Characteristics, Assessment, and Treatment of Writing Difficulties in College Students With Language Disorders and/or Learning Disabilities

Stephanie A. Richards

Many students currently are enrolled in colleges and universities across the country with language disorders and/or learning disabilities (LLD). The majority of these students struggle with writing, creating a need to identify and provide them with writing intervention services. Speech–language pathologists (SLPs) may provide this intervention; however, many report lacking the confidence, training, and experience to assess and treat writing difficulties in this or any population (Fallon & Katz, 2011). Therefore, the purpose of this article is to provide information that will assist SLPs and other professionals to identify the writing problems of college students with LLD and develop individualized treatment plans for them. Specifically, information is provided relating to (a) the types of writing difficulties typically seen in this population, (b) the best methods of assessing the writing problems of this population, (c) how to develop and provide individualized therapy for these individuals, and (d) the types of accommodations that can be used with this population.
Key words: *college students*, *language disorder*, *learning disability*, *writing assessment*, *writing difficulty*, *writing intervention*

WRITING is a skill that is highly important for college students to succeed both academically and in their future careers. However, there are currently many students enrolled in college who struggle with writing, some of whom have language disorders or learning disabilities (LD). Specifically, the U.S. Department of Education (2011) reported that there were more than 200,000 students with LD enrolled in colleges in the United States during the 2008–2009 academic year. In addition, Wagner, Newman, Cameto, and Levine (2005) reported that the number of college students with LD has nearly doubled since the 1980s. With researchers estimating that approximately 80% of individuals with LD have a *language-based* LD (see Rath & Royer, 2002), writing will likely be one of the main struggles of these students.

Despite nationwide efforts to increase student performance in reading and writing, students with language disorders and/or learning disabilities (LLD) make significantly slower gains in their written language skills than their typically developing peers (Katz, Stone, Carlisle, Corey, & Zeng, 2008). In addition, problems with reading are more likely to be overcome by individuals with LD during adolescence and adulthood than problems with writing (Alley & Deshler, 1979). Supporting this claim, studies of adults with a history of LLD have revealed that writing problems tend

Author Affiliation: Department of Communication Disorders, Central Michigan University; Mount Pleasant.

The author has no financial or nonfinancial relationships to disclose.

Corresponding Author: Stephanie A. Richards, PhD, CCC-SLP, Department of Communication Disorders, Central Michigan University, 2168 Health Professions Bldg, Mount Pleasant, MI 48859 (richa2sa@cmich.edu).

to persist into adulthood (e.g., Michelsson, Byring, & Björkgren, 1985; Mortensen, Smith-Lock, & Nickels, 2009).

Given that a high number of incoming college students struggle with writing and continue to struggle with writing without intervention, it is likely that speech–language pathologists (SLPs) working with college students will be faced with the need to assess and treat writing difficulties in their clients with LLD. Speech–language pathologists most likely to encounter this population include those working in university speech and hearing clinics, private practices, or other settings within a university that offer support services for students with LLD (e.g., disability services office). In addition, SLPs preparing high school students with LLD to transition to college may want to consider assessing and treating the writing skills of these students.

Although the scope of practice for SLPs includes assessing and treating oral and written language disorders (American Speech-Language-Hearing Association, 2007), many SLPs state that they are not well prepared for their roles in preventing and remediating written language disorders and some express that providing written language services does not fall within their roles and responsibilities (Ehren & Ehren, 2001; Fallon & Katz, 2011). More specifically, Fallon and Katz found that more than a quarter of school-based SLPs report that they do not have the expertise required to provide services to students who struggle with reading and/or writing. In addition, only 26% of all participants and 51% of participants surveyed who had recently graduated from a master's program in speech–language pathology reported receiving any training on how to implement written language services during their graduate education. Furthermore, 26% of participants disagreed or strongly disagreed that providing written language services was part of their responsibilities. This lack of confidence, training, experience, and belief that written language services fall within their scope of practice leads many SLPs to avoid providing these services to their clients who struggle with

reading and/or writing, as Fallon and Katz (2011) found that school-based SLPs, on average, only provide written language services for 38% of the students on their caseload who struggle with reading and/or writing.

Because there are currently many college students who struggle with writing and many SLPs who do not feel prepared to provide written language services, this article focuses on providing information to increase SLPs' knowledge of how best to address the writing skills of precollege and college students with LLD. The information presented in this article is also relevant for other professionals working with this population, such as the staff of writing centers or other language specialists. To set the stage, the article begins with a brief overview of college writing expectations and then moves into a discussion of the types of writing skills that are typically impaired in adolescents and adults with LLD, as well as how the writing abilities of students with LLD differ from those of their peers. This information can assist in identifying students who would benefit from writing intervention. From there, I describe the existing methods for assessing the writing abilities of this population, as well as outline the strengths and weaknesses of these assessment procedures. Finally, I describe intervention approaches and accommodations, with evidence supporting their effectiveness in addressing the writing difficulties of individuals with LLD.

COLLEGE WRITING EXPECTATIONS

To know which writing skills should be assessed and treated in college students with LLD, it is important to be familiar with college writing expectations. The *Writing* and *Language* standards of the Common Core State Standards (CCSS) and scoring guidelines for portions of the *ACT* and *SAT* related to writing provide some insight into the types of writing skills expected of students as they first enter college. According to the *Writing* and *Language* standards in the *CCSS*, high school juniors and seniors should be able to compose argumentative, informative/

explanatory, and narrative text structures using the appropriate macrostructural (i.e., features present at essay level rather than word or sentence level across genres, such as inclusion of genre-specific elements, organization, and overall quality) and microstructural (i.e., semantic, syntactic, and mechanical elements present in all genres, such as grammar, usage, capitalization, punctuation, and spelling) elements (Common Core State Standards Initiative, 2012a, 2012b). Furthermore, the scoring procedures of the *ACT* Writing Test and requirements of the *ACT* English Test suggest that beginning college freshmen are expected to have a strong grasp of the macrostructural elements of persuasive writing, be able to effectively use microstructural elements in their writing, and successfully complete the reviewing stage of the writing process (i.e., proofreading, editing, and revising of both microstructural and macrostructural elements of writing; ACT, 2007). Finally, the *SAT* Essay subtest and three multiple-choice writing subtests suggest that college freshmen should be able to compose a persuasive writing sample using appropriate macrostructural and microstructural elements, as well as successfully complete the reviewing stage of the writing process (College Board, 2008, 2013). Overall, these standards and tests indicate that incoming college freshmen are expected to possess strong skills in the areas of macrostructure and microstructure across several genres (especially persuasive writing) and be able to proofread, edit, and revise both their work and the work of others.

