

A College and Career Readiness Framework for Secondary Students With Disabilities

Career Development and Transition for
Exceptional Individuals
1–13

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Abstract

In this qualitative study, a proposed organizing framework of college and career readiness for secondary students with disabilities was developed based on a synthesis of extant research articulating student success. The original proposed framework included six domains representing academic and nonacademic skills associated with college and career readiness: academic engagement, academic mind-sets, learning processes, critical thinking, social skills, and transition knowledge. Focus groups were conducted to examine perspectives among state-level stakeholders with knowledge and expertise regarding college and career readiness, drop-out prevention, and secondary transition. Through an iterative process, the focus group data were analyzed and the framework was refined based on findings. Implications for practice and suggestions for future research are discussed.

Keywords

academic, non-academic, students with disabilities, college career readiness, transition

Recently, the Division on Career Development and Transition called for those in the field of secondary transition to become more involved in current high school reform (Morningstar, Bassett, Kochhar-Bryant, Cashman, & Wehmeyer, 2012). This call for action once again directs attention to the concept of transition-focused education and the goal of preparing students for success after high school (Kohler & Field, 2003). In addition, the Common Core State Standards (CCSS; National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) and college and career ready (CCR) initiatives (U.S. Department of Education, 2010) have driven today's educational reforms. At the same time, researchers (e.g., Conley, 2010; Farrington et al., 2012) suggest college and career readiness goes beyond core academics and should include nonacademic skills (e.g., critical thinking, self-monitoring, study skills) in conjunction with contextual influences such as student motivation and engagement (Savitz-Romer, 2013) and knowledge of postsecondary requirements. Other researchers have extended college and career readiness definitions to apply more explicitly to certain subgroups, such as students with a range of disabilities (Kearns et al., 2011). Taken together, these calls and initiatives emphasize the need for an organizing framework for ensuring all students with disabilities are CCR.

The purpose of this qualitative study was to elicit feedback from key state-level stakeholders in articulating, clarifying, and refining an organizing framework of CCR that emphasized academic and nonacademic skills benefiting

students with disabilities. The framework was developed based on the broad literature base in psychology, educational leadership, secondary education, and transition to adult life for students with disabilities. The proposed framework was then shared with two focus groups of state-level secondary transition leaders during national meetings. Through an iterative process, after each focus group, the framework was refined and clarified, with stakeholder input thereby affirming the importance of the six domains when considering state-level implementation of CCR initiatives with students with disabilities.

College and Career Readiness: Academic and Nonacademic Factors

CCR is a multidimensional construct that includes academic (e.g., grade point average, college admission exam scores) and nonacademic factors (e.g., student motivation, engagement). Unfortunately, CCR models and measures (including the CCSS) rely primarily on academic

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indicators; yet there is evidence to show these measures do not sufficiently align with knowledge and skills needed by first-year college students (Brown & Conley, 2007). Moreover, the College and Career Readiness and Success Center posits three broad areas that must be addressed when defining CCR: academic knowledge, pathway knowledge, and skills for lifelong learning (American Institutes for Research [AIR], 2014).

Nonacademic factors represent student dispositions and behaviors enabling acquisition of academic knowledge and skills, such as student engagement and motivation (Farrington et al., 2012), process-oriented skills fostering study habits (Ruban, McCoach, McGuire, & Reis, 2003), as well as social and emotional development (Savitz-Romer, 2013). Nonacademic factors also include practices associated with moving from high school to college and careers (e.g., college and job applications, resumes, financial aid).

Conley (2010) developed a CCR model that considers both academic and nonacademic factors across four keys (a) content knowledge, (b) critical thinking, (c) learning strategies, and (d) transition knowledge and skills. In Conley's model, academic factors are represented within content knowledge, and nonacademic factors are represented throughout the remaining three keys. Similarly, Farrington et al. (2012) described secondary student engagement by acknowledging academic and nonacademic skills including nonacademic factors affecting academic performance. This model uses a progression of influence, starting with psychosocial beliefs associated with academic mind-sets (e.g., sense of belonging, self-efficacy) as the entry point to learning. Academic mind-sets then affect social skills, academic perseverance, and learning strategies culminating in positive academic behaviors (e.g., going to class, doing homework). It is these positive behaviors that are most closely associated with academic performance (Allensworth & Easton, 2007). Meanwhile, Conley's model offers other factors necessary for CCR (e.g., critical thinking, transition knowledge) and implies that the four keys occur simultaneously. Together, these two models offer distinct student-level factors to be considered when addressing the complex, multidimensional learning and development necessary for CCR. Importantly, many of the student-level skills and dispositions identified as essential for success are currently not systematically taught nor measured in secondary schools. Among students with disabilities (SWD), the course failure and drop-out rates are nearly twice as high as students in the general education population (U.S. Department of Education, 2012). Unfortunately, SWD are less likely to receive an academically rigorous curriculum in high school (Gregg, 2007). This is especially troubling given recent evidence that SWD are more likely to pursue 2- and 4-year postsecondary degrees if they receive instruction in general education classrooms in core subjects (Lombardi, Doren, Gau, & Lindstrom, 2013). Given these

disparities, it is especially important to prioritize CCR for students with disabilities to ensure expectations are just as high as their peers without disabilities.

