Chapter 13

Teaching Academically Underprepared Postsecondary Students

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Only 25% to 38% of secondary education graduates in the United States are proficient readers or writers but many continue to postsecondary education, where they take developmental education courses designed to help them improve their basic academic skills. However, outcomes are poor for this population, and one problem may be that approaches to teaching need to change. This chapter discusses approaches to the teaching of academically underprepared postsecondary students and how teaching might be changed to improve student outcomes. A wide variety of approaches is reported in the literature, including teaching of discrete skills, providing strategy instruction, incorporating new and multiple literacies, employing disciplinary and contextualized approaches, using digital technology, and integrating reading and writing instruction. However, the field has yet to develop a clear theoretical framework or body of literature pointing to how teaching in this area might improve. Based on our reading of the literature, we recommend directions for future research that could inform changes in the teaching of underprepared students at the postsecondary level.

This chapter aims to identify ways in which the teaching of academically underprepared postsecondary students might be changed to enhance learning opportunities. The population of interest is students in postsecondary education with reading and writing skills below the level required for meaningful learning. Educational outcomes for this population are poor in terms of skill development, academic achievement, and persistence (Bailey, Jeong, & Cho, 2010; Perin, Bork, Peverly, & Mason, 2013; Perin, Lauterbach, Raufman, & Santikian Kalamkarian, 2017).

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Strong literacy skills serve as a foundation of learning from early elementary grades through postsecondary education. However, in the United States, only 38% of students in the last year of secondary education are proficient readers and 25% are proficient writers, whereas 28% display low reading skills (National Assessment of Educational Progress [NAEP], 2015a; National Center for Education Statistics, 2012).

In the United States, underprepared postsecondary students may be referred for supportive courses and services designed to help them improve their literacy and mathematics skills and become familiar with academic expectations. These supports are referred to as "developmental education," which has been defined as "a comprehensive process that focuses on the intellectual, social, and emotional growth and development of all students. Developmental education includes, but is not limited to, tutoring, personal/career counseling, academic advisement, and coursework" (National Association for Developmental Education, n.d.). Developmental courses are often offered at several levels, with students placed based on assessments administered on college entry. In this chapter, we focus on postsecondary developmental education in postsecondary institutions coursework and interventions designed to improve reading and writing skills.

Course taking rates vary by type of institution, with an estimated 5.6% to 28.1% of students in public 2- and 4-year institutions taking at least one developmental reading or writing course (Chen, 2016; Skomsvold, 2014). Enrollments in these literacy courses are higher in community (2-year) colleges. For example, 28.1% of 2-year compared with 10.8% of 4-year college students enroll in developmental reading or writing courses (Chen, 2016). In fact, college policies vary considerably regarding whether students found to be academically underprepared on college entry are actually required to enroll in developmental education courses. For this reason, enrollments may be an underestimate of underpreparedness, as many students referred to developmental education elect not to attend but enroll in college-level courses instead (Perin & Charron, 2006).

Outcomes for entering postsecondary students identified as academically underprepared have been poor, especially for students of color, as measured by rates of course completion, persistence in college, grade point average, and degree attainment (Bailey et al., 2010). For example, a majority of Latinx students do not progress beyond developmental coursework (Acevedo-Gil, Santos, & Solórzano, 2014), and furthermore, the lower Latinx students are placed in the developmental English course sequence, the lower their likelihood of success in credit-bearing English classes (Acevedo-Gil, Santos, Alonso, & Solorzano, 2015). Although there are multiple causes for the poor outcomes (Cohen, Brawer, & Kisker, 2013), there have been calls for improvement of developmental instruction:

> Little is known about what really goes on in developmental education classrooms, and even less is known about the attributes of effective teaching for this population. Principles of adult learning are often poorly understood by developmental education instructors, who are typically not offered professional development

opportunities by their employers. Evidence-based instructional strategies used in high schools could be readily adapted for community colleges. Professional development for instructors and curricular reforms may be needed. (MDRC, 2013, p. 2)

Observations of developmental education classrooms have been reported, for example, by Norton Grubb and colleagues in California (Grubb, 2012; Grubb et al., 1999; Grubb & Gabriner, 2013), but they have been confined to single states, and more wide-ranging, systematic observational studies are needed. Lack of preparedness for postsecondary academic demands is a problem faced by many students. However, efforts to prepare secondary education graduates for the literacy demands of postsecondary education indicate the difficulty of dealing with this issue. For example, in a rare study reporting evidence bearing on this problem (Kallison, 2017), it was found that even after improving skills in an intensive high-school-to-college transition program that taught to state reading and writing standards, a group of underprepared secondary education graduates remained unready for college literacy demands.

PURPOSE AND QUESTIONS

There are many factors that underlie academic difficulty. The current chapter sets out to explicate one of these factors, approaches to teaching. Our purpose is to identify ways in which the teaching of academically underprepared students in postsecondary education might be changed to enhance students' learning opportunities. Based on the available literature, we identify the strengths and shortcomings of current approaches to teaching in postsecondary developmental settings to present directions for research and practice in instructional improvement. Three questions guide our discussion: (1) What approaches to the teaching of literacy skills to postsecondary students have been reported in the literature? (2) What ideas have emerged in the field concerning the improvement of teaching literacy skills to this population? (3) What implications can be drawn from the available literature for research and practice in improving the teaching of literacy skills to this population?

For context, we first present a conceptual framework for understanding reading and writing instruction and discuss the competencies needed in each area. We then summarize our identification of the literature and proceed to a discussion of the research. Finally, we present implications and future directions for research and practice bearing on the teaching of underprepared postsecondary students.

CONCEPTUAL FRAMEWORK

For the current purpose, *literacy* is conceptualized as the reading and writing of printed words to comprehend and express meaning. We acknowledge broader definitions, such as those that extend beyond the processing of print to the oral skills of speaking and listening (National Governors' Association and Council of Chief State School Officers, 2010), to the use of multimedia (Gee, 2012; Guzzetti & Foley, 2018; Mannion & Ivanic, 2007; Mulcahy-Ernt & Caverly, 2018), and, even more

broadly, to social functioning, goal achievement, and the development of personal knowledge and potential (White, 2011). However, because literacy coursework for underprepared postsecondary students centers on the reading and writing of print, we assume the narrower definition here. Traditionally, reading and writing have been taught to underprepared postsecondary students in separate courses, but more recently, in a growing number of colleges, developmental education has been reformed to combine the two areas in single courses (Bickerstaff & Raufman, 2017). In this section, we present a conceptual framework for understanding reading and writing, and their integration.

