and data collection instruments that would effectively and meaningfully document the progress of students with CSN learning these skills.

In addition, there is a need for future research to focus on instructional strategies that are effective in supporting the progress of students with CSN in learning a variety of different literacy skills. For example, future research should investigate the effectiveness of systematic prompting during literacy lessons and activities in the general education classroom. The findings of this study revealed a variety of different types of prompts that educators used; however, our data collection did not document the potential systematic nature of the prompts. Given that systematic prompting has been established as an evidence based practice in segregated classroom

settings (Browder et al., 2006), future research should investigate the nature of prompting strategies used in inclusive classrooms, including their effectiveness.

In addition, there is also a need to investigate the implementation of special materials (e.g., assistive technology, visual supports, manipulatives), modifications, communication supports, and behavior supports in inclusive, general education classrooms. Given the support needs of the students included in this study, and the relatively low levels of implementation of these strategies, this is a finding that should be explored in future research. It is possible that the educators were implementing universal supports for the whole class, and those strategies resulted in the students with CSN needing fewer individualized supports. However, this possible relationship goes beyond the scope of the current study and should be explored in future research. Finally, future research must explore the perspectives of general education teachers on their level of access to such materials and the feasibility of use, particularly because of the relatively low levels of implementation of these supports in the present study.

Additionally, the implementation of multi-component interventions that include embedded instruction, curriculum adaptations, or assistive technology may be an additional way to explore this topic (Afacan et al., 2018). While embedded instruction has been established as an evidence based practice in general education classrooms (Jimenez & Kamei, 2015), its use during literacy instruction focused on a variety of different literacy skills (e.g., writing, comprehension, vocabulary) in elementary classrooms is not well understood. Learning about the effectiveness of embedded instruction and multi-component interventions for supporting students' academic outcomes would be valuable for informing professional development efforts and teacher preparation programs.

An important finding of this study was that the general education teachers described having primarily learned about strategies for supporting students with CSN in inclusive classrooms by talking with their colleagues or by watching special education team members support the students in their class. Several teachers described how they learned about inclusive practices from members of the special education team who came into their classroom and modeled instructional strategies in their own classroom. This type of collaborative effort between special and general education teachers has been identified as a "core practice" of expert special education teachers for students with CSN (Ruppar, Roberts, & Olson, 2018). This finding offers a new contribution to the literature because there is very minimal research that has investigated the perspectives and experiences of general education teachers in inclusive classrooms. There is a need for future research to investigate the perspectives and experiences of general education teachers in different grade levels (e.g. middle and high school) and in different schools where there may be different models of co-teaching or collaborative consultation in place (King-Sears, Janney, & Snell, 2015).

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Table 1

Student Demographic Data

Student	Age	Gender	Grade	Category of Eligibility	Additional Medical Diagnosis	Related Services	Communication Support	Number of observations	Observation Length (minutes)
A	11	M	5	ID	Down Syndrome; ADD; Allergy	SLP	AUG/AAC Sign Language	2	24; 16.67
B	7	M	1	ID	None	SLP; OT; PT	No	1	38.67
C	6	M	K	ASD	None	SLP; OT	No	1	27.67
D	8	F	2	ASD	None	SLP	No	1	34.33
E	5	M	K	ASD	None	SLP	No	2	20; 33
F	8	F	2	MULTI; ID	Angelman Syndrome	SLP	AUG/AAC	2	16; 21.67
H	6	M	K	ASD	Apraxia	SLP; OT	AUG/AAC	1	28.33
I	10	M	5	ASD	None	SLP	No	2	23.33; 13.67
M	10	M	5	ASD	None	SLP	No	2	18.67; 27

Note. ID= Intellectual Disability; ASD= Autism Spectrum Disorder; MULTI= Multiple Disabilities; ADD= Attention Deficit Disorder; SLP= Speech-Language Pathologist; OT= Occupational Therapist; PT= Physical Therapist; AUG/ACC= Augmentative and Alternative Communication.

