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# Reading Instruction for Students with and At Risk for Emotional and Behavioral Disorders: A Synthesis of Observation Research

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## Abstract

Observation research can shed light on the degree to which students have access to research-based instruction and intervention. In this systematic review of reading observation research for students with and at risk for emotional and behavioral disorders, we sought to identify trends in the settings and student populations investigated and research methods used, as well as to determine the degree to which this student population has access to research-based reading instruction. Eleven studies meeting selection criteria were identified and coded to extract information that was salient to research questions. Although the extant observation research is limited, findings suggest that concerns raised by (Vaughn et al., *Journal of Special Education* 36:2–13, 2002) approximately 18 years ago remain. Study limitations, implications for school practice, and areas for future research are discussed.

**Keywords** Emotional and behavioral disorders · Reading instruction · Free appropriate public education · Observation research · Systematic review

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## Introduction

Students with emotional and behavioral disorders (EBD) commonly receive special education services under the disability category of emotional disturbance and account for 5.5% of all students six to twenty-one years of age who receive special education services (U.S. Department of Education 2020). Students with EBD experience a number of concerning school outcomes including poor academic achievement and high rates of disciplinary exclusion (Gage et al. 2017; Maggin et al. 2016; U.S. Department of Education 2018). The need for effective reading intervention instruction is particularly salient for students with emotional and behavioral disorders (EBD; Roberts et al. 2020), as reading proficiency is critical to college and career readiness, content acquisition, and grade-level performance (see Ciullo et al. 2016; Lyon 1998). Conversely, reading deficits are predictive of school failure, dropout, and employment difficulties (Jolivet et al. 2000; Kutner et al. 2007). Therefore, it is imperative that schools provide effective instruction and intervention in reading to students with EBD to improve school and transition outcomes.

Data from the National Assessment for Educational Progress (NAEP) suggest that students with EBD have poor reading skills: only 30% of 4th graders and 37% of 8th graders with disabilities, a category consisting of students with EBD and students with learning disabilities (LD), scored at or above the basic level in reading (National Center for Education Statistics, 2019). These trends in academic and school performance occur at a time when districts face increased expectations regarding the degree to which students must benefit from special education services, as “merely more than de minimis” benefit is no longer acceptable (Andrew F. v. Douglas County School District 2017). Districts are mandated to provide students with disabilities meaningful opportunities to develop skills and to achieve measurable academic goals appropriate for each child’s individual needs. For students with EBD who are struggling readers, schools are required to provide instruction and intervention that is likely to improve their reading performance (Bettini et al. 2020; Garwood et al. 2020; McKenna et al. 2020).

## Observation of Reading Instruction

Observation research can provide insight into the instructional practices used by teachers and the degree to which students have access to effective instruction and intervention (McKenna 2015). In observation studies, researchers systematically observe teacher use of instructional practices in an effort to obtain a sample of teacher behavior that is representative of “business as usual” instruction. The goal of observation research is not to change school practice per se, but to define and describe school practice. Information on trends in teacher use of instructional practices and student response can then be used to make informed recommendations for pre-service and in-service teacher training and resource allocation.

Approximately 18 years ago, Vaughn and colleagues (2002) completed a synthesis of observation research investigating the provision of reading instruction for students with LD and EBD. In this investigation, the researchers noted that few studies

included students with EBD as participants, making it difficult to make inferences regarding the degree to which this student population has access to effective reading instruction and intervention. However, Vaughn and colleagues suggest that it is possible that students with EBD receive poor quality reading instruction, due to the use of independent seatwork (e.g., tasks to be completed in the absence of teacher and/or peer support) and the loss of instructional time in those studies that included students with EBD as study participants.

Since the publication of this synthesis by Vaughn and colleagues (2002), additional syntheses of reading observation research have been conducted, all of which focused exclusively on students with learning disabilities (Swanson 2008; McKenna et al. 2015; Walker and Stevens 2017). These syntheses identified trends in instructional practice, research methods employed, and studies necessary to inform school practice. Based on an extensive review of the literature, we were unable to locate any syntheses of observation studies of reading instruction for students with EBD since the publication by Vaughn and colleagues (2002) which was published prior to the reauthorization of the Individuals with Disabilities Education Improvement Act (2004). The need for such a synthesis is warranted, as well as timely, due to the recent Supreme Court of the United States (SCOTUS) opinion in *Endrew F.* which essentially raised the expectations for the benefit of special education services. This study provides a descriptive review of the manner in which schools provide reading instruction to students with EBD, as indicated by observation research in this area. Furthermore, this review describes how researchers have utilized this methodology to explore school practice in reading.

## **Rationale and Purpose**

The purpose of this study is to identify, describe, and synthesize the extant observation research investigating the provision of reading instruction for students with EBD. We sought to identify trends in participant and setting characteristics, information on research methods employed, and reading instructional practices used when providing instruction to students with EBD. This investigation was informed by the following research questions:

1. What settings and student populations have been the focus of reading observation research for students with and at risk for EBD?
2. What research methods have been employed by research teams?
3. To what degree does observation research provide evidence of student access to research-based reading instruction and intervention?

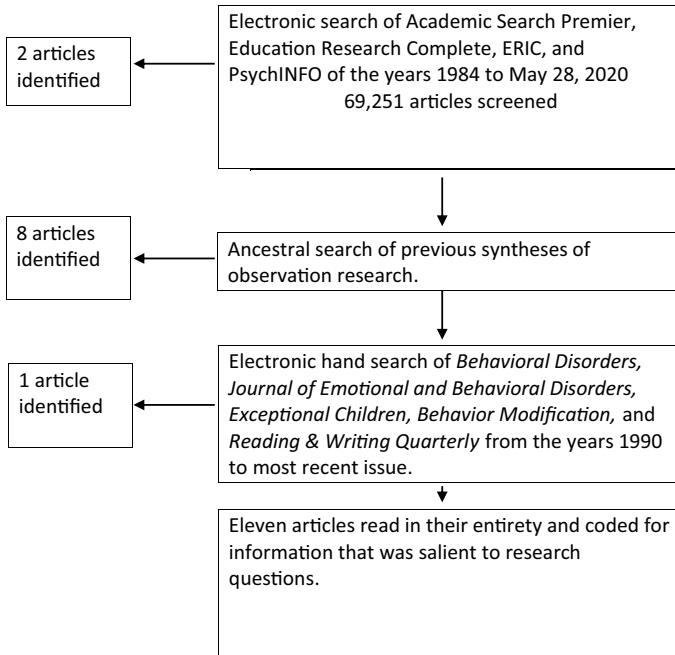
## **Method**

A multi-step process was performed to identify studies relevant to this investigation. First, an electronic search of Academic Search Premier, Education Research Complete, ERIC, and PsychINFO of the years 1984 to May 28, 2020, was