To launch our scrutiny of the most critical skills needed to promote CCR, we first examined the research and literature and proposed an organizing framework that described six academic and nonacademic domains: academic engagement, academic mind-sets, learning processes, social skills, critical thinking, and transition knowledge. A brief synopsis of our initial domains in the order in which they were first proposed is described next.

Academic Engagement

Academic engagement has been categorized into two broad areas: cognitive/academic and behavioral. Cognitive engagement entails linking ideas and organizing concepts across and within core and elective content areas, thereby making knowledge relevant and meaningful to adolescents. Behavioral engagement is shown outwardly through students' approaches to classwork, such as regular attendance, class participation, and completing homework assignments. Engaged students understand the connection between everyday behaviors and long-term goals. Student engagement has also been considered as a result of how well the student fits within the learning environment (Fredricks et al., 2011).

Academic Mind-Sets

Emerging from a strong sense of belonging with the school culture, student academic mind-sets foster persistence leading to a growth orientation (Dweck, 2008). In other words, students who feel connected to school will trust peers and adults in taking academic risks and learn from mistakes, ultimately seeing value in their work while making connections to real lives (Farrington et al., 2012). Fostering a growth mind-set is often linked to perseverance (i.e., "grit" a term that combines persistence, resilience, and self-control; Duckworth & Seligman, 2005). Concepts of self-determination (Wehmeyer et al., 2012) familiar to special educators encompass similar mind-set behaviors of decision making, goal setting, self-awareness, self-advocacy, and self-monitoring characterized through academic mind-sets.

Learning Processes

Skills and procedures students use to access academic content have been referred to as learning strategies (Deshler et al., 2001). Test-taking, note-taking, working collaboratively in groups, organizing materials, and time management are all associated with learning processes that can be taught to students. Evidence shows students, particularly first generation college students and adolescents with disabilities, who

participated in structured programs to increase learning strategies during high school reported feeling more confident in their abilities to manage college coursework (Watt, Johnston, Huerta, Mendiola, & Alkan, 2008).

Critical Thinking

The original domain was adapted from a cognitive strategies framework (Lombardi, Conley, Seburn, & Downs, 2013) and consisted of five elements: problem formulation, research, interpretation, communication, and precision/accuracy. The operational definition of critical thinking targeted expected skills cutting across academic content (e.g., making inferences, interpreting results, analyzing sources, explaining; Conley, 2010). Thus, despite distinct academic disciplines, college freshman are expected to think critically as soon as they arrive on campus, and first-time employees are expected to quickly master job-specific problem solving such as resolving a work conflict, or setting new production goals.

Social Skills

Influenced by research emphasizing interpersonal skills of students, adults within schools, and the broader community, skills such as communication, empathy, social awareness, respect for others, and responsibility were identified. For example, Bradshaw, Waasdorp, Debnam, and Johnson (2014) included social engagement as one of three overarching elements when describing positive school climate. Although elements of social skills have been included in CCR frameworks, it is not often sufficiently articulated within statewide definitions (Mishkind, 2014).

Transition Knowledge

This domain entails planning for life after high school and is heavily influenced by the special education secondary transition literature base (cf., Kohler & Field, 2003). Essentially, students must understand processes underlying successful transitions from high school to college and careers (e.g., college and job applications, awareness of scholarships, developing resumes). Students must also understand distinctions between high school and college environments (e.g., faculty and peer expectations, dormitory living, recreation and leisure), as well as career environments (e.g., professionalism in the workplace, interviewing, coworker/supervisor relationships). This domain also includes preparing for adult living (e.g., financial literacy, health and wellness, transportation) and opportunities for self-advocating in school, home, and the community.

In summary, we identified six domains of CCR for secondary educators to consider when supporting students with

disabilities. These six domains include both academic and nonacademic factors; however, they are not typically emphasized in the state content standards associated with CCR. Therefore, the purpose of this study was to understand the perspectives of state-level stakeholders in articulating, clarifying, and refining the proposed CCR organizing framework. Because of the exploratory nature of this investigation in understanding student readiness from a specific state context, qualitative research methods were utilized to coconstruct new knowledge and gauge opinion and understanding of the proposed organizing framework (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005).

Method

Focus group inquiry served as the primary data collection method specifically because of its interactive nature, whereby discussion among group members was as important as were the individual responses to specific questions. Given the need to elicit both multiple and distinct perspectives, as well as the collective viewpoint of the group (Gibbs, 2012), this method offered participants an opportunity to examine and critique the organizing framework of student readiness. In fact, of importance to our study was to construe understanding of the salience of the framework to state agency personnel who are closely aligned with secondary/transition, drop-out prevention, and college and career readiness initiatives. These are state-level professionals most likely to support and implement state initiatives related to CCR; therefore, their perceptions regarding student readiness is an essential step in confirming the organizing framework. This approach adheres to the quality indicators of qualitative research in that we identified a representative sample to document and confirm the CCR organizational framework (Brantlinger et al., 2005). We identified state agency informants to broaden our understanding of how, and in what capacities state agencies understood student readiness for college and careers.