Table 2

Educator Demographic Data

Educator	Student Supported	Grade	Age	Role	Ethnicity	Certificate	Preparation/ Training in Inclusive Education	Interview
1	A	5	24	GET	Wh	Dual	Coursework	Yes
2	B	1	42	GET	-	GE + EC	None	Yes
3	C	K	47	GET	Wh	Dual + EC	None	Yes
4	D	2	50	GET	Lat/Hisp	GE	Inservice	Yes
5	E	K	42	GET	Wh	GE + EC	Inservice, student teaching	Yes
6	F	2	34	GET	Asian	GE	None	Yes
7	I	5	35	GET	Wh	GET	Informal with SE staff	Yes
8	H	K	50	GET	Lat/Hisp	Dual + EC	Inservice	Yes
9	M	5	44	GET	Wh	GE	Coursework	Yes
10	E	K-5	24	SET	Wh	SE	Coursework	Yes
11	A	5	36	Para	Wh	None	Coursework, Inservice	No
12	A	5	48	Para	Wh	None	Inservice	No
13	B	1	39	Para	Lat/Hisp	None	Inservice	No
14	C, E	K	49	Para	Wh	None	Inservice	No
15	E	K	54	Para	Wh	None	None	No
16	D	2	52	Para	Wh	None	Inservice	No
17	F	2	47	Para	Multiple	None	Inservice	No
18	F	2	43	Para	Lat/Hisp	None	None	No
19	H, I	K, 5	45	Para	Lat/Hisp	None	Other	No
20	I	5	46	Para	Wh	None	Inservice, Other	No
21	M	5	55	Para	Wh	None	Inservice	No

Note. GET= General Education Teacher; SET= Special Education Teacher; GE= General Education; EC= Early Childhood; SE= Special Education; Dual= Dual certification in general and special education; Para= Paraprofessional.

Table 3

Observation Codes and Definitions for Teaching Strategies and Student Participation

Codes	Definitions
Teaching Strategy	
Prompts and Directions	Prompts and directions included individualized and academic questions or directions provided by an educator. These included gestural prompts, touch prompts, and academic-related praise such as "good job" or "keep going."
Special Materials	Special materials included tangible items that were specifically available for the focus student such as an iPad, visual supports, or manipulatives.
Special Materials and Prompts and Direction	Special materials and prompts/ directions were recorded when the educator provided both supports during one interval.
Behavior Support	Behavior supports were defined as behavior-specific praise, redirection, or distribution of an incentive.
Communication Support	Communication supports were defined as the use of picture symbols or supporting the use of an augmentative and alternative communication device.
No Additional Support	We coded "no additional" support when the student was receiving general supports available to all students, or when the student was working independently.
Student Participation	
Active Participation in an Academic Task	Active participation in an academic task was defined as speaking, pointing, recording an answer, writing, and reading.
Active Participation in a Non-Academic Task	Active participation in a non-academic task was defined as transitions, managing materials, and putting materials away.
Watching an Academic Task	Watching an academic task was defined as the student facing the front of the classroom during whole group instruction or raising their hand during independent work time.
Watching a non-Academic Task	Watching a non-academic task was defined as watching a transition or watching the management of materials.
No Participation	No participation was defined as the student being off-task or sleeping.

Table 4

Interview Protocol

1. We noticed you [insert strategy provided during observation] Can you tell us more about this strategy?
   a. How did you discover this strategy as a way to support the student?

2. Could you describe some of the other strategies you use during the day to support [name of focus student] to participate in class lessons or activities?

3. Can you tell us more about how you learned to use these strategies for students with significant disabilities who are included in your class?

4. Can you describe a school or district-level initiatives that have shaped your knowledge of how to support students with significant disabilities who are included in your classroom?

5. Have you received any mentorship or support from your colleagues that has shaped your knowledge of how to support students with significant disabilities who are included in your classroom?

6. Follow up if not already mentioned: Have you had any university courses or student teaching experiences that contributed to your knowledge of inclusive education?

7. Do you believe it is worthwhile to include students with significant disabilities in the classroom? Does it help you? Does it impact you and your teaching? Does including students with significant disabilities impact the school culture and climate?