Learning Disabilities: A Contemporary Journal 17(1), 117-138, 2019

Literacy Instruction for Adolescents With Learning Disabilities: Examining Teacher Practice and Preparation

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This study presents findings from a survey of secondary special education teachers who teach reading to students with learning disabilities (LD). Respondents were 392 special education teachers from a large Midwestern State who completed an online or paper survey. Results indicate predominant foci of secondary special education teachers' reading instructional practices were teaching vocabulary and comprehension, engaging in ongoing formative assessment, and incorporating technology into instruction. Additionally, the majority of respondents report not feeling adequately prepared to teach reading to secondary students with LD. These findings are discussed in relation to the national discourse on adolescent literacy and special education teacher preparation.

Keywords: **Reading Instruction, Special Education, Secondary, Adolescents with Disabilities**

Introduction

A long-held assumption is learning to read begins and ends in the elementary grades (Chall & Jacobs, 2003), but profiles of the reading achievement of the nation's middle and high school students suggest otherwise. According to the most recent data from the National Assessment of Educational Progress (NAEP), roughly 61% of eighth and twelfth-grade students with disabilities read below basic level (U.S. Department of Education, 2018). Students with learning disabilities (LD)— defined in this study as having a disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or perform mathematical calculations — are at particular risk for poor literacy achievement. Data collected specifically on secondary students with LD indicate 70% of these students score below average on measures of passage comprehension compared to only 48% of students without disabilities (Cortiella & Horowitz, 2014). Thus, despite a historic emphasis on early intervention (e.g., Head Start and Reading First) students with LD continue to enter middle and high school without proficient reading skills. This, in turn, has resulted in instruction in basic literacy skills becoming more of a focal point in secondary schools (Faggella-Luby, Ware, & Capozzoli, 2009).

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Situating Reading Instruction at the Secondary Level

Despite the need for reading instruction to take place at the secondary level, several challenges exist. First, historical approaches to secondary teacher preparation do not emphasize reading preparation. Secondary general educator preparation has traditionally focused on preparing teachers to be content experts, whereas secondary special educator preparation has focused on procedural knowledge for instructing students with disabilities (e.g., classroom management, transition, collaboration, and providing accommodations) (Brownell & Leko, 2014). A lack of emphasis on preparing secondary educators (whether general or special education) to teach reading has resulted in these teachers lacking critical knowledge of the various components of reading (Moats, 2014; Piasta, Connor, Fishman, & Morrison, 2009; Washburn, Joshi, & Binks-Cantrell, 2011; Washburn & Mulcahy, 2018). Therefore, it is little wonder secondary teachers report not believing reading instruction is their responsibility (Kamil et al., 2008) and not feeling well-prepared to teach reading (Hall, 2005).

Second, the structure of secondary schools is complex and often not conducive to supporting adolescents with disabilities' reading needs (Fuchs, Fuchs, & Compton, 2010; Kamil et al., 2008). For example, a historic difficulty has been providing adolescent struggling readers with the intense remedial reading instruction they need while also ensuring they keep pace with general education content and credit accrual necessary for graduation and postsecondary education opportunities (Vaughn & Fletcher, 2012).

Last, the research base undergirding the implementation of reading instruction at the secondary level is thin. Compared to elementary levels, there is insufficient research to guide secondary schools in implementing multi-tiered systems of support (MTSS) (Faggella-Luby et al., 2009; Fuchs et al., 2010; Pyle & Vaughn, 2012). MTSS provides a schoolwide framework for anticipating and accommodating a full range of student needs through coordinated efforts across increasingly intensive tiers of prevention and intervention (Chard et al., 2008).

Further complicating the situation is the fact that there is little consistency across middle and high school settings in terms of what special education teachers are supposed to know and do. In a study of secondary special education teachers, Embich (2001) found that the majority of participants reported high levels of role ambiguity. Conderman and Katsiyannis (2002) surveyed secondary special educators about time spent in various instructional roles and settings. They found teachers most often taught self-contained classes or in resource rooms, followed by consulting with general education teachers, co-teaching, or providing work experiences and vocational education. Moreover, 85% of teachers reported providing content instruction, 75% used learning strategies, and 80% provided academic remediation.

