

Faculty Perspectives: Transitioning into Competency-Based Education

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Competency-based education shifts the focus from teacher-led instruction to student-centered learning, where faculty take on the role of facilitator of learning. While a considerable amount of literature exists on the administrative decision-making process and student experiences with competency-based education, there is a notable lack of research surrounding the faculty experience. This study aimed to gain a deeper understanding of how faculty in higher education perceive themselves as being best supported when transitioning to teaching in a competency-based education environment. Developing a richer understanding of faculty perspectives through cross-case synthesis provides insights for those in higher education to understand how best to support faculty as they transition to competency-based education. Understanding and operationally adjusting to this new perspective on teaching and learning requires a shift not only in the day-to-day functions of a faculty member but also in the basic assumptions of what it means to be a faculty member in higher education. Faculty perceive that they are best supported in transitioning to a competency-based education environment by legitimizing its value through supporting scholarly activities, providing ongoing professional learning specific to instructional and assessment strategies that support student-centered learning. Furthermore, support involves collaboration that extends beyond competency-based education programs and ongoing administrative support.

Keywords: competency-based education, faculty, professional development, pedagogy, assessment, student-centered learning, leadership

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Competency-based education shifts the focus from teacher-led instruction to student-centered learning, where faculty take on the role of facilitator of learning. As universities (and other entities) explore the possibility of implementing competency-based education as a new modality to learning, there has been a range of reactions by faculty (Driscoll & Wood, 2011) towards these efforts; from enthusiasm (Cooper, 2017; Serbati, 2015) to concern (Ordonez, 2014), apprehension (Protopsaltis & Baum, 2019), resistance (Bull et al., 2017; Lauer & Wilkesmann, 2017; Weimer, 2013), cynicism (Brown et al., 2015), and, at times, fear (Hawkins et al., 2015). Rasmussen et al. (2017), synthesizing multiple studies of competency-based education, note “faculty members were generally viewed as critical partners, although some programs stressed faculty involvement more than others” (p. xxviii). While a considerable amount of literature exists on the administrative decision-making process and student experiences in competency-based education (CBE), there is a notable lack of research surrounding the faculty experience. This study aimed to gain a deeper understanding of how higher education faculty perceive themselves as being best supported during the transition to a competency-based education environment.

Literature Review

In contrast to traditional teaching, competency-based education requires faculty to make a pedagogical shift (Castillo, 2014; Richardson et al., 2021). Faculty resistance poses a significant barrier to its adoption (Simonds et al., 2017), often stemming from perceptions that competency-based education is a time-consuming, administration-driven strategy that prioritizes enrollment at the expense of excessive workload (Covarrubias-Papahiu, 2016). Moreover, many instructors report a limited understanding of the value of a competency-based approach to teaching and learning (Newbold et al., 2017) and question whether empirical evidence supports its efficacy in improving student learning.

Conceptual Framework

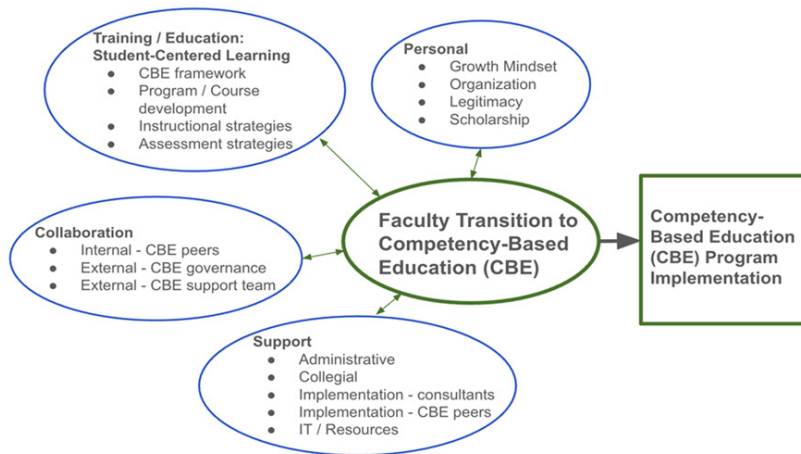
Figure 1 provides a conceptual framework of the literature that led up to this study. It illustrates the many factors impacting faculty transition into a competency-based education environment based on a synthesis of research and includes: training and education around student-centered learning, collaboration, support, and personal growth; emphasizing that transition is not a linear process, but rather an ongoing and iterative process (Driscoll & Wood, 2011; Stefl, 2008).

Training and Education

While faculty may be resistant to the call for change, a growing need for effective, student-centered practices that result in competent professionals is being reported in a variety of fields, including information technology (Sutcliffe et al., 2005), science, technology, engineering, and math STEM (Monat & Gannon, 2018; Rasmussen et al., 2017), nursing (Oermann et al., 2016), and medicine (Cook & Steinert, 2013; Jarrett et al., 2024). Spelt et al. (2014) state that competency-based learning is especially effective in interdisciplinary fields where student-centered instructional

Figure 1

Conceptual Framework: Factors Impacting Faculty Transition to Competency-Based Education



Note. Adapted from Steff (2008).

approaches lead students to become more autonomous, and as such, directly impact student achievement (Fazey & Fazey, 2001). Hattie (2015), in a synthesis of more than 1,200 meta-analyses, estimates that as much as 25% of total learning variance is attributed to teachers' decisions. Understanding the needs of students and adjusting instruction accordingly has the potential to significantly impact learning.

Student-centered learning, specifically a competency-based education model, shifts the role of faculty away from the traditional lecture and note-taking method, where faculty cover one topic for a specified period and then move on to the next. The U.S. Department of Education defines this student-centered learning model as "a structure that creates flexibility, [and] allows students to progress as they demonstrate mastery of academic content, regardless of time, place, or pace of learning" (U.S. Department of Education, n.d.). Regardless of delivery modality (face-to-face, fully online, or a blended format), in a competency-based education model, faculty serve as facilitators; stimulating students to explore topics, ask questions, and create authentic learning applications (Ashby et al., 2018; Dath & Iobst, 2010; see also Nousiainen et al., 2017). Faculty encourage exploration in a nonlinear format and promote self-efficacy to encourage students to discover resources (Newbold et al., 2017). Rather than defining courses in terms of what is taught, CBE defines courses in terms of what a student will know and be able to do upon completion (Garn et al., 2017).

Transitioning to teaching as a facilitator is not new; however, rather than this being a role a teacher might choose, in the learner-centered classroom, it becomes a requirement (Weimer, 2013). Competency-based education focuses on content mastery rather than time-to-learn, making it fundamentally different from traditional

learning models (Cunningham et al., 2016; Meyers, 2018). Developing CBE programs is time-intensive (Protopsaltis & Baum, 2019) and challenges institutions of higher education to “reflect on the need for more student-focused approaches to teaching as well as the need for a measurable desired outcome in terms of organizational performance” (Lauer & Wilkesmann, 2017, p. 267).