Two sets of writing standards that have been developed specifically for college students are the *Writing Program Administration (WPA) Outcomes Statement for First-Year Composition* and the *Framework for Success in Postsecondary Writing. The WPA Outcomes Statement for First-Year Composition* was developed by an ad hoc committee of the Council of Writing Program Administrators (CWPA) to provide a standard set of guidelines that could be used by first-year writing instructors to determine what skills

should be taught in first-year composition courses, as well as what skills students should have mastered by the end of these courses (CWPA, 1999, 2008). The *Framework for Success in Postsecondary Writing*, released in January 2011 by the CWPA, National Council of Teachers of English (NCTE), and the National Writing Project (NWP), was created to provide information about what skills students need to successfully complete their first year of college writing (CWPA, NCTE, & NWP, 2011; O'Neill, Adler-Kassner, Fleischer, & Hall, 2012). In addition, the writing tasks of the Graduate Record Examination (GRE) provide some guidance about the writing skills expected at the point of preparing for graduate school.

Based on the skills expected in the *Outcomes Statement*, *Framework*, and *GRE* writing tasks (i.e., Analyze an Issue and Analyze an Argument), college students should be able to engage flexibly in all aspects of the writing process, including researching, planning and organizing ideas, generating text, editing, revising, and proofreading (CWPA, 1999, 2008; CWPA, NCTE, & NWP, 2011; Educational Testing Service, 2013a, 2013b). They are also expected to recognize that writing is a process that takes time, requires multiple drafts, and may require moving back and forth between different stages of the writing process as needed. In terms of macrostructure, college students should be able to compose a variety of genres (especially persuasive writing and those required in their field of study), adapt their writing to each genre, write for a variety of audiences, identify the appropriate audience for their writing and adapt accordingly, write for a variety of purposes and contexts, demonstrate a focus on a specific purpose in their writing, adapt their writing to different purposes and contexts, and format various text types. Related to microstructure, students should demonstrate a strong grasp of the rules of grammar, syntax, spelling, punctuation, and capitalization, as well as be able to use the specialized vocabulary of their field of study. In addition, both the *Outcomes Statement* and the *Framework*

emphasize the importance of being able to apply critical thinking skills in writing, as they expect students to use critical thinking skills to synthesize, respond to, analyze, critique, summarize, and/or interpret specific texts or situations. In summary, it appears that college students are expected to have strong macrostructural and microstructural abilities and be flexible in their ability to conduct the writing process, as there is a strong emphasis on the need to be able to write in a variety of ways and adapt to specific situations.

WRITING CHARACTERISTICS OF COLLEGE STUDENTS WITH LLD

Although there are many standards and tests available to help determine the writing expectations placed upon college students, research focusing on the writing abilities of college students (typical or with LLD) is limited. Most of the existing literature on this topic examines the writing abilities of primary students, secondary students, or adults not enrolled in college. This makes it difficult to know what "typical" or "atypical" writing looks like in college students. However, findings of the few existing studies discussing writing differences between adolescents and adults with and without LLD serve as a starting point for identifying the writing characteristics of college students with writing difficulties related to LLD.

Specifically, researchers have examined the writing abilities of adolescents with language impairments (Dockrell, Lindsay, & Connelly, 2009; Puranik, Lombardino, & Altmann, 2007; Smith-Lock, Nickels, & Mortensen, 2009), adolescents with LD (Hall-Mills & Apel, 2012; Morris & Crump, 1982), college students with LD (Duquès, 1989; Gregg, Coleman, Stennett, & Davis, 2002), college students with writing difficulties (Harrison & Beres, 2007), and adults with a history of language impairments (Puranik et al., 2007; Smith-Lock et al., 2009; Suddarth, Plante, & Vance, 2012). The findings of these studies present information on both the macrostructural and microstructural differences seen between the writing samples of adolescents and adults with and without LLD.

Macrostructure

With regard to macrostructure, researchers have found that adolescents and adults with LLD demonstrate problems with a variety of these "big picture" elements. Specific macrostructural skills that have been found to be impaired in these individuals include ideas and development of ideas (Dockrell et al., 2009), organization (Dockrell et al., 2009; Harrison & Beres, 2007), theme development (Harrison & Beres, 2007), inclusion of genre-specific elements (Hall-Mills & Apel, 2012), and overall quality (Gregg et al., 2002). Taken together, these findings suggest that college students with LLD will have a weak understanding of the required components and organizational "rules" of various genres, as well as difficulty generating and organizing ideas.

Microstructure

Researchers also have found differences in the microstructural abilities of adolescents and adults with and without LLD. More specifically, researchers have found that adolescents and adults with LLD perform more poorly than their typically developing peers in the areas of productivity (Gregg et al., 2002; Harrison & Beres, 2007; Puranik et al., 2007), lexical diversity (Gregg et al., 2002; Morris & Crump, 1982), grammatical complexity (i.e., measures of sentence or syntactic complexity; Morris & Crump, 1982; Smith-Lock et al., 2009), grammaticality (Dockrell et al., 2009; Duquès, 1989; Smith-Lock et al., 2009; Suddarth et al., 2012), spelling (Duquès, 1989; Harrison & Beres, 2007; Smith-Lock et al., 2009; Suddarth et al., 2012), and punctuation (Harrison & Beres, 2007; Smith-Lock et al., 2009; Suddarth et al., 2012).

In addition, Hall-Mills and Apel (2012) found that 6th- to 12th-grade students with LLD produced a higher number of total words, different words, and complex correct sentences in their narrative writing samples than in their expository writing samples. These differences between genres are likely due to

differing levels of difficulty and familiarity, as many researchers have suggested that expository text structures tend to have heavier cognitive and linguistic demands than other genres and are less frequently encountered in life than narrative texts (e.g., Berman & Katzenberger, 2004; Nippold, 2000), even though they may be more frequently encountered in postsecondary education.

Taken together, these findings suggest that college students with LLD tend to have weaker writing abilities in several microstructural areas than their typically developing peers. First, they likely will produce shorter texts than their typical peers on expository writing tasks and they may have more difficulty generating text for expository writing tasks than for narrative writing tasks. Second, they likely will use less diverse vocabulary in their writing than their typical peers and their expository texts may include less diverse vocabulary than their narrative texts. Third, these individuals likely will demonstrate weaker grammatical complexity skills in writing than their typical peers and they may struggle more to produce complex sentences in expository than narrative writing tasks. Finally, they likely will produce a higher number of grammatical, spelling, and punctuation errors that negatively impact the clarity of their narrative and expository writing samples than their typical peers.

