

College-Ready for a Career Pathway: A Vertical-Alignment Study in Literacy

By Norman A. Stahl, Sonya L. Armstrong, James R. King, and James Dyer

ABSTRACT: *This manuscript presents a study that was undertaken at three community college sites. The study was designed to build upon a prior study (Armstrong, Stahl, & Kantner, 2015a, 2015b, 2016) that aimed to answer the following general query: “What constitutes college-level text-readiness?” In the present study, that question was directly focused on career technical education (CTE) courses whereas the prior study aimed at general education (GE) courses. Two simultaneous threads of data collection were implemented en route to a vertical-alignment study focused on literacy expectations: one for developmental reading (DR) and one for CTE courses. One major insight gleaned from this study is that far more research demonstrating vertical alignment of literacy preparation (from DR to particular subject areas or field, for instance) is needed to inform how to most effectively align such supports to the actual demands associated with students’ next-level experiences.*

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Developmental education (DE), as a field of scholarship and practice, adheres to the principle that all students enrolled in postsecondary education should accrue the academic benefits of the college experience. Support systems that make these benefits more likely take on a number of different structures and models, which have evolved over the years to address shifting student demographics and needs. However, not nearly enough research has been published within DE and associated fields to inform how to most effectively align such supports to the actual demands associated with students’ next-level experiences. This is particularly true for literacy-based supports. Indeed, specific to literacy, as will be explained in the next section, most of the work that has been done in the field includes audits of the amount and type of reading and writing required in introductory-level college courses.

Research on Postsecondary Literacy Demands

The literacy demands and expectations of varied categories of postsecondary institutions were of great interest to researchers during the last two decades of the 20th century (e.g., Stahl, 1982; Burrell, Tao, Simpson, & Mendez-Berrueta, 1997; Carson, Chase, Gibson, & Hargrove, 1992; Chase, Gibson, & Carson, 1994; Cline, 1972-1973; Cohen, 1982, 1987; Grubb et al. 1999; Keetz, 1978; Maaka & Ward, 2000; Orlando,

Caverly, Swetnam, & Flippo, 1989; Richardson, Fisk, & Okun, 1983; Richardson, Martens, Fisk, Okun, & Thomas, 1982). Much of this research focused on the breadth and depth of reading and writing demands, in tension with faculty expectations for the mastery of disciplinary content. As an example, through an in-depth investigation of one community college in the southwest, Richardson, Fisk, and Okun, (1983) found little evidence of extensive reading and writing demands and even less evidence of critical literacy expectations (see also Cohen, 1982; Richardson et al., 1982).

With the coming of the second decade of the 21st century, and with the K-16 educational focus on college and career readiness issues associated with the Common Core State Standards, the National Center on Education and the Economy (NCEE; 2013) released a report detailing what it means to be “college ready” in community college settings. The report covered the literacy expectations in eight of the most commonly pursued program areas as identified in seven community colleges. The study found that “the reading and writing currently required of students in initial credit-bearing courses in community colleges is not very complex or cognitively demanding” (p. 2). The researchers further acknowledged that, whereas the texts required of students in community colleges are significantly more complex in terms of information load, the text-associated tasks are not very complex” (p. 2).

In the most recent work along this line of research, Armstrong, Stahl, and Kantner (2015a, 2015b, 2016) and Armstrong and Stahl (2017) sought to determine what it means to be college-text ready for the literacy demands, practices, and expectations in introductory-level (or entry-level) General Education (GE) courses at one community college. The research investigated the following guiding question: How, and to what extent, are the Developmental Reading (DR) courses preparing students for the reading expectations of the introductory-level GE courses? At the study site, the DR courses served as prerequisites for GE courses studied. Three component investigations were conducted: the first on the text practices and expectations as observed, the second on the faculty perspectives, and the third on the student perspectives. Data sources included analyses of required course texts, classroom observations, faculty surveys and focus groups, as well as student

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surveys and focus groups. The findings from these investigations pointed to a literacy mismatch or lack of vertical alignment between DR and GE courses in terms of the text types and difficulty levels, the purposes for the text, and the text-associated tasks and learning foci. In addition, during the process of this study, significant gaps in the research were identified related to literacy demands outside of this GE context. Specifically of interest to the authors were the literacy expectations of students enrolled in Career Technical Education (CTE) pathways (i.e., nursing, welding, manufacturing, criminal justice, horticulture, agriculture, and culinary arts).