Competency-based education models focus on faculty serving as facilitators, rather than the historically traditional role of transmitter of knowledge. Institutionally, training and education must first focus on assessing the comfort level of faculty and then enacting an iterative and dynamic change process (Defa et al., 2016) to support professional learning throughout the development and implementation of CBE programs. Sutton and DeSantis (2017) note that teaching well in a competency-based education model requires faculty to develop pedagogical content knowledge; specifically, both a “great depth of content knowledge about their subject area and a wide breadth of knowledge about how to communicate what they know to their students” (p. 226). Transitioning to faculty as facilitators is not intended to replace current, effective pedagogical practices or student support models; rather, it is intended to enhance them (Bentley, 2017). Protopsaltis and Baum (2019) identify key areas of professional development for faculty as those that address explicit teaching, practice (i.e., repetition), and the consolidation of knowledge, understanding, and skill development in a course. Such student-instructor interaction is crucial for achieving desired student outcomes.

The primary purpose of assessment is to provide feedback and opportunities for revision, ensuring students are proficient in meeting established learning goals (Bransford, 2000; Driscoll & Wood, 2007). Clear, rigorous measures of learning are essential to competency-based education (Krause et al., 2015). Formative assessment, in particular, provides a more detailed picture of student learning, enabling faculty to predict which students are progressing as expected and which may need additional support. It is critical to assess not only students’ knowledge but also their ability to apply such knowledge in real-world situations (Klein-Collins, 2013). Assessment in competency-based education is often formative in nature, providing students with frequent, meaningful, and positive learning experiences. It is an interactive assessment that allows faculty to assist as part of the assessment process and create opportunities for teachable moments (Hundleby & Allen, 2017). Formative assessment is intended, at all levels, to support academic improvement (Garn et al., 2017), creating milestones that incorporate progressive steps and provide a well-defined basis for expected knowledge, skills, and abilities that is shared between learners and faculty (Harris et al., 2017). Formative assessments are learning activities. They provide an opportunity to practice skills for a specific competency (McIntyre-Hite, 2016); therefore, not every assessment moment must be consequential (Schuwirth & Ash, 2013). Harris et al. (2017) emphasize assessment for learning, stating, “assessment in CBME [competency-based medical education] should focus on improving competence, not simply on identifying incompetence” (p. 604). Such an emphasis on improvement provides feedback not only to the learner but also to the instructor as a means of continuous quality improvement of teaching (Marshall et al., 2016).

Measuring competence also requires summative assessments based on “data collection ... until it is rich enough to support a summative decision ... and not be reduced to a series of pass/fail decisions, or even to a series of rank decisions” (Harris et al., 2017, p. 604; see also Schuwirth & Ash, 2013). Developing summative assessments in competency-based education requires careful design to ensure valid demonstration of the knowledge, skills, and attitudes they are intended to measure, specifically, competence in practice (Oermann et al., 2016).

Collaboration

Significant change can be achieved when collaboration becomes an integral part of a transition, such as competency-based education. Driscoll and Wood (2007) state:

Knowledge-building communities, such as a college, evolve particularly effectively through collaborative activities that include not just the exchange of information, but the co-construction and design of something meaningful to participants. ... The goal is not for participants to assume clearly defined and separate roles but rather to re-imagine generative ways to construct knowledge. (p. 42)

Rasmussen et al. (2017), synthesizing multiple studies of competency-based education, note “faculty members were generally viewed as critical partners, although some programs stressed faculty involvement more than others” (p. xxviii). Faculty who are actively involved in the design and development of competency-based education programs had a more positive response to the program and their work (Ashby et al., 2018), highlighting that the ability to interact constructively with others involved in program design impacts faculty perceptions of competency-based education (Echols et al., 2018). Maintaining a common definition of proficiency requires collaboration between the student, faculty, and external stakeholders (Steele et al., 2014), and faculty may need professional development on communicating and maintaining these common expectations. To support professional learning, collaborative interactions among diverse faculty members must be encouraged and centered around a common focus on student learning (Sutcliffe et al., 2006). Creating a learning community around instruction in a competency-based education environment provides opportunity for “professional communication about student learning, shared values, innovative ideas, and instructional practice” (Coggshall et al., 2012, p. 5).

Support

Faculty transitioning to a competency-based education model benefit from comprehensive support that emphasizes structured collaboration and cooperative engagement with institutional leaders (Jones, 2015). This shift most often begins as an administrative initiative but quickly brings together faculty, information technology professionals, operational representatives, and consultants. Administrative support may involve a shared mission, vision, and action plan, while collegial support often focuses on professional learning and operationalization of competency-based education. The development and implementation of competency-based education programs often require expertise beyond the immediate faculty team (i.e., consultants)

as well as collaboration with Information Technology experts and additional institutional resources (i.e., release time for course/program development, materials to support real-world application of learning, etc.). Understanding these shifting foci is critical to maintaining the integrity of academic practices in higher education (Bamber et al., 2014). Effective competency-based education faculty understand the need to align both personal and organizational goals (Steffl, 2008).

Personal Growth

Newbold et al. (2017) note that faculty best suited for competency-based education are “open and willing to adapt their teaching philosophies and activities, particularly with self-directed learning models in mind” (p. 7). Faculty with this growth mindset are prepared to mobilize their personal resources for learning - believing that everyone can grow and change through both experience and application (Dweck, 2006). Competency-based education requires a rapid level of responsiveness from faculty to ensure students are supported and progressing through the program on time. Maintaining a growth mindset and developing a manageable pace for asynchronous assignments and assessments is critical (Rainwater, 2016).

Purpose Statement

Teaching within a competency-based education framework is commonly supported by faculty; however, skepticism and a feeling of being ill-prepared to participate in programming focused on personalization and student-centered learning are common (Gallagher, 2014; Hortman, 2017). Hortman (2017) found that “approximately 86% of the faculty have a positive attitude toward competency-based education, but only about 22% feel ready to participate in a competency-based education program” (p. iii). This study sought to explore faculty transition to CBE by examining the question: How do faculty in higher education perceive the best support during their transition to a competency-based education environment?

Methodology

To gain a broader faculty perspective on the transition to competency-based education, a qualitative case study was conducted. The goal was to interview faculty from private nonprofit, for-profit, and public institutions of higher education who have transitioned to teaching in competency-based education programs (excluding institutions that are solely competency-based). The participant selection method followed the format utilized in the National Postsecondary Education Cooperative study (U.S. Department of Education, 2002), identifying an institutional liaison (who provides leadership in competency-based education) to identify a pool of four or five possible interviewees from faculty currently teaching in a competency-based education model. The participant group consisted of faculty members teaching in competency-based education programs across a range of institutional types, including small private nonprofit colleges, private for-profit institutions, and large pub-

lic universities. Faculty experience within competency-based education programs ranged from one to nine years, with a median of four years. All 12 participants held instructional roles at the undergraduate level, and four also taught at the graduate level. All participants' primary role was that of faculty; however, four participants also served in roles including: coach, trainer, lead faculty, and department head. The sample reflected disciplinary diversity, with representation from business, mathematics, psychology, geology/geography, leadership, religious studies, health sciences, and criminal justice. Detailed perspectives were gathered using an interview guide, and a semi-structured, qualitative approach was employed via videoconferencing. Inductive meaning was drawn through a cross-case synthesis of individual interviews, both to illustrate the issue and demonstrate varying perspectives related to transitioning to competency-based education.