ASSESSMENT

There are currently many ways to assess writing, each of which provides a different type and level of information. Therefore, clinicians (i.e., SLPs and other professionals) must be informed about the available options to determine which method best serves their purposes.

Formal writing measures

One option is to assess writing formally. Because formal, standardized measures are typically required to qualify students for intervention services and/or accommodations, they are often a good place to start when assessing college students with LLD who may benefit from writing intervention and do not already have a disability diagnosis. However, clinicians should be cautious when using formal measures to identify writing problems in this population, as none of the existing standardized diagnostic writing measures sufficiently assesses the writing abilities of college students who may present with writing difficulties as a result of LLD.

Six existing diagnostic writing measures have been normed for college students. They are Spelling Performance Evaluation for Language and Literacy–Second Edition (SPELL-2; Masterson, Apel, & Wasowicz, 2006); Wide Range Achievement Test–Fourth Edition (WRAT-4; Wilkenson & Robertson, 2006); Woodcock-Johnson III Normative Update (WJ-III NU; Woodcock, McGrew, Schrank, & Mather, 2007); Test of Adolescent and Adult Language–Fourth Edition (TOAL-4; Hammill, Brown, Larsen, & Wiederholt, 1994); Oral and Written Language Scales–Second Edition (OWLS-2; Carrow-Woolfolk, 2011); and Kaufman Test of Educational Achievement–Second Edition (KTEA-2; Kaufman & Kaufman, 2004). The problem is that none of them fully examines a college student's ability to compose the types of writing activities typically expected at the college level.

These existing measures are problematic for one or more of the following reasons: (1) examining writing at the word, sentence, or paragraph level rather than the essay level (i.e., SPELL-2, WRAT-4, WJ-III NU, TOAL-4, and OWLS-2); (2) examining narrative essays instead of the more commonly assigned persuasive or expository essays (i.e., KTEA-2); (3) focusing on microstructural skills instead of macrostructural skills (i.e., all measures); (4) having students write an essay using material generated during previously administered discrete activities (i.e., KTEA-2); (5) examining only the writing product and ignoring the writing process (i.e., all measures); (6) having weak reliability and/or validity (i.e., OWLS-2 and WRAT-4; Salvia & Ysseldyke, 2007; Venn, 2007); and/or (7) not being normed for the full

12

age range of college students (i.e., OWLS-2, TOAL-4, and KTEA-2; Penner-Williams, Smith, & Gartin, 2009). Because of these problems, none of the existing formal writing measures provides a true picture of how well college students would perform on authentic college-level writing activities. In cases where clinicians must use formal measures to qualify a student for services, tests should be chosen that will assess skills known to be problematic for the student. This will increase the chance of the student's score(s) justifying the need for intervention services and/or accommodations. However, if the student already has an existing disability diagnosis, formal assessment may not be required.

Informal writing measures

Whether or not students score below average on formal writing measures, informal measures should also be used. Informal measures are more useful than formal measures in identifying specific areas of weakness that should be addressed both in therapy and in monitoring progress throughout therapy. In addition, when formal measures are given, students' performance on the discrete activities (i.e., word- and sentence-level writing tasks) of standardized tests can be compared with their performance on the essay-level writing tasks of informal measures to show where breakdowns occur. For example, students may be able to correct spelling, punctuation, and/or capitalization errors in a single sentence or paragraph provided on a test but struggle to make these same types of corrections in their curriculum-based writing. In conclusion, informal measures or existing writing samples should always be used to assess the writing of college students with LLD, as each student's strengths and weaknesses identified from these tasks will assist in planning therapy.

When collecting writing samples to be examined informally, clinicians should collect several samples using either existing writing prompts, prompts that they develop on their own, or prompts that they have gathered from a student's current or previous classes. Ob-

serving students as they compose their samples by hand and with pen can be helpful because it allows for the examination of any editing or revising that takes place while writing. However, having students compose a sample on a computer may more accurately represent how they typically complete writing assignments for classes. When having a student type a sample, it may be beneficial to turn off features that automatically change or highlight spelling and grammatical errors. This will show how frequently students are making these types of errors and whether or not they are able to identify and correct these errors in their own work.

In addition, it is important to collect samples in several genres. This is because students' writing abilities can vary from one genre to another (e.g., Crowhurst, 1987; Crowhurst & Pichè, 1979). In all cases, however, a persuasive writing sample should be collected, as researchers have found that the majority of college writing assignments require students to use some form of persuasion (Wolfe, 2011). Other genres that would be useful to collect include those related specifically to a student's field of study. If a clinician is unsure of what these genres might be, he or she could ask the student to provide writing assignment prompts and samples from former or current classes. The clinician could then either use one of those prompts, develop a similar prompt, or simply analyze an existing sample.

When gathering original samples, clinicians must consider whether or not they want to set a time limit on student writing. When a time restraint is used, clinicians should realize that this could result in a weaker writing sample than what would be seen without a time restraint (Lovett, Lewandowski, Berger, & Gathje, 2010; Principe & Graziano-King, 2008). This is because a time restraint would limit how much time a student can spend brainstorming ideas, writing, and making revisions. On the contrary, some writing activities in postsecondary courses are time constrained, so the use of a time constraint could make the assessment more ecologically

authentic. In either case, clinicians should be present to observe each writing session both to ensure that students are not receiving outside help and to observe the writing process. The problem with collecting and analyzing existing writing assignments that were completed for students' classes is that clinicians will not know for sure if students received outside help on these assignments. This means that the samples received might not be a true representation of students' independent writing abilities. Conversely, collecting outside writing assignments can help show what students' writing products look like when given an extended time period to write, as students typically have several days to several weeks to complete a writing assignment for a class.

To analyze the writing samples of college students with LLD, clinicians should focus on examining the skills that differ between adolescents and adults with and without LLD. Giving special attention to the skills known to be weak in this population can help identify those with writing difficulties and detect individual areas of weakness. Unfortunately, because of the dearth of research comparing the writing abilities of college students with and without LLD, there are no clear norms or guidelines available to distinguish between typical and atypical writing in this population. Therefore, clinicians must rely on their own knowledge of language and literacy development to identify specific areas of weakness in the writing abilities of college students with LLD. The following sections describe how these various aspects of writing can be examined informally using writing samples collected from college students with LLD.

Assessing the writing process

Because all of the existing writing standards for college students place heavy emphasis on the importance of being able to complete all phases of the writing process (CWPA, 1999, 2008; CWPA, NCTE, & NWP, 2011), it should be examined in college students with LLD. However, the writing process is difficult to assess because it primarily takes place invisibly inside a writer's mind (Flower & Hayes, 1981).