Wasburn-Moses (2005) conducted a survey study of secondary special education teachers, examining their roles and responsibilities, evaluations of programs, and teacher preparation. Of the 191 teachers surveyed, 60.7% reported teaching reading daily, 48.2% taught writing daily, 56% taught mathematics, 37.2% taught Social Studies daily, and 33.5% taught science daily. Approximately three-quarters of teachers reporting teaching content area instruction did so in self-contained settings. Weiss and Lloyd (2002) studied differences in special educators' roles in co-taught general education classrooms compared to separate special education classrooms.

They found that special educators in co-taught classrooms often assume the role of assistant and work to help students with disabilities complete assignments that are assigned to the whole class. In special education classrooms, on the other hand, special educators were the primary instructors giving them more control and leadership. In these settings, special educators focused on remediation of basic skills students with disabilities needed but lacked.

Although there have been studies of secondary special education teachers' roles and use of general instructional strategies like the ones reviewed above (i.e., Conderman & Katsiyannis, 2002; Wasburn-Moses, 2005; Weiss & Lloyd, 2002), we could not find studies that specifically examined their reading instructional approaches for students with LD. Given special educators' key roles in working with students with LD and the national spotlight focused on improving adolescent literacy, we wondered what their reading instruction looks like and to what degree they are able to situate recommendations from key research and policy directives within their classrooms. We also wanted to better understand to what extent secondary special educators are prepared in reading. This purpose of this study, therefore, was to report a subset of findings from a larger survey study of secondary special education teacher practice and preparation in literacy (Author, 2018). The results related to secondary teachers' instructional practices and preparation for teaching reading to students with LD are reported in this paper. The primary research questions addressed were: (a) What reading instructional practices do secondary special education teachers of students with LD report implementing and (b) What literacy teacher preparation experiences do teachers report having completed?

Method

Participants and Context

We surveyed 577 special education teachers from 221 school districts in a large Midwestern state. Within the state special education teachers could be certified cross-categorically (CC) or in one or more of the following categorical groups: learning disabilities (LD), emotional and behavioral disorders (EBD), and cognitive disabilities (CD). The state provides educational services to approximately 871,550 students, 13.9% of whom have disabilities. Across the state, 41% of students are from economically disadvantaged homes and 27% are students of color. Of the 577 respondents, the majority (n=438) indicated that they had taught reading within the last three years of receiving the survey. The 3-year timeframe ensured we captured teachers whose teaching assignments shift year-to-year but who had taught reading recently. The 139 (24%) who indicated they were not currently or recently responsible for teaching reading were excluded from further analyses.

Instrumentation

Teachers completed a 43-item survey about their (a) demographics, (b) school context, (c) teaching assignment, (d) undergraduate and graduate teacher preparation in reading, (e) professional development in reading, and (f) current reading practices. Survey items included qualitative open-ended questions, checklists, and 5-point Likert rating scales. For the current reading practices questions, teachers

responded to an open-ended question wherein they could describe the reading instructional approaches they used. They also completed a checklist item that included 15 practices that have been recommended as effective for adolescent students with disabilities and struggling readers from five literature reviews and policy guides: Biancarosa and Snow (2004), Boardman et al. (2008), Kamil et al. (2008), Scammacca et al. (2007), and Torgesen et al. (2007). The list of instructional practices is found in Table 2. We also investigated several dimensions of respondents' teacher preparation including the number of undergraduate/graduate reading courses and hours of reading PD teachers completed. Teachers also described the structure of their reading coursework by completing a checklist containing seven pedagogies (lecture, practical teaching opportunities, observation of instruction, study groups, tutoring, administering assessments, or case study). In addition, teachers could write in their own responses. Teachers also reported on the degree to which they felt their coursework collectively was helpful and adequately prepared them to teach reading to their adolescent students with disabilities.

We took several steps to ensure the instrument's validity. A first draft of survey items was developed based on our review of the literature in adolescent literacy and secondary special education. We then refined items based on feedback from three experts in the area of adolescent literacy for students with disabilities. Next, we piloted the survey with five secondary teachers and graduate students who had teaching experience as secondary teachers. We conducted a focus group with these individuals to elicit their feedback about the survey content, clarity, readability, time demands, and organization. Based on the focus group responses, we revised the survey and then entered the survey items into the survey program Qualtrics and formatted them for a paper version. Members of the research team and several graduate students completed a final pilot of the survey to ensure the online and paper versions were ready for distribution.