Limitations

This study explored the perspectives of 12 faculty members from seven institutions of higher education in the United States. Competency-based education programs can be found worldwide; however, faculty perspectives have not been widely studied (Jones, 2015; Venance et al., 2014). Focusing on a smaller population allowed for rich case study analysis and presents an opportunity for broader analysis and replication in future studies (Roberts, 2010). Since competency-based education has only recently begun to flourish (Nodine, 2016), the focus of the study was on participants who began teaching in a competency-based format within approximately the last five years to capture the experiences and perceptions of the transition itself most effectively. The study excluded faculty who were not currently teaching in a CBE program or who held an adjunct faculty role. It further excluded faculty who were teaching in CBE programs that do not result in a baccalaureate or graduate-level (master's) degree, such as certificate programs, associate degree programs, and doctoral programs.

Findings

The findings of this study reveal five essential areas for supporting faculty transition to a competency-based education environment: (1) a supportive institutional environment legitimizing the value of competency-based education; (2) clear institutional expectations that balance teaching and scholarship; (3) professional development in student-centered learning and assessment; (4) structures that foster collaboration; and (5) robust administrative support including the cultivation of a growth mindset.

Supportive Institutional Environment

Faculty participants consistently expressed a strong sense of purpose in their work within competency-based education, particularly in its role as a mechanism for expanding access to higher education for adult and nontraditional learners. All 12

respondents cited intrinsic motivation, rooted in student achievement, professional autonomy, and the opportunity to contribute to the growth of academic programs. As one participant reflected, “The idea that I’m part of something that’s allowing greater access to higher education ... allowing adults to complete degrees. These are intrinsically very motivating” (Participant H).

In addition to these intrinsic rewards, five participants acknowledged the extrinsic benefit of compensation, while 11 emphasized the personal and professional fulfillment derived from their instructional roles. A supportive institutional environment was identified as a key factor in sustaining faculty engagement. Four participants described meaningful support from instructional designers, academic coaches, and administrators. However, six participants noted limitations stemming from systemic misunderstandings about CBE, frequent institutional changes, and gaps in faculty preparedness.

Despite their commitment to competency-based education and its mission, faculty reported a lack of formal recognition for their contributions. Several described the need to advocate for acknowledgment, observing that institutional merit, promotion, and retention structures often favor traditional academic programs. One participant remarked that faculty must “plead our case” to gain recognition, while another noted that “faculty recognition and incentives, merits, and things like that [exist] for other programming, but ... not ... for competency-based” (Participant H). These concerns align with Newbold et al.’s (2017) recommendation that institutions must integrate competency-based education faculty into formal policy frameworks for tenure and promotion to establish legitimacy and ensure equitable recognition. As Nyangau (2018) suggests, a supportive institutional environment can have a direct and lasting impact on faculty professional trajectories. The findings underscore the need for institutional structures that not only validate the value of competency-based education but also reward the faculty who advance its mission.

Institutional Expectations

Faculty expressed concerns about balancing instructional duties with scholarly responsibilities. One instructor asserted that institutions must “adjust that pay to be equitable and to have a reasonable level of workload for some of us where [competency-based coursework] is an overload” (Participant E); another noted that “research isn’t valued” in the competency-based education context (Participant G). These perceptions align with Hortman’s (2017) finding that entrenched policies “can discourage faculty from buying into change” (p. 111) and with Prokes’s (2021) identification of workload-based compensation as a barrier to reform (p. 90). Excessive teaching loads were linked to burnout (Participant H). They diminished scholarly productivity (Participant G), underscoring the need for equitable compensation structures, revised credit-load assignments, and reliable institutional support for both teaching and research excellence. The lack of recognition for service and scholarship contributions within competency-based education programs was noted as a barrier to faculty engagement and long-term retention.

Professional Development in Student-Centered Learning and Assessment

Faculty emphasized the pedagogical distinctiveness of competency-based education, particularly the central role of assessment in guiding student learning. In this model, assessment functions not only as a measurement tool but also as a core pedagogical strategy. Participants highlighted the importance of formative feedback that supports student improvement rather than simply identifying errors. As one faculty member explained, “You have to provide feedback that allows them to succeed. ... It needs to be constructive and informative” (Participant L). Another participant reinforced this need by calling for “training that is focused on giving quality feedback” (Participant J).

These perspectives align with Hattie and Timperley’s (2007) assertion that effective feedback should “focus more on instruction rather than correction—the message is how to improve” (p. 82). Employing formative assessment data to deliver just-in-time instruction and to design spiral curricula can elevate students’ conceptual understanding and application of knowledge (Black et al., 2003; Lehner, 2016; Martinez, 1989; Vygotsky, 1978). Uiboleht et al. (2018) further contend that professional learning “should offer possibilities to reflect upon how teaching and assessment practices affect students’ learning processes” (p. 344).

In addition to assessment practices, faculty identified a broader need for professional development in curriculum design, mastery learning strategies, and differentiated communication tailored to diverse student populations. The individualized and self-paced nature of competency-based education requires instructors to demonstrate flexibility and strong organizational skills (Garn et al., 2017; Yarbrough & Hughes, 2022). Effective communication was viewed as essential to student success. For instance, explaining concepts in multiple ways and engaging students in discussions about their progress. Faculty also stressed the importance of maintaining an open mindset toward varied teaching and learning approaches. As one instructor reflected, “You have to be open to criticizing your own work ... you’ve got to be willing to accept feedback” (Participant C).

Taken together, these findings underscore the need for institutions to invest in targeted professional development that equips faculty to meet the pedagogical demands of competency-based education. Specifically, training should focus on best practices in student-centered learning and assessment-as-teaching to ensure instructional effectiveness and meaningful student engagement.

Fostering Collaboration

CBE is viewed as an approach to teaching and learning that champions collaborative work. Eleven of the 12 participants agreed that internal collaboration exists in their programs; however, half of the participants noted that external collaboration was lacking. One faculty member admitted, “Wish I could have more support from the program” (Participant M), and another observed, “Not really ... I don’t really feel a sense of cohesiveness with other faculty as far as like what we’re doing” (Participant D). Other participants reported strong internal support—“the day-to-day people

on our team that I work with are absolutely supportive of what we do” (Participant C)—but noted a broader “benign ignorance” about competency-based education among the faculty at large (Participant D). A final perspective highlighted the value of consistent, broad-based collaboration:

We have constant collaboration, both internally and externally. ... It’s easy to walk into your own world and think that what you’re doing is the only way to do it. You may be missing out on some tremendous opportunities for both the organization, the university, and the students. (Participant A)

Prior research confirms that collegiality enhances faculty engagement in competency-based education (Jones, 2015; Nyangau, 2018). As noted by Haras et al. (2017), institutions can strengthen collaboration by establishing formal structures such as cross-program committees, curriculum development teams, and regular meetings with instructional designers and academic coaches.

