

Building Professional Skills And Reducing Student Stress With Competency-Based Education: An Exploratory Case Study

Ajay Rampersad, MSc and Noah Gentner, PhD

Humber Polytechnic

Keywords

competency-based learning, specifications grading, future of work, mastery learning, polytechnic education, self-determination theory, flexible learning, wellness coaching

Article History

Received 30 Sept 2024

Received in revised form 28 Nov 2024

Accepted 6 Dec 2024

Available online 10 Jan 2025

 This article is published under a [Creative Commons Attribution-Non Commercial-No Derivatives 4.0 International License \(CC BY-NC-ND 4.0\)](https://creativecommons.org/licenses/by-nc-nd/4.0/)

***Original Research Papers** are papers that report on original empirical research with a focus on teaching and learning. Papers may be qualitative or quantitative and include an Abstract, Introduction, Method, Results, Discussion, and Reference section, as well as any tables and/or figures.

Abstract

Competency-Based Education (CBE) is an alternative pedagogical model that emphasizes mastery of skills and professional readiness over traditional metrics such as ‘seat time’ or grades. This exploratory case study investigated students’ perceptions of implementing a CBE format in a second-semester Wellness Coaching Program (WCP) course at Humber Polytechnic. Using an anonymous survey of nine students, a thematic analysis was conducted on the open-ended responses. The results revealed five principal themes: (1) balancing flexibility with structure, (2) enhancing practical skills for career preparedness, (3) supportive learning through instructor and peer engagement, (4) navigating challenges in course design and workload, and (5) positive impact of mastery-based assessment. Overall, students viewed the CBE format favourably, noting decreased stress and increased confidence in professional skills. However, some difficulties were reported regarding the absence of firm deadlines and the volume of coursework. The findings suggest that CBE can offer flexible, relevant, and practical learning experiences that enhance access and equity for post-secondary learners. Educators and institutions, especially polytechnics, should consider these insights when designing CBE formats to prepare students for the future of work.

Introduction Background

Polytechnic institutions in Canada are confronting significant challenges in their efforts to address the needs of current post-secondary learners. Like many entities within higher education, these institutions still predominantly operate through traditional, grade-based instructional approaches that occur along fixed, time-bound curricular pathways (Estrada et al., 2020; Long et al., 2020; Nodine, 2016; Oroszi, 2020).

While these methods may have been effective in the past, they have become increasingly insufficient at removing barriers for today’s learners who are

experiencing a complex juggling act of academic responsibilities with work, family commitments, and a myriad of other demands (Estrada et al., 2020; Long et al., 2020; Oroszi, 2020). For those students in particular who must maintain employment while engaging in academic pursuits, the limitations imposed by rigid educational structures exacerbate not only financial pressure but also the stress and anxiety that comes with it – a challenge that has greatly intensified since the COVID-19 pandemic (Brumwell & Pichette, 2024; Linden et al., 2022; Tan & Sekercioglu, 2022).

The graduate certificate Wellness Coaching Program (WCP) at Humber Polytechnic exemplifies these challenges. Designed to prepare students for professional careers in the health and wellness industry, the WCP curriculum continues to rely heavily on traditional delivery approaches centred around ‘subject matter and seat time.’ Recognizing the limitations of this approach, the WCP is considering the transition to Competency-Based Education (CBE), an alternative educational model that has seen a resurgence of interest in recent years (American Institutes for Research, 2021; Pichette & Watkins, 2018).

The WCP is uniquely situated to benefit from a CBE model. Based on the Polytechnic Education Model, which is characterized by its applied, experiential learning approach, the WCP provides students with the knowledge and skills to be effective professionals upon graduation (Doer, 2008; Humber Polytechnic, n.d.; Polytechnics Canada, 2020). This includes supporting students in their development of professional coaching skills, including mindful listening, open-ended questions, perceptive reflections, recognition and referral of mental health challenges, goal setting and vision creation, and ethical practice. The focus on these skills (or competencies) aligns well with a competency-based approach. Furthermore, research suggests that self-motivated adult learners in health-related fields and with previous work experience are well suited for CBE (Açikgöz, T., & Babadoğan, M. C., 2021; Janssens, O., Embo, M., Valcke, M., & Haerens, L. 2023). The WCP predominantly serves older adult learners with previous experience who are looking to develop their knowledge and skills to either improve performance at their current job or seek out new work opportunities. Therefore, the WCP provides an ideal setting for CBE.

Although still lacking a universally accepted definition (Gervais, 2016; Holmes et al., 2021), CBE is often characterized as a more flexible, personalized learning approach that emphasizes mastery of skills and abilities rather than the standard metrics of the fixed length, credit-hour system (Long et al., 2020; Oroszi, 2020). In traditional learning formats, progression is often defined by completed courses and grades earned. In contrast, CBE defines success through the actual demonstration of outcomes at predetermined competency levels (Pichette & Watkins, 2018). The appeal of these attributes presents a promising option for WCP students, which represents a mature cohort comprised primarily of working adults aiming to advance their careers.

Competency and the Future of Work

The impetus for polytechnic innovation toward CBE is further accentuated by the dynamic nature of the workforce itself. As industries undergo rapid transformations in response to technological advancements and societal changes, the need for professionals with verifiable and immediately applicable competencies is increasing significantly (Polytechnics Canada, 2020; Thornhill-Miller et al., 2023). The health sector, specifically, is experiencing substantial growth, with the global wellness economy valued at \$5.6 trillion in 2023 and projected to reach \$8.5 trillion by 2027 (Global Wellness Institute, 2023). This dramatic expansion is accompanied by an overwhelming demand for qualified wellness professionals who possess comprehensive skillsets, ranging from behaviour change techniques to mental health support (Wolever et al., 2013).

Across the broader field of health professions education, the implementation of CBE has been well-documented and continues to expand (Gruppen et al., 2012; Lewis et al., 2022; McMullen et al., 2022). The CanMEDS framework, for instance, has been widely adopted in medical education across Canada and internationally (Tekian et al., 2014). Its implementation has involved an end-to-end approach, including the development of detailed milestones for each competency, the creation of workplace-based assessment tools, and the establishment of competency committees to make progression decisions.