Gaps and Study Impetus

In summary, the bulk of the prior work related to text expectations at the college level is primarily of historical value and limited to reports of what knowledge and skills students did and did not demonstrate at the time. This prior work, coupled with the more recent work examining what constitutes college readiness for text-based literacy, serves to inform inquiries related to how best to vertically align literacy supports with next-level literacy expectations and practices. Nearly all the extant scholarship in this area focuses on general education (GE) and transfer tracks, with only a scant representation in the literature focusing on CTE. Historically, learners who required additional literacy support through their transitions into college—regardless of their program of study or higher education intentions—have been enrolled, via placement testing, into DR courses. However, without a research base on the literacy practices specific to CTE contexts, it is impossible to develop DR interventions that appropriately scaffold students enrolling in CTE programming or that differentiate between student literacy needs for GE tracks versus CTE tracks.

Possibly related to the historical marginalization of CTE (Crawford, 2009; Grubb et al., 1999; Rose, 2012), the literacy practices within CTE have received little attention from literacy scholars (Armstrong, Stahl, King, Kantner, Perkins, Sobin, & Dalrymple, 2019). In fact, current innovations of the past decade, such as I-BEST, have come from outside the literacy field (Jenkins, Zeidenberg, & Kienzl, 2009a, 2009b; Wachen, Jenkins, & Van Noy, 2010; Wachen, Jenkins, & Van Noy, 2011; Wachen, Jenkins, Belfield & Van Noy, 2012; Zeidenberg, Cho, & Jenkins, 2010). It is toward the intersection of these areas (literacy demands, scaffolded supports from DE, and CTE literacy practices) that the present study is aimed.

Study Design and Methods

This study was designed to incorporate both qualitative and quantitative data sources and analysis approaches. The design reflects the need to gather information from a large number of faculty and students (via a web-based survey instrument) as well as more focused, in-depth information from

smaller samples (via focus groups). This study was driven by the following research questions:

1. What constitutes college-level text-readiness?
2. What are the text-expectations, including text types, tasks, and goals?
 - a. In traditional developmental reading (DR) courses?
 - b. In career technical education (CTE) courses?
3. How do these text-expectations align vertically across the DR and CTE courses?

To gather information on vertical alignment, two parallel and concurrent tracks of systematic data-gathering and review were utilized (one for CTE courses and one for DR courses).

Study Contexts

Setting. This multisite research project involved three community colleges in a Midwestern state.

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This was a deliberate attempt to gather information from a variety of two-year institutions (e.g., rural, suburban, urban, etc.), with diverse populations and institutional missions.

The courses across these sites were identified by the institutions. For the CTE courses, representatives at each site identified which courses were of particular interest, usually due to the size of the program or particular importance within the community. Similarly, at the time of this investigation the three sites delivered DR coursework through the traditional model of a reading skills-oriented model with stacked courses.

Participants. Three primary participant groups were included in this study: DR faculty/staff, CTE faculty/staff, and students. All faculty/staff participants were both full and part time, though it should be noted that many part-time CTE instructors held additional full-time positions of employment within their CTE specializations beyond the campus community (e.g., a part-time criminal justice instructor serving simultaneously as a police officer).

Students were primarily, though not exclusively, first-year students, and ranged in terms of their traditional/nontraditional student status, including recent high school graduates and students returning from family, military, or workplace endeavors for additional credentials.

Data Collection Procedures

Data sources, across all three constituency groups (DR faculty, CTE faculty, and students) included surveys and focus groups. In addition, analysis of required course texts was included. Data collection procedures were comparable for groups, sites, and data type.

Survey procedures. Survey data were gathered from participants through the use of revised and updated versions of Simpson's "Academic Literacy Questionnaire" (Simpson, 1996; Simpson & Rush, 2003), which were adapted for online use through Survey Monkey (see Armstrong et al., 2019, for all protocols associated with this research). These protocols were differentiated across constituency groups; however, for all groups, survey items prompted responses to questions on text usage, reading expectations, course assignments, assessment practices, relationship to text assignments, course lectures and the relationship to text assignments, as well as perceptions of reading preparation and associated attitudes on reading. Most questions were presented in a multiple-choice format, although several allowed for respondents to produce individualized responses.

Focus-group procedures. The focus groups used semistructured group interviews (Campbell et al., 2013). Only two of the three institutional sites allowed for focus groups. To provide initial structure for each of the 45-60-minute focus-group sessions, the researchers developed protocols that were differentiated across constituency groups, with the same common focus on reading and literacy demands. Follow-up questions were included based on responses to the more general questions.