performed using the following Boolean phrase: reading OR phonological awareness OR phonemic awareness OR fluency OR comprehension OR phonics OR vocabulary AND behavior disorder OR emotional disturbance OR emotional and behavioral disorder OR challenging behavior. Search results obtained 188,841 articles, of which 69,251 were unique.

Titles and abstracts were read to determine whether articles met the following selection criteria, which were developed in consideration of previous syntheses of reading observation studies for students with high incidence disabilities: (1) the article was published in a peer-reviewed journal in English (McKenna et al. 2015); we focused specifically on peer-reviewed studies because peer review is considered a “gatekeeper” for the field [see Mitchell et al. 2017]; (2) the article reported descriptive information on typical school practice in reading (McKenna et al. 2015; Swanson 2009; Vaughn et al. 2002; Walker and Stevens 2017); intervention studies were excluded because they involve active manipulation of school conditions; (3) the article reported observation data that were collected during reading or English Language Arts (ELA) instruction; ELA was included because instruction in this type of class may focus on the development of literacy skills; studies reporting findings from interviews and focus groups were included as long as they also included observations of reading instruction; (4) at least one student with or at risk for EBD was included in the participant sample; at risk status was based on researcher report. Similar to previous syntheses (McKenna et al. 2015; Swanson 2009; Walker and Stevens 2017), we utilized a broad selection criteria to identify as many observation studies as possible and to determine the degree that students with and at risk for EBD were included as study participants; (5) the study was performed in a K-12 educational setting in the USA; we excluded international studies because other countries may use different eligibility criteria for special education services and for clinical diagnoses. Upon completion of this process, two studies met article selection criteria. This procedure was independently performed by two researchers, and a reliability of 99.8% obtained. Disagreements were discussed until consensus was achieved.

Next, an ancestral search of previous syntheses of reading observation research for students with high incidence disabilities was performed (e.g., checking reference lists for articles meeting selection criteria; Vaughn et al. 2002; Swanson 2008; McKenna et al. 2015; Walker and Stevenson 2017). Eight studies meeting selection criteria were identified in this ancestral search. Reliability for this procedure was 100%. Lastly, an electronic hand search of the following journals was performed from 1990 to the most recent issue: *Behavioral Disorders*, *Journal of Emotional and Behavioral Disorders*, *Exceptional Children*, *Behavior Modification*, and *Reading & Writing Quarterly*. These journals were selected based on their professional standing and tendency to publish studies involving students with and at risk for EBD and/or reading instruction. One study additional study was identified through this process. Reliability for the electronic hand search was 100%. In total, 11 studies were eligible for descriptive coding. Figure 1 provides an overview of the study identification process.



**Fig. 1** Article identification process

## Coding

Each article meeting selection criterion was independently double coded using an Excel coding sheet. The coding protocol was based on reading instructional practices recommended by the National Reading Panel (2000) as well as study characteristics explored in previous syntheses of reading instruction for students with EBD and LD (Vaughn et al. 2002) and LD (McKenna et al. 2015; Swanson 2008; Walker and Stevenson 2017). Prior to coding, the first and second author discussed the coding protocol, including study design (e.g., participant sample, observation protocols, etc.) and instructional components (e.g., phonics instruction, strategy instruction, fluency practice, etc.) to be included and relevant information for each domain. The first and second author then independently double coded one article and discussed all areas of disagreement until 100% agreement was obtained. The first and second author then independently double coded all remaining articles. Using an exact agreement method, initial reliability was 92.4%, with all areas of disagreement discussed until 100% agreement was obtained. Disagreements tended to involve the specific instructional settings in which students with EBD were observed and information on behavioral measures and data.

## Results

### Corpus of Studies

Eleven studies published between 1984 and 2019 met selection criteria. One study was published in each of the following journals: *American Educational Research Journal*, *Behavioral Disorders*, *Behavior Modification*, *Exceptional Children*, *Learning Disabilities Research*, *Psychology in the Schools*, *Reading Research Quarterly*, *Remedial and Special Education*, *Residential Treatment for Children & Youth*, *School Psychology Review*, and *The Journal of Special Education*. Table 1 provides a summary of each study meeting selection criteria.

### Setting and Participants

All studies reported information on observation setting. Four studies (36.3%; Hayes and Jenkins 1986; O'Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989c) performed observations of reading instruction in general education and resource classroom settings (e.g., separate classroom where some form of remedial and/or specialized instruction is provided). Two studies (18.2%; Ysseldyke et al. 1989a, b) collected observation data in general education and special education classrooms. Two studies (18.2%; Moody et al. 2000; Swanson and Vaughn 2010) performed observations in resource classrooms. One study collected observation data in each of the following settings: self-contained classrooms (Levy and Vaughn 2002), a day and residential treatment setting (McKenna and Ciullo 2016), and general education, pull out, and a day school setting (McKenna et al. 2019a).

In regard to the grade level and age of students with EBD, three studies (27.3%) did not report this information for students with EBD specifically (Hayes and Jenkins 1986; Moody et al. 2000; Swanson and Vaughn 2010). Five studies (45.5%) did not report student grade level but reported the following mean ages for students with EBD: 9 years 6.9 months (Ysseldyke et al. 1987; Ysseldyke et al. 1989a), 9 years 7 months, (Ysseldyke et al. 1989c) 9 years 6 months (O'Sullivan et al. 1990), and 9 years 6 months (Ysseldyke et al. 1989b). Two studies (18.2%) reported the age and grade of students with EBD. In Levy and Vaughn (2002), students had a mean age of 8.5 years and were in grades one through five. In McKenna et al. (2019a), students with EBD had a mean age of 10.46 years and were in grades three through six.