Reading

Reading is multidimensional, goal directed, and developmental (Alexander, 2005, 2012) and involves multiple cognitive, metacognitive, affective, and sociocultural factors working in concert (Holschuh & Lampi, 2018; Pearson & Cervetti, 2015). Layered within each of these factors are other multidimensional constructs. For example, cognitive factors include decoding, predicting, and comprehending, and affective factors include motivation, self-efficacy, and self-regulation. All of these processes occur within social, cultural and contextual spaces, which favors those who understand academic discourse (Gee, 2012). Reading ability develops over time and involves both learning to read and reading to learn (Alexander, 2012; Rosenblatt, 1994). Learners develop flexibility, control, and experience to maneuver within the linguistic, cognitive, and sociocultural dimensions of literacy (Kucer, 2014).

Reading is developmental across the life span, and readers bring a variety of strategies, interests, and background knowledge to the text; making meaning requires the ability to critically analyze and interpret text (Alexander, 2012). In this sense, reading proficiency may not generalize to specific disciplinary areas that demand a good deal of content knowledge (Perin, 2018).

Key reading competencies include understanding literal and implied information in text, drawing appropriate inferences and conclusions; identifying and summarizing the main ideas; analyzing information as it unfolds over a text; interpreting the meanings of words and phrases; analyzing the text structure; understanding the purpose or point of view expressed in a text; making connections between the text and their own experience; comprehending information presented in diverse formats and media (i.e., engaging in multiple literacies, as mentioned above); assessing the arguments expressed in a text; comparing information across texts; analyzing an author's use of literary devices; and understanding complex texts (NAEP, 2015b; National Governors' Association and Council of Chief State School Officers, 2010).

Writing

Writing has been conceptualized as having two components, called "the task environment" and "the individual" (Hayes, 1996, p. 10). The task environment encompasses social aspects, such as the purpose of writing and characteristics of the

readership of a written text, and physical aspects, including the medium, for example, pen and paper or digital means, and the text written so far, which provides context for writing for further composition. In the "individual" component are housed key cognitive and affective processes, including memory, schema for the act of writing, metacognition, understanding of core writing behaviors (planning, drafting, and revision), beliefs about writing, and motivation to write. An extension of Hayes's (1996) model includes executive functions in the self-regulation of the writing process, and the use of writing strategies (Berninger, Garcia, & Abbott, 2009).

Skills and processes that enable proficient writing are spelling, which requires phonemic awareness and the mapping of sounds and letters; knowledge of the conventions of a written language, including syntax, capitalization, and punctuation; and vocabulary knowledge (Berninger & Chanquoy, 2012; Rijlaarsdam et al., 2012). Also important is discourse knowledge, that is, awareness of the characteristics of and what is involved in producing well-written text (Olinghouse & Graham, 2009).

Key writing competencies include the ability to compose text in three major genres, that is, argumentative/persuasive, informational/explanatory, and narrative; use precise language and varied sentence structure; produce coherent text that demonstrates an awareness of the informational needs and basic assumptions of an assumed audience of readers; revise one's own text to improve clarity; use digital technology, such as the Internet, to communicate and collaborate with others; engage in multimodal, nonprint literacies in line with evolving practices in the 21st century; convey research findings; acknowledge the source of ideas—that is, avoid plagiarizing; and engage in both longer- and shorter-term writing tasks (Guzzetti & Foley, 2018; Mulcahy-Ernt & Caverly, 2018; NAEP, 2012; National Governors' Association and Council of Chief State School Officers, 2010; Paulson & Holschuh, 2018).

Integrated Reading and Writing

The integration of reading and writing instruction seems well supported from both theoretical and empirical perspectives. Reading and writing are not the reverse of each other (Stotsky, 1983) but share a number of important overlapping processes (Fitzgerald & Shanahan, 2000). Shanahan (2016) describes the relationship between reading and writing as "two buckets drawing water from a common well or two buildings built on a common foundation" (p. 195). Furthermore, two meta-analyses have shown mutually beneficial empirical relationships between reading and writing (Graham et al., 2018; Graham & Hebert, 2010).

IDENTIFICATION OF THE LITERATURE

The ProQuest, ERIC, EBSCO, and Google Scholar search engines; manual search of journals; and reference lists in the identified literature were used to generate an initial pool of studies for consideration. The search terms, used singly and in combination, were the following: *developmental education, remedial*, college, postsecondary, higher education, literacy instruction, reading instruction, writing instruction, reading*

skills, writing skills, integration, and *integrated reading and writing*. Resources meeting the following criteria were selected for examination: (a) provided description, practitioner commentary, and/or data on the teaching of literacy skills to underprepared students in postsecondary education and (b) appeared in peer-reviewed journal articles, chapters in scholarly books, or technical reports produced by reputable organizations. A parameter of the years 2000 to 2018 was set, but a few earlier references were screened in because they offered important information not available in more recent work. The search yielded 199 studies, which were scrutinized for relevance to the current chapter; of these, 36 were relevant to our guiding questions. The literature identified included empirical studies, descriptive reports, and literature reviews. The work was organized by major theme, as shown in the next section. Where studies were thematically cross-cutting, they are presented below within a single theme for expediency. The large majority of studies identified were not designed as evaluations and thus did not report outcome data. Where evidence of effectiveness was reported, we include it in our discussion.

TEACHING LITERACY TO UNDERPREPARED POSTSECONDARY STUDENTS

Overview

The purpose of developmental reading and writing courses is to increase the proficiency of college students who are underprepared for college-level literacy (Paulson, 2014). Increasing the effectiveness of these courses is tied to pedagogical choices (Paulson & Holschuh, 2018). Although developmental educators use a variety of teaching approaches, two major approaches, discrete skills and meaning making, have been defined in the literature on teaching literacy to underprepared adults (Beder, Lipnevich, & Robinson-Geller, 2007; Perin, 2013). Though it has been claimed that many developmental education courses use a decontextualized, discrete skills approach (Grubb, 2012; Lesley, 2004; Weiner, 2002), and that when skills are taught in this way there is little use of authentic reading materials or literacy strategies (Rose, 2005), there have been few systematic analyses of instruction in developmental classrooms or comparisons of the outcomes of different teaching approaches.

One curriculum analysis found that developmental reading classes using discrete, decontextualized skills instruction may focus on finding the main idea, inferencing, and examining the paragraph structure while using workbook-style textbooks that feature mostly narrative text examples (Armstrong, Stahl, & Kantner, 2015). Textbooks used in these courses center on such skills, which are typically taught in isolation (Perin, 2013). This kind of "transmission" approach can lead students to use passive, surface-level strategies; they are unable to view reading as a conversation with the text and have difficulty adapting their reading strategies to the variety of task demands of college (Armstrong & Newman, 2011).