In addressing survey reliability, online responses were automatically compiled via the Qualtrics program and then exported to a master data file. For responses entered on the paper version, one research team member entered all responses verbatim into the master data file. In cases where responses were unclear or respondents included extra handwritten comments, the first author and the team member responsible for data entry discussed the data and came to consensus on how to enter it. A second research assistant completed fidelity of data entry for 30% of the paper surveys. Reliability was calculated by dividing the number of agreements by the number of agreements and disagreements. Reliability for the paper survey was 99.7%. Internal consistency reliability in the form of Chronbach's alpha for the sense of preparedness scale was high at .87.

Procedures

We identified all special education teachers who taught at the middle and/or high school level and were certified to teach students with high-incidence disabilities as indicated by their certifications in LD, EBD, and/or CC (n=3,631) from the state database. We searched school websites for teachers' email addresses, locating 2,685 of them. For the remaining teachers (n=946) we compiled their school mailing addresses. In the first wave of data collection, we emailed teachers a link to the online

Qualtrics survey. Twenty-five email addresses were undeliverable. We also mailed paper copies to the 946 for whom we could not locate email addresses. We provided these teachers with an addressed stamped envelope in which to return the survey. Based on our first mailing, 35 addresses were not valid either because the teacher no longer worked at the school or the school had closed. We left the online survey open for one month and sent a reminder email at the halfway point to teachers who had not completed the survey. Two weeks after the initial mailing of the paper survey, we mailed non-responders a second paper survey and return envelope. To increase our response rate, we gave respondents the opportunity to be entered in a raffle to win one of four $25 gift cards.

Respondents and Nonrespondents

A total of 577 teachers completed the survey (16.1% response rate)— 364 completed the online version and 213 completed the paper version. Although lower than we would have liked, these response rates are well within the range of published survey studies based on Shih and Fan's (2008) meta-analysis of mail and web-based survey response rates. Still, we took additional measures to ensure our sample paralleled the state and national special education teaching workforce, as many experts argue that ensuring representativeness is more important than high response rates (Cook, Heath, & Thompson, 2000). First, we compared respondents to nonrespondents to determine if there were differences between the two groups using data available from the state department of education database (i.e., community size, certification, teaching assignment, school level, grades taught). For these variables, there were no statistically significant differences between respondents and non-respondents. Then, we compared our sample to expert analyses of national trends regarding the special education teaching workforce (Kozleski, Artiles, McCray, & Lacy, 2014) and findings from the Study of Personnel Needs in Special Education (SPeNSE; Carlson, Brauen, Klien, Schroll, & Willig, 2002). Mirroring the special education teacher workforce nationally, teachers in our sample were predominantly white (95.9 % compared to the national average of 86%), female (83.6% compared to the national average of 85%), middle-aged (M= 46.6 years compared to 43 years nationally), and experienced in special education (M=15.8 years compared to 14.3 years nationally). Approximately 69% of teachers in our sample held Masters degrees compared to the special education teacher national average of 59%.

Results

In this paper, we present results for teachers who reported teaching reading to students with LD (n=392) as shown in Table 1. These teachers were predominantly female (n=329, 84%), White (n=379, 97%), middle-age (M=45.9 years, SD=10.4) and fairly experienced as special education teachers (M=15.9 years, SD=9.17). Approximately 70% of teachers held graduate degrees with most holding certifications in cross-categorical (52%) and/or LD (54%). Approximately 66% of teachers had 11 to 20 students on their caseload with the highest percentage (33%) teaching two class periods of reading per day. The majority of teachers (n=193, 49%) taught in a resource room for all or part of the day followed by teaching self-contained remedial reading classes (47%) and then co-teaching (33%).

Table 1. ***Demographic Characteristics of Teachers***

	N=392 *n (%)*
Gender	
Male	63 (16)
Female	329 (84)
Age	
25-34	66 (16.8)
35-44	105 (26.8)
45-54	113 (28.8)
55-64	100 (25.5)
65-74	5 (1.3)
Race	
White	379 (96.9)
Black/African American (Non Hispanic)	4 (1)
Asian	0 (0)
Hispanic	2 (0.5)
Native Hawaiian or Pacific Islander	0 (0)
American Indian or Alaska Native	2 (0.5)
Bi-racial	3 (0.8)
Other	2 (0.5)
Certification	
LD Certification	211 (53.8)
Cross-categorical	204 (52)
Highest Degree Earned	
Bachelors	106 (27)
Masters	273 (69.6)
Doctorate	1 (.25)
Other	12 (3.1)
Caseload	
1-10	47 (12)
11-20	259 (66.1)
21-30	72 (18.4)
31-40	4 (1)
41 or more	3 (0.8)
No specific caseload	7 (1.8)

Note. Percentages are based on the number of participants who provided information for each item.