Textbook-analysis procedures. The data set for the textbook-analysis portion of this investigation included a total of 47 required texts across 25 different courses (see Armstrong et al., 2019, Appendix H for a listing of all texts and their associated courses). Because some course sections tended to use the same texts (especially in DR), only 25 unique course titles were involved.

Each text was prepared for analysis through a consistent five-page sampling process. This process sampled from required course textbooks in the following way:

- the first full page of text was copied;
- the last full page of text was copied;

CONTINUED ON PAGE 4

- based on the first and last pages of content, we computed the number of content pages in the book (e.g., if the first page of content was on page three, and the final page of content was on page 103, there were 100 pages of content);
- based on the total number of content pages, we computed the 1st, 2nd, and 3rd quartiles (e.g., for 100 content pages, the quartiles would be page 25, page 50 and page 75, respectively); and, finally,
- based on page-count and quartile computations, we then formatted the samples to prepare them for the analysis software by removing any images or graphics, page numbers or running headers, and so forth.

Data Analysis Procedures

What follows are data analysis procedures for each type of data source. The procedures are outlined across all study sites, focal tracks, and constituency groups.

Survey analysis. For the analysis of the responses to the survey questions, basic descriptive statistics were calculated using SPSS, including frequency counts of respondents selecting particular options. There were also open-ended questions. For this analysis, open coding (Glaser & Strauss, 1967) was utilized in the following manner. First, members of the research team analyzed the survey responses individually at least twice to identify macrolevel themes. Secondly, once patterns were identified, axial coding was employed to make connections across and among the macrolevel themes and subsequently to collapse similar themes. Following in-depth examinations and discussions with the entire analysis team, any disparities were reduced, with strong intercoder agreement (Saldaña, 2013).

Focus-group analysis. Focus-group audio recordings were transcribed in full and later verified for accuracy by a different member of the research team. Each member of the analysis team independently analyzed each of the transcripts at least twice using open coding procedures. Then, the research team discussed broad-level topics and then returned to independent coding work with a set group of broad-level topics. After comparing initial themes, the analysis team collectively analyzed the transcripts again with the purpose of collapsing any overlapping patterns and themes. Following several additional rounds of coding and collapsing codes, overarching key themes were identified on issues related specifically to DR and student text readiness at these three institutions. As with the analysis of open-ended survey questions, intercoder agreement (Saldaña, 2013) was sought through extended conversations with the entire research team. Next, one member of the research team compiled all codes and tallied the frequency for each code. Following the open-coding process used for each focus-group

transcription, the analysis team pulled the primary coding themes into a central list and then went back through all transcripts and identified representative statements to include in this central list.

Textbook analysis. The textbook analysis procedure was consistent across all texts and courses, as will be described in the sections that follow. It included a text-type categorization and a Lexile text-measurement analysis.

To begin, a holistic analysis was done to determine the general types of texts being used across different instructional areas and disciplines. Eight overall categories of text types were identified through this informal analysis: traditional textbooks (T), content handbooks/references (CH), technical manuals (M), technical workbooks (TW), vocabulary workbooks (VW), basic reading skills workbooks (RW), compilations/readers (C), and novels (N).

Following the sampling procedure described previously, each page sample was analyzed through the Professional Lexile Analyzer (MetaMetrics,

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2018). Given the increasing prevalence of Lexile text measures in the scholarly literature, this was an appropriate measure for text analysis. Lexile text measures are reported on a scale of BR (Beginning Reader) through a high score of 2000L. All scores are indicated as Lexile text measures through the inclusion of the L at the end of the score.

Select Findings

The key findings that arose out of the research process suggest that the literacy-related curriculum and instruction delivered to students within the DR and CTE models are not in alignment. Select integrative findings can be grouped into three primary categories: (a) reading expectations, (b) understandings of literacy, and (c) text type and textual rigor. Each category of findings will be presented (for a comprehensive discussion of all the study's findings, please see Armstrong et al., 2019).

Reading Expectations

We investigated expectations for reading from faculty and student perspectives. To begin, both DR and CTE faculty reported having expectations that most students should be able to navigate and comprehend text independently at the outset of their specific course or for college reading demands in general. However, both faculty groups (DR and CTE) also reported

that most students were unready for college literacy practices, and faculty reported making adjustments to their instruction through the use of workarounds to traditional text requirements (e.g., PowerPoint slides, distributed class lectures, and digital media) as a result. In sum, faculty are simultaneously holding and acting upon two contradictory expectations of students' readiness.