Sample

A purposive sample of selected state education agency (SEA) representatives were first identified and then recruited to participate. A specific sampling technique used within purposive sampling, expert review (Patton, 2002) was used to identify participants based on expert knowledge and experience pertaining to policies, issues, and state initiatives associated with secondary special education and transition services for students with disabilities and their role in state CCR initiatives. We identified SEAs representing six geographic regions of the United States who typically attend national meetings focusing on transition and secondary special education. In addition, we selected SEA staff or SEA contracted providers of personnel development

representing statewide roles affecting secondary/transition, school completion, and college and career readiness for students with disabilities. Twenty-two participants representing 17 states were invited and participated in one of two focus groups (FG1 $n = 11$; FG2 $n = 11$). See Table 1 for further details. Half ($n = 11$) of the participants served as state agency staff involved in secondary/transition services for youth with disabilities. Nearly half ($n = 10$) represented statewide and regional professional development providers contracted with the state agency (e.g., state personnel development grant coordinator, contracted provider regarding multi-tiered systems of support (MTSS), regional technical assistance providers for secondary transition) or universities engaged in professional development with the SEA. In addition, participants included state agency personnel involved with drop-out prevention and school completion efforts ($n = 5$). As Table 1 indicates, some SEA staff were in positions responsible for leading both secondary transition and school completion programming for the SEA ($n = 4$).

Data Collection

Each focus group lasted approximately 2 hr and was held in conjunction with daylong national meetings. Two members of the research team served as comoderators, taking turns asking questions, facilitating group interactions, and prompting for further details. Two additional members of the research team took field notes and kept track of time.

The focus group questions were semistructured and open-ended with initial questions serving to introduce the topic and stimulate discussion. Preliminary questions also allowed the focus group facilitators to gain insight into participant opinions, offering a wider perspective of individual experiences, followed by more specific questioning to directly answer research questions. A questioning route was used to organize the discussion, starting with initial questions representing broad perspectives (e.g., "How is CCR being viewed in your state?"), with subsequent questions funneling to greater specificity ("What is your overall impression of this domain?"). Including follow-up probes allowed the discussion to gradually narrow to elicit responses from key questions (e.g., "How important are the elements described?" "What is missing from the descriptors for each of the domains?").

The focus groups were iterative in that during the first focus group, participants were given the original draft of the CCR student readiness framework described previously. The framework included the six domain areas, multiple subcategories, and individual descriptors. Using the questioning route, participants responded to the three key questions and subsequent follow-up probes for each of the six domains. Prior to the second focus group, suggested changes and enhancements to the framework were made, and participants were able to confirm enhancements and elaborate

further, with recommendations for changes and additions. The focus groups were digitally recorded and transcribed. Field notes were collected throughout the discussions.

Data Analysis

The data analysis procedures used a process to bring structure and meaning to the raw data (Marshall & Rossman, 2010). Audio files were transcribed and, along with written field notes, used during analysis. The authors read the transcript for overall meaning, as well as to identify potentially missing data due to transcriptionist error or audio file quality. For accuracy, missing transcript data were filled where possible using field notes and a review of the original audio file.

Two members of the research team then independently read the transcript and noted initial impressions and implications for changes. Next, these two researchers met to debrief and to discuss implications of the participant input for additions or changes to the framework, as well as reach consensus on exchanges where participants presented potentially conflicting points of view. All relevant passages that reflected responses to the focus group questions were examined and assigned as open code (Corbin & Strauss, 2008). Finally, the transcript codes were revisited for interpretation of data patterns, including identification of themes. The process resulted in changes, enhancements, and deletions to the framework and a deepening understanding of the CCR framework based on the perspectives of the expert informants. Finally, a third researcher independently examined the updated organizing framework to confirm the changes by reviewing the data from the audio files, transcriptions, and field notes, completing an audit trail thereby ensuring greater credibility and trustworthiness of the findings (Brantlinger et al., 2005). Points of clarification were discussed among the three researchers, and the proposed CCR organizing framework was finalized. A member check was completed, whereby the first focus group participants received a copy of the revised table of the six CCR domains and a draft of the results section and were given an opportunity to determine if the results reflected their views from the discussion. This process resulted in minor enhancements with an overall agreement regarding the final outcome. Following the second focus group, the same process was followed for reviewing and using the results of the focus group discussion to make changes to the organizing framework. A third researcher verified these changes, completing the same steps described for the first focus group.

Results

The results of the focus groups affirmed the importance of the six organizing domains, as well as clarified and added specific descriptors originally not included. Table 2 explicates the final

Table 1. Focus Group Participants.