Teachers' Literacy Instructional Practices

As presented in Table 2, the most widely implemented literacy practices were direct, explicit vocabulary (n=251, 68%) and comprehension instruction (n=241, 65.3%). Approximately half of the teachers reported teaching fluency (n=187, 50.7%) and phonics (n=170, 46.1%). Close to 60% of teachers (n=219) reported engaging in ongoing formative assessment. Practices reported less widely included strategic tutoring (n=93, 25.2%), intensive writing (n=92, 24.9%), and interdisciplinary teacher teaming (n=66, 17.9%).

Table 2. ***Teachers' Reported use of Literacy Practices***

Practices	*N=392* *n (%)*
Direct, explicit vocabulary instruction	251 (68)
Direct, explicit comprehension instruction	241 (65.3)
Ongoing formative assessment of students	219 (59.3)
A technology component	209 (56.6)
Motivation and self-directed learning	196 (53.1)
Direct, explicit fluency instruction	187 (50.7)
Direct, explicit phonics instructions	170 (46.1)
Diverse texts	169 (45.8)
An ongoing summative assessment of students and programs	167 (45.3)
Instructional principles embedded in content	165 (44.7)
Text-based collaborative learning	134 (36.3)
An extended time for literacy	132 (35.8)
Strategic tutoring	93 (25.2)
Intensive writing	92 (24.9)

Note. Percentages are based on the number of participants who provided information for each item.

Literacy Coursework

Teachers were asked to provide information on their undergraduate and/or graduate coursework in reading including reading instruction for students with disabilities generally and at the secondary level specifically. We asked teachers to report the number of courses they completed, as well as the content and structure of the courses.

Approximately 43% (n=170) of teachers reported taking one or two undergraduate/graduate courses in reading instruction generally. One hundred thirty-two teachers (34%) reported taking between three and four courses incorporating reading instruction. Nineteen teachers (5%) reported not taking any courses on reading instruction.

Out of 392 teachers, a large proportion (n=222) reported taking one to two courses that included information on reading instruction for students with disabili-

ties. Seventy-eight teachers (20%) completed three to four courses that included reading instruction for students with disabilities. Sixty-four teachers (16%), however, indicated taking *no courses* focused on reading instruction for students with disabilities.

When teachers were asked about the number of courses that included information on reading instruction for *secondary* students with disabilities, 192 teachers (49%) reported taking one to two courses. One hundred fifty-one teachers (38%) reported not taking any classes focused on reading instruction for secondary students with disabilities.

Content and structure of coursework. Teachers were asked about the content included in their undergraduate/graduate courses. The majority of teachers (n=224; 57%) reported learning about direct, explicit phonics instruction, followed by direct, explicit comprehension instruction (n=177), vocabulary instruction (n= 159) and then fluency instruction (n= 147). Lesser reported content was text based collaboration learning (n=47; 12%), intensive writing (n=51; 13%), ongoing formative assessment (n=56; 14%), summative assessment (n=53; 14%), and use of diverse texts (n=30; 8%).

Teachers were asked to report the structure of their undergraduate/graduate coursework in reading instruction. The majority of teachers (n=277; 71%) reported taking lecture-based courses with no practical experiences. Nearly half of the teachers indicated having experiences with practice-based teaching in reading in a classroom (n=193; 49%), while a similar percentage (n=201; 51%) reported the administration of student assessments in reading as the main component of the reading instruction courses. One hundred seventy teachers (43%) reported an observation of teaching practices in a class. Slightly fewer teachers (n= 126; 32%) indicated tutoring students, and 131 teachers (33%) reported completing a case study. Fewer teachers reported having experiences with student study groups (n=57; 14%) or interactive methods course (n=5; 1%).