Ensuring Administrative Support

Implementing competency-based education, recognized as a form of disruptive innovation, requires a comprehensive overhaul of institutional systems, including administrative, financial, and academic structures (Johnstone & Soares, 2014). Faculty participants described a range of challenges associated with this transformation, particularly those affecting workload, emotional well-being, and institutional communication.

Faculty reported that the continuous nature of year-round teaching contributed significantly to emotional fatigue:

- “It’s constant, it’s every day, and there are people at different levels and understanding” (Participant A).
- “Emotionally draining ... it’s a teach, teach, teach ... we became teachers to have a career of learning” (Participant G).

In addition to instructional demands, frequent administrative changes were cited as a source of instability: “Our policies are constantly changing” (Participant C). Unclear workload expectations further complicated faculty efforts to balance teaching, service, and scholarship:

- “We still haven’t figured out what faculty load looks like ... if we’re asking [faculty] to teach too much, then we’re going to see, you know, service and scholarship are gonna let off some” (Participant H).

These ambiguities were viewed not only as challenging to faculty well-being but also as a threat to long-term engagement and retention.

Participants also described recurring challenges in communicating the value of competency-based education to institutional leadership and colleagues outside the program. This lack of understanding often required faculty to repeatedly justify their work:

- “There are periods of ‘Yes, we’re on board. We affirm this.’ And then, ‘What are you guys doing over there?’ And, where—you know, ‘Where’s the money going?’ And then we have to demonstrate again and reaffirm” (Participant C).

Participant perspectives reinforce Newbold et al.'s (2017) assertion that “the direct involvement and enthusiastically expressed commitment of the university president and provost” is essential to sustaining CBE initiatives (p. 6). Without consistent and visible support from senior leadership, faculty face ongoing challenges in legitimizing their work and maintaining program momentum.

Together, these five areas—legitimizing the value of competency-based education, supporting a balance of teaching and scholarship, providing professional development in student-centered learning and assessment, fostering collaboration, and ensuring administrative support—provide a unified framework for supporting faculty transition to competency-based education.

Discussion

Exploring barriers and opportunities—both emotional and organizational—as well as acknowledging the embeddedness of change, provides insights into the negotiations that occur during a transition, such as the shift to competency-based education (Bager-Elsborg, 2017). Faculty participants recognized the great value in competency-based education; however, they also acknowledged the challenges associated with this approach to teaching and learning.

Professional Learning Opportunities

Uiboleht et al. (2018) stress that professional learning for university faculty “should offer possibilities to reflect upon how teaching and assessment practices affect students’ learning processes” (p. 344). Minimal evidence of such activities surfaced in faculty interviews, suggesting a need for further professional learning in this element of effective pedagogical practice.

Competency-based education provides opportunities for a wealth of additional teaching and learning development through a cycle of instruction, assessment, using feedback as an additional instructional tool, and reassessment. However, such “precision academics” (Nadeau et al., 2018) may prove challenging for some faculty. Notably absent from faculty responses was evidence of fostering student engagement through peer interaction—a strategy supported by research as a meaningful way to enhance learning (Cox et al., 2010).

Assessment in CBE is not only evaluative but also instructional. It allows faculty to “be intentional where others are not” (Mattheis, 2018), positioning feedback as a central tool for learning. Further research into effective assessment practices will strengthen instructional outcomes across CBE programs.

To support faculty transitioning into CBE, professional learning must be ongoing, reflective, and embedded in daily teaching practice. Kezar and Maxey (2016) argue that such development should align with institutional standards, curricula, pedagogy, and assessment goals. This process cannot be assumed; Townsley and Schmid (2020) caution that faculty may lack the foundational knowledge to initiate and sustain reflective practice without structured support.

Longitudinal professional development is essential for cultivating a learner-centered approach. Faculty must move beyond traditional models of instruction—what some describe as “teaching as we were taught”—and adopt roles that emphasize shared responsibility with learners. This role includes designing engaging learning experiences, providing timely feedback, and offering appropriate instructional resources and support.

Jones (2015) further notes that “for the competency approach to be effective, faculty must be current in the needs of [their] industry” (p. 142). Learner-centered instruction requires faculty to build on the conceptual and cultural knowledge students bring to the classroom (Bransford, 2000, p. 134). Participants also highlighted the importance of Bloom’s Taxonomy (Bloom, 1956) in designing instruction that emphasizes higher-order thinking and real-world application. As one faculty member explained, “We have more projects to try to simulate real-world environments rather than ... do these exercises for the sake of doing the exercises, let’s try to make it as real-world as possible.”

Understanding the faculty experience during the transition to CBE is critical for institutions seeking to recruit, prepare, and support instructors effectively. This insight informs how professional learning should be structured and how systems of support can be designed to sustain faculty engagement. As Horohov (2017) observes, exploring the tension between program design and implementation “highlights the impact that a disconnect between stakeholders within an institution can have on the success of a program” (p. 111).

Addressing Faculty Workload

Faculty workload emerged as a significant concern in this study. CBE often conflicts with traditional academic structures such as the semester system and Carnegie unit model, leading faculty to describe themselves as “square pegs trying to fit into round holes.” While some institutions have addressed these tensions through policy exceptions and overload contracts, there is a growing need for sustainable workload models that support both CBE programs and the faculty who deliver them.

Kezar and Maxey (2016) note that existing workforce models, particularly those serving as alternatives to the tenure track, lack alignment with long-term institutional goals. The Competency-Based Education Network (McGillivray et al., 2022) has initiated dialogue around new approaches, emphasizing the importance of intentional, rather than reactive, strategies. Advancing such models will contribute to greater workforce stability and help preserve the integrity of disciplinary expertise within higher education.

Student Engagement

Student engagement is influenced not only by the structure of academic tasks but also by how those tasks are delivered by instructors—particularly in ways that motivate students toward mastery learning (Ames, 1992). Compelling motivation involves teaching students what successful task completion looks like and connecting learning to real-world scenarios (Irvin et al., 2007). Participants in this study

expressed concern about fostering meaningful engagement, a core element of CBE both pedagogically and as outlined by federal guidelines (Distance Education and Innovation, Vol. 85, Department of Education, 2020).

Faculty also acknowledged the impact of competing demands on students' attention, time, and energy, which can affect motivation (Ambrose et al., 2010). Participant F reflected on how teaching in CBE programs had shifted their approach: "My mindset for my students ... has shifted so much. I do believe that I'm much more empathetic and sympathetic, not only because of COVID and all of that, but it's just more of, I know things ... happen." These perceptions align with Alderman's (2008) findings that high-quality instructor-student interactions—marked by approachability, enthusiasm, personal care, and role modeling—are essential to student engagement.

Notably absent from faculty responses was evidence of promoting engagement through peer interaction. Participant B shared anecdotal feedback from a student survey indicating a desire for "opportunities to communicate." Research supports the value of peer engagement as a meaningful strategy for enhancing learning (Alderman, 2008; Ambrose et al., 2010; Cox et al., 2010). Expanding opportunities for student collaboration—rather than relying solely on individualized learning paths—may strengthen engagement in CBE environments. Promising approaches include peer and self-assessment (Wanner & Palmer, 2018), critical questioning and discussion (Serbati, 2015), and connecting learning to students' interests and real-world applications (Ambrose et al., 2010). Further research in these areas may offer valuable insights for improving student engagement in competency-based education programs.