### Teacher Characteristics

Six of eleven studies (54.5%) reported information on teacher characteristics (Levy and Vaughn 2002; McKenna et al. 2019a; McKenna and Ciullo 2016; Moody et al. 2000; Swanson Vaughn 2010; Ysseldyke et al. 1989c). In these six studies a total of 112 teachers of reading instruction were described. Three studies (27.3%) observed special educators exclusively (Levy and Vaughn 2002; Moody et al. 2000; Swanson and Vaughn 2010). Two studies (18.2%) observed general and special education

**Table 1** Study Summary

Study	Purpose	Setting	Students	Age/grade	Teachers	Frequency	Duration
Hayes and Jenkins (1986)	Describe resource room instruction for students with moderate disabilities in grades 4–6 Identify activities and teacher behaviors that may affect achievement	Urban and suburban public district Gen ed and resource	10 BD	NR	NR	Students observed 5–8 times	10-s intervals for 1–3 min
Ysseldyke et al. (1987)	Identify potential differences in time allocated for instruction for students with and without disabilities in grades 2–5 Identify potential differences in time allocated for instruction in different settings for different disability populations	Urban and suburban public district Gen ed and resource	32 EBD	Mean age 115 months	NR	Each student observed once	School day
Ysseldyke et al. (1989a)	Describe instructional tasks in gen ed and sped Compare methods used with different student populations in grades 2–4	Urban and suburban public district Gen ed and sped	32 EBD	Mean age 115 months	NR	Each student observed once	School day



Table 1 (continued)

Study	Purpose	Setting	Students	Age/grade	Teachers	Frequency	Duration
Ysseldyke et al. (1989b)	Identify extent to which different teaching structures and tasks are used with students with and without disabilities in grades 2–4 during reading instruction	Urban and suburban public district Gen ed and sped	12 EBD	Mean age 114 months	NR	Students observed once	School day
Ysseldyke et al. (1989c)	Identify potential differences in reading and math instruction in gen ed for students with and without disabilities in grades 2–4 Identify potential differences in reading and math instruction for students with disabilities in special ed settings	Urban and suburban public district Gen ed and resource	32 EBD	Mean age 9 years 7 months	51 gen ed 24 sped 32 BA + credits; 24 Master's; 10 Master's + credits; 9 BA	Students observed twice on consecutive days	$M=48$ min in gen ed; $M=43$ in sped on day 1; $M=44$ in sped on day 2

Table 1 (continued)

Study	Purpose	Setting	Students	Age/grade	Teachers	Frequency	Duration
O'Sullivan et al. (1990)	Determine if the opportunity to learn differed in gen ed and sped Determine if the opportunity to learn differed by disability population Determine if the opportunity to learn differed by disability and setting characteristics	Urban and suburban public district Gen ed and resource	32 EBD	Mean age 9 years 6 months	NR	Each student observed once	School day
Moody et al. (2000)	Investigate reading instructional practices used by sped resource room teachers and reading outcomes for students with disabilities in grades K-5 served in resource settings Investigate teacher perspectives on what makes special education instruction special	Large SE district Resource	1 BD	NR	6 sped 4 BA, 2 Master's; mean years teaching = 12.25	Each classroom observed 4 times	60-120 min in duration

Table 1 (continued)

Study	Purpose	Setting	Students	Age/grade	Teachers	Frequency	Duration
Levy and Vaughn (2002)	Describe reading instructional practices for students with EBD in grades 1–5 and the degree to which they are research based	2 suburban and 1 urban district in central Texas Self-contained	15 BD, 5 ED	Mean age 8.5 years; 5 1st, 7 2nd, 5 3rd, 1 4th, 2 5th	6 sped 3 Master's; At least 3 years experience teaching EBD; certified in sped; mean years teaching sped = 11 years	4 consecutive days	30–112 min in duration; Mean duration = 61 min
Swanson and Vaughn (2010)	Identify components of effective reading instruction used during resource room instruction for students in grades 2–5 Identify grouping strategies used Obtain information on academic progress	4 SW public districts Resource	1 ED	NR	10 sped 2 Master's; Mean teaching experience = 14 years; 9 with intensive PD in reading in past 5 years	Each class observed for 3 consecutive days	Duration of class period; Each observation at least 45 min; Mean duration = 59.5 min
McKenna and Cuijlo (2016)	Investigate reading instructional practices provided to students with EBD at a residential and day school	Residential and day school in the NE Reading group (small group or one to one)	11 ED	1 1st, 2 2nd, 5 3rd, 1 5th, 2 6th 6 C, 5 AA	4 teachers 2 BA, 2 Master's, 1 some Master's; Mean teaching experience = 3.8 years; 1 certified in gen ed, 2 certified in sped, 2 dual certification	Each group observed 7 times	Duration of class period

**Table 1** (continued)

Study	Purpose	Setting	Students	Age/grade	Teachers	Frequency	Duration
McKenna et al. (2019a)	Contribute to the limited observation research on reading instructional practices used with students with and at risk for ED	3 public districts, 2 in NE and 1 in MW; 1 day school in NE Gen ed, pull out, day school core, day school pull out	13 ED, 6 at risk	Mean age = 10.46 years of age; 2 3rd, 5 4th, 1 5th, 5 6th 10 C, 1 AA, 2 L	11 teachers 3 BA, 8 Master's, 1 education specialist; Mean teaching experience = 7.63 years; 9 certified gen ed, 2 certified sped, 2 certified reading specialist	Observations occurred in fall, winter, and spring	Duration of class period

*BD* = behavior disorder; *s* = seconds; *EBD* = emotional and/or behavioral disorder; *NR* = not reported; *ED* = emotional disturbance; *SE* = southeastern; *SW* = southwestern; *PD* = professional development; *NE* = northeast; *C* = Caucasian; *AA* = African-American; *MW* = Midwest; *L* = Latinx

teachers (McKenna et al. 2019a; Ysseldyke et al. 1989c). One study (9.1%) observed special education teachers, an assistant teacher, and a literacy specialist (McKenna and Ciullo 2016). Across studies, providers of reading instruction had degrees ranging from bachelors to education specialist (e.g., level of education). Teachers also had various levels of teaching experience, ranging from 3.8 to 14 years. In Levy and Vaughn (2002) teacher participants were considered “effective” at teaching students with EBD by a special education administrator.