Therefore, clinicians must go beyond visual observations to fully understand a writer's ability to engage in the writing process. For example, to get an idea of a writer's thought process while planning and writing, clinicians can ask questions about how often a writer uses various writing strategies while planning, composing, and revising a writing sample. This can be accomplished through the development of interview questions related specifically to the writing process, such as questions about how a student plans for writing using a given writing prompt, the types of prewriting activities a student uses, how a student uses grading rubrics to plan and evaluate his or her writing, how a student transfers ideas to paper or a computer, how a student changes his or her writing based on target audience, or how a student reviews his or her writing and makes changes. Another possibility is to have a student engage in a "think aloud" (i.e., verbally discuss what he or she is thinking) throughout the writing process (e.g., Flower & Hayes, 1981). In either case, clinicians should pay attention to the types of strategies that students use during all phases of the writing process, as well as how effectively and efficiently they are able to use these strategies. Knowing if and where breakdowns occur during the writing process can help clinicians determine whether or not certain aspects of the writing process need to be addressed in therapy.

Assessing the writing product: Macrostructure

It is also essential to examine the writing product of college students with LLD. The writing product includes what a student produces after completing all steps of the writing process; it is what will be used to judge students' writing abilities in both their college classes and their future careers. If students are unable to produce strong writing products, they will not be successful on writing assignments in their college courses or future jobs. The writing product can and should be evaluated at two levels—macrostructure and microstructure.

At the macrostructural level, skills that should be examined include inclusion of genre-specific elements, idea development, organization, theme development, and overall quality. Quantitative measures could be used to measure the use of genre-specific elements (i.e., number of elements present; Hall-Mills & Apel, 2012), but Likert rating scales for rating traits are an easier and less time-consuming option to examine the other macrostructural features of writing (e.g., Bae, 2001; Crossley & McNamara, 2011). More specifically, idea development, theme development, organization, and inclusion of genre-specific elements can be examined using analytic rating scales, which examine several different features of writing within a single writing sample (Weigle, 2002). For example, Bae (2001) used a 5-point analytic rating scale to measure features of content (i.e., related to idea development and inclusion/quality of genre-specific elements), coherence, and grammar. On this scale, "0" was weak and "4" was strong, as "0" indicated that there was not enough text to make a judgment and "4" indicated that the text was thorough, relevant, persuasive, and creative for the area of content.

Overall quality may be examined using a holistic rating scale, which provides a single score for an entire writing sample without focusing on one specific feature of writing (Gregg et al., 2002; Weigle, 2002). However, because holistic scales consider writing samples as a whole, they do not help identify specific areas of weakness needing to be addressed in therapy. Therefore, they are not useful for clinicians working to develop individualized intervention plans.

Assessing the writing product: Microstructure

To evaluate microstructure, each element should be examined individually. Quantitative measures are more commonly used to examine microstructure features than rating scales. When examining the writing samples of college students with LLD, the microstructure features that should be examined are those that are typically weak in this population—productivity, lexical diversity, grammatical complexity, grammaticality, spelling accuracy, and punctuation.

To measure productivity (i.e., overall length of a sample), counts should be made of the total number of words (e.g., Gregg et al., 2002; Hall-Mills & Apel, 2012; Harrison & Beres, 2007; Puranik et al., 2007), T-units (e.g., Hall-Mills & Apel, 2012; Puranik et al., 2007), or paragraphs in a sample (e.g., Crossley, Weston, Sullivan, & McNamara, 2011). For lexical diversity (i.e., diversity of the vocabulary in a sample), the number of different words used in a writing sample is the best measure, as researchers have found that it shows more developmental change (i.e., continued growth as individuals mature) and is better able to differentiate between individuals with and without LLD than type–token ratio (see Scott & Windsor, 2000). With regard to grammatical complexity (sometimes called sentence complexity or syntactic complexity), possible measures include mean length of utterance (i.e., total number of words divided by total number of sentences or T-units; e.g., Hall-Mills & Apel, 2012; Smith-Lock et al., 2009), number of clauses per T-unit (i.e., total number of clauses divided by total number of T-units), or percentage of complex sentences. Grammaticality (or grammatical accuracy), on the contrary, can be measured by calculating the percentage of sentences or T-units that are either free of or contain grammatical errors (e.g., Duquès, 1989) or the average number of grammatical errors produced per sentence or T-unit (e.g., Smith-Lock et al., 2009). The features of spelling and punctuation can be combined into a single measure that focuses on mechanics (i.e., spelling, punctuation, and capitalization) or total errors (e.g., Suddarth et al., 2012) but are better measured separately to pinpoint specific areas of weakness. The most commonly used individual measure of spelling accuracy is calculating the percentage of words misspelled in a writing sample (e.g., Duquès, 1989). Analyzing the types of spelling errors that students are making and/or testing their knowledge of various Greek and Latin prefixes, suffixes,

and word roots might provide direction about areas of weakness contributing to spelling difficulties (see Brimo, 2013; Henry, 1988, 1993; Wasowicz, Apel, & Masterson, 2003). Measures of punctuation use include the average number of punctuation errors per sentence or T-unit (e.g., Smith-Lock et al., 2009) or the percentage of sentences or T-units containing punctuation errors.

TREATMENT

Once the assessment process is complete, clinicians must begin planning for therapy. Unfortunately, identifying evidence-based practices can be difficult when working with college students, as most of the existing writing intervention studies focus on students in primary or secondary grades rather than those in college (see Datchuk & Kubina, 2012; Graham & Perin, 2007; Rogers & Graham, 2008). However, there is a substantial body of literature on the most effective literacy interventions for individuals with LD of various ages. The findings and recommendations from this literature can be used to assist in developing individualized writing intervention plans for college students with LLD, as the writing difficulties of adolescents and adults with language disorders and LD overlap considerably (as described previously).

One model that can help clinicians begin planning for therapy is the learning triangle. The learning triangle is a model consisting of three corners that outline how to support the learning of individuals with LD (Berninger & Winn, 2006). These corners include (1) curriculum and instruction, (2) instructional tools and materials, and (3) individual differences of the learner. To use the triangle, clinicians should consider each student's individual areas of weakness to determine which materials and instructional practices will best serve each student. For college students with LLD, this will mean identifying each student's specific areas of strength and weakness (representing individual differences of the learner), providing strategy instruction (representing curriculum and instruction),

and using authentic writing assignments from the students current and/or previous courses to practice using strategies (representing instructional tools and materials).