A successful transition to competency-based education must include attention to potential roadblocks that transitioning faculty might encounter. Horohov (2017) states, "the new culture of competency-based education is up against the tradition of the faculty and the structure of the institution" (p. 80); however, patterns of responses from faculty participants suggest there is space in higher education for such a new culture.

Conclusions

The shifting landscape of future jobs and a lack of those prepared for such jobs, the retirement of baby boomers (one of the most educated generations currently in the workforce), changing demographics of incoming college students, and higher education systems rapidly developing worldwide are creating "calls for significant change in higher education" (Armstrong, 2014, p. 2). Competency-based education has become part of this disruptive change in higher education and, according to Henri et al. (2017), has gained momentum in recent years due to increased interest in:

1. A need to improve both recruitment and retention rates while also appealing to a more diverse population in higher education,
2. Industry pressure to improve student achievement and competence,
3. Ease of implementation given technological advances.

Competency-based education has the potential to meet all of the innovative challenges put forth, advancing a “more learner-centered educational platform and student-driven approach to college education” (Ordonez, 2014, p. 48).

While the culture of higher education is often perceived as stable and set, the reality is much different. As Schein and Schein (2017) point out, culture is dynamic. Competency-based education has become an integral part of the culture of higher education, serving both altruistic purposes (providing new opportunities to improve society at large) and financial purposes (creating new revenue streams for institutions), as noted by Kezar and Maxey (2016). Participants note that their colleagues do not understand:

- “Nobody knows I teach for [our competency-based education program] ... my department chair will email me every year ... ‘What is this?’ ... he just had no idea” (Participant L)
- “Our colleagues don’t always understand how we’re grading” (Participant K)
- “There’s some suspicion” (Participant D)
- “There have been several times when we’ve had to plead our case” (Participant C).

Competency-based education challenges the most fundamental beliefs of many in higher education. As such, many non-competency-based education faculty members find the idea of approaching teaching and learning in a new, student-centered manner inconceivable (Schein, 2017).

It is essential to consider the ongoing needs of faculty engaged in competency-based education models to support the intentional and iterative process of job-embedded professional learning. Working collaboratively provides faculty with the opportunity to improve their teaching practices in a manner that supports individual development at various levels of proficiency while also fostering an institutional mindset about interdisciplinary best practices (Prokes, 2021).

Working collaboratively with a common focus on student learning will provide a targeted, assessment-centered environment to triangulate elements such as student learning data, observations of student engagement, peer feedback, and personal reflection. These elements become influential in a competency-based education environment if there is intentionality in the formative nature of this type of job-embedded professional learning. Sturgis and Casey (2018) recognize that to ensure an effective and equitable competency-based system, students need to be put first and approached as customers, which requires aligning the system with 100% of the students, even those who may fall behind, fall off the track to graduation, or “stop out.” It requires ... schools to design around the educational needs ... of their students.

Developing an understanding of how the noted strengths of competency-based education (i.e., flexibility, pedagogy/andragogy, collaboration, and access) as well as the challenges (i.e., curriculum, assessment, collaboration, communication, and institutional support) can be supported and integrated becomes critical to faculty transition to and engagement within competency-based education.

Future Research

This study further contributes to the literature surrounding the faculty experience in competency-based education, providing rich insights into the lived experiences and perceptions of faculty who design, implement, and refine this flexible model. Understanding both positive experiences and the barriers that exist for faculty enables better-structured program development and implementation plans as institutions of higher education and other entities continue to create unique opportunities for innovative methods of instructional delivery.

Adjunct Faculty and Instructional Staff

Next steps in research may include utilizing the framework of this study to explore the perceptions of adjunct faculty and instructional staff as well. Kezar and Holcombe (2017) note the dramatic change in faculty composition of the last nearly half-century. In the late 1960s, the tenure system included 70% of faculty members. By 2016, just 27% of faculty were in the tenure system (American Association of University Professors, 2018).

Competency-based education programs in this study consistently confirmed the shifting role of faculty. Half of the participants described their current roles and responsibilities as including, in part, overseeing adjunct faculty in their role as program director, steward, coach, or lead faculty. Several faculty noted that they were the only faculty member in their particular competency-based program. Nearly all participants (10 of 12) described working on a curriculum specific to their competency-based education program. Kezar and Maxey (2016) discuss the evolving role of faculty, “changes that have been seen in more recent years - characterized by rising numbers of contingent appointments and a continued unbundling of faculty roles - are just another development in a long history of faculty change” (p. 5).

With adjunct faculty representing more than half of the faculty at many institutions of higher education, attention must also be given to the experiences, perceptions, and professional learning needs of this group. Considering the needs of adjunct faculty and other instructional staff while also preserving the integrity of the competency-based education approach will continue to be a critical step for the long-term viability of this student-centered approach to learning. Armstrong (2014) points out that adjunct faculty are generally less attached to the status quo than their tenure-track counterparts; however, they are also typically less aware of programmatic outcomes and key competencies of a given program. Understanding the role of adjunct faculty in juxtaposition to full-time faculty can provide further insights into how best to support this large contingent of instructors contributing to the implementation of competency-based education programs.

High-Quality Assessments

High-quality assessment was identified as a key area of continued professional development needed for participant faculty. Developing high-quality assessments with a focus on “application of knowledge in real-world contexts” (Duong Thi Kim,

2019, p. 2047) and utilizing a variety of assessment strategies to “infer confidently how well students have achieved key learning goals” (Tkatchov et al., 2020, p. 2) is an ongoing focus of faculty currently teaching in competency-based education programs. While ubiquitous support exists for best practice for the use of a variety of assessment formats as well as multiple ways of collecting evidence and drawing conclusions relative to student learning (Bloxham & Boyd, 2007; Brookhart et al., 2019; McMillan, 2024; Suskie, 2018), translating this to effective assessment strategies for competency-based education continues to be a challenge. Competency-based education provides a unique opportunity to utilize assessment as a teaching tool, to “be intentional where others are not” (Mattheis, 2018). Further research into best practices in this area will also greatly support superior outcomes for competency-based education programs.

Instructional Strategies

Competency-based education conferences deliver rich content related to all aspects of competency-based education; however, sessions specific to pedagogical best practice and creating student-centered learning environments have been somewhat limited. Participant B pointed out, “You have an opportunity to work with students at the level of readiness and willingness that they are at, at the speed that they can negotiate the coursework.” However, doing so requires a clear understanding of best practices related to student-centered learning in a competency-based education environment. The advent of artificial intelligence introduces even more complex considerations for pedagogical best practice (Radu et al., 2024). Faculty may need to generate more grassroots efforts to collaborate across institutions to identify best practices for instruction and assessment that effectively support and meaningfully engage learners in competency-based education programs.