## Data Collection

The total number of minutes of reading instruction for students with EBD observed was reported in three studies (27.3%; Levy and Vaughn 2002; McKenna et al. 2019a; McKenna and Ciullo 2016), which had a mean of 1825 min ( $SD=1198.07$ ). One additional study (Swanson and Vaughn 2010) reported the total number of observation minutes across student participants (2178 min), but did not disaggregate this information for students with EBD. The total number of observations of students with and at risk for EBD performed was reported or could be calculated in nine studies (81.8%; Levy and Vaughn 2002; McKenna et al. 2019a; McKenna and Ciullo 2016; O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b c). Studies that had individual students as the unit of analysis (e.g., focused on observing individual students with EBD; O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b, c) had a mean of 34.4 observations ( $SD=16.7$ ) per study and a median of 32. Studies that sampled by classroom or reading group had a mean of 49 observations ( $SD=32.56$ ) and a median of 28.

## Sampling Method

All studies reported information on observation frequency. Six studies (54.5%) focused on observing individual students during reading instruction. Students were observed once in four studies (O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b), twice in one study (Ysseldyke et al. 1989c), and five to eight times in one study (Hayes and Jenkins 1986). Information on how frequently classrooms or reading groups were observed was reported in five studies (45.5%). Swanson and Vaughn (2010) observed classrooms for three days. Classrooms were observed over four days in two studies (Levy and Vaughn 2002; Moody et al. 2000). McKenna and Ciullo (2016) observed reading groups seven times. Observations were performed in the fall, winter, and spring (e.g., over the course of the academic year). In McKenna and colleagues (2019a), classrooms, reading groups, and one-to-one intervention sessions were observed at least three times with observations occurring in the fall, winter, and spring.

All studies reported information on the duration of observations. Four studies (36.4%) observed over the course of a school day (O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b). In one study (9.1%), students were observed for one to three minutes using ten-second interval recording (Hayes and Jenkins 1986). In five studies (45.5%), observations were performed for the duration of the

instructional period (Levy and Vaughn 2002; McKenna et al. 2019a; McKenna and Ciullo 2016; Moody et al. 2000; Swanson and Vaughn 2010). In one study, observations had a mean duration of 48 min in general education settings and a mean of 43 min in special education settings on the first day of observations and a mean of 44 min in special education settings on the second day of observations.

## Measures

All studies used an observation measure to collect data on reading instructional practices. Four studies (36.4%) used the Code for Instructional Structure and Student Academic Response (CISSAR et al. 1978; O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b). This measure uses a momentary time sampling procedure to obtain information on the types of tasks individual students engage in during instruction. Tasks (e.g., observation codes) include putting away or gathering materials, engaging with other types of media, teacher-student discussion, listening to teacher lecture, paper and pencil task, worksheets, workbook, and readers. Three studies (27.3%) used the Instructional Content Emphasis-Revised (ICE-R, Edmonds and Briggs 2003; McKenna et al. 2019a; McKenna and Ciullo 2016; Swanson and Vaughn 2010). Based on descriptive field notes, this observation protocol is designed to collect data on teacher use of reading instructional practices (e.g., phonological awareness, fluency, comprehension, vocabulary instruction, phonics/word analysis) that are recommended by the National Reading Panel (2000), as well as information on student grouping, materials used during instruction, and time-engaged reading connected text. Two studies (18.2%) used the Classroom Climate Scale (CCS, McIntosh et al. 1993; Levy and Vaughn 2002; Moody et al. 2000). This observation protocol is designed to collect data on student grouping (e.g., whole group, small group, partner work, independent seatwork, individualized instruction), reading instruction methods (e.g., phonological awareness, word analysis, fluency instruction, comprehension instruction), differentiation of instruction and materials, progress monitoring, and use of positive feedback and redirection. One study (9.1%) each used the Student-level Observation of Beginning Reading (SOBR, Leinhardt and Seewald 1980; Hayes and Jenkins 1986) and The Instructional Environment Scale (TIES, Ysseldyke et al. 1986; Ysseldyke et al. 1989c). The SOBR uses a time sampling procedure to collect information on the reading activities (e.g., reading letters, words, or connected text; text discussion, answering comprehension questions in writing) students are engaged in, student grouping (e.g., individual, small group, with teacher), and interactions with the instructor (e.g., positive or negative interaction, no interaction). When using the TIES, observers focus on an individual student when completing 40 Likert scale items focusing on aspects of effective instruction (e.g., planning, presentation, checking for understanding, task relevance, practice opportunities, teacher feedback).

## IOA Training

All studies reported information related to the reliability of reading observation data. All studies reported information on training procedures, which tended to consist of

training in operational definitions and observation procedures and practice observations. In Hayes and Jenkins (1986), observers received two-hour daily sessions over the course of three weeks. Observers then were considered trained when they achieved a kappa of 0.75 or greater on two consecutive practice observations. In Ysseldyke et al. (1987), observers were trained in the observation protocol, obtained perfect scores on a training test, and then completed two days of practice observations with at least 90% agreement. In Ysseldyke and colleagues (1989c), observers attended half-day trainings for two weeks and then completed two or three days of practice observations. In Ysseldyke et al. (1989b), observers received two weeks of training that included two or three days of practice classroom observations. In Ysseldyke et al. (1989a), observers earned perfect scores on a training examination and then obtained at least 90% agreement during two days of practice observations. In O'Sullivan et al. (1990), observers first earned perfect scores on a training test and then obtained 90% agreement during two practice observations. In Moody and colleagues (2000), observers received eleven hours of training and obtained an IOA of 0.90 or greater for each construct on a practice observation based on a video recording. Levy and Vaughn (2002) provided observers one four-hour training session. Observers then performed practice observations with a videotaped lesson and during live class instruction. In this study, observers obtained at least 85% agreement on three consecutive observations before collecting study data. In Swanson and Vaughn (2010), observers received six hours of training and obtained 90% agreement or better during a practice observation based on a video recording. McKenna and Ciullo (2016) provided training in observation constructs and protocols and then required observers to complete two practice observations using videotaped lessons with at least 84% agreement. In McKenna and colleagues (2019a), observers were first trained in observation constructs and procedures and then independently completed two practice observations using video-recorded instruction. In this study, observers were considered trained upon obtaining at least 90% agreement.