Courses using a meaning-making approach focus on problem solving and critical thinking using real-world examples and text (Perin, 2018), which may help students

succeed by increasing their strategic cognitive, metacognitive, and affective approaches to learning (Holschuh & Lampi, 2018; Simpson, Stahl, & Francis, 2004). Being able to use cognitive strategies such as analyzing and synthesizing text can enable students to further develop metacognitive approaches such as self-questioning, self-regulation, and self-monitoring (Alexander & Jetton, 2000; Holschuh & Lampi, 2018; Zimmerman, 1995). We will now discuss the various teaching approaches reported in the literature.

We will organize our discussion according to the themes of teaching discrete literacy skills, strategy instruction, new and multiple literacies, disciplinary and contextualized approaches, digital technology, and integrated reading and writing.

Teaching of Discrete Literacy Skills

Instruction in discrete skills refers to the teaching aspects of literacy, such as vocabulary definitions, the morphological structure of words, or "getting the main idea," without relating them to one another or to meaningful acts of written communication. In this approach, teachers may assign repetitive drills using pre-prepared worksheets. It is difficult to determine the extent of discrete skills instruction in developmental education from the research literature, but given that it has been claimed to be widespread (Grubb & Gabriner, 2013), it is surprising that only three studies of this approach have been conducted (Ari, 2015; Atkinson, Zhang, Phillips, & Zeller, 2014; Curry, 2003).

Ari (2015) examined the effects of two reading fluency interventions, wide reading and repeated reading. The instructional materials consisted of binders with printed materials. The readings were 400 words long, which is not representative of the longer length of text typically assigned, and were not connected to the kinds of topics students encounter in postsecondary education. The students in the wide reading condition silently read four different grade-level passages, and the students in the repeated reading condition read one grade-level passage four times. The participants displayed gains in reading speed but not comprehension, which suggests that multiple readings without further strategic processing is insufficient for comprehension gains.

Atkinson et al. (2014) found that 5 weeks of word study instruction improved the orthographic knowledge of the developmental reading students. Explicit teaching was provided in spelling rules, suffixes, and past tense endings, using word sorts and word hunts, and was designed to meet the specific needs of the participants based on their pretest performance. The researchers found improvement in the students' orthographic knowledge despite the short duration of the intervention.

An ethnography of a basic writing classroom in which discrete writing skills were taught was conducted by Curry (2003). The students were English language learners, and the teacher taught skills such as sentence-level writing, grammar, punctuation, and simple one-paragraph writing. The students were asked to write an essay and a three- to five-page research paper on self-selected topics. All the

writing assignments were brief, and none of the instruction modules observed by the researcher was related to the kinds of extended writing students would encounter in college coursework.

Two possible explanations for the lack of research on discrete skills instruction for academically underprepared postsecondary students are that (1) this approach is assumed to be effective and thus not worth studying or, from an opposite viewpoint, (2) discrete skills instruction is so damaging that it is not worth the effort to measure its (lack of) effectiveness. Ultimately, given the criticisms of discrete skills instruction (Grubb & Gabriner, 2013), in future research, this approach could serve as a control condition to be measured against more innovative approaches, analogous to the use of conventional grammar instruction in studies of writing interventions, in which the teaching of grammar has been used as a business-as-usual control and has been found in several studies to be ineffective (Graham & Perin, 2007).

Strategy Instruction

Strategy instruction involves explicit, structured teaching of specific steps for comprehending or composing text. Key components are teacher modeling and the use of graphic organizers and mnemonics to support metacognition and self-regulation. An underlying theme of strategy instruction is the gradual release of responsibility, with fading of scaffolding until the student reaches the designated literacy goals (Harris, Graham, Mason, & Friedlander, 2008; Pearson & Gallagher, 1983; Walker, 2012). Studies examining particular reading and writing strategies have reported largely encouraging results.

A strategy using the PLAN (*p*redict, *l*ocate, *p*lan, *n*ote) mnemonic reported by Caverly, Nicholson, and Radcliffe (2004) focused on the selection of information while reading and involved the gradual release of responsibility. Teaching began with instructor modeling and ended with the students transferring the strategy to a different context. Instruction included explicit teaching of the components of PLAN, that is, strategic reading strategies, metacognitive awareness, self-efficacy, recognizing text structure, and rehearsal strategies for recall. Teachers modeled the strategy using think-alouds with authentic text and supported student practice as a means to help students develop the skills to use the strategy independently in other college courses. The researchers reported increased scores on a standardized test of reading performance and comprehension and the likelihood of the use of the strategy in other contexts.

Armstrong and Lampi's (2017) PILLAR (*preview, i*dentify, *l*ist, *l*ook online, *a*ttempt, and *r*ead) mnemonic adds a disciplinary approach and is aimed at preparing students to read in situations where they have limited prior knowledge of a particular concept or topic. This strategy includes an online search component, which provides just-in-time information to the reader, encourages intertextual connections, and, as one student noted, "fits in with the current generation" (Armstrong & Lampi, 2017, p. 7). Instruction focuses on metacognition, specifically conditional and contextual

knowledge, by teaching why, when, and where the strategy might be useful. It also centers on explicit instruction in metacognitive awareness and self-regulation as a way to build both disciplinary understandings and proficiency with reading strategies. Instructors guide students through systematic previewing of the text, purposeful terminology selection, engaging intertextuality, and reading for meaning. Although this was not an empirical study, the strategy has strong theoretical underpinnings from previous research.

This emphasis on metacognitive and self-empowering strategies is echoed in Gruenbaum's (2012) call to incorporate reciprocal teaching into developmental classrooms. Reciprocal teaching is a well-documented teaching method originally developed for adolescents to improve reading comprehension skills (Palincsar & Brown, 1984; Sporer, Brunstein, & Kieschke, 2009). Gruenbaum (2012) suggests that its combination of prediction, questioning, clarification, and summarization strategies can aid in comprehension and increase writing ability as students work together to bring meaning to text. Instruction in reciprocal teaching includes providing scaffolding, modeling, and using specific, concrete examples of reading and writing strategies. In a study examining the effects of instructions on university students' comprehension, Linderholm, Kwon, and Therriault (2014) found that sometimes less is more. When students were given instructions for reading, those who were given only a self-explaining definition during reading of multiple texts had greater comprehension scores than students who were provided with a definition and modeling of the strategy. This result suggests that the explanation was sufficient and even preferable to modeling as providing more support than students need may actually impede learning (Holschuh, 2014).