The implementation of CBE to this extent, however, presents numerous challenges (Chacko, 2014; Gruppen et al., 2016). Institutions transitioning to CBE models frequently report

obstacles related to faculty acceptance, technological infrastructure, and alignment with accreditation standards (American Institutes for Research, 2021; Crawford et al., 2020; McIntyre-Hite et al., 2018; Prokes et al., 2021). Moreover, there exists a need for additional research on the effectiveness of CBE in specific disciplinary contexts, particularly in emerging professions such as Wellness Coaching (Gruppen et al., 2016; Walden, 2020).

Purpose and Research Questions

The purpose of the present study was to investigate post-secondary students' perceptions regarding the impact of implementing a CBE format in a second-semester WCP course within a polytechnic setting. As a pilot study, this research aimed to explore the initial implementation of CBE, with the potential for scaling up to the program level depending on student feedback.

To guide this investigation, the following primary research question was proposed:

What are the perceptions of students regarding the impact of a CBE format in a second-semester WCP course?

This overarching question was then complemented by two secondary inquiries that explored specific aspects of CBE implementation:

1. To what extent, if any, do WCP students perceive that a CBE format prepares them for their careers in the health and wellness industry?
2. How does the CBE format impact WCP students' overall learning experience in comparison to a traditional course format?

Through these questions, the investigation aimed to contribute to the expanding body of knowledge on CBE and its application in specialized, career-oriented programs similar to that of the WCP. The findings are intended to contribute to the broader discourse on innovative educational strategies in polytechnic institutions and their efficacy in preparing students for the future of work.

Theoretical Framework

To analyze the potential impact of the CBE format on students' perceptions and learning experiences within the WCP, this study is anchored in a theoretical framework

that interweaves Self-Determination Theory (SDT), Mastery Learning Theory, and the Polytechnic Education Model. Together, these perspectives collectively offer a comprehensive lens through which to examine the motivational, pedagogical, and practical dimensions of CBE implementation (Lechler & Huemann, 2023; Katzman et al., 2021; Polytechnics Canada, 2020; Walters, 2016). [Figure 1](#) illustrates the integration of these theories and their convergence toward supporting the competency-based approach used in this study.

Self-Determination Theory

Founded on the concept of intrinsic motivation, SDT posits that individuals are naturally compelled to learn and improve when their psychological needs are fulfilled (Lechler & Huemann, 2023). These needs include autonomy (the desire to have control over one's actions), competence (the need to feel capable and effective), and relatedness (the desire for social connection and belonging) (Brenner, 2022). The alignment between SDT and CBE has been previously noted in the literature for its ability to foster learner autonomy and competence, specifically in recent implementations of online, mastery-based programs (American Institutes for Research, 2021). Walters (2016) extends these findings, noting that CBE structures inherently support SDT by providing individualized learning opportunities that allow students to engage meaningfully with their education.

Mastery Learning Theory

Mastery Learning Theory, pioneered by Benjamin Bloom, advocates for individualized pacing and necessitates that students attain a benchmark level of outcome achievement before advancing to the next phase of learning (Katzman et al., 2021). Within the WCP, for example, students practice motivational interviewing techniques in a simulated role-playing activity before progressing to real client interactions. For the CBE approach used in this study, the incorporation of multiple assessment attempts, paired with formative feedback, reflects evidence-based best practices of mastery learning in higher education settings (Winget & Persky, 2022). Such strategies, documented across health professions education, have shown measurable gains in career preparation through the development of professional skills (Ford & Meyer, 2015).