Focus Group	Geographic region represented						SEA roles			
	NE	MA	S	MW	NW	SW	Secondary transition program specialist	School completion program specialist	PD/TA provider	
FG 1	5			2	1	3	5	2		5
FG 2	3	3	1	2	1	1	6	3		5
Total	8	3	1	2	2	4	11	5		10

Note. NE = Northeast; MA = Mid-Atlantic; S = South, MW = Midwest; NW = Northwest; SW = Southwest; SEA = state education agency; PD/TA = personnel development and technical assistance provider contracted/grant of SEA; FG = focus group.

Table 2. Refined CCR Organizing Framework for Secondary Students With Disabilities.

Academic engagement	Mind-sets	Learning processes	Critical thinking	Interpersonal engagement	Transition competencies
<ul style="list-style-type: none"> Cognitive and content knowledge Language arts Math Science Social studies Career and technical education Knowledge structures Factual Linking ideas Organizing concepts Challenge level Behaviors Attendance Productivity Work habits Class participation Adaptability/flexibility Course completion 	<ul style="list-style-type: none"> Sense of belonging Trusting relationships: Academic and nonacademic Extracurricular engagement Growth mind-set Opportunities to practice Learn from mistakes/progress Ownership of Learning Help seeking Self-awareness Self-efficacy Self-monitoring Goal setting Perseverance Persistence Effort Motivation Value Grit/tenacity 	<ul style="list-style-type: none"> Accessing content Test-taking skills Note-taking skills Time management skills Organizational skills Technology skills Metacognitive skills Engaging in learning Group/team engagement Listening and speaking skills 	<ul style="list-style-type: none"> Problem solving Recognize/formulate problem Hypothesize Strategize actions Research Identify solutions Collect data Interpretation Analyze Synthesize Communication Create product Present product (verbal, written) Precision/accuracy Monitor progress Confirm results Transfer skills 	<ul style="list-style-type: none"> With self Responsibility Adaptability With others Assertion Accountability Leadership Collaboration Understanding others Social awareness Empathy Tolerance of diversity 	<ul style="list-style-type: none"> Early planning Goals tied to interests Managing application and interview processes Financial planning Individual and environmental fit Career culture Professionalism Knowledge of career resources Employer expectations Workplace fit College culture Campus resources Program of study Faculty expectations Campus living Adult Roles/responsibilities Financial literacy Accessing community resources Health and wellness Advocating supports and accommodations Transportation Adult living Community membership Civic engagement

Note. CCR = college and career ready.

six CCR domains integrating the feedback from the focus group data. These results are described next.

Defining College and Career Readiness

Participants engaged in a wide-ranging discussion describing their states' definitions of college and career readiness. States differed in the length of time they had been engaged in CCR efforts, and thus some participants reflected a deeper understanding of CCR, whereas others articulated an emerging definition. It appeared that definitions were often in flux, with many participants describing ongoing conversations about how CCR is defined and to be implemented. For example, certain states offered that CCR "had just become a focus area." Whereas others described "conversations being held at the [SEA] department level . . . with workgroups that are having conversations about different measures . . . lots of conversations about 'what does it look like.'" Participants from states further along described how state definitions of CCR were just now merging with other distinct initiatives such as drop-out prevention, individualized plans for graduation, and diploma options. Others described well-established definitions of CCR with sophisticated strategies for implementation. These participants talked about extending the state model from college and career to include community and citizenship readiness.

Domains of the CCR Organizing Framework for Students With Disabilities

Academic engagement. Participants deemed the subcategories of Cognitive and Content Knowledge, Knowledge Structures, and Behaviors in the original domain to be highly appropriate and relevant. In general, they offered that this domain is broader in focus than just core academic subjects. Among the subcategory of Cognitive and Content Knowledge, there was general consensus that core academics were important. However, one participant in FG1 strongly advocated, and the majority then agreed, for the inclusion of a career technical education knowledge content area, given the importance of both general and specific career content knowledge. Presented with this change, FG2 embraced the inclusion of career and technical education (CTE) knowledge. Both groups also agreed that Knowledge Structures such as factual knowledge and knowledge of organizing concepts are important aspects of Academic Engagement. These structures define the various levels of knowledge necessary to achieve critical depth of content knowledge. One participant described certain access points within his or her state content standards so that all students could participate. Others described how their states apply levels assessing the depth of knowledge associated with state standards.

Regarding the behaviors that indicate academic engagement, there were suggestions to emphasize productivity and work habits. Thus, it is not enough to attend class; engagement behaviors require students to formulate productive work habits that will ultimately transfer to future college and career settings. This was particularly relevant in states where students are encouraged and/or required to complete online classes. In these circumstances, independent work habits became essential and attendance is much more nuanced than physically attending school or showing up for class. Furthermore, participants noted that engaged students learn to adapt and remain flexible within the changing demands of high school and postschool settings. One member of FG2 suggested adding course and credit completion as important behavioral components of Academic Engagement, as it is a critical measure of remaining on track to graduate. The rest of the group agreed with this perspective.