In a study examining the effects of traditional textbook-based instruction and strategic reading instruction on reading performance, Lavonier (2016) found that both approaches improved student scores on the Nelson-Denny Reading Test (Brown, Fishco, & Hanna, 1993). Textbook-based instruction involved using a traditional skill-focused textbook, with the instructor guiding the students through the skills contained in the text. Strategic reading instruction was conducted using Caverly et al.'s (2004) PLAN reading comprehension strategy. Although these results are encouraging, there are limitations as there was no report on participant skill levels prior to instruction. Furthermore, using the Nelson-Denny test as the measure of success is problematic for several reasons. It is not a particularly useful measure of real-world reading ability, some of the stimulus passages seem unreasonably difficult, the test's time limitations are unrealistic, and the norms are not nationally representative (Perkins, 1984; Smith, 1998). As with many other multiple-choice reading comprehension tests, some of the items can be answered from background knowledge without reading the passages (Coleman, Lindstrom, Nelson, Lindstrom, & Gregg, 2009; Ready, Chaudhry, Schatz, & Strazzullo, 2012). The issue of background knowledge is especially problematic for academically underprepared students and for students from diverse backgrounds (Lei, Rhinehart, Howard, & Cho, 2010) because it is hard to interpret a

test score as reflecting background knowledge (or lack thereof) or reading comprehension ability alone.

Many studies of underprepared postsecondary students have used comprehension as the indicator of efficacy for a particular instructional strategy or approach. The results of such studies, however, need to be tempered not only by the criticisms just mentioned but also because comprehension is often depicted as merely extracting information, such as writing a summary or explaining the main idea. However, current literacy standards hold comprehension as a baseline (National Governors' Association and Council of Chief State School Officers, 2010). Students need to be able to analyze, critique, and argue as well. More compelling are the studies that showed gains on multiple outcome measures, such as strategy transfer, retention, and course grades, as well as those where instruction was contextualized.

Instructional practices mirroring real-world reading experiences are associated with learning gains. For example, Flink (2017) suggests that allowing students to self-select their reading choices improves motivation to read and promotes the idea of reading daily. Instruction involves allowing time in class for silent reading and a pedagogical change that views reading of self-chosen text as a valuable use of instructional time (Flink, 2017; Paulson, 2006). Flink (2017) argues that this requires training in ways to incorporate reading time into classrooms. Paulson's (2006) review of the literature cites barriers to implementing self-selected reading in the classroom, such as lack of access to books and lack of a curriculum for instruction, but states that there is evidence from K–12 studies that this approach yields gains in reading ability, which has potential for postsecondary settings. However, there is little empirical research on particular instructional approaches or on the effects of self-selected reading at the college level.

Paulson (2014) found that using analogical processes during reading—such as presenting the comparison of going to a movie and then describing that movie to someone unfamiliar with it as an analogy for reading a text and writing a summary—can help students make connections to their own knowledge and experiences while reading. Although this study focused on the efficacy of using analogies and not on classroom instruction, the results have pedagogical implications. Instructors can emphasize the importance of making connections between what students are reading and what they know. The results suggest that teaching of developmental reading designed to promote understanding embedded analogies and generating personal analogies may facilitate text comprehension. Strategic approaches have also been used in writing instruction. Simpson (1986) described a five-step writing strategy designed to prepare students for writing tests. Students were taught to use course texts to complete the steps described by the mnemonic PORPE: *P*redict potential essay questions, that is, generate questions that could be asked on an essay exam; *O*rganize key ideas; *R*ehearse key ideas; *P*ractice recall of key ideas in writing tasks; and *E*valuate the completeness, accuracy, and appropriateness of the written product using a rubric (p. 411). Each step was taught explicitly, with teacher modeling and class discussion. Although test preparation may seem a limited and unproductive approach to literacy

instruction, passing tests is often uppermost in the minds of postsecondary students, especially developmental education students, who have a history of failing tests. Test preparation may be a productive direction for developmental literacy instruction if the teaching is consistent with evidence-based approaches.

A phenomenological study of the teaching of a writing strategy in developmental education classes was reported by Perun (2015). The purpose of the instruction was to improve students' ability to revise previously written papers. The students were given an assignment sheet, with detailed instructions on how to revise a paper, and a rubric. The students worked in small groups to annotate the assignment sheet to show understanding of the teacher's expectations. In the class discussion, teachers asked the students how they would approach the task and provided evaluative feedback. Teachers modeled the steps for revision on the board and had the students freewrite (write continuously without concern for grammar, spelling, or other writing conventions). Teachers also gave the students written feedback on their drafts. This descriptive study portrayed a comprehensive strategy made up of component procedures centering on the complex skill of revision of writing.

A quasi-experimental study comparing self-regulated writing strategy instruction with business-as-usual developmental writing instruction was conducted by MacArthur, Philippakos, and Ianetta (2015). Over one college semester, teachers used a researcher-developed curriculum to teach the steps of planning, drafting, evaluating, and revising essays in combination with the self-regulation strategies of goal setting, task management, progress monitoring, and reflection. The major academic writing genres of persuasive, descriptive, cause-effect, and narrative writing were included. Basic grammar and the use of English language conventions were taught along with editing and revision. This is a rare study in the literature for its rigor and the size of the research sample ($N = 252$, with 115 treatment and 137 comparison students). Pre-post measures included persuasive essays scored for quality, length, and grammar and a motivation questionnaire examining mastery goals, self-efficacy, beliefs, and affect. Two Woodcock Johnson–III (Woodcock, McGrew, & Mather, 2001) writing subtests were entered as covariates. The intervention showed positive effects on writing quality and length (effect sizes of 1.22 and 0.71, respectively), mastery goals (effect size 0.29), and self-efficacy for tasks and processes (effect size 0.27) but not for grammar, beliefs, or affect. (Confidence intervals for the effect sizes were not reported in this study.) A detailed description of the self-regulated writing strategy instruction tested by MacArthur et al. (2015) is found in Blake, MacArthur, Mrkich, Philippakos, and Sancak-Marusa (2016).

The pedagogy employed in the MacArthur et al. (2015) intervention borrows directly from a robust body of evidence on the effectiveness of writing strategy instruction in K–12 education (Graham, Harris, & Chambers, 2016). The field of developmental education would benefit considerably from testing literacy strategies documented as effective in K–12 and modifying them to build in principles of adult learning, such as tailoring instruction to students' immediate learning needs, capitalizing on students' motivation to learn, assumption of adults' self-confidence based on

their family and community roles, and the need for self-determination (Barhoum, 2017; Knowles, 1984).

New and Multiple Literacies

In contrast to the discrete skill and strategy perspectives on literacy in postsecondary education is the new, or multiple, literacies framework, which views acts of reading and writing as socially constructed, communicative acts rather than a demonstration of skill (Relles & Duncheon, 2018). Studies of literacy conducted in this framework tend to examine how students express themselves and communicate with one other.

Hsu and Wang (2010) investigated the effects of the use of blogs on student motivation and reading comprehension in a developmental reading course. The instructors used the blogs as a way for students to respond to comprehension questions, write reflective essays, and perform other authentic learning tasks. Blogging activities were aligned with the course curriculum and emphasized critical thinking skills. Results were reported in comparison with nine sections of the same course that did not use blogs. Although no differences were found for reading performance or motivation, the students in the blogging group had higher retention rates. Instructor interviews indicated that they were not entirely comfortable integrating technology in their classrooms, which suggests a need for professional development.