Closely related to students' readiness is their attitude toward reading. Both DR and CTE faculty expected that students' attitudes toward reading would be negative, and they made adjustments in their courses based on that assumption. Interestingly, both sets of faculty commented on differences in attitude across different populations of students and provided specific student characteristics and demographics (e.g., student age, economic condition, career goals) related to these attitudinal differences. Notably, faculty assumed that students don't read; however, students' responses were split on whether or not they read, with more than half of student survey respondents indicating that they read more than 75% of the required reading, and only a very small minority—just three who responded to the question—reported reading none of the assigned reading.

Specific to alignment of literacy expectations, the CTE faculty respondents expressed their expectation that students who were enrolled in DR should exit the courses with the competencies needed to successfully read and learn from highly technical texts. In this way, DR was expected to bridge the gap between the perceived reading abilities of the students and the levels of literacy required for the next-level instructors' CTE courses.

Understandings of Literacy

At the heart of the findings for this study was a difference in instructors' understanding of literacy practices. Although CTE faculty were aware of literacy differences across disciplines/professions, they still tended toward more traditional notions of literacy instruction wherein literacy is a generic, monolithic construct. DR faculty were also aware of disciplinary differences but adhered to the generalized notion of literacy to be found within the traditional General Education (GE) areas. Specifically, the characteristics of this generalized notion held by faculty follows: a heavy reliance on the text, assumptions that reading-for-reading's sake has value, and assumptions that reading skills are hierarchical.

Absent from this generalized notion of literacy, of course, is the type of highly specialized, application-focused reading done for CTE contexts. Indeed, because of the importance placed on acquiring content knowledge for application purposes, CTE faculty tended to provide alternate sources of information (workarounds), including PowerPoint slides, instructor-prepared lecture notes, and study guides that intended to supplant the need for literacy.



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CTE faculty made it clear that how information was acquired was less important than that it was acquired.

In terms of students' understandings of literacy, their comments indicated that the act of reading amounted to the execution of skills that, once mastered, would help them acquire meaning. Students further reported a range of views on how and why they used texts, including the use of the text to help structure or sort out a potentially confusing or poorly organized lecture, the use of the text as an authority, and the deliberate decision to not use a text that was perceived as not valuable.

Text Type and Textual Rigor

Several important differences emerged from the data with regard to text type and textual rigor. First, in keeping with most GE traditions, DR courses used multiple texts across a variety of text types; the majority of texts were workbooks, novels, and some instructor-designed compilations of GE content. By contrast, the CTE faculty usually made use of a single traditional (for CTE) textbook that was used primarily as a resource or reference, or for immediate use in application of the course content or lab/shop experience. In addition, beyond traditional print texts, other "texts" examined in the study, especially those used in CTE, must be considered more inclusively, and more broadly relative to vertical text alignment. These more eclectic texts included

a camshaft in auto, a drip bag and mannequin in nursing, and the help feature of a software program in industrial technology courses.

Second, textual rigor was noted as ill-aligned, too. CTE course text samples frequently scored at higher Lexile text measure scores than did the DR course texts.

Integrative Discussion

Although these findings lend themselves to a number of discussion topics, we focus here on three that are directly relevant to vertical alignment of literacy curriculum. We base the following discussion points on the finding that these spaces—broadly defined as DR and CTE—are different; specifically, there are major differences in reading expectations, understandings of literacy, and text type and textual rigor. We start this discussion, then, from the recognition that these are indeed very different learning spaces. Further, we want to acknowledge that, absent a purposeful linkage, such a comparison is perhaps unnecessary and may be even unfair. We return, therefore, to the original guiding question of this study as a way to refocus attention on this study's linkage of literacy practices and preparation: To what extent are the DR courses adequately preparing students for the reading expectations and practices of the introductory-level CTE courses?

Instructors' Conflicting Expectations and Assumptions

Both CTE and DR instructors reported that they expected students to be able to navigate and comprehend text independently as a marker for preparedness for the requirements of their respective courses. At the same time, these faculty also assumed students would hold a negative attitude toward reading, and, would therefore refuse to engage in the literacy practices required. Because these faculty expected students to be stronger readers but also anticipated that they wouldn't be, it would seem that faculty are simultaneously holding two contradictory expectations. In short, they expected students to arrive in higher education highly literate but assumed they would be alliterate by choice.