McPherson (2021) notes three key themes related to educators’ perceptions of transitioning to student-centered learning: a shift in educational philosophy, changes in pedagogy, and the importance of relationships. Key perceptions of faculty participants in this study align along a similar pattern. Competency-based education faculty acknowledge the philosophical transition from teacher-led to student-centered instruction. They recognize a need to develop further strategies to create meaningful engagement with their students, and they are beginning to explore the value that assessment as a teaching strategy can bring to their learner-centered classes. Competency-based education is having an impact on perceptions of teaching and learning, changing “the question from one of ‘What do you do?’ to ‘What difference do you make?’” (Dobbins et al., 2014, as cited in Kezar & Maxey, 2016, p. 121). Making a difference in society, and more specifically, making a difference in student learning, is clearly the ultimate goal of faculty teaching in competency-based education.

References

- Alderman, R. V. (2008). *Faculty and student out-of-classroom interaction: Student perceptions of quality of interaction* [dissertation]. Texas A & M University.
- Ambrose, S. A., Bridges, M., DiPietro, M., Lovett, M., & Norman, M. (2010). *How learning works: Seven research-based principles for smart teaching*. Jossey-Bass.
- American Association of University Professors. (2018, October 11) Data snapshot: Contingent faculty in US higher ed. American Association of University Professors. <https://www.aaup.org/sites/default/files/10112018%20Data%20Snapshot%20Tenure.pdf>
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84(3), 261–271. <https://doi.org/10.1037/0022-0663.84.3.261>
- Armstrong, L. (2014). *Barriers to innovation and change in higher education*. TIAA Institute. <https://www.tiaainstitute.org/publication/barriers-innovation-and-change>
- Ashby, I., Caskurlu, S., & Exter, M. (2018). Evolving roles of faculty at an emerging hybrid competency-based transdisciplinary program. *The Journal of Competency-Based Education*, 3(1). <https://doi.org/10.1002/cbe2.1059>
- Bager-Elsborg, A. (2017). How lecturers' understanding of change is embedded in disciplinary practices: A multiple case study. *Higher Education*, 76(2), 195–212. <https://doi.org/10.1007/s10734-017-0195-0>
- Bamber, V., Saunders, M., & Trowler, P. (2014). *Tribes and territories in the 21st century*. Routledge.
- Bentley, E. (2017). A coaching model in response to disruptive education. In M. Solér (Ed.), *Proceedings of the UNC CBE Summit 2017* (pp. 73–78). University of North Carolina Press. http://www.jstor.org/stable/10.5149/9781469641935_soler.8
- Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning: Putting it into practice*. Open University Press.
- Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals*. Longman Group.
- Bloxham, S., & Boyd, P. (2007). *Developing effective assessment in higher education: A practical guide*. Open University Press.
- Bransford, J., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. National Academy Press.
- Brookheart, S., McTighe, J., Stiggins, R., & Wiliam, D. (2019). *The future of assessment practices: Comprehensive and balanced assessment systems*. Learning Sciences International. <https://www.learningsciences.com/resources/the-future-of-assessment-practices-comprehensive-and-balanced-assessment-systems/>
- Brown, M., Kulik, C. T., Cregan, C., & Metz, I. (2015). Understanding the change-cynicism cycle: The role of HR. *Human Resource Management*, 56(1), 5–24. <https://doi.org/10.1002/hrm.21708>

- Bull, P. H., Patterson, G., Dunston, Y., Wilbur, G., & Simpson, C. (2017). *Competency-based education: The new frontier in teacher education*. In Proceedings of the UNC CBE Summit 2017 (pp. 33–54). University of North Carolina Press.
- Castillo, R. (2014). A paradigm shift to outcomes-based higher education: Policies, principles, and preparations. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 14, 174–186.
- Cherney, M. R., Fetherston, M., & Johnsen, L. J. (2018). Online course student collaboration literature: A review and critique. *Small Group Research*, 49(1). <https://doi.org/10.1177%2F1046496417721627>
- Cook, D. A., & Steinert, Y. (2013). Online learning for faculty development: A review of the literature. *Medical Teacher*, 35(11), 930–7. <https://doi.org/10.3109/0142159X.2013.827328>
- Cooper, T. (2017). People, processes, and philosophies: Designing a CBE program within a traditional university. In K. Rasmussen, P. Northrup & R. Colson (Eds.) *Handbook of research on competency-based education in university settings* (pp. 67–91). IGI Global.
- Covarrubias-Papahiu, P. (2016). Teaching representations of competency-based education. A case study. *Propósitos Y Representaciones*, 4(2). <http://dx.doi.org/10.20511/pyr2016.v4n2.120>
- Cox, B. E., McIntosh, K. L., Terenzini, P. T., Reason, R. D., & Quaye, B. R. (2010). Pedagogical signals of faculty approachability: Factors shaping faculty-student interaction outside the classroom. *Research in Higher Education*, 51(8), 767–788.
- Cuckler, I. (2016). Competency-based education (re)-defined: Trends and implications in scholarly discourses of higher education (Publication No. 10002589). [Doctoral dissertation, Fielding Graduate University]. ProQuest Dissertations & Theses Global.
- Cunningham, J., Key, E., & Capron, R. (2016). An evaluation of competency-based education programs: A study of the development process of competency-based programs. *The Journal of Competency-Based Education*, 1(3), 130–139. <https://doi.org/10.1002/cbe2.1025>
- Dath, D., & Iobst, W. (2010). The importance of faculty development in the transition to competency-based medical education. *Medical Teacher*, 32(8), 683–686. <https://doi.org/10.3109/0142159x.2010.500710>
- Defa, R., Napper, A., Heiser, E., Fogg, S., Sellers, L., Skinner, C., Moulder, A., & Reddoch, J. (2016). The development and evolution of a faculty competency-based education training course. *The Journal of Competency-Based Education*, 1(2), 78–84. <https://doi.org/10.1002/cbe2.1016>
- Dobbin, G., Diaz, V., & Brown, M. (2014). Faculty engagement and development—effective and innovative practice: A report on the ELI spring 2014 focus session. *EDUCAUSE*. <https://net.educause.edu/ir/library/pdf/ELI3032.pdf>.
- Doyle, T. (2011). *Learner-centered teaching: Putting the research on learning into practice*. Stylus Publishing.