In a description of how the multiple literacies approach can be used in writing instruction, Fernsten and Reda (2011) recommend a model of teaching using "reflective writing exercises [to help] students better understand the work of writing as they struggle to become more effective writers, negotiating multiple literacies" (p. 173). In one activity, students work together to compose a "group profile" (p. 176), the purpose of which is to help them see that they are not the only ones with writing problems and to view themselves as writers and critical thinkers. In another activity, students create "author's notes" (p. 177) to facilitate their reflection on their writing goals and creative processes. To guide the activity, the teacher provides 35 guiding questions, such as "What is the best thing (sentence, idea, section, etc.) in this draft? Why?" and "Where do you think readers might get stuck or need more information?" (pp. 177–178). This descriptive work provides interesting ideas on pedagogy that could be tested in future studies of effective writing interventions for academically underprepared postsecondary students.

Relles and Duncheon (2018) criticized teaching practices observed in developmental writing classrooms through the lens of new literacies. They observed the assignment of discrete, decontextualized activities, such as having students play a game involving the omission of unnecessary words from run-on sentences, designed to expose them to functional grammar. They suggest that students would increase their social identity as writers if instructional periods were lengthened, class sizes were reduced to allow more instructor feedback, and instructors created an environment for writing activity that promoted authentic discussion and interaction.

Disciplinary and Contextualized Approaches

On the hypothesis that connecting the teaching of literacy skills to material that is meaningful and useful to students will deepen learning, develop critical thinking skills, promote transfer of skill, and increase motivation to learn (Goldman et al., 2016; Perin, 2011; Shanahan & Shanahan, 2012), some postsecondary developmental instructors contextualize their instruction in academic disciplinary content, such as history and science. (We use the terms *contextualized* and *disciplinary* interchangeably here.) This approach gives students an opportunity to practice reading the type of materials and engage in the literacy tasks that they will encounter in the rest of their college courses (Armstrong & Newman, 2011). Disciplinary reading strategies may be taught to college students ranging widely in literacy proficiency (Hynd, Holschuh, & Hubbard, 2004), but here we will discuss this approach as used with underprepared students.

Armstrong and Newman (2011) suggest a model of intertextuality that includes explicit instruction to promote active reading, main idea identification, vocabulary development, and learning and studying of skills for application to a range of history texts, including primary and secondary sources, in a developmental reading course. They provide a description of the practical application of intertextuality in both community college and university settings, where students met in groups to discuss perspectives on topics drawn from the history texts they were using, used charts and graphs to represent the various authors' views, and wrote paragraphs and essays. The authors suggest that this model can help students in developmental education begin to view themselves as active participants in the reading process.

Leist, Woolwine, and Bays (2012) developed an assessment instrument that contained detailed instructions for applying reading and writing skills to content-area reading material. The instructions directed students to mark and annotate the content text and then write a summary that includes the main idea, supporting facts and data, the application to the subject area (history, biology, or psychology), and how the material is relevant to the student. The assessment was introduced, explained, and modeled and then used during a developmental reading course. Using a pre-experimental design with no control group, the researchers found a statistically significant increase in posttest scores on the COMPASS reading test (ACT, 2009), with greater gains achieved when more reading was assigned. This result is encouraging, but the COMPASS test is subject to the same criticisms leveled against the Nelson-Denny Test above.

Contextualized literacy instruction appears to benefit students in multiple contexts. In a rare study on Native American students, Toth (2013) described an approach to teaching developmental writing in a tribal community college. The course, according to the college catalog, aimed to advance "students' abilities to write well-crafted and grammatical essays, with appropriate and effective word choice" (p. 12) for the Diné (Navajo) students. In the contextualization of writing instruction, the teacher explained the cultural and historical aspects of language, with comparison of the lexical features of English and the home language. There was class discussion on history

and language throughout the course. The author stated that the students' use of conventions improved by the end of the course. The Toth study suggests that contextualized approaches would be useful for this population.

Perin et al. (2013) examined the effects of providing contextualized practice in developmental reading and writing courses in several urban and suburban community colleges. The participants engaged in self-paced steps to practice reading comprehension, vocabulary development, written summarization, and other literacy skills before, during, and after reading science text from anatomy and physiology textbooks or generic reading passages from developmental textbooks. Statistically significant gains were found for a key outcome variable of written science summarization measured for both contextualized conditions compared with a business-as-usual comparison condition, with greater gains for participants whose practice was contextualized in science text.

Working within a new literacies framework, Tremmel (2011) proposed a move from a traditional approach where students are taught to write five-paragraph essays on isolated topics to project-based literacy instruction contextualized in meaningful topics, texts, and experiences both in and out of academic settings. The author gives as an example a project used in a college writing course that involved research, interviews, and writing in several genres on the topic of senior citizens. The products of this experience included collaborative multimedia presentations. Tremmel makes recommendations for reforming writing instruction that could be tested in future intervention research, such as having instructors develop their own curricula, reject deficit approaches to student writing, allow students to experience more control over their own learning process, stimulate student interest in writing rather than concentrating only on the development of skill, connect academic writing to nonacademic experiences, and reduce the focus on assessment.

Use of Digital Technology

There has been considerable interest in online teaching options in postsecondary education (Kebritchi, Lipschuetz, & Santiague, 2017). For example, with the aim of increasing motivation to read, critical thinking skills, and active learning among developmental reading students, Burgess (2009) implemented a hybrid course where the digital technology component consisted of a discussion board and online chat. The course design was based on principles of communication, feedback, and approach to learning (Testa, 2000). The discussion board was asynchronous; the students submitted posts at times of their own choosing and engaged in collaborative work. Online chat was synchronous; here, the teacher and students engaged in discussion. The students also communicated with the teacher via e-mail. The content of the reading course was not reported, but the researcher reported anecdotal evidence based on examination of the discussion posts, chat interactions, journal reflections, and student interviews that student motivation, critical thinking, and active learning improved over the period of the course.

Yang (2010) developed a Web-based reciprocal teaching interface for academically underprepared English language students enrolled in a developmental reading course in Taiwan. To teach the skills involved in reciprocal teaching, Yang used an online dialogue box, chat room, discussion forum, and annotation tool. Instructors initially led the students by facilitating discussion, but their input was gradually withdrawn as the students became better able to use both the technology and the critical thinking and reading processes of reciprocal teaching. A pre-experimental design showed gains on a reading test at the end of the course.