### IOA Outcomes

Nine (81.8%) studies reported information on interobserver agreement (IOA) procedures employed. Procedures included IOA observations and double coding of descriptive field notes. Hayes and Jenkins (1986) completed biweekly reliability checks, with kappas ranging from 0.65 to 1.0. Ysseldyke et al. (1987) completed twelve agreement checks during data collection, which had a mean agreement of 99.4%. Ysseldyke et al. (1989a) performed reliability checks every twenty students observed. In total, twelve reliability checks were completed, which had a mean agreement of 98.1%. Ysseldyke et al. (1989b) completed reliability checks with every twenty students observed, which had a mean agreement of 95.2% and 98.1%. In Ysseldyke et al. (1989c), 18 interrater agreement checks were performed, which ranged from 60 to 75%. Discussions occurred after each interrater agreement session and semimonthly meetings were held to discuss disagreement and coding difficulties. O'Sullivan and colleagues (1990) completed twelve agreement checks, which had a mean of 95%. Levy and Vaughn (2002) performed interrater reliability checks with 25% of all observation items. Kappas ranged from 0.77 to 1.0. In Swanson

and Vaughn (2010), observers received weekly training during data collection and obtained at least 90% agreement midway through the investigation. McKenna and Ciullo (2016) did not perform reliability checks during data collection. However, they did review observation constructs and procedures with observers during the winter break. Also 25% of observation transcripts were independently double coded, which had a mean agreement of 91%. In McKenna and colleagues (2019a), all field notes were independently double coded, which had a mean agreement of 97.6%.

### Student Behavior During Reading Instruction

Four studies (36.4%) reported information on the behavior of students with EBD during observed reading instructional time (Levy and Vaughn 2002; McKenna et al. 2019a; McKenna and Ciullo 2016; O'Sullivan et al. 1990). In O'Sullivan and colleagues (1990), students with EBD were observed spending similar amounts of time academically engaged and responding as students with LD and intellectual disability (ID). In this study, students with EBD were academically engaged for 62.6% of reading instructional time in general education classes and 78.9% of reading instructional time in special education classrooms. Levy and Vaughn (2002) reported that students with EBD were frequently off task during reading instruction for three of six teachers [e.g., "off task up to 80% of the time." (p. 226)]. On the Classroom Climate Scale (McIntosh et al. 1993), teacher means for student interferes with others ranged from 1.00 to 3.25. This measure is scaled in the following manner: one indicates "rarely", two indicates *seldom (less than 20% of time but more than rarely)*, three indicates "*occasionally (20% to 69% of time)*", four frequently (*70% to 94% of time*), and five most of the time (*95% or more of time*). Teacher means for student appears frustrated and confused also ranged from 1.00 to 3.25. Teacher means for student appears engaged in task-related behavior ranging from 2.5 to 4.5. Lastly, it should be noted that teachers were observed assigning students worksheets when they performed off task behavior.

In McKenna and Ciullo (2016), teachers were observed managing student behavior for 13.2% of observed time. However, the researchers stated that this percentage underestimates the amount of time students was performing challenging behaviors because managing student behavior was only coded when a teacher stopped instruction to address a behavioral difficulty. Also, challenging behaviors that occurred during transition were coded as transition time and not managing student behavior. In McKenna et al. (2019a), students engaged in non-instructional activities for 20.9% of the time. Managing student behavior (5.8%) was the most commonly observed non-instructional event. In general education classrooms, 15.6% of observed time was coded as a non-instructional event, compared to 27.6% of time in day school classrooms and 29.6% of the time in day school pull-out one-to-one intervention sessions. In this study, the researchers also used direct behavior ratings (DBR) to collect data on academic engagement and disruptive behavior during reading instruction. For students with and at risk for EBD, means for disruptive behavior ranged from 0% to 58.6%, with higher percentages for disruptive behavior reported for students with EBD who received reading instruction in general education classrooms. Means for academic engagement ranging from 21.66 to 92.5%, with lower levels of



academic engagement reported during core reading instruction that was provided in a day treatment program and general education classrooms. Higher levels of academic engagement were reported during one-to-one intervention.

### Reading Instructional Methods

Three studies (27.3%) did not disaggregate data for students with EBD or report specific findings for this student population (Hayes and Jenkins 1986; Moody et al. 2000; Swanson and Vaughn 2010). However, Hayes and Jenkins (1986) reported that it was possible that the amount of time spent using specific instructional practices was influenced more by teacher and setting than student characteristics.

Four studies (36.4%) reported findings regarding the reading instructional practices used with students with EBD without specifically describing the reading instruction. In Ysseldyke and colleagues (1987), one student with EBD received no reading instruction when observed over the course of a school day. The researchers also reported that students with EBD spent similar amounts of time receiving reading instruction as students with LD but received statistically significant more time than students with an intellectual disability. Information on the quality of instruction was not reported. In Ysseldyke et al. (1989a), the researchers reported no differences in the quality of instruction (instructional planning, instructional presentation, checking for understanding, task relevance, practice, feedback) provided to students with EBD in general and special education classrooms compared to students with LD and ID. However, information on the overall quality of reading instruction was not provided. Ysseldyke et al. (1989b) reported no differences in the amount of time students with EBD spent on reading instruction in general education and special education settings compared to students with LD and ID. In O'Sullivan and colleagues (1990), students with EBD spent similar amounts of time on reading instruction in special education classrooms and general education classrooms compared to students with LD and ID. Other studies described the reading more specifically including the area of instructional focus and ratio of student to instructor (e.g., 1:1 or small group). The amount and type of text reading was also reported for some of the studies.