Participants noted how deceptively difficult it is to address issues associated with the Behavior subcategory due to a general lack of measures available and in use in states to sufficiently evaluate this area. Outside of attendance measures, most participants could not identify specific measures in place within their state and districts to evaluate student progress. Tracking attendance was noted as challenging; participants described situations where being marked "present" at school did not always equate to present in all classes or in classes in which high-quality instruction is delivered. In particular, one stakeholder lamented the lack of student assessment of understanding the structures of knowledge (i.e., factual, linking ideas, organizing concepts), noting her state most likely evaluates student acquisition of knowledge structures within the comprehensive state assessment, yet the students' understanding of knowledge is not assessed.

Overall, the Academic Engagement domain, with an emphasis on academic elements, was noted by most participants in both focus groups as the domain receiving the most attention related to student testing:

This construct, of all of them, really has the most academic piece to it in terms of what we're already measuring . . . We're already measuring college and career readiness with GPA and college admission exams within state tests.

However, this domain also raised concerns from participants regarding discrepancies in how academic success is measured and how struggling students are supported.

Mind-sets. In general, participants supported the inclusion of this domain and acknowledged the importance of the four subcategories. Interestingly, during FG1, the domain name articulated by Farrington and colleagues (2012) called, Academic Mind-Sets, was questioned. Participants

interpreted the subcategories and indicators more broadly, as ones that support students to be successful in life and careers. One stakeholder noted that for students with significant cognitive disabilities, the focus may be on “learning how to learn” rather than formalized academic content. Therefore, during FG2, we used the domain name of Mind-Sets and participants agreed with this change.

Participants from FG1 were highly engaged in refining the descriptions found within the domain subcategories. For example, they expressed the need to more clearly define Sense of Belonging as fostering trust between adolescents and adults, and included students participating in academic and nonacademic settings (e.g., extracurricular activities). This was supported and elaborated on during FG2, particularly with regard to drop-out prevention.

Discussion in both groups emphasized nonacademic activities as essential for students to act on their preferences, strengths, and interests. In fact, one member of FG1 noted the close interconnection between extracurricular activities and a student’s potential career path. A cautionary note was raised that Sense of Belonging may not result in positive prosocial behaviors, but in fact could be counter to school values. Most participants in both focus groups agreed extracurricular activity engagement should be a measure to which schools and districts pay attention. One person noted high schools should identify how many students were in extracurricular activities, ensure the school was offering activities that met the interests of students, and proactively seek out student involvement.

Data from both focus groups indicated participants were comfortable and familiar with the subcategory, Ownership of Learning, due to the similarities with more established terms and interventions (i.e., self-determination) from special education: “If you look at self-awareness, self-efficacy, self-monitoring, goal setting, we talk about that amongst ourselves quite a bit right, so it resonates for us.” The subcategory of Perseverance offered some discussion from among participants. Most agreed with the importance of this concept and no changes to the indicators were noted. As a point of clarification, one member of FG1 felt schools needed to further emphasize opportunities to practice and learn from mistakes, or help students achieve “incubated” success. This perspective resonated for others as well. During FG2, a similar discussion took a slightly different turn, articulating the importance of allowing students to fail as a problem-solving strategy: “Is it, I tried it that way, but it didn’t work, then we tried it another way.” FG2 tied their discussion of perseverance to issues associated with dropping out of school and the importance of grit and perseverance to complete. In general, both focus groups indicated schools were not sufficiently supporting efforts to teach students about perseverance; however, one state agency staff member did discuss reviewing assessments they were considering related to student perseverance.

Learning processes. During FG1, this domain raised discussion as to whether the indicators were exclusive or belonged in other domains (e.g., behaviors for academic engagement). Some believed it was not sufficiently distinct and applied across other constructs, whereas others supported learning processes (i.e., executive functioning skills) as a discrete construction. While FG1 advocated for the need to explicitly teach skills to access content particularly for certain groups of students, members of FG2 reported a general drop in the use of learning strategies due to competing academic priorities: “You have your test-taking, note-taking, we trained all of our special education teachers . . . but it seems to me like after No Child Left Behind and standards-based accountability, teachers have gotten away from teaching these skills.” In response, one stakeholder identified a specific general education program (i.e., Advancement Via Individual Determination [AVID]) that embedded learning strategies as a support mechanism.

In the end, participants supported this domain as one that conveyed how students can access content; however, they expanded the notion to include the subcategory, Engaging in Learning, thereby reflecting the field’s attention to universal design for learning (UDL). From this perspective, certain skills offered the capacity to access academic content (e.g., test-taking, note-taking, organizational skills) and others addressed skills needed to engage in learning (e.g., collaboration/group skills, nonverbal communication, listening and speaking). The distinction with Accessing Content and Engaging in Learning was supported by FG2. Finally, several participants indicated students needed explicit instruction on how to generalize skills to wider settings, particularly college and careers. There was a general sense that focusing on transferability of skills across settings was not often a consideration within schools.