Teachers' perceptions of coursework. Participants were asked to report on the degree to which their undergraduate/graduate coursework collectively adequately prepared them to teach reading. An equal percentage of teachers responded with *agree* (n=103; 29%) and *disagree* (n=105; 29%). Forty-seven teachers (13%) reported *strongly disagree*, while 24 teachers (7%) chose *strongly agree*. Finally, 81 teachers (23%) responded with *neutral*.

Teachers' implementation of coursework content. We explored whether teachers have been able to incorporate information learned during their undergraduate/graduate reading courses into their reading instruction. The majority of teachers (n=142; 38.8%) responded *agree*, but 59 teachers (16.1%) responded *disagree*. With lower numbers and percentages, 32 teachers (8.7%) reported *strongly agree*, and 23 teachers (6.3%) selected *strongly disagree*. Finally, 110 teachers (30.1%) reported *neutral*.

Teachers who responded with *strongly disagree*, *disagree*, and *neutral* received a follow-up question. We asked these teachers about factors that prevented them from applying knowledge gained in their undergraduate/graduate reading courses into reading instruction. Nearly, half of these teachers (n=99; 51.6%) reported that techniques learned in their undergraduate/graduate courses do not match their current teaching needs, and 80 teachers (41.7%) reported techniques learned in their under-

graduate/graduate courses are too dated. Fifty-two teachers (27.1%) indicated their current teaching context is not structured to support techniques learned in their undergraduate/graduate courses. Other teachers reported lack of time (n=61; 31.8%), lack of appropriate courses (n=49; 25.5%), and lack of funding (n=20; 10.4%). Finally, 19 teachers (9.9%) indicated they do not like the techniques they learned in their undergraduate/graduate courses.

Literacy Professional Development

Teachers were asked six questions related to their professional development. First, we examined the number of hours of professional development that teachers have had on teaching reading *in general* or teaching reading to *adolescents with disabilities or struggling readers* in the last two years. Second, we determined the types of professional development activities in reading instruction that teachers have participated in in the last two years. Third, we explored teachers' perception of the professional development or the continuing education experiences. Finally, we asked teachers to indicate the aspects of adolescents literacy programs that were emphasized during their professional development and/or continuing educational experiences.

Forty-three percent of teachers (n=164) reported having zero hours of district or school-based professional development on teaching reading in the last two years. Eighty teachers (21%) indicated receiving 1-2 hours of professional development. Ninety-five teachers (25%) indicated receiving 3-10 hours. When teachers were asked about the number of hours they have had in the last two years on teaching reading to *secondary* students with disabilities or struggling readers, roughly one-third of teachers (n=128) reported zero hours. One hundred thirty-four teachers (35.2%) indicated that they have had 1-5 hours of professional development on teaching reading to adolescents with disabilities or struggling readers in the last two years. Also, 73 teachers (19.2%) reported having 6-16 hours. Finally, only 46 teachers (12.1%) indicated having 17 hours or more of professional development on teaching reading to adolescents with disabilities or struggling readers in the last two years.

Content and structure of PD. We asked teachers about the types of professional development activities in reading instruction that they have participated in over the last two years. The majority of teachers (n=194; 63.8) reported district-based workshops, and 144 teachers (47.4%) reported school-based workshops. With roughly equal numbers and percentages, 69 teachers (22.7%) indicated teacher study groups or networks, and 67 teachers (22%) indicated seminars on teaching reading instruction. Seventy-one teachers (23.4%) indicated university courses related to teaching reading (including online courses).

Teachers were asked about the aspects of adolescent literacy programs emphasized during their professional development or continuing educational experiences. The majority of teachers reported a technology component (n=135; 34.4%), ongoing formative assessment of students (n=131; 33.4%), and direct, explicit comprehension instruction (n=126; 32.1%). In contrast, only 4 teachers (1%) indicated intensive writing, 30 teachers (7.7%) reported strategic tutoring, and 33 teachers (8.4%) indicated interdisciplinary teacher teams. With regard to the major areas of reading, 114 teachers (29.1%) indicated vocabulary instruction, 111 teachers (28.3%) indicated fluency instruction and 92 teachers (23.5%) responded with phonics in-

struction. Sixty-six teachers (16.8%) reported text-based collaborative learning, and 91 teachers (23.2%) indicated diverse texts. Roughly one-quarter of participants selected instructional principles embedded in content (n=106), reported an ongoing, summative assessment of students and programs (n=104). Finally, 94 teachers (24%) reported motivation and self-directed learning, while 86 teachers (22%) reported extended time for literacy.