Based on these instructor expectations and assumptions, and consistent with findings from recent studies (NCEE, 2013), faculty across these areas provided extra provisions, including workarounds. Indeed, for many CTE faculty, workarounds were used as patches or fixes that at least allowed students to access the text content and material, even if in an alternate form. For many DR faculty, these workarounds took the form of basic-skills approaches used as an attempt to meet students at their perceived performance levels with respect to reading ability.

CONTINUED ON PAGE 6

In short, we found faculty wishing and expecting students were in one place with respect to literacy preparation but contradicting that by providing extra supports that the far end of that spectrum.

Specific to the case of the DR instructors, their disappointment at the perceived reading levels of their students is something to ponder. Students are being required to enroll in DR based on testing or high school grades that have indicated some area for continued growth in literacy, which seems at odds with the DR instructors' desire for students to be able to read more proficiently at the outset. At the same time, it is curious that DR instructors with such high expectations of students' text-readiness would draw upon basic- and discrete-skills texts.

Mismatch of Literacy Practices

One of the most important findings from this study is the mismatch between the literacy practices in CTE and those in DR. This is not unlike what has previously been found with a similar alignment audit between GE and DR courses (Armstrong, Stahl, & Kantner, 2016). However, here the mismatch is multilayered and extensive.

First, not only are the CTE texts significantly different from the DR ones, but they are also far more complex in structure, in specialized language, in background knowledge assumptions, and in levels of technicality. Also, the construct of "text" takes on different meanings across various CTE contexts, both on conceptual and on operational levels, which first prompted us to start thinking about the need to further separate the various communities and microcosms that exist within the huge landscape in higher education loosely referred to as CTE. Take, for instance, the criminal justice courses, in which text—at least in terms of what was valued—was instantiated as the instructor's stories from the field. Grubb et al. (1999) noted this as well: "Most often, however, the applications discussed in class come from the work experiences of the instructor" (p. 105). Similarly, in several courses—most notably the auto mechanics course and nursing courses—it was immediately evident that the text was not actually a book or other written work. Indeed, students were being provided with explicit instruction in the auto mechanics course on how to read and interpret a camshaft, as a text. This was equally true with a drip bag in one of the nursing courses and a mannequin in another. It was also true of the micrometer in the industrial technology course. In short, artifacts deployed for learning through application in a given field may be used as texts and may or may not be presented as a written work. And, indeed often the textbook or other required written work was merely offered as a reference, a guide, or a supplement.

Also, the very purpose for reading may differ between DR and CTE uses. Such difference in

purposes for literacy has certainly been acknowledged in past scholarship on CTE (Grubb et al., 1999). Many instructional questions in occupational classrooms ask about simple facts ("What is an alloy?" "What is flux?"), just as in most academic classrooms. However, CTE instructors also shifted to more demanding questions, particularly diagnostic questions, which require knowledge of how a component works rather than simple recall ("What happens if I plug this filter?") [Grubb et al., 1999, p. 103].

For CTE areas, it's all about one's competency in the application of the content, or, as one instructor in our study put it, "Reading is irrelevant unless it can be applied." In short, traditional text-reading as information gathering is less valued and less relevant in CTE than it is in other academic contexts. Often, this privileging of content acquisition was necessary for highly circumscribed reasons, including state certification exams or upcoming internships. However, the point is that application is key in CTE. As one CTE instructor summed it up, "There's no

Often the textbook or other required written work was merely offered as a reference, a guide, or a supplement.

text in the real world, but you will need to just know the material."

Comparing CTE and GE: Depth and Breadth in Literacy-Based Learning

Although a straight comparison of CTE and GE literacy expectations and practices is beyond the scope of this study, given the connections identified (in part from prior research in this area) between DR and GE, some reflection on this extension is in order. Specifically, one interesting idea that emerged was the recognition that in CTE arenas the same text often was used across multiple courses, resulting in a required deep-level mastery that was not found in the single text usage indicative of novels and workbooks within DR realms and, by extension, not found in GE courses (Armstrong, Stahl, & Kantner, 2015a, 2015b, 2016). Indeed, the practice we noted in several CTE areas of recursive use of texts for deep learning is suggestive of a spiraled curriculum, which has been shown to be successful in similar professional contexts. In fact, medical schools have demonstrated the benefit of the case method/application approach for years. Based on our exploration, several areas of CTE represented in this study both understand and deploy similar spiraled and case-study approaches.