Polytechnic Education Model

The Polytechnic Education Model is often characterized

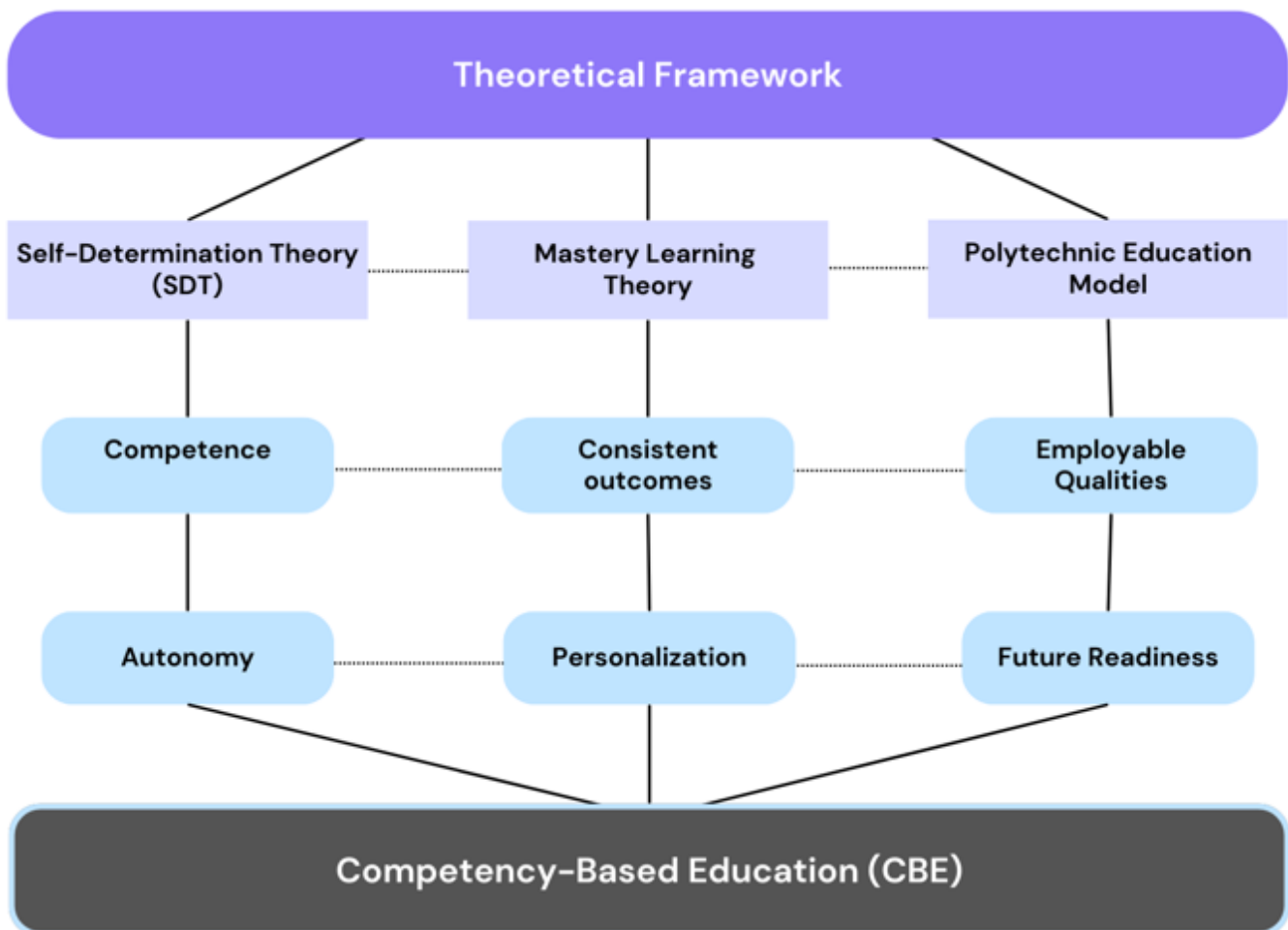


Figure 1. The theoretical framework of interrelated pedagogical concepts underpinning the CBE approach in this study.

by its applied, experiential learning approach in response to industry and societal needs (Doer, 2008; Polytechnics Canada, 2020). At Humber Polytechnic, this model aims to promote the development of work-ready graduates who possess the employable qualities required to succeed in their chosen fields of study. For students within the WCP, this includes field-specific competencies related to mindful client communication and broader skills such as critical-thinking and problem-solving. Recent evaluations of global CBE initiatives highlight how such frameworks address workforce demands to ensure that graduates are equipped with both technical expertise and transferable professional skills (Global Wellness Institute, 2023; Tekian et al., 2014). In the WCP context, these principles are particularly relevant given the program's focus on preparing students for immediate professional practice as Wellness Coaches.

Together, these three theoretical models form a cohesive framework that informs this study's investigation into the

implementation of CBE within the WCP. As depicted in Figure 1, SDT and Mastery Learning Theory contribute to understanding the motivational and cognitive processes underpinning student engagement and learning in a CBE format. They highlight the importance of autonomy, competence, and individualized pacing in promoting effective learning experiences. The Polytechnic Education Model provides the contextual backdrop, emphasizing the necessity for education to be practically oriented and aligned with industry standards.

Method Study Design and Population

An exploratory case study design was adopted for the present investigation. This qualitative approach was deemed most suitable given the exploratory nature of the research questions and the novel implementation of CBE within the specific WCP polytechnic context (Prokes et al., 2021). Framing the inquiry through this lens also resonated with

the theoretical framework of the study as well as afforded flexibility in data collection and analysis. As noted by Roberts et al. (2023), having adaptability in exploratory studies adds to their value by allowing emergent themes and patterns to surface organically during the investigative process.

The population of interest was comprised of students enrolled in Humber Polytechnic's WCP. Delivered as a one-year, fully online program, the WCP is intended for working adults with existing health and wellness industry experience who are interested in advancing their careers as professional Wellness Coaches. Specifically, for this study, the sample consisted of a single cohort of students enrolled in a second-semester WCP coaching skills course. This sample was purposively selected as part of a faculty-wide initiative to support the transition of its programming to CBE. Consistent with similar research (Bierer & Dannefer, 2016), the WCP students' previous exposure to traditional course formats, both in their first semester and prior educational settings, provided a basis for comparing how the CBE approach affected their learning experiences and perceptions of career preparedness.

Access and equity considerations were also integral to the sampling process. By selecting a group of students who manage multiple responsibilities, namely full-time work and familial commitments, the study aimed to assess whether the CBE format enhanced educational access while supporting competency development. This focus aligned with the broader objectives of developing equitable learning opportunities and investigating the extent to which CBE can accommodate the needs of non-traditional learners (Long et al., 2020; Tan & Sekercioglu, 2022).

CBE Design and Procedures

The CBE format implemented in the WCP course for this study was intentionally designed to align with best practices in CBE (Johnstone & Soares, 2014; McIntyre-Hite et al., 2018) while simultaneously accommodating institutional constraints. Though the method of delivery remained the same (fully online), the architecture of the WCP course curriculum and student support mechanisms necessitated a fundamental redesign. In contrast to the previous (traditional) approach, which organized the course around content and topics governed by a weekly schedule, the revamped CBE curriculum was restructured around clearly defined competencies and sub-competencies derived from course learning outcomes

and the professional practice standards of Wellness Coaches (e.g. National Board for Health and Wellness Coaching).

In this reconfigured framework, competencies of Wellness Coaches such as 'Mindful Coaching and Client Communication' were broken down into sub-competencies such as 'Behaviour Change Theory Application' and further delineated into specific learning milestones framed as 'I can...' statements. For example, 'I can apply behaviour change theory in coaching sessions to facilitate lasting change in clients.' This level of granular mapping, a common practice in CBE curriculum design, has been shown to benefit learners by providing transparency and clarity regarding the specific competencies being developed (Ford & Meyer, 2015).

Instructional methods were also adapted to support this structure. While synchronous online lectures and asynchronous modules remained, synchronous sessions transformed into 'drop-in' opportunities focused on discussion, feedback, and support for competency development. Aligned with the principles of the study's theoretical framework, this approach aimed to foster greater student autonomy and self-direction. Students could progress at their own pace, with access to all course content and assessments from the semester's start and the due date for all assessments set at the semester's end.