Several important concepts were added to this domain as descriptors of Learning Processes. During FG1, participants suggested adding organizational and metacognitive skills to strengthen Accessing Content. Another indicator identified during FG1 was communication skills (i.e., listening and speaking skills). The discussion of technology skills cut across both focus groups, with the identification of skills that ensured access to content, such as using assistive technology while others highlighted the necessity for accessing learning via technology. Several concerns related to technology were raised in both focus groups. First was the sense of disconnect between technology skills used in high school and those needed for college and the workplace. The point was raised of the misperception in schools that access to a computer was sufficient for addressing technology needs among students, without considering the types and methods of technology used in postschool settings. During FG2, participants discussed the limited expertise among teachers to integrate technology tools in the classroom, to the disadvantage of all students. The overriding fear was students would

not be able to transfer technology use from high school into future settings. Members of FG2 supported and elaborated on the importance of technology to access and engage in academic content. For some participants, statewide use of online coursework gave greater flexibility to students to engage in learning in multiple ways. However, a concern was raised that teachers have a general lack of understanding of technology, and particularly assistive technology, thereby creating barriers to learning for certain groups of students.

Critical thinking. Both focus groups endorsed the importance of the Critical Thinking domain and much of the subcategories. One participant indicated “on a scale from 1 to 10, critical thinking scores a 10.” In fact, in FG2, participants confirmed that critical thinking was embedded within state standards. Several participants described statewide implementation of senior projects and/or portfolios as a strategy to exemplify student achievement of critical thinking skills. Elaborating on this point, however, one FG1 participant raised the issue of generalization of skills: “Critical thinking is the ultimate test . . . Can they apply their skills to unpredictable situations? I don’t see that in there and that is a challenge for students with disabilities.” There was general consensus from FG1 and agreement during FG2 to change the name of the first subcategory under critical thinking from Problem Formulation to Problem Solving. This was supported by several of participants: “I’m missing the word problem-solving . . . I’ve been doing work with the department of labor and vocational rehabilitation and they’re saying that one of the biggest issues is kids don’t know how to problem solve.” Another FG1 participant agreed: “We are using problem-solving a lot . . . when we are talking about critical thinking . . . and 21st-century skills.” As a point of elaboration, one stakeholder interjected that identifying that a problem exists is an essential indicator of problem solving. Therefore, a descriptor was included as an initial step in problem solving—to recognize there is, indeed, a problem to be solved. Interestingly, during FG2, when we raised the points about problem solving and 21st-century skills, almost all participants indicated this was no longer a term their states were using, and discussion coalesced around the sense that CCR superseded older terminologies previously used within states.

Participants suggested clarifying and elaborating the end result of Critical Thinking, and were specifically concerned that the skills of transferability were considered for all students. Both focus groups offered examples of how the subcategories of Critical Thinking applied across academic and career-related circumstances. Concern was raised during FG2 regarding how to teach and assess critical thinking: “Yes the critical thinking, more school-related, like the senior project . . . these [descriptors] are more like soft skills, you don’t do your senior project to show

perseverance, but you will show that in other ways.” Others during FG2 elaborated on how to assess critical thinking by associating it with state assessments that targeted levels of “depth of knowledge.” For these participants, the descriptors associated with Critical Thinking were identified as representing a deeper degree of knowledge utilization and were included among their state assessments of academic standards.

Both focus groups agreed there are inconsistencies in how states and districts operationalize critical thinking. One state agency staff member articulated that only two thirds of his state focused on this domain. Another emphasized the difficulties with implementing instructional approaches to critical thinking accessible to all students, particularly those with more significant disabilities. Finally, concern was expressed that this skill is often much more highly emphasized in the instruction of students in higher level academic courses but is not the focus of instruction for all students, particularly students with disabilities.

Interpersonal engagement. Participants in FG1 suggested more emphasis be placed on social interactions rather than on Social Skills, which was the original domain name. They focused on concepts of collaboration and communication with adults and peers, as well as possessing social awareness and empathy (e.g., treating each other with respect). The discussion was supported with examples from the drop-out prevention research focused on social and emotional engagement. There was further discussion related to the diversity of students and how schools should explicitly teach both cultural competency skills, as well as more generalized adaptability, acceptance, and tolerance of individual differences. Another area of Interpersonal Engagement that came up was the focus on leadership skills and professionalism needed for postschool environments.

A discussion of career-related soft skills ensued, and the relevance of these skills to learning processes was confirmed. In particular, skills such as teamwork, problem solving, and professionalism at work were identified as essential to career and college readiness. Regarding professionalism, participants specifically emphasized adapting language and behavior to specific settings as a critical skill for success.

Finally, focus group participants raised the issue of adaptability both across different environments and settings, as well as when interacting with a range of people. The notion of students needing to exhibit certain behaviors, in particular environments, was raised by FG1 participants: “Being a part of the 21st century . . . given the amount of media that kids are exposed to . . . They get it. You know it’s that adaptability to the present situation.”

The majority of members of FG2 agreed with the descriptors included within the domain of Interpersonal Engagement and importance of this domain in defining college and career

readiness. Participants helped to reorganize the skills within the domain. It was concluded that the overall list of skills made the term *soft skills* redundant and potentially confusing. The group concluded that the skills needed to be further organized, and suggested dividing them into inter- and intra-personal. However, as the researchers later attempted to divide the list, there was significant overlap. A more useful delineation arrived at included skills that are (a) important internal skills—within self, (b) important external skills—with others, and (c) important skills of authentic engagement—for others.