Teachers' perceptions of PD. Teachers were asked to report their perception about whether their professional development or continuing educational experiences appropriately targeted the student population they teach. One hundred ninety-six teachers (65.3%) responded yes, while 104 teachers (34.7%) responded no.

With roughly an equal numbers and percentages, teachers reported *strongly agree* (n=17; 5.6%), and *strongly disagree* (n=19; 6.3%) when asked about whether professional development or continuing educational experiences have adequately prepared them to teach reading. One hundred and fourteen teachers (37.9%) reported *agree*, but 59 teachers (19.6%) chose *disagree*. Finally, 92 teachers (30.6%) responded with *neutral*.

Teachers' implementation of PD content. We asked teachers whether they have been able to incorporate information learned during professional development/continuing education experiences into their reading instruction. A large proportion of teachers (n=191; 52.3%) responded with *agree*, but 28 teachers (7.7%) reported *disagree*. Fifty teachers (13.7%) responded with *strongly agree*, while 13 teachers (3.6%) selected *strongly disagree*. Finally, 83 teachers (22.7%) responded with *neutral*.

Teachers who responded with *strongly disagree*, *disagree*, and *neutral* received a follow-up question. We examined the factors that prevented them from applying knowledge acquired from professional development/continuing education experiences into reading instruction. The majority of teachers (n=49; 39.5%) reported lack of time, but a small number of teachers (n=8; 6.5%) indicated they did not like the techniques presented in the PD. Twenty-two teachers (17.7%) selected lack of funding. One-quarter of teachers indicated their current teaching context is not structured to support techniques learned in the PD, and 26 teachers (21%) indicated techniques learned in the PD do not match their current teaching needs. Ten percent of teachers reported that techniques they learned in the PD are too dated.

Preparedness to Teach Literacy

When teachers were asked about their perceptions about whether they received adequate preparation to teach reading to students with disabilities, the majority of teachers (n=138; 37.9%) responded with *agree*, while 73 (20.1%) teachers responded with *disagree*. Forty-two teachers (11.5%) reported *strongly agree*, but 33 teachers (9.1%) selected *strongly disagree*.

We asked teachers about whether they feel they received adequate preparation to teach reading to *secondary* students with disabilities or not. A large number of teachers (n=130; 35.7%) responded with *agree*, but only 35 teachers (9.6%) reported *strongly agree*. With equal number and percentages, 83 teachers (22.8%) responded with *disagree* and *neutral*, and 33 teachers (9.1%) selected *strongly disagree*.

We asked teachers about the aspects of their preparation that have been use-

ful to them in terms of planning and teaching reading. One hundred ninety-seven teachers (54%) selected workshops, 117 teachers (32.1%) chose conferences, and 120 teachers (33%) selected teacher study groups or networks. Finally, 108 teachers (29.6%) indicated technology training to support reading instruction, and 102 teachers (27.9%) selected undergraduate/graduate coursework.

Teachers were asked to indicate in which areas they would like more professional development. The majority of teachers (n=253; 69.3%) reported reading instruction for adolescents with disabilities or adolescents struggling readings.

Discussion

Teachers who reported teaching reading to adolescents with LD were predominantly White females with Masters degrees and cross-categorical and/or LD certification. They were most likely to teach one or two reading classes per day in self-contained or resource/remedial reading class settings. Major foci of secondary special education teachers' reading instructional practices were teaching vocabulary and comprehension, engaging in ongoing formative assessment, and incorporating technology into instruction. Although emphasis on these practices is appropriate for adolescents with disabilities (Biancarosa & Snow, 2004; Boardman et al., 2008; Kamil et al., 2008; Scammacca et al., 2007; Torgesen et al., 2007), it seems teachers' time was spent on a relatively small range of practices. Less than half of teachers reported using diverse texts or embedding instruction in content, and only about one-third of teachers reported using text-based collaborative learning. Moreover, only about one-quarter of teachers reported using strategic tutoring or engaging in intensive writing instruction.