Using the learning triangle, the first step is to analyze assessment results to identify the specific strengths and weaknesses of each student. In addition to assessment results, clinicians may want to review a student's graded writing assignments and talk with the student to identify specific strengths and weaknesses that may not have been revealed during the assessment process. Other strengths or weaknesses also may be revealed during the therapy process. Therefore, clinicians should be aware of college writing expectations in general (discussed earlier) and the writing expectations of each student's field(s) of study so that these skills can be carefully examined as the student writes during therapy activities. Overall, strengths and weaknesses may be seen in the writing process and/or writing product, as well as in macrostructural and/or microstructural elements of writing.

Once areas of strength and weakness are identified (i.e., individual differences), clinicians should make decisions about the order in which they will address weaknesses in therapy. Some factors that clinicians may want to consider when determining which skills to treat first in therapy include how much of an impact each weakness has on the overall quality of writing products, the severity of each weakness, the amount of time and effort required to make progress in each area of weakness, the types of writing skills that will be necessary to complete the writing assignments expected at the college level and in the student's field of study, and the priorities of the student being treated. During this process, it may be helpful to examine scored writing assignments from actual coursework that have been provided by the student to determine what he or she is penalized for most frequently. The clinician also might consider prioritizing macrostructural skills that would be difficult for a spelling/grammar checker or peer proofreader to catch (e.g., organization or inclusion of genre-specific elements),

13

as these other resources could be used until microstructural skills could be addressed in therapy. Regardless of the approach clinicians choose to take in prioritizing goals, the student with LLD should be involved throughout this process. Collaborating with the student to select treatment goals ensures that the student also believes that the goals are important, which is likely to increase the student's motivation in working toward achieving those goals.

Writing interventions

After targets for therapy are selected, specific intervention strategies and materials should be identified (i.e., curriculum/ instruction and instructional tools/materials in the triangle model). Although many writing interventions exist, the literature on literacy interventions specifically for students with LD outlines three basic strategies that have evidence of their effectiveness with this population (Vaughn, Gersten, & Chard, 2000). The first of these strategies involves providing explicit instruction of all the steps of the writing process, including prewriting, drafting, and editing/revising. Observations of college students completing a writing task can help indicate where breakdowns occur in each stage of the writing process. If one or more phases of the writing process are addressed, the student may already have some background knowledge on what is supposed to happen during each phase of this process. The second strategy requires the provision of explicit instruction of the various conventions specific to each writing genre. For example, compare–contrast expository assignments require students to first explain how two items or concepts relate and then discuss how they differ. Conversely, persuasive writing assignments require students to state their position on a topic and support their position using facts. For college students with LLD, the specific text structures used in their field(s) of study would be the most important to address in therapy. The final strategy involves providing frequent guided feedback to students about the strengths, weaknesses, and overall quality

of their writing. This can be provided to students during practice applying strategies to actual college writing assignments. Students should also be encouraged to talk about their own perceptions of their strengths and weaknesses during the therapy process to increase their awareness of their abilities and check their self-monitoring skills.

One evidence-based intervention approach that incorporates all of these elements and is specifically designed for students with LD is the self-regulated strategy development (SRSD) model (Ferretti, Andrews-Weckerly, & Lewis, 2007; Harris & Graham, 1996). The SRSD model consists of six stages that can be reordered, combined, repeated, or adapted as necessary: (1) developing and activating background knowledge required to use new strategy; (2) discussing the strategy; (3) modeling how to use the new strategy with use of positive self-statements while writing; (4) memorizing the new strategy; (5) supporting the strategy; and (6) independent performance of the new strategy (see Harris & Graham, 1996; Santangelo, Harris, & Graham, 2008). Specific strategies to be taught using this approach are outlined in various guides (e.g., Graham & Harris, 2005; Harris & Graham, 1996). However, the strategies provided in these guides were developed for elementary-aged children, leaving clinicians responsible for determining which strategies they should teach to their college-aged clients. In addition, this approach leaves the instructor in charge of selecting therapy targets and determining which strategies will be taught, rather than incorporating the student during these processes. This means that the student may be less motivated to learn the strategies being taught and/or that the presented strategies may not be the best fit for the student.

Strategic Content Learning (SCL) is another related approach that is designed for students with LD. It includes elements demonstrating effectiveness with this population and allows students to take on a collaborative role. SCL has been evaluated with college students with LD who struggle with reading, writing, and/or mathematics with promising results

14

(e.g., Butler, 1992, 1995, 1998; Butler, Elaschuk, & Poole, 2000). Specifically, findings of these studies suggest that SCL can help college students with LD make improvements in writing quality, metacognitive knowledge (i.e., awareness of one's knowledge and ways of thinking), self-efficacy (i.e., beliefs about one's competence and control), attributional patterns (i.e., what one believes is responsible for successes and failures), and self-regulated approaches (i.e., ability to plan, monitor, and evaluate one's use of writing strategies).

Using SCL, a college student with LLD would collaborate with a clinician to determine the nature of the problem, discuss strategies that the student has used or could use in an attempt to overcome the problem, implement these strategies, determine the success of these strategies, and determine ways to modify attempted strategies to increase the student's success. This level of involvement allows students to gain experience in identifying a problem and brainstorming ways to solve it. In addition, it ensures that the strategies being addressed in therapy are personalized on the basis of the needs and preferences of the student. Butler (1995) suggested that instructors should first allow students to suggest strategies and provide suggestions of possible strategies themselves only when a student is unable to come up with a strategy. When instructor suggestions are given, however, it should be made clear to students that they are just options and not necessarily the best strategies for that student.

To prepare for using this approach, a clinician should have his or her student bring in writing assignment instructions from his or her current and previous classes. Butler (1995) recommended using actual writing assignments so that the skills being addressed and strategies being taught are highly applicable to the writing tasks expected of each student being treated. During the first intervention session, the clinician should begin by having the student start a writing assignment as he or she typically would. Before the student begins writing, the clinician should already have a good idea of strengths and weaknesses that

will be observed in the student from assessment results. However, he or she may observe additional strengths or weaknesses as the student is writing. As the student works, the clinician can probe the student about how the task is going and if he or she is accomplishing what is necessary to be successful on the assignment. In addition to trying to elicit thoughts from the student, the clinician can note strengths and weaknesses that he or she observes in the student and discuss the effectiveness of the strategies used by the student. Through these discussions, the student and the clinician will be working together to pinpoint problem areas in the student's writing and use of strategies.