Social media platforms may be a useful venue for developing literacy skill. Ingalls (2017) examined the feasibility of using Facebook as a learning management system in a developmental writing course. The college had replaced leveled courses with a single course, and a tutor was present in the classroom. Using Facebook, the teacher aimed to create a community of learners, build students' confidence in writing, and promote sharing of writing. The teacher created a private Facebook page and established rules of interaction. Work on Facebook replaced face-to-face attendance at times. The students were required to post privately to the teacher and ask questions to clarify ideas and understanding of the assigned homework. Correct grammar was encouraged but not required. The students were required to use the platform to communicate with peers and teachers throughout the course. Ingalls concluded that this approach was feasible, and a review of the students' work showed improved writing, grammar, and spelling. Other instructors had reservations about using Facebook, expressing concerns about security and privacy, the purpose of social networking, and its educational value; these concerns have also been expressed in other venues (Kebritchi et al., 2017).

The use of digital material was investigated by Relles and Tierney (2013) as developmental writing students in a summer bridge program developed personal profiles. The course utilized an online social network platform that was similar to Facebook except that it permitted the creation of a closed community. The class lasted 80 hours over 4 weeks and took the form of an online community. In this descriptive, new literacies study, the authors analyzed the students' digital work, including text, image, and audio and video posts. There was no description of the teaching of writing in this study, but the authors discussed the importance of digital literacy proficiency for college literacy requirements.

Saidy (2018) conducted a case study of the use of podcasting in a developmental education summer bridge course whose purpose was to introduce underprepared students to the content and methods of study in the humanities through writing activity. Podcasting was used to provide opportunities for multimodal composing. A 1-week (18 hour) curriculum was organized around the topic of food. The podcasting was designed to encourage struggling writers to "jump into composing and take creative risks as they navigated the transition to college writing" (p. 262). The teacher first surveyed the students on their high school writing experiences and beliefs about writing. Then, the students listened to an existing podcast and worked individually and in pairs on a script for their own podcast. To develop podcast scripts, the students

created an argument and identified genre elements such as opening, statistics, quotations, determination of credibility, statement of argument, analysis with evidence, and sound effects for the podcast. Based on peer review, the students revised their productions. Based on a qualitative examination of the students' work, the author concluded that podcasting encouraged critical thinking and self-reflection and promoted audience awareness and understanding of the nature of college writing.

Integrated Reading and Writing Instruction

The immediate, pressing problem for the teaching of literacy to academically underprepared postsecondary students is poor outcomes in terms of course completion, retention in college programs, and college graduation (Bailey et al., 2010). Reforms in developmental education have been reported, although rarely evaluated through rigorous comparative research. Based on the available literature, these reform efforts appear to center on structural rather than pedagogical efforts. A reform structure that has attracted a certain amount of attention is "acceleration," whereby students' moves through developmental education are hastened through reduction of course length or the number of courses that must be taken in a developmental education program (Brathwaite & Edgecombe, 2018; Cho, Kopko, Jenkins, & Jaggars, 2012; Edgecombe, Cormier, Bickerstaff, & Barragan, 2013; Edgecombe, Jaggars, Xu, & Barragan, 2014; Jaggars, Hodara, Cho, & Xu, 2015; Jenkins, Speroni, Belfield, Jaggars, & Edgecombe, 2010). Ideally, acceleration reduces the potential exit points for students and offers a quicker path to credit-bearing coursework (Bickerstaff & Raufman, 2017; Gerber, Miller, Ngo, Shaw, & Daugherty, 2017; Hodara & Jaggars, 2014; Jaggars et al., 2015). One method of acceleration that has direct pedagogical implications is the integration of reading and writing courses, replacing stand-alone courses in each of these areas (Hayward & Willett, 2014; Henson, Hern, & Snell, 2017; Hern, 2013; Kalamkarian, Raufman, & Edgecombe, 2015).

Pacello (2014) reported on a study in which reading and writing instruction was integrated by assigning writing tasks as responses to course readings. Various types of writing were assigned, including informal blogs and formal paragraphs and essays. The students kept "metacognitive reading blogs" (p. 127) for 3 weeks toward the end of the course, in which they practiced writing skills by reflecting on and summarizing their reading process. Prewriting, drafting, proofreading/revision, grammar, and punctuation skills were taught explicitly in the course, which appears to be conventional practice (Grubb & Gabriner, 2013), but the metacognitive focus on students' literacy process may help academically underprepared students make a transition from writing as an academic exercise to more authentic writing practices (Kucer, 2014).

In an approach to integrating reading and writing instruction studied by Falk-Ross (2001), the teacher assigned an inquiry writing task for the purpose of improving reading comprehension. The topics were self-selected and mostly related to the students' college major. As part of the instruction, the teacher explained the writing process. To gather information, the students held

interviews, conducted Internet searches, and read journals and other texts. Reading strategies were taught, and 1 to 2 hours per week were spent in writing the inquiry paper. In small-group discussions, the students compared their papers. The teacher held writing conferences, and the students kept journals on their reading and writing process. The researcher's field notes, participant observation, and the students' reading scores suggested that the integrated inquiry activity was beneficial to the students. The students demonstrated increasing awareness of the connections between reading and writing and showed gains of approximately three grade levels on the TABE (Test of Adult Basic Education).

In another approach to reading-writing integration, Mongillo and Wilder (2012) assigned writing tasks in a developmental reading course. The integrated activity was conducted online through a discussion board. The students posted anonymously a written description of an object in a picture provided by the teacher. Peers in the class were asked to select one of six provided pictures to guess the picture being described, and to state in writing why they selected that picture. The writing assignment was to write a paragraph describing a situation currently being reported in the news without explicitly stating the topic. Peers in the class were asked to guess the topic based on the description and provide a written explanation for their guess. Correct peer guesses in both assignments were taken to indicate good descriptive writing skills on the part of the writer. A ceiling effect of 66% to 100% correct guesses was found, but it is possible that the integrated activity could be useful if it was more demanding.

Becket (2005) discussed a model where reading and writing were taught separately in two consecutive hours. The first hour was taught by a reading teacher and the second by a writing teacher, but the teachers collaborated on planning the instruction to create "interactive discussion classes" (p. 60) that drew in both literacy areas. The focus of the writing class was essay writing. The teacher encouraged the students to incorporate personal experience, but the topics came from text assigned in the reading class, such as on peer pressure in education, change that represented a "rite of passage" (p. 64), and experience of immigration. In one writing activity exemplifying the approach used in this class, the students practiced argumentative writing by applying personal experience to evaluate a television show from different perspectives. This model seems promising provided that instructors collaborate effectively to develop an integrated curriculum.

In the context of institutional pressure to accelerate students' completion of developmental education, there is often little guidance for integrating the current reading and writing curriculum, which leads some faculty to use an additive approach focusing on teaching discrete skills by adding new activities or assignments to previously used course materials, without a framework for integrating the curriculum (Bickerstaff & Raufman, 2017). In a case study on the use of adaptive technology including text-to-speech and graphic organizer software in integrated courses for students with learning disabilities, the instructors combined the content from separate reading and writing courses and taught reading strategies such as selecting the main idea,

decoding, and understanding text coherence in conjunction with writing strategies such as summary writing, paragraph structure, and understanding the rhetorical structure (Engstrom, 2005). The use of adaptive technologies in the context of integrated reading and writing instruction aided a range of basic word-reading skills, as measured by several standardized measures.