Transition competencies. After the first focus group data were analyzed, this construct was renamed Transition Competencies rather than Knowledge, as most of the defining indicators targeted how young adults perform certain tasks necessary for life after high school. Early Planning emerged as a newly named subcategory describing the process of awareness and preparation for application deadlines for both college and careers, which often takes place over time and requires several sequential steps (e.g., for college: essays, transcripts, community service, financial planning). Furthermore, planning must include time for students to try new career-related experiences and refine or revise their goals and decisions based on such experiences (e.g., job shadowing to determine and reaffirm career interests). FG1 participants discussed the importance of instructional strategies such as service learning and volunteering outside of school as essential transition experiences that promote college and career readiness. Along these lines, participants in FG2 emphasized the importance of identifying the fit between an individual's interests and skills and his or her future learning, working, and living environments. Identifying this fit is a critical aspect of the early planning for college and career readiness.

Finally, participants reconceptualized two of the original subcategories (i.e., Independent Living and Self-Advocacy) to be incorporated into the multidimensional conceptualization of Adult Roles and Responsibilities. The indicators defining this new grouping include competencies students must be aware of and experience, such as financial literacy, accessing community resources, health and wellness, transportation, and adult living. Most of these aspects were included in the initial construct prior to the focus group, but the discussion informed naming conventions and clarifying indicators.

Discussion

The purpose of this study was to articulate, clarify, and refine an organizing framework of CCR that emphasizes academic and nonacademic factors for use with secondary students with disabilities. The proposed framework was based on well-established research-based CCR models that

emphasize nonacademic factors among secondary students (e.g., Conley, 2010; Farrington et al., 2012). Importantly, although these models are well established, students with disabilities are not mentioned as an applicable subgroup. We conducted two focus groups comprised of statewide leaders associated with state-level initiatives related to secondary students with disabilities. For each of the six CCR domains, the focus group findings further clarified, specified, and refined our initial framework. None of the domains were eliminated as a result of focus groups. Overall, the participants agreed that the six CCR domains were important and should be embedded into secondary and transition practices for supporting students with disabilities as they prepare for colleges and careers.

The focus groups confirmed the perspective that college and career readiness has shifted secondary school reform discourse, converging on concepts associated with adolescent growth, learning, and engagement rather than the narrow aim of academic knowledge as a sole indicator of success. A related conclusion is that 21st-century skills, although most often associated with employment and career development, are an essential consideration of career readiness for *all* students, regardless of plans to pursue a 2- or 4-year degree, vocational training certificate, or enter directly into the workforce. Interestingly, some states represented in FG2 were no longer using the term “21st-century skills,” but rather had adopted other terms to reflect this idea of college, career, community, and citizenship readiness. This was also reflected in the change in the domain originally titled Academic Mind-Sets to Mind-Sets. From the focus groups' perspectives, centering on lifelong learning incorporated a broader adult engagement perspective and more accurately reflected college and career readiness.

It would seem that states are at different points on a trajectory of defining and implementing CCR, with some further along and others just launching procedures and practices. State progress toward CCR development potentially is affected by whether the state adheres to a definition of CCR based solely on the CCSS, or if states incorporate other concepts such as nonacademic skills to a CCR definition. This seemed to be the case from among the focus group participants; however, more research is needed to fully understand state CCR policy development and subsequent impact on practices.

Focus group participants identified the importance of transferability of academic and nonacademic skills across educational settings and experiences to promote positive adult life roles (e.g., postsecondary education, career development, independent living). The array of nonacademic skills embedded throughout the final six CCR domains further supports this assertion. For example, the participants discussed metacognition (i.e., “learning to learn”) as critical for adult workplace roles and lifelong learning. Also known as “self-regulated learning,” metacognition implies learners

know about and utilize a variety of strategies as appropriate to manage their workload (Schunk & Bursuck, 2012). Many of the CCR domains confirmed by this preliminary investigation foster this notion of metacognition as an essential skill that cuts across all adult roles.

Another intriguing result was the articulation and support for the importance of supporting the domains of Interpersonal Engagement and Mind-Sets through positive and trusting social relationships among students and adults. For example, during one discussion point, the participants advocated for the importance of extracurricular experiences as an essential avenue for developing prosocial skills and relationships. In fact, some participants argued it is one of the most fundamental aspects of secondary settings for adolescents, especially for those at risk of dropping out of school. This argument is supported by drop-out prevention research (Appleton, Christenson, & Furlong, 2008). Therefore, although not often referred to in the discourse associated with CCR, ensuring that students have positive extracurricular experiences should be an essential aspect of secondary school implementation of CCR. Associated with social relationships is the importance of adult mentors and support networks for youth and building relational trust in school (Bryk & Schneider, 2002). In this respect, it is clear that for adults in secondary settings, being honest and trustworthy, and working with students to problem solve, test hypothesis, perhaps fail, and redesign strategies and interventions were all fundamental support mechanisms when engaging with youth.