By contrast, in GE, these methods are not used as much. In short, the distinction is this: in most

GE courses, the focus is on breadth over depth, with the inclusion of as many texts as possible. In CTE, the focus seems to be on depth of knowledge. And, because instruction in DR anticipates instruction in GE, attention to broad and shallow coverage of information seems descriptive of DR as well. With experience in DR coursework, students are not prepared to transition into depth-focused literacy practices.

Limitations

To better understand literacy practices across campus contexts within both CTE and DR courses, multiple sources of information and multiple layers of data collection were implemented. In spite of these efforts, however, some limitations persist. First, because convenience sampling was used and participants were recruited on a strictly volunteer basis, the various samples of faculty and students may not reflect a representative sampling of the overall community college CTE and DR populations. Next, the text analysis was limited by the artifacts provided and instructors providing entrée. On a related note, given significant institutional changes that arose in the early stages of data collection, at one of the three sites we were unable to collect focus group data. Lastly, Heisenberg's uncertainty principle (e.g., Crotty, 1998; Patton, 2002) acknowledges that the very act of observing affects what is being observed. The researchers' limited presence during focus groups could have affected the discourse and interaction despite efforts toward being unobtrusive. These uncontrollable factors may have impacted the results in idiosyncratic, unknowable ways.

Recommendations

Although this study allowed a number of implications and recommendations, we focus here on three key recommendations for practice and for research. We offer these recommendations to developmental educators and learning assistance professionals with the objective of promoting greater alignment between the services and programs such professionals deliver and the varied degree and certification programs under the CTE umbrella.

First, there is a distinct need for specific developmental education programs to promote and maintain greater communication across programs on campus. CTE faculty in this study expressed their desire that DR instructors would be more aware of the particular text and literacy expectations in the CTE courses and prepare students accordingly. That DR instructors in these traditional curricular models were not preparing students for reading in CTE contexts, despite the majority of these faculty indicating their awareness of the goal to prepare students for their next-level courses, may suggest that they were not, in fact, well-informed about the particular literacy demands and rigors of CTE. Such brings us to our next recommendation.

Given how much more there is to learn about the varied and context-specific literacies across any given campus, for the second recommendation, we highly encourage the use of Simpson's (1996) "Reality Checks" or curriculum audits (Armstrong et al. 2015a, 2015b, 2016) to continue to improve vertical alignment. Although especially useful as a tool for back-mapping curriculum and instruction toward targeted and purposeful scaffolding across levels, nonevaluative Reality Checks can also provide built-in opportunities for the communication called for previously. Faculty for DR courses should collaborate with faculty in the next-level CTE courses to inform the curriculum and instruction for the literacy courses.

Third and finally, this study as well as the GE-oriented studies in this series that have come before it (Armstrong et al. 2015a, 2015b, 2016) have focused on the vertical alignment of supports to the next-level literacy demands. Although more research is certainly called for toward continued improvement of this type of alignment, there is also a need to explore the horizontal alignment of supports, including IET (Integrated Education Training)—for example, I-BEST (Integrated-Basic Education and Skills Training)—as well as other coordination-of-support services that might ultimately take the place of formalized coursework. Specifically, how aligned are the various types of supports students may encounter within the same time period: from course-based developmental supports to tutoring to Supplemental Instruction and even peer-mentoring or academic coaching? Courses and support initiatives could be specifically focused on and paired with various programs to which students aspire.

Conclusion

The recent redirected focus toward college and career readiness has become a major concern nationwide (e.g., Achieve, 2017; ACT, 2015; AIR, 2015) and has thus shined a light on CTE as a burgeoning focal area. This has also highlighted the need for researchers and practitioners to reflect on how the field of DR can better serve as a support to the various content areas of CTE. The lack of alignment between these two areas is likely a function of the siloed nature of higher education. A further result of this misalignment is the differing perceptions of instructors in CTE and DR fields regarding the literacy expectations of their students. Moving forward, it is crucial that practitioners and researchers converge and address the chasm that exists between these two fields of study and work to create bridges for students to be better prepared for college literacy expectations in a variety of contexts.

References

Achieve. (2017). *The state of American high school graduates: What states know (and don't) about student performance*. Retrieved from <https://www.achieve.org/state-profiles>

ACT. (2015). *The condition of college & career readiness 2017*. Retrieved from https://www.act.org/content/dam/act/unsecured/documents/cccr2017/CCCR_National_2017.pdf

AIR. (2015). *Using the National Assessment of Educational Progress as an indicator for college and career preparedness*. Washington, DC: American Institutes for Research.