Bickerstaff and Raufman (2017) investigated perceptions on integrating reading and writing courses using interviews, focus groups, and case studies. One writing instructor using an additive approach reported, "I thought, well, I'll just keep the comp quizzes. They used to be grammar and punctuation, and I can throw the reading in" (p. 9). This approach resulted in frustration because faculty were not able to cover all of the material they had taught when the courses were separate. Alternately, instruction that adopted a truly integrative approach to the courses was frequently structured around a theme on which all texts and tasks were centered. The themes were purposefully broad, such as "struggle" or "success." Often a single anchor text was used as the basis for reading and writing tasks and assignments that all connected back to the theme. Many of these tasks included text-based writing assignments, with strategy instruction embedded within scaffolding of students to complete the writing tasks (Bickerstaff & Raufman, 2017), and decisions on integrating assignments were purposefully made (Goen & Gillotte-Tropp, 2003). Instructors using the integrative approach reported more comfort and satisfaction in teaching and increased student understanding of the relationship between reading and writing (Bickerstaff & Raufman, 2017).

Implementing an acceleration model, a developmental program combined five separate courses into 1 year of integrated reading and writing that included both developmental coursework and the first credit-bearing composition course (Goen & Gillotte-Tropp, 2003). Instruction centered on making the connections between reading and writing explicit using a range of texts. Because instructors had a full year with the students they could introduce integrated strategies using increasingly complex material. Compared with a traditional instruction control group, the students receiving integrated instruction had higher course pass rates, reading and writing scores, and college retention rates.

Overall, research examining the efficacy of acceleration in integrated reading and writing courses has had mixed results. Although not describing classroom teaching, Paulson, Van Overschelde, and Wiggins (2018) examined the efficacy of accelerated integrated reading and writing courses in community college compared with nonaccelerated developmental reading and developmental writing courses. Using 10 years of data from 1.5 million community college students in Texas, they found that students who took two separate courses (developmental reading and developmental writing) were more likely to pass their first college-level intensive reading or intensive writing course than those who took the accelerated integrated reading and writing course. They caution that the results should not be used to imply that reading and writing processes should not be taught together but rather that the acceleration of these courses was not effective in the ways in which they were taught. An

investigation of the actual teaching strategies used to integrate these two areas of literacy would help in the interpretation of the findings.

FUTURE DIRECTIONS FOR CHANGING INSTRUCTION

The purpose of the current volume is to explore the issues involved in changing teaching practice. Two key assumptions seem to underlie this goal, first, that teaching needs to change and, second, that teaching can change. In surveying the available literature on teaching of literacy to academically underprepared students in postsecondary education, we can hypothesize that teaching does need to change, because student outcomes for this population are historically poor. There is evidence that high-quality teaching is associated with strong student achievement (Darling-Hammond, 2000; Tyler, Taylor, Kane, & Wooten, 2010), although, admittedly, such evidence comes from the K–12 arena rather than postsecondary education. There has been much interest in reforming developmental education in recent years (Brathwaite & Edgecombe, 2018), but only one of eight current reforms described in a U.S. Department of Education report (Schak, Metzger, Bass, McCann, & Englis, 2017) clearly involves teaching, and furthermore, the report named one specific approach, contextualized instruction, rather than addressing the improvement of teaching as a whole.

Investigations of Current Teaching Practices

An important prerequisite for improving teaching is shared theoretical frameworks and operating principles, but these appear to be lacking in postsecondary developmental education. Eight years before this chapter was written, Paulson and Armstrong (2010) claimed that the field lacked a coherent theory, agreed-on terminology, and teacher preparation approaches. Unfortunately, this criticism is still warranted as there is no consistent research agenda or body of research that could guide pedagogical reform. Instead, studies of the teaching of developmental reading and writing are generally single, isolated efforts that do not build on prior instructional research. Although developmental instructors report a need to improve pedagogy to meet students' needs more effectively (Barragan & Cormier, 2013), the research literature at present does not offer clear directions for change.

The first step in understanding how teaching might change would be to know what teaching is actually like at the current time. The available literature presents a large number of approaches and strategies, mostly with minimal evidence, making it difficult to propose general recommendations on how the teaching of developmental literacy might change for the better. The approaches reported in the literature fall into two categories, teacher actions and student actions. Among the teacher actions reported are vocabulary and grammar drills; explicit teaching of strategies for reading, writing, or self-regulation; and integration of reading and writing instruction. Student actions include writing blogs and posting writing to social media platforms. At the present time, there is no sign that the field is coalescing

around any one approach or that a critical mass of evidence is developing. However, there is general interest in connecting the literacy skills being taught to authentic college-level practices such as comprehension of academic text and writing of argumentative essays, which is consistent with a larger trend in literacy research (Purcell-Gates & Duke, 2016).

The majority of studies suggest that reading and writing instruction that is potentially effective involves much more than teaching discrete skills. Instead, teaching practices focusing more on cognitive, metacognitive, and motivational strategies provide encouraging results (Alexander, 2012; Pressley & Afflerbach, 1995). Additionally, the literature suggests that student gains may be achieved within a short instructional time frame, which is encouraging, although whether the gains hold would have to be investigated. There is also good evidence of a systematic approach to reading or writing instruction that includes a gradual release of responsibility from instructor to student, especially in the studies of strategy instruction (e.g., Armstrong & Lampi, 2017; MacArthur et al., 2015). Overall, current research suggests that contextualized and strategy-based approaches have more pedagogical promise than decontextualized or discrete skill approaches, but there may be other promising pedagogical practices that are not currently reported in the literature. However, appropriate literacy assessments for postsecondary students need to be developed that move beyond the skills-based assessments, such as the Nelson-Denny Test. There is long-standing criticism of these traditional reading tests, going back to the 1940s (Cronbach, 1946). The field seems ready for an overhaul of reading assessment of underprepared students, at least to bring measures closer to authentic reading practices.

Rigorous research designs, widely considered a prerequisite for improving teaching practice (Farley-Ripple, May, Karpyn, Tilley, & McDonough, 2018), are sorely lacking in studies on teaching literacy to underprepared postsecondary students. The most rigorous test of any teaching practice in the literature is the quasi-experimental study of writing instruction conducted by MacArthur et al. (2015), which provides evidence for the use of explicit teaching of both literacy and self-regulation procedures to help underprepared students improve their writing of academic essays.