### Explicit Instruction

Four studies provided information on the degree to which students with EBD had access to teacher provided explicit instruction. In Ysseldyke et al. (1989b), 40.7% of instruction in general education and 52.3% in special education settings were spent on paper and pencil tasks. In regard to teacher-directed instruction, students with EBD were observed for 16.3% of time in general education and 4.8% in special education settings on this activity. In Ysseldyke et al. (1989a), students with EBD were engaged in paper and pencil tasks and teacher directed tasks for similar percentages of time in general education (34.2%, 23.3%) and special education classrooms (34.8%, 26%). Although there was variability across students with EBD, the researchers reported that students with EBD spent more time on teacher-directed

tasks and instruction than students with LD. In Levy and Vaughn (2002), three teachers exclusively used independent seatwork during reading instruction. In McKenna and Ciullo (2016), students were observed completing independent tasks for 34.6% of instructional time.

### Phonemic Awareness

Three studies (27.3%) reported information on phonemic awareness (PA) instruction (e.g., activities to develop proficiency in focusing and manipulating phonemes in spoken words; National Reading Panel 2000). In Levy and Vaughn (2002), two of six teachers were observed providing PA instruction (Levy and Vaughn 2002). It should be noted that four of six teachers in this study taught students with EBD who were in grades 1 and/or 2, which is typically the grades that PA instruction is provided. However, information on the specific reading difficulties of participating students was not reported in this investigation. In McKenna and Ciullo (2016), PA instruction was not observed. In this investigation, student participants were in grades one to six, with one student in first grade and two students in second grade. Information on the specific reading difficulties and performance of participating students was not reported. In McKenna et al. (2019a), PA instruction was observed for less than 1% of all coded time. Students in this investigation were in grades three through six. Although information on the specific reading difficulties was not reported, standard test results at the beginning of the study confirmed that all students were struggling readers and had comprehension difficulties.

### Phonics

Three studies (27.3%) reported information on phonics instruction. In Levy and Vaughn (2002), all teachers ( $n=6$ ) were observed providing word analysis instruction, although some activities were worksheet based rather than teacher directed and explicit (Levy and Vaughn 2002). In another study, word study and phonics instruction [e.g., a main category of instructional practices from the ICE-R (Edmonds and Briggs 2003)] was the most frequently observed instructional component, accounting for 18.6% of observed time (McKenna and Ciullo 2016). Application of letter/sound knowledge to reading, writing, or spelling was observed for 8.4% of time, word reading 5.1% of time, instruction in letter-sound relationships 4.4% of time, and irregular word instruction for less than 1% of time. In McKenna and colleagues (2019a), word study and phonics instruction was observed for 2.2% of time. Less than 1% of observed time was spent teaching letter/sound relationships.

### Vocabulary

Information on vocabulary instruction was reported in two studies (18.2%).

In one study, vocabulary instruction was observed for 2.5% of observed class time (McKenna and Ciullo 2016). In another study, vocabulary instruction was observed for 1.3% of all time (McKenna et al. 2019a), which tended to consist of

teaching or practicing definitions. Other types of instructional methods such as semantic maps, use of context clues, morphological approaches were not observed. Discussion-based activities were observed for a total of three minutes. Furthermore, 88.8% of vocabulary instruction was observed during one-to-one intervention in the day school setting.

## Fluency

Three studies (27.3%) reported information on fluency instruction for students with EBD. In Levy and Vaughn (2002), two of six teachers (33.3%) were observed providing fluency instruction, which consisted of students reading books that they had previously read. In McKenna and Ciullo (2016), fluency instruction was not observed. In McKenna and colleagues (2019a), less than 1% of time was spent on fluency instruction. Ten of fourteen minutes of time coded as fluency instruction was spent on repeated reading activities, which occurred in a general education classroom.

## Reading Comprehension

Three studies (27.3%) reported information on comprehension instruction. In Levy and Vaughn (2002), two of six teachers (33.3%) were observed providing comprehension strategy instruction, but each teacher was observed only once providing this type of instruction (Levy and Vaughn 2002). One teacher previewed texts with students and the other teacher used a story map that required students to summarize the beginning, middle, and ending of a story. In McKenna and Ciullo (2016), comprehension strategy instruction accounted for less than 0.06% of observed time. Developing and/or activating prior knowledge and making predictions before reading accounted for 3.1% of observed time. In this study, reading comprehension assessment such as through the use of teacher questioning was the most commonly observed instructional activity that was coded as comprehension. In McKenna and colleagues (2019a), 14.6% of all time was coded as comprehension strategy instruction and use. Similar amounts of time (14.5%) of time were spent on reading comprehension monitoring. However, comprehension strategy instruction was more frequently observed compared to assessment of comprehension in general education classrooms, whereas the opposite trend was observed in day school and day school pull-out intervention sessions (e.g., assessment of comprehension occurred more frequently than teaching comprehension skills).

## Individualized Instruction

Four studies (36.4%) reported information on individualized reading instruction. In Ysseldyke et al. (1989b), 12.6% of observed reading instruction time in general education settings spent on individualized instruction. In special education classrooms, 51.6% of observed reading instruction was spent on individualized instruction. However, this study did not evaluate the quality of individualized instruction. In this investigation, individual instruction was defined as one-to-one instruction from the

teacher, working on an individualized task away from other students and/or a small group, or working on a task that is different from other students but sitting in the proximity of other students.

In Levy and Vaughn (2002), participating teachers provided individualized instruction for varying amounts of time, ranging from 20 to 100% of observed instructional time. However, only two teachers were rated as responding to student needs for more than 70% of time, calling into the question the quality of individualized instruction in this study. Students were observed completing individualized tasks or receiving one-to-one instruction for 22.1% of instructional time (McKenna and Ciullo 2016). In McKenna and colleagues (2019a), one-to-one text reading (e.g., an indicator of individualized instruction) was observed during 40% of observations. However, 81.5% of instances in which this instructional practice was observed occurred during day school pull-out one-to-one intervention. One-to-one text reading was observed during four observations in day school settings and three observations in general education settings.