Armstrong, S. L., & Stahl, N. A. (2017). Communication across the silos and borders: The culture of reading in a community college. *Journal of College Reading and Learning*, 47(2), 99-122.

Armstrong, S. L., Stahl, N. A., & Kantner, M. J. (2015a). Investigating academic literacy expectations: A curriculum audit model for college text readiness. *Journal of Developmental Education*, 38(2), 2-4, 6, 8-9, 12-13, 23.

Armstrong, S. L., Stahl, N. A., & Kantner, M. J. (2015b). *What constitutes 'college-ready' for reading? An investigation of academic text readiness at one community college* (Center for the Interdisciplinary Study of Language and Literacy [CISLL] Technical Report No. 1). Retrieved from the CISLL website: https://www.niu.edu/language-literacy/_pdf/

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Armstrong, S. L., Stahl, N. A., & Kantner, M. J. (2016). Building better bridges: Understanding academic text readiness at one community college. *Community College Journal of Research and Practice*, 40(11), 1-24.

Armstrong, S. L., Stahl, N. A., King, J. R., Kantner, M. J., Perkins, M., Sobin, B., & Dalrymple, R. (2019). Literacy in the 'in-between spaces' of community colleges: Interstitial practices in developmental reading and career technical education (Center for the Interdisciplinary Study of Language and Literacy [CISLL] Technical Report No. 2). Retrieved from the CISLL website: http://www.niu.edu/cisll/_pdf/reports/TechnicalReport2.pdf

Burrell, K. I., Tao, L., Simpson, M. L., & Mendez-Berrueta, H. (1997). How do we know what we are preparing our students for? A reality check of one university's academic literacy demands. *Research and Teaching in Developmental Education*, 13(2), 55-70.

Campbell, J., Quincy, C., Osserman, J., & Pedersen, O. (2013). Coding in depth semi-structured interviews:

Problems of utilization and intercoder reliability and agreement. *Sociological Methods & Research*, 42(3), 294-320.

Carson, J. G., Chase, N. D., Gibson, S. U., & Hargrove, M. F. (1992). Literacy demands of the undergraduate curriculum. *Reading Research and Instruction*, 31(4), 25-50.

Chase, N. D., Gibson, S. U., & Carson, J. G. (1994). An examination of reading demands across four college courses. *Journal of Developmental Education*, 18(1), 10-12, 14, 16.

Cline, T. A. (1972-1973). Readability of community college textbooks and the reading ability of the students who use them. *Journal of Reading Behavior*, 5(2), 110-118.

Cohen, A. M. (1982, Spring). Ten criticisms of developmental education. *ERIC Junior College Resource Review, Literacy in Community Colleges*. Retrieved from ERIC database. (ED 217946)

Cohen, A. M. (1987). Responding to criticism of developmental education. In K. M. Ahrendt (Ed.), *New Directions for Community Colleges*, 57 (pp. 3-10). San Francisco, CA: Jossey-Bass.

Crawford, M. B. (2009). *Shop class as soulcraft: An inquiry into the value of work*. New York, NY: Penguin Press.

Crotty, M. (1998). *The foundations of social research*. London, UK: Sage Publications.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York, NY: Aldine de Gruyter, Inc.

Grubb, W. N., Worthen, H., Byrd, B., Webb, E., Badway, N., Case, C., Goto, S., & Villeneuve, J. C. (1999). *Honored but invisible: An inside look at teaching in community colleges*. New York, NY: Routledge.

Jenkins, D., Zeidenberg, M., & Kienzl, G. (2009a). Educational outcomes of I-BEST, Washington State Community and Technical College System's integrated basic education and skills training program findings from multivariate analysis (CCRC Working Paper No. 16). New York, NY: Columbia University, Teachers College, Community College Research Center.

Jenkins, D., Zeidenberg, M., & Kienzl, G. (2009b). *Building bridges to postsecondary training for low-skill adults: Outcomes of Washington state's I-BEST program* (CCRC Brief No. 42). New York, NY: Columbia University, Teachers College, Community College Research Center.

Keetz, M. A. (1978). The readability of study habit books and college students' reading ability. *Journal of Reading Behavior*, 10(1), 97-101.

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York, NY: Carnegie Corporation of New York.