A notable innovation was the introduction of a mastery-based, specifications grading system to reconcile the institutional requirement of a traditional grading structure with a 50% passing grade (Table 1). In this approach, assessments were aligned with three competency levels—Foundational, Developing, and Proficient—and students were required to complete all assessments (given multiple attempts, if needed) at each level before progressing. Points were allocated based on successful demonstration of competencies with clear performance criteria. For instance, to earn 15 points for the 30-minute Coaching Session at the Foundational level, students needed to demonstrate over 80% of the rubric components. A common criticism of traditional grading is that it permits the accumulation of skill gaps, given the emphasis placed on 'the grade' rather than 'the outcome' (Dabney & VanDerWoude, 2023; Katzman et al., 2021). Thus, this modified specifications system was intentionally designed to ensure that passing the course (at a grade of 50%) indicated at least a Foundational level of

Table 1. Chart outlining the assessment specifications, or ‘specs’, for each level of competency in the WCP course.

Competency	Foundational	Developing	Proficient	Total Points
COMP1: Mindful Coaching & Client Communication	One (1) 30 Minute On-Going Session Recording Demonstrating >80% of Components	One (1) additional 30 Minute On-Going Session Recording Demonstrating >90% of Components	One (1) additional 30 Minute On-Going Session Recordings Demonstrating >90% of Components	
COMP1: Points	15	5	5	25
COMP2: Goal Setting & Vision Creation	One (1) Personal Wellness Vision & Goals	One (1) Practice Client Worksheet Completed for 4 sessions	One (1) additional Practice Client Worksheet Completed for 4 sessions	
COMP2: Points	15	5	5	25
COMP3: Mental Health Awareness & Support	One (1) Personal Mental Health Reflection	Mental Health First Aid Certificate (or equivalent)	One (1) AI coaching simulation & referral reflection with List of Mental Health Resources	
COMP3: Points	15	5	5	25
Competency Portfolio	Competency portfolio with supporting evidence (i.e. document links, video timestamps, etc.) at the Foundational level.	Updated competency portfolio with supporting evidence (i.e., document links, video timestamps, etc.) at the Developing level.	Updated competency portfolio with supporting evidence (i.e. document links, video timestamps, etc.) at the Proficiency level.	
Portfolio Points	15	5	5	25
Total Points	60	20	20	100

competency across all Wellness Coaching practice areas.

Under this new delivery model, feedback mechanisms were also enhanced to support student learning. In addition to receiving formative feedback from the instructor after each submission, students had access to ‘Secondary Coaches’—previous WCP graduates who were brought on to provide additional guidance. Given the logistical challenges of granting opportunities for multiple assessment attempts to demonstrate mastery, this collaborative support structure leveraging the experience of alumni aimed to contribute to a more personalized and responsive learning environment (Hauer & O’Sullivan, 2021).

Finally, another component was the use of student competency portfolios, a common practice in CBE (Leach, 2008). A sample of the portfolio is illustrated in [Table 2](#). A portfolio template was constructed to allow students to collect and showcase artifacts demonstrating their

competencies, such as recorded coaching sessions highlighting specific skills. Each portfolio item was aligned to a specific learning milestone mapped to a sub-competency. For example, to demonstrate the milestone related to ‘applying behaviour change theory,’ students could submit a link to a virtual session recording or timestamps highlighting the skill in action. This practice was intended to facilitate self-reflection as part of the learning process while also providing tangible evidence of competency development—a marketable asset for future professional opportunities (Leach, 2008; Walters, 2016).

Data Collection

A custom survey instrument was developed to capture students’ perceptions of their CBE experience. This survey included a mix of open-ended questions, multiple choice, and Likert-type items designed to capture the nuances of students’ learning experiences. It is important to note that while the survey items were informed by existing studies and

Table 2. Sample competency entry log for the WCP student portfolio mapped to a specific learning milestone and sub-competency across different levels of performance.

Competency 1: Mindful Coaching & Client Communication

Sub-competency 1.1 Behaviour Change Theory Application

Milestone: I can apply behaviour change theory to facilitate lasting change in clients.

Competency Level	Evidence of Competency
Proficient	Example: Timestamp links to two or more 30-minute coaching sessions showcasing greater than 90% of the performance indicators (rubric items).
Developing	Example: Link to a 30-minute session recording demonstrating greater than 90% of the performance indicators (rubric items).
Foundational	Example: Link to a transcript of a 30-minute coaching session indicating greater than 80% of the performance indicators (rubric items).

the theoretical framework of this investigation, they were not empirically validated. Instead, they were selected based on literature-informed best practices of CBE implementation as recommended by scholars in this area of research (Ford & Meyer, 2015; Gervais, 2016; Johnstone & Soares, 2014).

To ensure participants had ample opportunity to engage with the CBE format and reflect on their experiences, the survey was administered during the second last week of the semester. A third-party representative, not involved as a primary investigator, facilitated the administration to mitigate potential biases and influence on participant responses. Responses were collected anonymously through the institution's secure Microsoft Forms platform to safeguard confidentiality and data integrity.

Informed consent was obtained from all participants, and institutional approval was secured from the Humber Polytechnic Research Ethics Board prior to the commencement of the study.

Data Analysis

The data obtained from the survey responses were then analyzed qualitatively following the thematic analysis protocol outlined by Braun and Clarke (2006). This method was selected for its rigour and flexibility in facilitating the identification of patterns (themes) within the data without being constrained by a pre-existing coding frame (Braun & Clarke, 2006). Thus, it supported an inductive analytical approach, which was deemed appropriate given the exploratory nature of the study.

Results and Discussion

The primary objective of this study was to explore students' perceptions concerning the impact of implementing a CBE format in a second-semester WCP course within a polytechnic setting. Further nuances of the inquiry included assessing perspectives on the efficacy of the CBE format in relation to career preparedness and in comparison to traditional formats, addressing the secondary research questions #1 and #2, respectively.

Of the students enrolled in the WCP course, nine (n=9) participated in the survey. The open-ended data collected from these participants underwent an inductive (bottom-up) and semantic (explicit) level coding process following the thematic analysis approach outlined by Braun and Clarke (2006). This empirical method was selected to allow themes to emerge organically from the data without imposing preconceived categories. The goal was to authentically capture the explicit meanings conveyed by the students in their own words.

The analysis revealed five principal themes that encapsulate the students' perceptions of the CBE format: (1) Balancing Flexibility with Structure, (2) Enhancing Practical Skills for Career Preparedness, (3) Supportive Learning Through Instructor and Peer Engagement, (4) Navigating Challenges in Course Design and Workload, and (5) Positive Impact of Mastery-Based Assessment. These themes are summarized in [Table 3](#) and elaborated upon below, each accompanied by illustrative quotes from the participants.