### **Peer-Mediated Reading**

Peer-mediated reading involves students reading connected text with a partner or with peers in a small group. Three studies (27.3%) reported information on peer-mediated reading instruction. In Levy and Vaughn (2002), student pairing had a mean rating of 1.17. In this investigation, a rating of two indicated less than 20% of time. This study did not report information on the types of activities students were participating in when with a partner. In McKenna and Ciullo (2016), students were not observed engaged in peer-mediated reading instruction. In McKenna and colleagues (2019a), partner reading was observed during 4.2% of all observations. All instances of partner reading were observed in general education classrooms. Partner reading was not observed in public school pull out groups and day school core instruction.

### **Whole and Small Group Instruction**

Four studies (36.4%) reported information on whole and small group instruction. Whole group reading instruction occurred for 48.5% of the reading instruction observed for students with EBD in general education classes (Ysseldyke et al. 1989a, b, c). Approximately 38% of instructional time was small group. In special education classrooms, whole group instruction was observed for 8.8% of reading instructional time. Small group instruction was observed for approximately 40% of instructional time in this setting. In Levy and Vaughn (2002), a Likert scale measure (ranging from 1 = rarely–5 = most of the time/more than 95% of the time) was used to assess the percentage of time students received small group reading instruction. In this study, small group instruction had a frequency rating of 1.45. In this study, a rating of 2 indicated less than 20% of time. Furthermore, the amount of time spent on whole group instruction varied by teacher. Two teachers were observed providing whole group reading instruction for at least 70% of reading instructional time. In McKenna and Ciullo (2016), students were observed receiving reading instruction

in small groups for 42.6% of time. In McKenna et al. (2019a) small group reading occurred for 5.3% of all observations. It should be noted that observations were performed in general education classrooms, public school pull out sessions, day school core instruction, and day school one-to-one sessions.

### Text reading

Four studies reported information on the text reading of students with EBD. In O'Sullivan et al. (1990), students with EBD were observed reading silently (13.8% of observed reading time) more frequently than reading aloud (2.4% of observed reading time) in general education classrooms. In special education classrooms students with EBD read aloud (19.3% of observed reading time) more frequently than silent reading (10.8% of observed reading time). In Levy and Vaughn (2002), one of six teachers had students read text with a partner for 10 min per day. Another teacher required students to read independently, but observers were unable to determine whether the texts were at an appropriate text readability level for students.

In McKenna and Ciullo (2016), text reading (teacher or student) was observed for 15.5% of observed time. Teacher-supported oral reading (6.7% of observed time) was the most commonly observed type of text reading method. However, 37% of all teacher-supported oral reading was provided by one teacher. Students engaged in independent silent reading for 3.5% of observed time and listened to stories being read aloud for 3.2% of all time. In total, students were observed reading connected text for 11.4% of observed class time.

In McKenna and colleagues (2019a), students were observed reading text for 28.6% of all time. In general education classrooms, independent silent reading was the most commonly used text reading method (15.4% of time). Independent silent reading was infrequently used in day school classrooms (3.2%) and day school one-to-one intervention sessions (<1%). Teacher-supported oral reading was observed for 4.7% of time in general education classrooms, 4.8% of time in day school classrooms, and 17.7% of day school one-to-one intervention sessions. Choral reading was infrequently observed across settings (<1% of all time). Teachers reading aloud to students was more commonly observed in day school one-to-one intervention sessions (5.6%) and day school classrooms (4.8%) than in general education classrooms (2.3%).

### Discussion

The provision of a free appropriate public education (FAPE) for students with disabilities is contingent upon student access to high-quality instruction and intervention (McKenna et al. 2019), as appropriate progress in school is unlikely to occur in its absence. This need may be particularly critical for students with EBD who have comorbid learning and behavioral difficulties that adversely affect school performance (Landrum et al. 2003; Lewis et al. 2019). Observation research can provide insight into the degree to which students have access to research-based instruction and to resources necessary to improve service delivery (McKenna et al. 2015). In

this investigation, we sought to identify and describe the extant reading observation research for students with EBD. We sought to determine what aspects of reading instructional practice were investigated, trends in study findings, and areas for future research to better inform the field. At this time, similar to findings by Vaughn and colleagues (2002), it appears that “business as usual” instruction in reading for students with EBD has received little attention from the research community.

Although this systematic review had rather broad inclusion criteria (e.g., peer-reviewed observation studies with at least one student with EBD), only 11 studies published between the years 1986 and 2019 were identified. Furthermore, only three studies (McKenna et al. 2019a; McKenna and Ciullo 2016; Swanson and Vaughn 2010) have been published since the reauthorization of Individuals with Disabilities Education Act (IDEA; 2004), which emphasized student access to research-based instruction. Just as concerning, the 11 studies were conducted by just four research teams. One team published nearly half ( $n=5$ ) of the studies (O’Sullivan et al. 1990; Ysseldyke et al. 1987; Ysseldyke et al. 1989a, b, c); another team published three of the studies (Levy and Vaughn 2002; Moody et al. 2000; Swanson and Vaughn 2010); another team published two studies (McKenna and Ciullo 2016; McKenna et al. 2019a; and one team published one study (Hayes and Jenkins 1986). In regard to practice recommendations specific to reading instruction, only five studies have been published since the National Reading Panel (2000), which provided guidance on early general education reading instruction in an effort to end the “reading wars” (e.g., debate regarding the characteristics of research-based instruction in reading). Perhaps most concerning, only three studies focused exclusively on students with EBD. This finding is concerning, as schools across the nation face increased expectations for the provision of FAPE due to the SCOTUS opinion in *Endrew F.* (see Yell and Bateman 2017).

Although studies meeting selection criteria observed reading instruction in a variety of school settings, most studies were conducted before the advent of college and career readiness standards and the increased rigor of general education instruction. For example, this pool of studies provides little information on the degree to which students with EBD are instructed and supported in general education classrooms and public school settings in general. At this time, the majority of students who receive special education services for EBD spend a significant amount of the school day in general education classrooms (U.S. Department of Education, 2020). Although federal data are not disaggregated by instructional area or focus, it is likely that students with EBD are provided reading instruction in inclusive settings. Conceptually, access to high-quality reading instruction that provides opportunities to master the code of reading (e.g., phonemic awareness, phonics instruction) and to develop language skills is needed to develop reading comprehension skills (e.g., the Simple View of Reading; Gough and Tunmer 1986), which could then be leveraged by teachers and students as an asset across curriculum areas during general education instruction.