Maaka, M. J., & Ward, S. M. (2000). Content area reading in community college classrooms. *Community College Journal of Research and Practice*, 24(2), 107-125. doi:10.1080/106689200264240

MetaMetrics. (2018). *Lexile analyzer* [Computer Software]. Durham, NC: Author. Retrieved from <http://www.lexile.com/analyzer/>

National Center on Education and the Economy. (2013). *What does it really mean to be college and work ready? A study of the English literacy and mathematics required for success in the first year of community college*. Washington, DC: Author.

CONTINUED ON PAGE 8

Orlando, V. P., Caverly, D. C., Swetnam, L. A., & Flipppo, R. F. (1989). Text demands in college classes: An investigation. *Forum for Reading, 21*(1), 43-49.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Richardson, R. C., Fisk, E. C., & Okun, M. A. (1983). *Literacy in the open-access college*. San Francisco, CA: Jossey-Bass.

Richardson, R. C., Martens, K. J., Fisk, E. C., Okun, M. A., & Thomas, K. J. (1982). *A report on literacy development in community colleges*. Tempe, AZ: Arizona State University. Retrieved from ERIC database. (ED 217925)

Rose, M. (2012). *Back to school: Why everyone deserves a second chance*. New York, NY: The New Press.

Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Simpson, M. L. (1996). Conducting reality checks to improve students' strategic learning. *Journal of Adolescent and Adult Literacy, 41*(2), 102-109.

Simpson, M. L., & Rush, L. (2003). College students' beliefs, strategy employment, transfer, and academic performance: An examination across three academic disciplines. *Journal of College Reading and Learning, 33*, 146-156. doi: 10.1080/10790195.2003.10850145

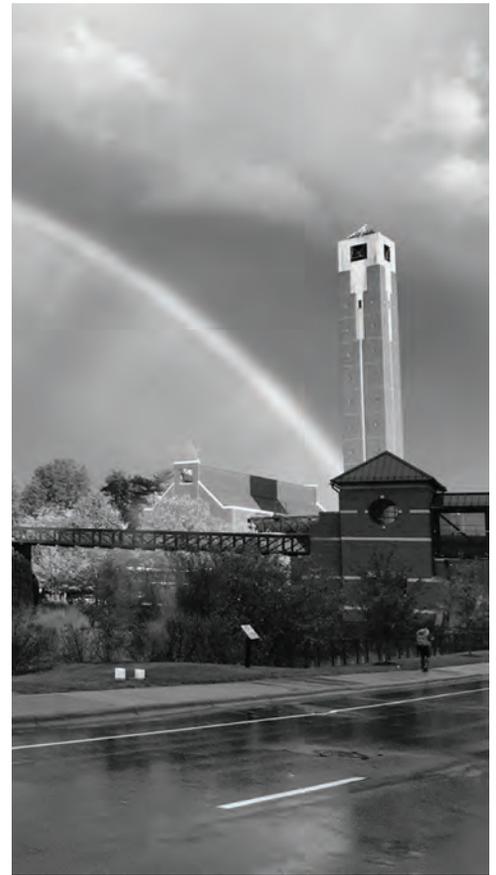
Stahl, N. A. (1982). The basic skills levels of undergraduate students and resultant attitudes of university faculty. In *Quest of the student success: Proceedings of the Eight Annual Colloquium of the Council of Graduate Students in Education*. Pittsburgh, PA: University of Pittsburgh. Retrieved from the ERIC database. (ED 221494)

Wachen, J., Jenkins, D., & Van Noy, M. (with Kulongoski, K., Kurien, K., Richards, A., Sipes, L., Weiss, M., & Zeidenberg, M.). (2010). *How I-BEST works: Findings from a field study*. New York, NY: Columbia University, Teachers College, Community College Research Center.

Wachen, J., Jenkins, D., & Van Noy, M. (2011). Integrating basic skills and career-technical instruction: Findings from a field study of Washington State's I-BEST model. *Community College Review, 39*(2), 136-159.

Wachen, J., Jenkins, D., Belfield, C., & Van Noy, M. (2012). Contextualized college transition strategies for adult basic skills students: Learning from Washington State's I-BEST program model. New York, NY: Columbia University, Teachers College, Community College Research Center.

Zeidenberg, M., Cho, S., & Jenkins, D. (2010). *Washington State's Integrated Basic Education and Skills Training program (I-BEST): New evidence of effectiveness* (CCRC Working Paper No. 20). New York, NY: Columbia University, Teachers College, Community College Research Center.



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