After specific weaknesses are identified, the clinician and the student can work together to figure out possible strategies that might help improve the area of weakness (Butler, 1995; Butler et al., 2000). For example, if it is determined that the student has not addressed all requirements of the assignment, one strategy would be to scaffold the student to examine the assignment instructions closely and create an outline. If the student struggles with organization, creating an outline from the instructions could be useful, or researching the typical format for the given writing assignment could provide ideas for organization. In addition, some of the acronyms developed by Graham and Harris (2005) may be beneficial for organizing various text structures, such as STOP (**S**uspend judgment, **T**ake a side, **O**rganize ideas, and **P**ut my plan in play) for planning persuasive writing assignments. For students who include extraneous information, some options would be creating an outline before writing or determining whether or not each sentence is relevant when proofreading an assignment. If a student struggles with a microstructural skill such as spelling or grammar, strategies might include proofreading an assignment sentence by sentence until it makes sense or identifying common errors and determining learning rules so that they can be avoided in the future. If spelling is a major problem that cannot be resolved simply by more careful proofreading

and practice in using spell-check features in word processing programs, students may need explicit instruction regarding the meanings, pronunciations, and spellings of various prefixes, roots, and suffixes. Explicit instruction regarding homonyms (e.g., "they're" vs. "their") may also be helpful. Several evidence-based programs are available for improving decoding and spelling skills in adolescents that could be adapted for college students. Examples are the such as Barton Reading and Spelling System (Barton, 2000), Orton-Gillingham (Academy of Orton-Gillingham Practioners & Educators, 2012), Wilson Reading System (Wilson, 1996), Project Read (Enfield & Greene, 1973).

Following the selection and discussion of strategies, the student should attempt to implement the strategy while brainstorming, writing, or proofreading (Butler 1995; Butler et al., 2000). The clinician and the student should focus on evaluating the strategy's effectiveness both while the student is using the strategy and after the strategy has been used. If the strategy is successful, they can talk about how it worked and if there might be ways to improve it. If the strategy is unsuccessful, they can discuss ways to modify the attempted strategy or determine another strategy that might be more effective. After the clinician and the student agree that a strategy is effective, the student should write down all steps required in the strategy so that he or she has access to it when needed outside of therapy sessions.

In addition to teaching strategies specific to writing, clinicians may need to discuss other strategies with college students who have LLD related to their ability to successfully complete writing assignments. More specifically, after years of becoming accustomed to having parents, teachers, and others advocate for them, these students now must take on the responsibilities of time management, monitoring their own academic progress, and seeking help when needed (Foley, 2006). Therefore, clinicians may need to help college students with LLD overcome challenges such as difficulty managing time, starting tasks, maintaining attention, switching tasks, or managing impulsivity. Some strategies that could be taught to address these difficulties include creating and following time schedules, developing checklists of steps that must be completed to finish a task, or determining and creating an environment that enhances attention.

Accommodations and supports

Although individualized intervention can help alleviate some of the writing difficulties experienced by college students with LLD, these individuals likely will continue to experience some difficulties with writing as expectations become more complex and numerous during their progression through school and transition into a career (Berninger, Nielsen, Abbott, Wijsman, & Raskind, 2008). In these instances, supports or accommodations can be utilized to help individuals with LLD be successful in educational and vocational settings.

Many supports are currently available that can help college students with LLD succeed academically. Clinicians should consider each student's areas of weakness when determining which supports will offer the most assistance. For students who struggle with the physical act of writing or have a hard time listening and writing at the same time, speech-to-text programs, scribes, note takers, and audio and/or video recording of lectures may be helpful. Proofreading programs, spell-checkers, or the use of a reviewer can assist students who are frequently penalized for spelling and/or grammatical errors on writing assignments. Other accommodations that can increase academic success but do not directly reduce or eliminate the need to write include modifying testing procedures (i.e., extended or unlimited time, proctor, or alternative response method), making changes to a student's program of study (i.e., waiving/allowing substitutions or offering extended time for difficult courses), and/or providing direct academic assistance (i.e., student or professional tutor; Rath & Royer, 2002).

Whereas all of the aforementioned supports have the potential to increase the academic

15

success of college students with LLD who struggle with writing, they fail to strengthen the abilities of these individuals both in writing and in other areas of weakness that commonly co-occur with LD (i.e., organizational, test-taking, time management, communication, note-taking, memory, listening, social, self-advocacy, and metacognitive skills; Yost, Shaw, Cullen, & Bigaj, 1994). This means that students' difficulties in these areas are likely to persist, which could negatively impact their performance in other environments in the future. Therefore, it may be beneficial also to provide supports that focus on making internal changes to students to strengthen areas of weakness in both writing and other areas (Rath & Royer, 2002). Some of these options include remediation/remedial courses, counseling/therapy services for emotional issues or setting future goals, or strategy training for the aforementioned areas of weakness commonly accompanying LLD. Although not all of these options may result in gains in writing skills, they can result in increased independence and success in school and work settings.

CONCLUSION

Many college students who struggle with writing as a result of LLD will continue to struggle if not identified and if appropriate services are not provided. However, many SLPs have reported that they do not possess the knowledge or skills necessary to adequately assess and treat this population. This article serves as a guide for SLPs and other professionals working to identify and treat the writing difficulties of college students with LLD.

Individualized assessments that focus on examining the writing skills expected at the college level and known to be weak in this population using both formal and informal measures are essential in planning writing intervention for college students with LLD. Informal assessments should examine both macrostructural and microstructural skills across various genres (especially those related to a student's field(s) of study) to ensure that all areas of difficulty are identified. Clinicians should then carefully analyze assessment results to identify individual strengths and weaknesses in the writing abilities of their college clients with LLD.

Once areas of weakness are identified, they can be prioritized for therapy on the basis of their severity, impact on writing quality, and importance to the student. Despite the limited research on writing intervention for college students with LLD, the literature discussing interventions for LD suggests that the SRSD model and SCL are appropriate for this population. However, SCL may be more beneficial than the SRSD model, as it allows students to be actively involved in the therapy process and to figure out which strategies are the best fit for them. Strategies that will improve students' individual areas of weakness can be taught and practiced using one of these approaches. In addition, various accommodations and supports can be utilized to increase students' chances of academic success as they work toward improving their writing abilities. Because SLPs are language experts, it is important that they become involved in identifying and treating the writing problems of college students with LLD.

REFERENCES

Academy of Orton-Gillingham Practioners & Educators. (2012). The Orton-Gillingham approach. Retrieved from http://www.ortonacademy.org/approach.php

ACT. (2007). *ACT technical manual*. Retrieved from http://www.act.org/aap/pdf/ACT_Technical_Manual.pdf

Alley, G., & Deshler, D. (1979). *Teaching the learning disabled adolescent: Strategies and methods*. Denver, CO: Love Publishing Co.