Theme 1: Balancing Flexibility with Structure

The first theme pertains to the need for balancing flexibility—specifically, self-paced learning—with structured delivery within the CBE format. On the positive side, most students highly valued the flexibility and autonomy provided by the CBE approach (addressing secondary research question #2). Their ability to learn at their own pace was recognized as a significant advantage, primarily because it alleviated time pressures and allowed them to accommodate academic responsibilities alongside their personal schedules. One student remarked:

“I really enjoyed this course format. It was really flexible and I didn’t feel any pressure to get things done at a certain time.” (Participant 2)

Another student specifically highlighted how the individualized pacing positively impacted their academic performance:

“Being able to complete tasks at my own pace or when I feel most prepared for them aided in providing better grades.” (Participant 1)

Further illustrating these perspectives, [Figure 2](#) displays the distribution of survey responses across selected CBE learning design features deployed in the WCP course. Notably, four (44%) out of the nine respondents found ‘the ability to learn at their own pace’ as the most beneficial aspect of the course. However, despite appreciating the flexibility, some students experienced challenges related to time management and the absence of a more fixed (traditional) schedule. The absence of firm deadlines, which was designed

Table 3. Summary of themes and representative participant quotes regarding the CBE format in the WCP course.

Themes	Representative Quotes
1. Balancing Flexibility with Structure	<p>"I really enjoyed this course format. It was really flexible and I didn't feel any pressure to get things done at a certain time." (Participant 2)</p> <p>"I wish there was more structure than ‘every assignment is due at the end of the course.’" (Participant 3)</p>
2. Enhancing Practical Skills for Career Preparedness	<p>"I appreciated that the assignments were focused on us improving our skills, which made them worth our time." (Participant 5)</p> <p>"I feel like I could do an entire coaching session based on the WellCoaches format seamlessly." (Participant 2)</p>
3. Supportive Learning Through Instructor and Peer Engagement	<p>"Getting feedback from the professor was valuable in building confidence." (Participant 1)</p> <p>"I appreciated the constant work with peers. It benefited my learning a lot to do group work." (Participant 8)</p>
4. Navigating Challenges in Course Design and Workload	<p>"I found the course very heavy as there were many assignments." (Participant 7)</p> <p>"I did not enjoy the competency portfolios. After completing one I found it took a lot of my time to create and I did not get much learning out of it." (Participant 3)</p>
5. Positive Impact of Mastery-Based Assessment	<p>"The ability to re-attempt reduced stress and increased the state of flow and that it was ok to make mistakes and try again!" (Participant 4)</p> <p>"I felt like I could improve. It wasn't over and done. I could continue to practice learn from the practice and improve and develop my skills more effectively." (Participant 6)</p> <p>"It allows you to correct a mistake if you catch it after submission or improve your work after receiving feedback." (Participant 7)</p>

intentionally to emphasize flexibility, led to difficulties for some in maintaining motivation and pacing their work throughout the semester. As one participant expressed:

“I wish there was more structure than ‘every assignment is due at the end of the course.’” (Participant 3)

Another suggested that specific due dates would have assisted them in staying on track:

“I do think it would be helpful to have specific milestones to stay on track.” (Participant 4)

While flexibility was appreciated, aligning with the theoretical principles of SDT (Brenner, 2022), these insights indicate a need to re-evaluate the balance between flexibility in the CBE format and the desire for more structured guidance (Holmes et al., 2021; Kruger, 2023; Quintana & Quintana, 2020).

Theme 2: Enhancing Practical Skills for Career Preparedness

The second theme underscores the value of enhancing practical skills with a focus on career readiness. Students perceived the CBE format as instrumental in developing their practical skills in preparation for their future careers

as professional Wellness Coaches (addressing secondary research question #1). As further illustrated in [Figure 2](#), four (44%) out of the nine students reported that the ‘focus on real-world application of skills’ was the most beneficial aspect of the course. Quantitatively, this matches the number of those who found self-pacing (Theme 1) to be the most beneficial aspect. Qualitatively, the students’ reported emphasis on authentic application and competence demonstration instilled confidence in their professional abilities. Indicative responses include:

“I appreciated that the assignments were focused on us improving our skills, which made them worth our time.” (Participant 5)

“I feel like I could do an entire coaching session based on the WellCoaches format seamlessly.” (Participant 2)

As anticipated, given the polytechnic context and focus on professional development, these excerpts suggest that the transparent alignment of the CBE curriculum—including competencies, sub-competencies, and milestones—with industry standards reinforced students’ preparedness for real-world, career-related scenarios (McIntyre-Hite et al., 2018; Polytechnics Canada, 2020).