Finally, a theme that emerged from the focus group was the issue of adolescent opportunities to use skills associated with adaptability and flexibility when engaging in increasingly diverse environments and people. This was not just a response to increasingly culturally diverse students but also to the wide variation of learning strategies and methods by which adolescents engage in learning. The urgency of this matter was described through significant inconsistencies within and across the states represented in this study for how secondary settings support the diversity of student engagement. Therefore, focus group participants expressed a strong need for explicit instruction and support for this area.

Limitations and Suggestions for Future Research

This study was exploratory in nature. Two focus groups of purposively sampled and recruited state-level stakeholders were the primary data collection method. Although purposively selected, participants were recruited from among state leaders typically attending two national meetings, and therefore, potential bias inherent among participants may be a cause for concern, especially when generalizing to a larger context. Although representing a broad set of experiences across multiple states, the confidence in the results

would be strengthened with further research confirming similar findings. Future research studies should clarify the framework with a broader stakeholder base at both state and local levels. Designing large-scale research to construct and validate a statistical model of CCR that incorporates students with disabilities, similar to already established and emerging models (cf. Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010), would strengthen these findings. Despite limitations, the preliminary results can guide future efforts in promoting secondary school reform that is transition focused, emphasizes CCR, and implemented using multiple tiers of support.

Implications and Future Directions

The challenge for secondary educators has been to construct a framework informed by current research that is broad enough to capture multidisciplinary research and theory across all types of students, yet parsimonious to be successfully operationalized. The proposed CCR organizing framework focuses on student-centered academic and nonacademic factors associated with short-term and intermediate outcomes (in-school learning and engagement) aligned with postschool outcomes (college and career success). Based on focus group responses, the following implications for practice are suggested.

First, school systems must identify and use instructional strategies to teach critical thinking skills to all students. In particular, students with disabilities must be included in these efforts. Prior research findings show that secondary students with disabilities are more likely to receive a less academically rigorous curriculum (Gregg, 2007). This is particularly troubling when examining results from a study where students with and without disabilities were compared according to their responses on a self-report measure of critical thinking (Lombardi, Kowitt, & Staples, 2014). Students with disabilities self-rated lower than their peers without disabilities on a five-part model of critical thinking skills associated with CCR. These findings suggest disparities between students with and without disabilities perceptions of their critical thinking abilities. Thus, it is important to ensure students with disabilities have access to an academically rigorous curriculum that emphasizes critical thinking.

The suggested addition of CTE under the domain of Academic Engagement within Cognitive and Content Knowledge emphasizes CTE's focus on science, technology, engineering, and math (STEM) careers with an increased focus on academic content areas. CTE particularly emphasizes curricula integrating information technology literacy into career readiness exploration (see, for example, Izzo, Yurick, Nagaraja, & Novak, 2010). Despite this promise, exploratory findings on the relationships between CTE staff and special educators show inconsistent

communication, including conflicting terminology, as well as a general lack of understanding of responsibilities in sharing student information and support services (Schmalzried & Harvey, 2014). As is the case with all content areas, collaboration among special educators and classroom teachers will be crucial in promoting the six domains of CCR.

Finally, the need to better monitor student academic and nonacademic factors might be supported using MTSS within secondary school levels (Fuchs, Fuchs, & Compton, 2010; Morningstar, Gaumer, & Noonan, 2009). If implemented with CCR in mind, MTSS at the secondary levels could fundamentally restructure secondary schools by considering the broader goal of ensuring all students are CCR. Operationalizing CCR-focused MTSS by promoting college and career readiness may bridge contextual factors unique to secondary schools and adolescent learners (Morningstar, Knollman, Semon, & Kleinhammer-Tramill, 2012). Such a model goes beyond the academic and behavioral foci of most established multi-tiered models (e.g., Response to Intervention [RTI], Positive Behavior Interventions and Supports [PBIS]) by emphasizing student engagement leading to academic and behavioral success, while preparing for life after high school (e.g., college and careers). A critical distinction of this model is that while RTI and PBIS are designed to help students get to graduation, they are not designed to focus on the wide array of transition or college and career readiness skills (e.g., interpersonal, self-determination, independent living), whereas, a CCR-focused MTSS might help establish this critical bridge.

Conclusion

As states have initiated college and career systems, it is clear that transition practitioners and researchers must engage with secondary colleagues to support readiness for all students. An essential, albeit initial, outcome of this study is the establishment of an organizing framework focusing on student readiness for college and careers that incorporates interdisciplinary research. The initial framework was developed from a synthesis of extant research articulating student success and expanded on by input and guidance from state-level participants. The final framework includes six domains representing academic and nonacademic skills associated with college and career readiness: academic engagement, mind-sets, learning processes, critical thinking, interpersonal engagement, and transition competencies. Through the focus group discussions, we were able to examine perspectives among state-level stakeholders with knowledge and expertise regarding college and career readiness, drop-out prevention, and secondary transition. The iterative process strengthened and significantly enhanced the CCR framework.

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