American Speech-Language-Hearing Association. (2007). *Scope of practice in speech–language pathology* [Scope of Practice]. Retrieved August 18, 2015, from http://www.asha.org/policy/SP2007-00283

Bae, J. (2001). Cohesion and coherence in children's written English: Immersion and English-only classes. *Issues in Applied Linguistics*, *12*, 51–88.

Barton, S. (2000). *Barton reading and spelling system*. San Jose, CA: Bright Solutions for Dyslexia.

Berman, R. A., & Katzenberger, I. (2004). Form and function in introducing narrative and expository texts: A developmental perspective. *Discourse Processes*, *38*, 57–94.

Berninger, V., Nielsen, K., Abbott, R., Wijsman, E., & Raskind, W. (2008). Writing problems in developmental dyslexia: Under-recognized and under-treated. *Journal of School Psychology*, *46*, 1–21.

Berninger, V., & Winn, W. (2006). Implications of advancements in brain research and technology for writing development, writing instruction, and educational evolution. In C. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 96–114). New York: Guilford.

Brimo, D. (2013). The "how to" guide to spelling assessment. *Perspectives on Language and Learning Education*, *20*, 129–136.

Butler, D. L. (1992). Promoting strategic learning by learning disabled adults and adolescents. *Exceptionality Education Canada*, *2*, 109–128.

Butler, D. L. (1995). Promoting strategic learning by postsecondary students with learning disabilities. *Journal of Learning Disabilities*, *28*, 170–190.

Butler, D. L. (1998). The Strategic Content Learning approach to promoting self-regulated learning: A summary of three studies. *Journal of Educational Psychology*, *90*, 682–697.

Butler, D. L., Elaschuk, C. L., & Poole, S. (2000). Promoting strategic writing by postsecondary students with learning disabilities: A report of three case studies. *Learning Disability Quarterly*, *23*(3), 96–213.

Carrow-Woolfolk, E. (2011). *Oral and written language scales* (2nd ed.). Torrance, CA: Western Psychological Services.

College Board. (2008). *Scoring your test: From the SAT preparation booklet*. Retrieved from https://satonlinecourse.collegeboard.org/SR/digital_assets/pdfs/eri/scoring_2011-2012.pdf

College Board. (2013). *Essay scoring: How it's scored, and what the scores mean*. Retrieved from http://sat.collegeboard.org/scores/sat-essay-scoring-guide

Common Core State Standards Initiative. (2012a). *English language arts standards: Language: Grade 11–12*. Retrieved from http://www.corestandards.org/ELA-Literacy/L/11-12

Common Core State Standards Initiative. (2012b). *English language arts standards: Writing: Grade 11–12*. Retrieved from http://www.corestandards.org/ELA-Literacy/W/11-12

Council of Writing Program Administrators. (1999). The WPA outcomes statement for first-year composition. *WPA: Writing Program Administration*, *23*(1–2), 59–66.

Council of Writing Program Administrators. (2008). *WPA outcomes statement for first-year composition*. Retrieved from http://wpacouncil.org/positions/outcomes.html

Council of Writing Program Administrators, National Council of Teachers of English, & National Writing Project. (2011). *Framework for success in postsecondary education*. Berkeley, CA: National Writing Project.

Crossley, S. A., & McNamara, D. S. (2011). Text coherence and judgment of essay quality: Models of quality and coherence. In L. Carlson, C. Hoelscher, & T. F. Shipley (Eds.), *Proceedings of the 29th Annual Conference of the Cognitive Science Society* (pp. 1236–1241). Austin, TX: Cognitive Science Society.

Crossley, S. A., Weston, J. L., Sullivan, S. T. M., & McNamara, D. S. (2011). The development of writing proficiency as a function of grade level: A linguistic analysis. *Written Communication*, *28*, 282–311.

Crowhurst, M. (1987). Cohesion in argument and narration at three grade levels. *Research in the Teaching of English*, *21*, 185–201.

Crowhurst, M., & Pichè, G. L. (1979). Audience and mode of discourse effects on syntactic complexity in writing at two grade levels. *Research in the Teaching of English*, *13*, 101–109.

Datchuk, S. M., & Kubina, R. M. (2012). A review of teaching sentence-level writing skills to students with writing difficulties and learning disabilities. *Remedial and Special Education*, *34*, 180–192.

Dockrell, J. E., Lindsay, G., & Connelly, V. (2009). The impact of specific language impairment on adolescents' written text. *Exceptional Children*, *75*, 427–446.

Duquès, S. L. (1989). Grammatical deficiencies in writing: An investigation of learning disabled college students. *Reading and Writing: An Interdisciplinary Journal*, *1*, 309–325.

Educational Testing Service. (2013a). *Scoring guide for the argument task*. Retrieved from https://www.ets.org/gre/revised_general/prepare/analytical_writing/argument/scoring_guide

Educational Testing Service. (2013b). *Scoring guide for the issue task*. Retrieved from https://www.ets.org/gre/revised_general/prepare/analytical_writing/issue/scoring_guide

Ehren, B. J., & Ehren, T. C. (2001). New or expanded written language roles for speech–language pathologists: Making it happen in the schools. *Seminars in Speech and Language*, *22*, 234–243.

Enfield, M. E., & Greene, V. E. (1973). *Project read*. Bloomington, MN: Language Circle Enterprises, Inc.

Fallon, K. A., & Katz, L. A. (2011). Providing written language services in the schools: The time is now. *Language, Speech, and Hearing Services in Schools*, *42*, 3–17.

Ferretti, R. P., Andrews-Weckerly, S., & Lewis, W. E. (2007). Improving the argumentative writing of students with learning disabilities: Descriptive and normative considerations. *Reading & Writing Quarterly*, *23*, 267–285.

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, *32*, 365–387.

Foley, N. E. (2006). Preparing for college: Improving the odds for students with learning disabilities. *College Student Journal*, *40*, 641–645.

Graham, S., & Harris, K. R. (2005). *Writing better: Effective strategies for teaching students with learning difficulties*. Baltimore: Brooks Publishing Co.

Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology*, *99*, 445–476.

Gregg, N., Coleman, C., Stennett, R. B., & Davis, M. (2002). Discourse complexity of college writers with and without disabilities: A multidimensional analysis. *Journal of Learning Disabilities*, *35*, 23–56.