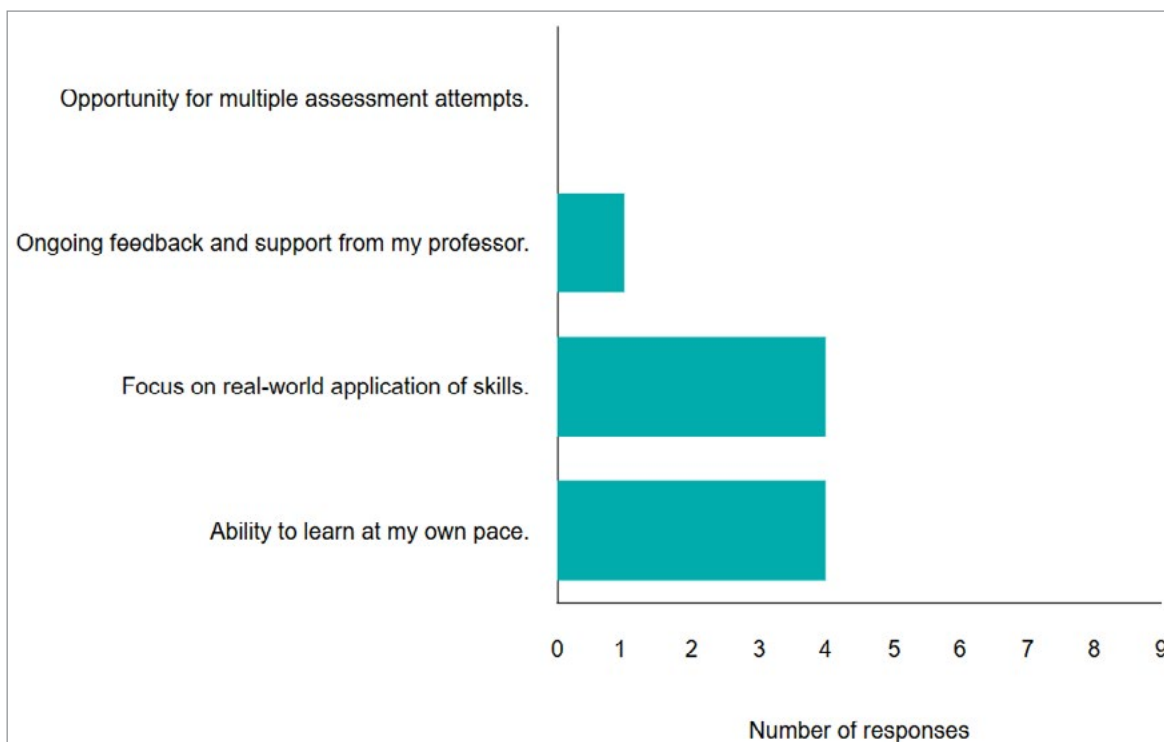


Figure 2. Key learning design features valued by WCP Students in the CBE Format.

Theme 3: Supportive Learning Through Instructor and Peer Engagement

A third theme that emerged was the importance of supportive learning facilitated by instructor and peer engagement. Students valued the timely and ongoing constructive feedback provided by the course instructor:

“I appreciated the constant feedback and encouragement from the professor.” (Participant 1)

“Getting feedback from the professor was valuable in building confidence.” (Participant 4)

These comments suggest that, despite the self-directed nature of the CBE format, receiving feedback from a subject matter expert (the instructor) was still instrumental in helping students identify areas for improvement and work toward higher levels of mastery (Bierer & Dannefer, 2016; Prokes et al., 2021; Walters, 2016).

Peer collaboration also emerged as a notable aspect of enhancing the learning experience. Students found working with their classmates beneficial for practicing skills and fostering mutual support:

“I paired up with another classmate this whole semester and we met multiple times a week to practice coaching together.” (Participant 2).

“Some of the people I met in this course were incredibly supportive. We all pushed each other to be better and complete the tasks at hand.” (Participant 1)

Although students had access to—and expressed high appreciation for—support from previous program graduates (‘Secondary Coaches’), it is noteworthy that instructor and peer support emerged as more significant to their learning experience. Specifically, out of the nine respondents, seven (78%) identified ‘feedback from the professor’ as the most helpful, while two (22%) preferred ‘feedback from peers’ (Figure 3). These mechanisms warrant further exploration in future studies, as highlighted by other research as well (Bierer & Dannefer, 2016; Prokes et al., 2021).

Theme 4: Navigating Challenges in Course Design and Workload

The fourth theme centres on navigating challenges related to course design and workload within the CBE format. Addressing secondary research question #2, eight (89%) respondents reported an overall preference for the CBE format over traditional approaches (Figure 4). However,

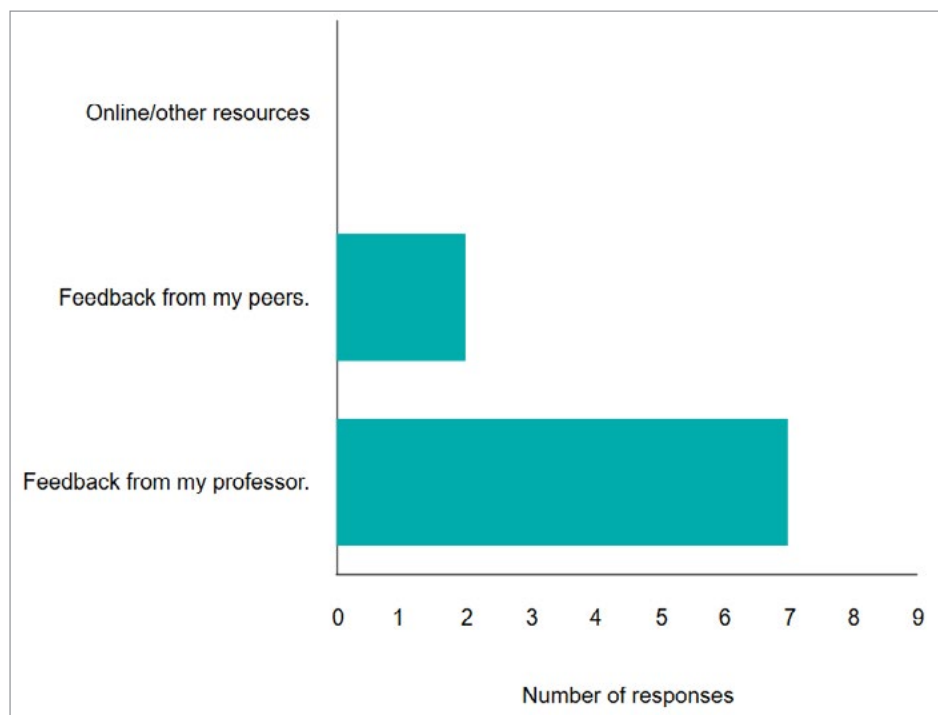


Figure 3. Most helpful sources of support identified by students throughout the WCP course.

several participants also noted difficulties concerning the volume of coursework in the CBE format alongside their other academic responsibilities. One participant noted:

“Balancing placement with course load... seemed difficult when also trying to manage course content and deliverables.” (Participant 1)

Another expressed concern about the course workload specifically:

“I found the course very heavy as there were many assignments.” (Participant 5)

These comments suggest that while the CBE format offers flexibility (Theme 1), the workload may require adjustment to mitigate the risk of student burnout.

Challenges related to assessments, particularly the competency portfolios, were also highlighted. Some students perceived the portfolios as overly time-consuming relative to their value:

“I did not enjoy the competency portfolios. After completing one I found it took a lot of my time to create and I did not get much learning out of it.” (Participant 3).