At this time, we cannot draw any conclusions regarding the degree to which young students with EBD have access to explicit, code-based instruction. Phonemic awareness and systematic phonics instruction are necessary to improve reading performance (Cavanagh et al. 2004; Scammacca et al. 2007). However,

it is possible that students with EBD are another example of an “instructional casualty” (e.g., not receiving effective instruction) due to the issues of addressing challenging behaviors, receipt of instruction from underqualified or unsupported teachers, or the adoption of reading instructional practices that are based on philosophy rather than empirical evidence (see Bettini et al. 2020; Billingsley and Bettini 2019; Castles, Rastle, and Nation 2018).

Findings from this synthesis provide little evidence of the provision of differentiated and individualized reading instruction for students with EBD. One-to-one reading instruction was infrequently observed in dedicated settings and general education classrooms. Although the available data were limited, teachers tended to rely on whole group instruction and independent silent reading in those studies that collected relevant observation data in inclusive classrooms. Considering that students with EBD who are educated in general education classrooms face great academic expectations, it is important for educators to employ research-based practices so that they can profit from placement and instruction in general education settings (McKenna et al. 1989b, c).

In addition to few studies reporting data related to vocabulary instruction, the findings also suggest that teachers employ ineffective methods in teaching vocabulary. Vocabulary knowledge plays a critical role in text comprehension and academic performance (Swanson et al. 2018). Instruction should be explicit, ongoing, and provide multiple meaningful opportunities to work with new words through discussion, writing, and reading. Instruction should refrain from using definitions that are not student friendly (e.g., contains words that are unknown to students; definitions using complex syntax) and copying activities.

Although peer-mediated instruction is a recommended as an effective strategy for students with EBD (Ryan et al. 2004; Watts et al. 2019), no studies reported observing this practice. Peer-mediated instruction can be used to improve reading performance, as well as student behavior. Cross-age and same-age peer tutoring are both effective options because they address teacher-student ratio issues by increasing the number of instructors (i.e., student tutors) and offsetting the need for intensive one-on-one instruction (Ryan et al. 2008).

Lastly, studies included in this review reported the use of independent silent reading. However, we are unable to determine whether teachers employed this instructional method in an effort to manage student behavior, limit their experience of stress, or because they believed it to be an effective method for improving reading performance. Regardless, we would like to note that independent silent reading may limit the amount of time students receive explicit, teacher-directed instruction, which is critical to the development of reading skills (Robinson, Meisinger, and Joyner 2019). It should also be noted that concerns with the use of independent silent reading were expressed by the National Reading Panel (2000; e.g., need for additional research to determine effects).

## Limitations

Five limitations are associated with this study. First, few studies meeting selection criteria were identified. Thus, this sample of observation may not be representative of school practice. However, findings based on the available data are concerning. Second, we did not include gray literature in this synthesis. However, we were interested in studies that underwent the rigor of peer review. Third, studies meeting selection criteria were performed by a limited number of research teams who investigated a limited scope of research questions. Furthermore, the research teams employed a limited scope of observation protocols and measures. As a result, researchers could have observed specific reading instructional practices but did not collect data on their use due to their study having a different focus. For example, no studies focused exclusively on the provision of explicit reading instruction and employed an observation protocol designed to obtain this information. Thus study findings are also limited by the research questions that were explored, the observation protocols and measures that were selected, and the types of data that were collected. Fourth, few studies included adolescents with and at risk for EBD as study participants. As a result, this synthesis provides little information on the degree to which this student population has access to reading instruction that is research based. Lastly, information on student reading performance and IEP goals and services tended to be absent. Thus, we could not determine the degree to which observed practices aligned with student needs.

## Implications for Practice

Findings suggest two implications for school practice. First, providers of reading instruction to students with EBD must teach in conditions that provide them an opportunity to be effective (Bettini et al. 2020). This includes access to training and professional development on research-based reading instructional methods and time to collaborate with professionals with expertise in literacy and positive behavioral supports. Provision of such supports may result in the use of more effective reading instructional methods (e.g., explicit code-based instruction, vocabulary instruction, differentiated teacher-directed instruction, peer-mediated instruction) and improved student engagement during reading instruction. Second, teachers should carefully consider how and why they use independent silent reading with students with EBD. Use of this method may limit the amount of time spent on teacher-directed explicit instruction. Independent silent reading may also serve as an opportunity for students to escape from teacher-directed instruction, such as in instances in which teachers assign independent reading in response to student performance of challenging behaviors (e.g., as a method for preventing and/or responding to behavior difficulties). Carefully designed reading instruction that is appropriately differentiated in consideration of a student's current level of performance, provides opportunities for skill building and skill application



through the reading of connected text with teacher support, and incorporates the use of positive behavior support strategies is likely to be more beneficial.

## Future Research

Findings from this synthesis point to four suggestions for future research. First, due to the dearth of available research, we recommend additional studies across grade levels and school settings. Observation studies can be used to gain insight into “business as usual” reading instruction for students with EBD. Future investigations should include demographic information on teachers and students and information on school/program use of tiered systems of academic and/or behavioral support to provide additional context. Specific information on current levels of reading performance and IEP goals and services should also be reported. Methods to establish interobserver and intercoder agreement should be employed to establish the reliability of observation data. Second, considering the importance of student access to explicit and systematic instruction (e.g., modeling, guided practice with immediate feedback, opportunities for independent practice; McLeskey et al. 2019), observation studies should investigate the provision of these practices during reading instruction. Study findings could then be used to make recommendations for the manner in which pre-service teachers are trained and the manner in which in-service teachers are supported. Third, future research should investigate the provision of reading instruction for students with EBD who are in the secondary grades, as studies meeting selection criteria tended to focus on students in the elementary grades. Fourth, future investigations should systematically collect data on teacher and school characteristics, instructional practices used, time spent on reading instruction (e.g., dosage), student behavior during instruction, and pre–post measures of reading performance to employ regression models to identify predictors of improved reading performance. Identified predictors could then be used to inform future intervention studies.

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