Hall-Mills, S., & Apel, K. (2012). Narrative and expository writing of adolescents with language-learning disabilities: A pilot study. *Communication Disorders Quarterly*, *34*, 1–9.

Hammill, D. D., Brown, V. L., Larsen, S. C., & Wiederholt, J. L. (1994). *Test of adolescent and adult language* (4th ed.). Austin, TX: Pro-Ed, Inc.

Harris, K. R., & Graham, S. (1996). *Making the writing process work: Strategies for composition and self-regulation*. Cambridge, MA: Brookline Books.

Harrison, G. L., & Beres, D. (2007). The writing strategies of postsecondary students with writing difficulties. *Exceptionality Education Canada*, *17*, 221–242.

Henry, M. K. (1988). Beyond phonics: Integrated decoding and spelling instruction based on word origin and structure. *Annals of Dyslexia*, *38*, 258–275.

Henry, M. K. (1993). Morphological structure: Latin and Greek roots and affixes as upper grade code strategies. *Reading and Writing: An Interdisciplinary Journal*, *5*, 227–241.

Katz, L. A., Stone, C. A., Carlisle, J. F., Corey, D. L., & Zeng, J. (2008). Initial progress of children identified with disabilities in Michigan's reading first schools. *Exceptional Children*, *74*, 235–256.

Kaufman, A. S., & Kaufman, N. L. (2004). *Kaufman test of educational achievement* (2nd ed.). Circle Pines, MN: AGS Publishing.

Lovett, B. J., Lewandowski, L. J., Berger, C., & Gathje, R. A. (2010). Effects of response mode and time allotment on college students' writing. *Journal of College Reading and Learning*, *40*(2), 64–79.

Masterson, J. J., Apel, K., & Wasowicz, J. (2006). *Spelling performance evaluation for language and literacy* (2nd ed.). Minneapolis, MN: Pearson Assessments.

Michelsson, K., Byring, R., & Björkgren, P. (1985). Ten-year follow-up of adolescent dyslexics. *Journal of Adolescent Health Care*, *6*, 31–34.

Morris, N. T., & Crump, W. D. (1982). Syntactic and vocabulary development in the written language of learning disabled and non-learning disabled students at four age levels. *Learning Disability Quarterly*, *5*, 163–172.

Mortensen, L., Smith-Lock, K., & Nickels, L. (2009). Text structure and patterns of cohesion in narrative texts written by adults with a history of language impairment. *Reading and Writing: An Interdisciplinary Journal*, *22*, 735–752.

Nippold, M. A. (2000). Language development during the adolescent years: Aspects of pragmatics, syntax, and semantics. *Topics in Language Disorders*, *20*(2), 15–28.

O'Neill, P., Adler-Kassner, L., Fleischer, C., & Hall, A.-M. (2012). Creating the framework for success in postsecondary writing. *College English*, *74*(6), 520–533.

Penner-Williams, J., Smith, T. E. C., & Gartin, B. C. (2009). Written language expression: Assessment instruments and teacher tools. *Assessment for Effective Intervention*, *34*, 162–169.

Principe, A. D., & Graziano-King, J. (2008). When timing isn't everything: Resisting the use of timed tests to assess writing ability. *Teaching English in the Two-Year College*, *35*, 297–311.

Puranik, C., Lombardino, L., & Altmann, L. (2007). Writing through retellings: An exploratory study of language impaired and dyslexic populations. *Reading and Writing: An Interdisciplinary Journal*, *20*, 251–272.

Rath, K. A., & Royer, J. M. (2002). The nature and effectiveness of learning disability services for college students. *Educational Psychology Review*, *14*, 353–381.

Rogers, L. A., & Graham, S. (2008). A meta-analysis of single subject design writing intervention research. *Journal of Educational Psychology*, *100*, 879–906.

Salvia, J., & Ysseldyke, J. E. (2007). *Assessment in special and inclusive education* (10th ed.). Boston: Houghton Mifflin.

Santangelo, T., Harris, K.R., & Graham, S. (2008). Using self-regulated strategy development to support students who have "trubol giting thangs into werds". *Remedial and Special Education*, *29*, 78–89.

Scott, C. M., & Windsor, J. (2000). General language performance measures in spoken and written narrative and expository discourse of school-age children with language learning disabilities. *Journal of Speech, Language, and Hearing Research*, *43*, 324–339.

Smith-Lock, K. M., Nickels, L., & Mortensen, L. (2009). Story writing skills of adults with a history of language-impairment. *Reading and Writing: An Interdisciplinary Journal*, *22*, 713–734.

Suddarth, R., Plante, E., & Vance, R. (2012). Written narrative characteristics in adults with language impairment. *Journal of Speech, Language, and Hearing Research*, *55*, 409–420.

U.S. Department of Education. (2011). *Students with disabilities at degree-granting postsecondary institutions* (NCES 2011-018). Retrieved from http://nces.ed.gov/pubs2011/2011018.pdf

Vaughn, S., Gersten, R., & Chard, D. J. (2000). The underlying message in LD intervention research: Findings from research syntheses. *Exceptional Children*, *67*, 99–114.

Venn, J. J. (2007) *Assessing students with special needs* (4th ed.). Upper Saddle River, NJ: Pearson-Merrill/Prentice Hall.

Wagner, M., Newman, L., Cameto, R., & Levine, P. (2005). *Changes over time in the early postschool outcomes of youth with disabilities: A report of findings from the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2)* (SRI Project P1182). Menlo Park, CA: SRI International.

Wasowicz, J., Apel, K., & Masterson, J.J. (2003). Spelling assessment: Applying research in school-based practice. *Perspectives on School-Based Issues*, *4*, 3–7.

Weigle, S. C. (2002). *Assessing writing*. Cambridge, England: Cambridge University Press.

Wilkinson, G. S., & Robertson, G. J. (2006). *Wide range achievement test* (4th ed.). Lutz, FL: Psychological Assessment Resources.

Wilson, B. A. (1996). *Wilson reading system*. Oxford, MA: Wilson Language Training Corporation.

Wolfe, C. R. (2011). Argumentation across the curriculum. *Written Communication*, *28*, 193–219.

Woodcock, R. W., McGrew, K. S., Schrank, F. A., & Mather, N. (2007). *Woodcock-Johnson III normative update tests of achievement* (Forms A & B/standard and extended batteries). Rolling Meadows, IL: Riverside Publishing.

Yost, D. S., Shaw, S. F., Cullen, J. P., & Bigaj, S. J. (1994). Practices and attitudes of postsecondary LD service providers in North America. *Journal of Learning Disabilities*, *27*, 631–640.