- Driscoll, A., & Wood, S. (2011). *Developing outcomes-based assessment for learner-centered education*. Stylus Publishing.
- Duong, T. K. O. (2019). Integrating competency-based assessment into instruction pedagogical subjects for developing core competencies of technical and vocational education students at Ho Chi Minh City University of Technology and Education. *Universal Journal of Educational Research*, 7(10), 2045–2056. DOI: 10.13189/ujer.2019.071002
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House.
- Echols, D. G., Neely, P. W., & Dusick, D. (2018). Understanding faculty training in competency-based curriculum development. *The Journal of Competency-Based Education*, 3(2). <https://doi.org/10.1002/cbe2.1162>
- Fazey, D. M., & Fazey, J. A. (2001). The potential for autonomy in learning: Perceptions of competence, motivation, and locus of control in first-year undergraduate students. *Studies in Higher Education*, 26(3), 345–361. <https://doi.org/10.1080/03075070120076309>
- Gallagher, C. W. (2014). Disrupting the game-changer: Remembering the history of competency-based education. *Change*, 46(6), 16–23. <http://www.jstor.org/stable/44081683>
- Garn, M., Rugg, E., Sizemore, J., & Solér, M. (2017). SCRIP—expanding CBE course credit programs: Emerging practices for accreditation. In K. Rasmussen, P. Northrup, & R. Colson (Eds.) *Proceedings of the UNC CBE Summit 2017* (pp. 1–32). University of North Carolina Press.
- Haras, C., von Hoene, L., Sorcinelli, M. D., & Taylor, S. (2017). *Institutional commitment to teaching excellence: Assessing the impacts and outcomes of faculty development*. <https://www.acenet.edu/documents/institutional-commitment-to-teaching-excellence.pdf>
- Harris, P., Bhanji, F., Topps, M., Ross, S., Lieberman, S., Frank, J. R., Snell, L., & Sherbino, J. (2017). Evolving concepts of assessment in a competency-based world. *Medical Teacher*, 39(6), 603–608. <https://doi.org/10.3109/0142159x.2010.500703>
- Hattie, J. (2015). The applicability of visible learning to higher education. *Scholarship of Teaching and Learning in Psychology*, 1(1), 79–91. <https://doi.org/10.1037/stl0000021>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Hawkins, R. E., Welcher, C. M., Holmboe, E. S., Kirk, L. M., Norcini, J. J., Simons, K. B., & Skochelak, S. E. (2015). Implementation of competency-based medical education: Are we addressing the concerns and challenges? *Medical Education*, 49(11), 1086–1102. <https://doi.org/10.1111/medu.12831>
- Henri, M., Johnson, M. D., & Nepal, B. (2017). A review of competency-based learning: Tools, assessments, and recommendations. *Journal of Engineering Education*, 106(4), 607–638. <https://doi.org/10.1002/jee.20180>
- Horohov, J. E., (2017). *Measuring learning, not time: Competency-based education and visions of a more efficient credentialing model* [dissertation]. University of

Kentucky Libraries.

- Hortman, M. B. (2017). *An examination of higher education faculty buy-in to competency-based education* (Publication No. 10254048) [Doctoral dissertation, University of West Georgia]. ProQuest Dissertations & Theses Global.
- Hundleby, M. & Allen, J. (2017). *Assessment in technical and professional communication*. United Kingdom. Taylor & Francis.
- Irvin J. L., Meltzer J., Dukes M. (2007). *Student motivation, engagement, and achievement. Taking action on adolescent literacy: An implementation guide for school leaders*. ASCD.
- Jarrett, J. B., Elmes, A. T., Keller, E., Stowe, C. D., & Daugherty, K. K. (2024). Evaluating the strengths and barriers of competency-based education in the health professions. *American Journal of Pharmaceutical Education*, 88(6), 100709. <https://doi.org/10.1016/j.ajpe.2024.100709>
- Johnstone, S. M., & Soares, L. (2014). Principles for developing competency-based education programs. *Change: The Magazine of Higher Learning*, 46(2), 12–19. <https://doi.org/10.1080/00091383.2014.896705>
- Jones, W. A. (2015). *Health care administration faculty perceptions on competency education, graduate preparedness, and employer competency expectations* (Publication No. 3707663) [Doctoral dissertation, Walden University]. ProQuest Dissertations & Theses Global.
- Kezar, A. J., & Holcombe, E. (2017). *Shared leadership in higher education: Important lessons from research and practice*. Washington, DC: American Council on Education.
- Kezar, A. J., & Maxey, D. (Eds.) (2016). *Envisioning the faculty for the twenty-first century: Moving to a mission-oriented and learner-centered model*. Rutgers University Press.
- Klein-Collins, R. (2013, November). *Sharpening our focus on learning: The rise of competency-based approaches to degree completion* (Occasional Paper #20). National Institute for Learning Outcomes Assessment. https://cdn2.hubspot.net/hubfs/617695/premium_content_resources/CBE-Publications/PDF/Occasional-Paper-20.pdf
- Krause, J., Dias, L., & Schedler, C. (2015). Competency-based education: A framework for measuring quality courses. *Online Journal of Distance Learning Administration*, 18(1).
- Lauer, S., & Wilkesmann, U. (2017). The governance of organizational learning. *The Learning Organization*, 24(5), 266–277. <https://doi.org/10.1108/tlo-02-2017-0012>
- Lehner, M. (2016). Visualizing individual conceptual development paths in faculty development. *Zeitschrift Für Hochschulentwicklung*, 11(5), 126–143. <https://doi.org/10.3217/zfhe-11-05/08>
- Marshall, J. C., Smart, J. B., & Alston, D. M. (2016). Inquiry-based instruction: A possible solution to improving student learning of both science concepts and scientific practices. *International Journal of Science and Mathematics Education*, 15(5), 777–796. <https://doi.org/10.1007/s10763-016-9718-x>

- Martinez, M. E., & Lipson, J. I. (1989). Assessment for learning. *Educational Leadership*, 46(7), 73.
- Mattheis, M. (2018, September 26). *Disney's approach to quality service: Lessons for higher ed*. CBE Exchange, Orlando, FL.
- McIntyre-Hite, L. (2016). A Delphi study of effective practices for developing competency-based learning models in higher education. *The Journal of Competency-Based Education*, 1(4), 157–166. <https://doi.org/10.1002/cbe2.1029>
- McMillan, J. H. (2024). *Classroom assessment: Principles and practice that enhance student learning and motivation*. Pearson Education, Inc.
- McPherson, P. J. (2021). “A metamorphosis of the educator”: A hermeneutic phenomenology study of the perceptions and lived experiences of the 6–12 educator in transitioning from teacher-centered to student-centered learning. *The Journal of Competency-Based Education*, 6(2). <https://doi.org/10.1002/cbe2.1230>
- Meyers, J. L. (2018). Scoring models in competency-based educational assessment. *The Journal of Competency-Based Education*, 3(3), 1–15. <https://doi.org/10.1002/cbe2.1173>
- Monat, J. P., & Gannon, T. F. (2018). Two professors' experience with competency-based education. *The Journal of Competency-Based Education*, 3(2), 1–14. <https://doi.org/10.1002/cbe2.1061>
- Nadeau, G., Garn, M., Leuba, M., & Kulkarni, M. (2018, September 27). *Open architecture for open competencies*. CBE Exchange, Orlando, FL.
- Newbold, C., Seifert, C., Doherty, B., Scheffler, A., & Ray, A. (2017). Ensuring faculty success in online competency-based education programs. *The Journal of Competency-Based Education*, 2(3). <https://doi.org/10.1002/cbe2.1052>
- Nodine, T. (2016). How did we get here? A brief history of competency-based higher education in the United States. *The Journal of Competency-Based Education*, 1(1), 5–11. <https://doi.org/10.1002/cbe2.1004>
- Nousiainen, M. T., Caverzagie, K. J., Ferguson, P. C., & Frank, J. R. (2017). Implementing competency-based medical education: What changes in curricular structure and processes are needed? *Medical Teacher*, 39(6), 594–598. <https://doi.org/10.1080/0142159x.2017.1315077>
- Nyangau, J. Z. (2018). *A qualitative study of faculty motivations of engagement in internationalization* (Publication No. 10871599) [Doctoral dissertation, Kent State University]. ProQuest Dissertations & Theses Global.
- Oermann, M. H., Kardong-Edgren, S., & Rizzolo, M. A. (2016). Summative simulated-based assessment in nursing programs. *Journal of Nursing Education*, 55(6), 323–328. <https://doi.org/10.3928/01484834-20160516-04>
- Ordonez, B. (2014). Competency-based education: Changing the traditional college degree power, policy, and Practice. *New Horizons in Adult Education and Human Resource Development*, 26(4), 47–53. <https://doi.org/10.1002/nha3.20085>
- Prokes, C. R. (2021). *Faculty views of online competency-based education, self-efficacy, and institutional support: An exploratory mixed methods study* (Publication No. 28321174) [Doctoral dissertation, Boise State University]. ProQuest Dissertations & Theses Global.