This finding contrasts with the positive reception of competency portfolios reported in previous research (Barros et al., 2022). Therefore, these insights suggest a need to re-evaluate the portfolio requirements and reconsider the total number of assessments in the course (Hofmeister et al., 2022; Thornhill-Miller et al., 2023). This is a particularly important consideration given the polytechnic context of the study in which the demonstrable application of professional skills is a focal point (Polytechnics Canada, 2020; Tekian et al., 2014).

Theme 5: Positive Impact of Mastery-Based Assessment

The final theme pertains to the positive impact of the mastery-based assessment and specifications grading system. As shown in [Figure 5](#), most participants responded favourably to this approach, with six (67%) respondents expressing their support. Open-ended responses revealed that students appreciated the grading system’s clarity, fairness, and emphasis on competency development over traditional grading processes and single-attempt assessments (further addressing secondary research question #2):

“The ability to re-attempt reduced stress and increased the state of flow and that it was ok to make mistakes and try again!” (Participant 4)

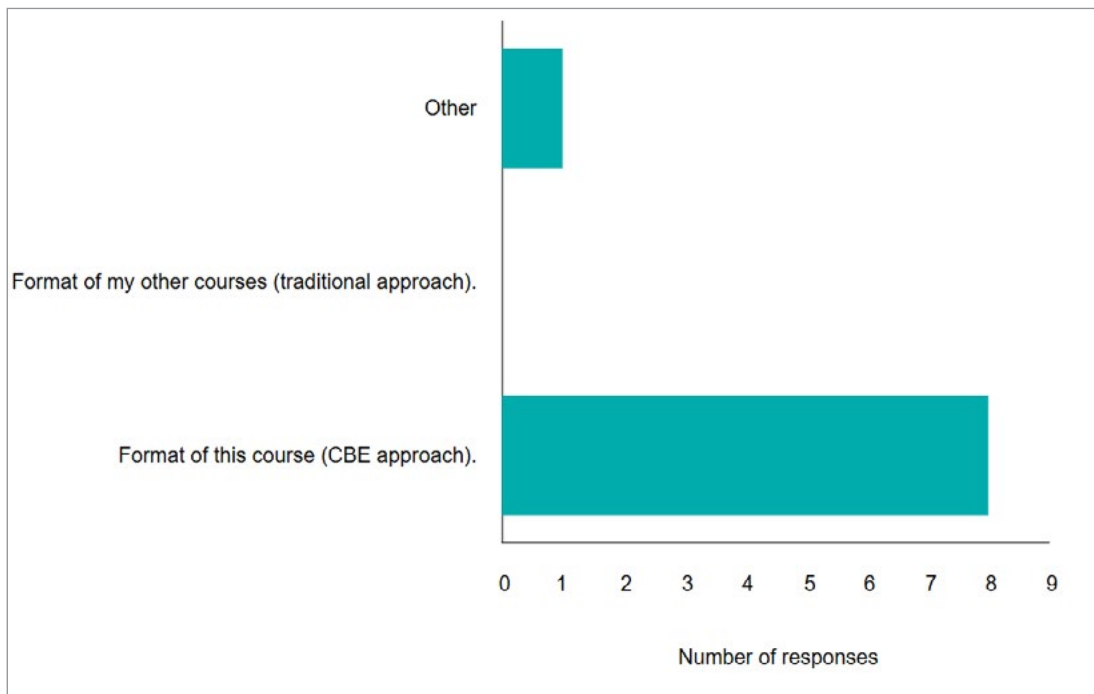


Figure 4. WCP students’ reported preferences for the CBE format versus traditional course formats.

"I felt like I could improve. It wasn't over and done. I could continue to practice learn from the practice and improve and develop my skills more effectively." (Participant 6)

"It allows you to correct a mistake if you catch it after submission or improve your work after receiving feedback." (Participant 7)

Echoing similar sentiments, another commented on the value of having choice in their learning goals under this assessment approach:

"I liked how I just really needed to complete the foundation level to pass the course and I could build up my skills from there." (Participant 2).

Consistent with other studies and the theoretical framework surrounding Mastery Learning, these responses collectively support implementing a specifications grading system within a CBE format (Townsend & Schmid, 2020; Winget & Persky, 2022). Such an approach, as suggested by the comments above, not only aids in developing competencies but also empowers students to have agency over their learning process.

Conclusions

This exploratory case study investigated students' perceptions of implementing a CBE format in a second-semester post-graduate Wellness Coaching course at Humber Polytechnic. Addressing the primary research question, the findings revealed that students predominantly viewed the CBE format positively. They noted decreased feelings of stress and anxiety in the experience and expressed a particular appreciation for its flexibility and focus on developing professional skills. The autonomy afforded by the CBE approach allowed students to learn at their own pace, which many found beneficial for balancing academic responsibilities with personal and professional obligations. Overall, the observations align with existing literature suggesting that increased flexibility and personalized learning experiences characteristic of CBE are generally well-received by post-secondary learners (Estrada et al., 2020; Oroszi, 2020).

In addressing the secondary research questions, students expressed feeling well-prepared with the career skills acquired in the course and attributed their newfound confidence to the CBE format. Specifically, they appreciated the unique specifications grading system that offered transparency in outcomes, expectations, and assessments. Compared to traditional grading protocols, where students