In terms of teacher preparation, it seems there is a need for greater emphasis on reading instruction for secondary students with LD. Less than half of the teachers completed one or two courses that included information on reading instruction for secondary students with disabilities, while approximately 38% of teachers reported having taken *no courses* on reading instruction for secondary school students with disabilities. Similarly, in terms of PD, one-third of teachers reported receiving zero hours of PD on teaching reading to adolescents with disabilities or adolescents struggling readers. Results on the structure of teacher preparation experiences warrant concern as well. Approximately 70% of teachers reported their undergraduate/graduate coursework was lecture-based with no practical experiences. It is perhaps no wonder less than half of the respondents reported feeling adequately prepared to teach reading to secondary students with disabilities. Taken together the findings point to the importance of providing special educators with more preparation in the area of reading instruction at the secondary level. Moreover, preservice preparation coursework should rely less on lecture-based models and, instead, provide more practical experiences— a position argued by experts who advocate a practice-based approach to teacher education (Ball & Forzani, 2009; Grossman et al., 2009; Leko, Brownell, Sindelar, & Kiely, 2015).

Study Limitations

There are several limitations that must be considered when drawing conclusions based on this study's results. First, data reported here are based on teachers' self-reported practices, which are subject to over or under reporting. The survey data also do not measure the quality of instruction. Teachers were simply asked whether or not they engaged in various practices. Our response rate was low, but we made every effort to ensure our sample was still representative of the population from which it came and the special education teaching workforce nationally. Finally, we only sampled teachers from one large Midwestern state. Findings may best generalize to teachers from other Midwestern states or states with similar licensing regulations.

Implications for Research and Practice

Results of this study highlight areas in need of future research. An important element of future research would be to move from teachers' self-reported data to classroom observations, a more objective measure. Such work has been completed in general education through the International Literacy Association including its National Commission on Reading Teacher Preparation sponsored studies that examined features of excellent reading preparation programs and the effects of these programs on graduates (International Reading Association, 2007). Conducting similar work in special education would have great impact.

It would also be important to examine the literacy practices and preparation of general education teachers as 66% of students with LD spend 80% or more of their school day in general education classrooms (Cortiella & Horowitz, 2014). Another future line of inquiry is related to teachers' pathway into teaching. We did not ask teachers whether they completed a traditional or alternative route to special education certification, and this is a limitation of this particular study. Future studies investigating relationships between preparation pathway, teachers' practice, and sense of preparedness could add to the literature in meaningful ways. Finally, replicating this study with a national sample of teachers would increase the generalizability of the findings.

In terms of practice, there appears to be some significant oversight in teacher preparation for reading instruction for secondary students with LD. Although the teachers in this study reported receiving some preparation in reading generally, their preparation specifically in reading instruction for students with disabilities at the secondary level was limited. It is telling that almost 70% of teachers reported wanting more PD in this area. We recommend teacher educators at the preservice and inservice levels devote more time to preparation in this area, particularly when working with special educators who have secondary level certification. Preparation should include explicit instruction in the basic areas of reading and word structure concepts (Sayeski, Budin, & Bennett, 2015) and can be enhanced with multimedia instruction such as video tutorials or content acquisition podcasts (CAPs) (Kennedy, Rodgers, Romig, Matthews, & Peeples, 2018; Peeples et al., 2018).

A majority of teachers also reported having coursework that did not incorporate many practice-based teaching experiences. Crafting preparation experiences that are rich in practice-based experiences aligns with findings on best practice in the teacher preparation literature (Ball & Forzani, 2009; Grossman et al., 2009)

and would improve the quality of reading teacher preparation for secondary students with LD. Multiple reviews of the special education teacher education literature (Brownell, Benedict, Leko, Peyton, & Pua, in press; Leko, Brownell, Sindelar, & Kiely, 2015; Leko, Brownell, Sindelar, & Murphy, 2012; Sayeski et al., 2015) have highlighted practice-based approaches that have amassed strong empirical support including: case-based learning, video analysis, rehearsal, aligned field experiences, virtual reality simulation, lesson study, and structured tutoring experiences.

Conclusion

The present study provides evidence of secondary special education teachers' reading instructional practices for students with LD. Although a large percentage of teachers report implementing practices supported by research and policy in adolescent literacy for students with disabilities (i.e., explicit vocabulary and comprehension instruction), several other practices (e.g., use of diverse texts, instruction embedded in content) were rarely implemented. This, in conjunction with teachers' report of limited preparation experiences in reading instruction for secondary students with disabilities, leads us to conclude there is still much work to be done if we hope to better support the reading achievement of secondary students with LD.

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