- Protopsaltis, S., & Baum, S. (2019, January). *Does online education live up to its promise? A look at the evidence and implications for federal policy*. <https://jesperbalslev.dk/wp-content/uploads/2020/09/OnlineEd.pdf>
- Radu, C., Ciocoiu, C. N., Veith, C., & Dobrea, R. C. (2024). Artificial intelligence and competency-based education: A bibliometric analysis. *Amfiteatru Economic*, 26(65), 220–240. <https://doi.org/10.24818/EA/2024/65/220>
- Rainwater, T. S. M. (2016). Teaching and learning in competency-based education courses and programs: Faculty and student perspectives. *The Journal of Competency-Based Education*, 1(1), 42–47. <https://doi.org/10.1002/cbe2.1008>
- Rasmussen, K., Northrup, P. T., & Colson, R. (2017). *Handbook of research on competency-based education in university settings*. IGI Global.
- Richardson, D., Kinnear, B., Hauer, K. E., Turner, T. L., Warm, E. J., Hall, A. K., Ross, S., Thoma, B., & Van Melle, E. (2021). Growth mindset in competency-based medical education. *Medical Teacher*, 43(7), 751–757. <https://doi.org/10.1080/0142159X.2021.1928036>
- Roberts, C. M. (2010). *The dissertation journey* (2nd ed.). Corwin Press.
- Schein, E. H., & Schein, P. (2017). *Organizational culture and leadership* (5th ed.). John Wiley & Sons.
- Schuwirth, L., & Ash, J. (2013). Assessing tomorrow's learners: In competency-based education only a radically different holistic method of assessment will work. Six things we could forget. *Medical Teacher*, 35(7), 555–559. <https://doi.org/10.3109/0142159x.2013.787140>
- Serbati, A. (2015). Implementation of competence-based learning approach: Stories of practices and the tuning contribution to academic innovation. *Tuning Journal for Higher Education*, 3(1), 19–56. [https://doi.org/10.18543/tjhe-3\(1\)-2015pp19-56](https://doi.org/10.18543/tjhe-3(1)-2015pp19-56)
- Simonds, J., Behrens, E., & Holzbauer, J. (2017). Competency-based education in a traditional higher education setting: A case study of an introduction to psychology course. *International Journal of Teaching and Learning in Higher Education*, 29(2), 412–428.
- Spelt, E., Luning, P., Boekel, M. V., & Mulder, M. (2014). Constructively aligned teaching and learning in higher education in engineering: What do students perceive as contributing to the learning of interdisciplinary thinking? *European Journal of Engineering Education*, 40(5), 459–475. <https://doi.org/10.1080/03043797.2014.987647>
- Steele, J. L., Lewis, M. W., Santibañez, L., Faxon-Mills, S., Rudnick, M., Stecher, B. M., & Hamilton, L. S. (2014). *Competency-based education in three pilot programs: examining implementation and outcomes*. RAND Corporation. <http://www.jstor.org/stable/10.7249/j.ctt14bs3qj>
- Steff, M. E. (2008). Common competencies for all healthcare managers: The healthcare leadership alliance model. *Journal of Healthcare Management*, 53(6), 360–373. <https://doi.org/10.1097/00115514-200811000-00004>

- Sturgis, C., & Casey, K. (2018, October). *Quality principles for competency-based education*. Aurora Institute. <https://www.inacol.org/wp-content/uploads/2018/10/Quality-Principles-Book.pdf>
- Suskie, L. (2018). *Assessing student learning: A common sense guide* (3rd ed.). John Wiley & Sons.
- Sutcliffe, N., Chan, S., & Nakayama, M. (2005). Competency-based MSIS curriculum. *Journal of Information Systems Education*, 16(3), 301–310.
- Sutton, K. K., & Desantis, J. (2016). Beyond change blindness: Embracing the technology revolution in higher education. *Innovations in Education and Teaching International*, 54(3), 223–228. <https://doi.org/10.1080/14703297.2016.1174592>
- Tkatchov, M., Hugus, E., & Barnes, R. (2020). Reconciling assessment quality standards and “double assessment” in competency-based higher education. *The Journal of Competency-Based Education*, 5(3). <https://doi.org/10.1002/cbe2.1215>
- Townsend, M., & Schmid, D. (2020). Alternative grading practices: An entry point for faculty in competency-based education. *The Journal of Competency-Based Education*, 5(3). <https://doi.org/10.1002/cbe2.1219>
- U.S. Department of Education. (n.d.). *Competency-based learning or personalized learning*. <https://www.ed.gov/oii-news/competency-based-learning-or-personalized-learning>
- U.S. Department of Education. (2002). *Defining and assessing learning: Exploring competency-based initiatives*. National Center for Education Statistics. <https://nces.ed.gov/pubs2002/2002159.pdf>
- U.S. Department of Education. (2020, September 2). *Distance education and innovation* (85 Fed. Reg. 54742) (to be codified at 34 C.F.R. pts. 600, 602, & 668). Federal Register.
- Uiboleht, K., Karm, M., & Postareff, L. (2018). The interplay between teachers’ approaches to teaching, students’ approaches to learning and learning outcomes: A qualitative multi-case study. *Learning Environments Research*, 21(3), 321–347. <https://doi.org/10.1007/s10984-018-9257-1>
- Venance, S. L., Ladonna, K. A., & Watling, C. J. (2014). Exploring frontline faculty perspectives after a curriculum change. *Medical Education*, 48(10), 998–1007. <https://doi.org/10.1111/medu.12529>
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wanner, T., & Palmer, E. (2018). Formative self-and peer assessment for improved student learning: The crucial factors of design, teacher participation and feedback. *Assessment & Evaluation in Higher Education*, 43(7), 1032–1047. <https://doi.org/10.1080/02602938.2018.1427698>
- Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice* [eBook edition]. John Wiley & Sons.
- Yarbrough, J., & Hughes, P. C. (2022). *Self-directed learning and the academic evolution from pedagogy to andragogy*. IGI Global.