Observations of purposive samples of developmental education classrooms have led to the conclusion that the field is marked by a preponderance of discrete skill instruction (Grubb et al., 1999; Grubb & Gabriner, 2013) and wide discrepancies between students' and teachers' definitions of good teaching (Cox, 2009). However, it is difficult to know what is being taught in developmental education classrooms when rigorous observation studies with representative samples of classrooms, teachers, and students are not reported in the literature. Thus, there is a need for more research on instructional approaches in developmental literacy courses. These could be either small-scale curriculum audits, similar to Armstrong et al.'s (2015), or larger-scale surveys, as called for by MDRC (2013). A useful preliminary step would be to conduct a national survey of developmental education teachers on their classroom

practices, as has been done in K–12 education (e.g., Gilbert & Graham, 2010). Such investigations would aid greatly in understanding what is working and what modifications are needed in current practice.

There have been calls to change the instructional approaches in developmental education for decades. Rose (1983) argued that "a major skill in academic writing is the complex ability to write from other texts—to summarize, to disambiguate key notions and useful facts and incorporate them in one's own writing, to react critically to prose" (p. 119). This cannot be achieved using a part-to-whole approach (Grubb, 2012). Every one of Stahl, Simpson, and Hayes's (1992) recommendations for improving instruction in developmental education continues to be a needed change. Their calls for emphasizing transfer to new contexts, helping students broaden conceptual knowledge, explicit teaching of strategies, and promotion of self-regulation and metacognition align closely with the implications of the research discussed in this chapter.

An implicit goal of the literature on teaching literacy to academically underprepared postsecondary students seems to be to present teaching approaches that would help students learn more effectively than in (usually unnamed) conventional approaches. However, the authors rarely, if ever, place their teaching approaches in the larger context of reform of K–20 teaching in general. Instructional reform across educational domains has attracted and continues to attract much attention in the education literature (Hiebert & Stigler, 2017; Sykes & Wilson, 2016; Tschannen-Moran, Hoy, & Hoy, 1998); developmental education researchers would benefit from broadening their perspective to include theory and practice discussed in this larger body of literature.

Examining the Preparation of Literacy Instructors in Developmental Education

There is a need to examine the instructional approaches of successful developmental education classrooms and to provide meaningful professional development opportunities for instructors as well (Bickerstaff & Raufman, 2017; Paulson et al., 2018). One area in particular seems to need urgent attention—the preparation of instructors to teach both reading and writing in integrated courses as institutions increasingly adopt the integrated approach mentioned above. Traditionally, instructors have been trained to teach either reading or writing. Moreover, developmental reading and writing courses have typically been housed in different departments and guided by different theoretical understandings (Paulson & Armstrong, 2010). To prepare instructors to teach integrated reading and writing courses, some colleges have relied on cross-training between reading faculty and English faculty (Bickerstaff & Raufman, 2017). However, teaching integrated reading and writing may differ from teaching either reading or writing alone (Shanahan & Shanahan, 2012). For example, it would be important to teach text-based writing, using multiple sources as required in college education. Teaching text-based writing requires an equal focus on reading comprehension and writing skills, but it appears that few developmental instructors are prepared for this task.

There is little information on the preparation of developmental education instructors for integrated instruction or any other area of teaching academically underprepared postsecondary students. The few studies that have been conducted are based in single institutions and center on the perceptions of faculty and administrators with regard to professional development (e.g., Elliott & Oliver, 2016), rather than being rigorous tests of professional development approaches. In fact, the field of developmental education as an area of scholarly pursuit is relatively new, even though there have been studies on the constituent population for decades. One difficulty in this field is a disconnect between those who teach these postsecondary students and those doing research. For example, there is currently only one PhD program in developmental education in the United States (see http://www.education.txstate.edu/ci/dved-doc/about/overview.html). Given the pressing need for better teaching of underprepared students, an important contribution of emerging scholars would be to identify effective approaches to professional development.

Such models may be adapted from the ample K–12 professional development literature. For example, investigations could focus on approaches in which teachers are included in a collaborative planning process (see, e.g., Miller, 2017), and the replacement of traditional short-term presentations by outside experts with the provision of ongoing classroom observation and coaching by individuals who have credibility among the instructors who are recipients of the professional development (see, e.g., Matuchniak, Olson, & Scarcella, 2014).

Examining Pedagogical Practices Based on Assumptions About the Developmental Education Population

Historically, much of the research on learners in developmental literacy has taken a deficit approach. It has been argued that this deficit thinking is "tantamount to 'blaming the victim'. It is a model founded on imputation, not documentation" (Valencia, 2012, p. X) and posits that the reason students do not do well in school is because they have some kind of internal deficiencies. In developmental education, these deficiencies are often described as low abilities, lack of motivation, lack of specific skills, and so on. Deficit thinking models are a form of pseudoscience, often lacking empirical grounding and rooted in classism and prejudice (Rose, 1983; Valencia, 2012). However, the more current developmental perspective, as indicated by the majority of the research discussed in this chapter, trends away from deficit thinking when a learner struggles with reading or writing by using theoretical approaches that center on helping students understand what they can do instead of focusing on what they lack.

Several researchers argue that infusing critical race pedagogy into developmental education coursework can create an environment that supports the success rates of historically underrepresented students (Acevedo-Gil et al., 2015; Williams, 2013). This includes implementing a curriculum that integrates culturally relevant themes and examples (Morris & Price, 2008; Williams, 2013) and "align[s] with a social

justice lens that does not perpetuate deficit interpretations of cultural examples" (Acevedo-Gil et al., 2015, p. 119). However, there is a paucity of research examining the effectiveness of critical sociocultural instructional approaches in developmental courses.

Attempts to reform teaching may be affected by changes in state regulation and legislation (Paulson & Holschuh, 2018). Often, the suggested changes center on institutional changes, such as online delivery, nonmandated enrollment (Woods, Park, Hu, & Jones, 2017), or accelerated options, based on the assumption that developmental courses may not be beneficial. Research is needed to explore the effects of such institutional choices on how literacy is taught to underprepared students and how they, in turn, affect student outcomes.

CONCLUSIONS

Our discussion on how teaching might change to serve the literacy needs of academically underprepared students in postsecondary education points to a key problem that a wide range of instructional approaches is in use, with no central organizing theory or theme and a general lack of supportive evidence. However, change in teaching approaches seems to be needed based on the poor achievement outcomes that have been reported. It is encouraging that underlying the purposes of virtually all of the current literature is an interest in changing the way underprepared students are taught, with many of the studies aiming to illustrate specific changes. These studies can be viewed as a rich source of hypotheses on change in teaching practice. The next step to advance the field would be to test these practices in rigorous, controlled research that carefully documents and compares the new and conventional teaching approaches. Additionally, changing teaching requires the development and testing of professional development approaches, possibly adapted from the K–12 arena, with modifications for postsecondary education.

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