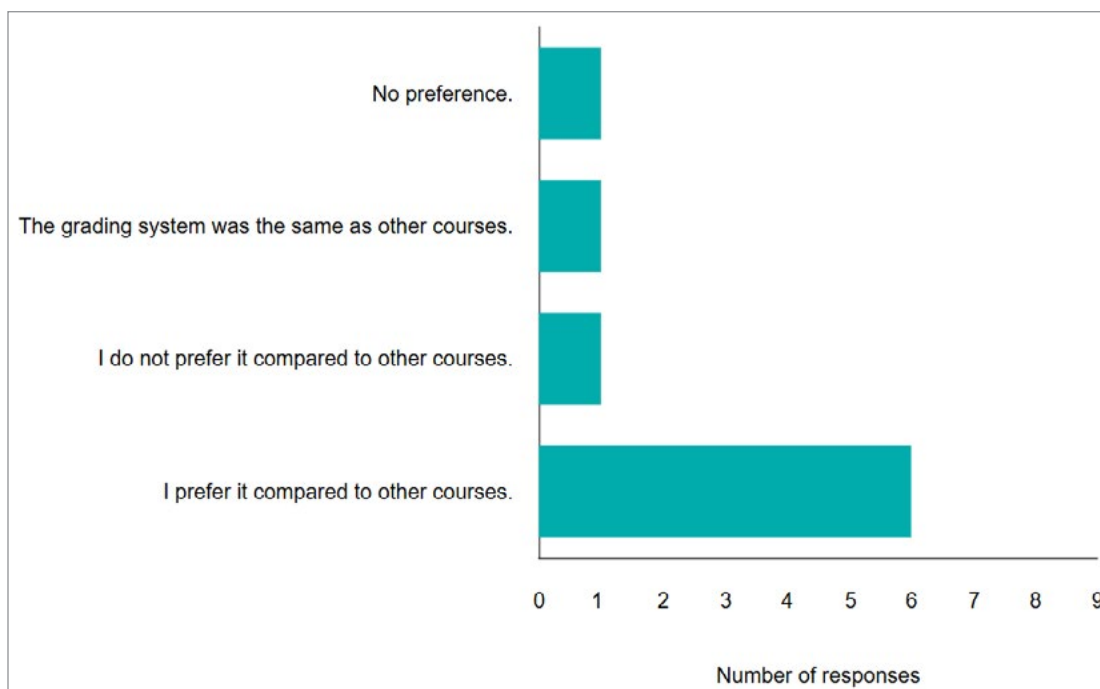


Figure 5. WCP students' reported preferences for the specifications grading system used in the CBE Format.

typically only receive one attempt at assessments, the mastery-based nature of the CBE format in this study – coupled with the specifications grading approach – provided a favourable experience consistent with previous research (Dabney & VanDerWoude, 2023; Hofmeister et al., 2022; Katzman et al., 2021). Closely related to this was the critical role of ongoing instructor feedback and peer support mechanisms in enhancing the development of competencies. The positive impact of instructor engagement reported by the participants suggests that even in self-paced environments, learner support remains essential (Brenner, 2022; Hauer & O'Sullivan, 2021).

However, despite the reported value of the CBE approach, some students encountered challenges related to time management and the absence of firm deadlines. Several comments reflected a desire for more concrete directives to stay on track. This concern mirrors observations in the literature regarding the necessity of balancing flexibility with sufficient structure to support learner self-regulation (Brenner, 2022; Hauer & O'Sullivan, 2021). Additionally, students reported that the assessment workload was substantial, particularly noting the time-intensive nature of compiling their competency portfolios. This feedback indicates a need to re-evaluate assessment strategies to prevent potential overload, echoing challenges reported in other CBE implementations (Hofmeister et al., 2022; McIntyre-Hite et al., 2018).

Limitations of the Study

A notable limitation of this study is the small sample size, with only nine students participating. This limited participation may affect the generalizability of the findings. Additionally, the self-selection of survey participants could introduce bias as those who elected to respond may have had particularly strong opinions about the CBE format, either positive or negative. These factors suggest that caution should be exercised in extrapolating the results to broader populations, and further research is necessary to validate and expand upon these preliminary insights.

Future Research Directions

Future studies should involve larger and more diverse samples to enhance the validity and generalizability of the findings. Longitudinal research investigating long-term outcomes, such as graduates' career success and continued professional development, would provide more in-depth

insights into the effectiveness of CBE in preparing students for their careers (Gruppen et al., 2012). Moreover, exploring CBE implementation in other programs and institutions could offer comparative perspectives and identify best practices for wider application (American Institutes for Research, 2021; McMullen et al., 2022).

Final Thoughts and Practical Implications

Aligning educational models with the needs of modern learners and industry demands remains an imperative within higher education. This study underscores the potential of CBE to enhance access and equity for post-secondary learners by offering flexible, relevant, and practically oriented learning experiences. Educators and institutions, particularly polytechnics, are encouraged to consider these findings when designing and implementing CBE formats. As evidence from this study highlights, embracing innovative educational approaches like CBE not only improves learner outcomes but also has the potential to cultivate individuals who are effectively equipped to navigate the future of work.

Conflict of Interest

The authors declare no conflicts of interest.

Acknowledgements

The authors acknowledge Kristan Lingard and Lauren Riley for their support and leadership in championing the CBE initiative within the Faculty of Health Sciences and Wellness at Humber Polytechnic. The authors also acknowledge the contributions of the Humber Priority 3 Project Team: Darren Richards, Melinna Chen, Peter Rick; and the Secondary Coaches: Irish Dhindsa, Jessica Farrace, Jennifer Lee, and Alexa Sutherland, for their support and steadfast commitment to student success.

Funding

Funding for this study was provided by an institutional grant received under Priority 3 of Humber Polytechnic's Academic Plan, 'Empowering Teaching and Learning.'

Note on Contributors

Ajay Rampersad, MSc., serves as the Program Coordinator for Competency-Based Education (CBE) in the Faculty of Health Sciences and Wellness (FHSW) at Humber Polytechnic. Prior to this role, he spent over ten years teaching in the Exercise and Nutritional Sciences division across diploma, degree, and post-graduate programs. Now,

driven by a commitment to making a positive impact on the education of learners currently underserved by the traditional model, Ajay works alongside faculty members across various FHSW programs to implement inclusive and equitable CBE approaches. Contact: Ajay.Rampersad@humber.ca

Noah Gentner, PhD, is a Professor and the Program Coordinator for the Wellness Coaching Post Graduate program at Humber Polytechnic. Dr. Gentner is a National Board Certified Health and Wellness Coach, International Coaching Federation Professional Certified Coach, WellCoaches Certified Professional Health and Well-Being Coach, and a Registered Health Coach providing Wellness Coaching services to individuals, groups, and companies. He is also a Mental Skills Coach who has worked with athletes and teams from youth sport to professional levels. Contact: Noah.Gentner@humber.ca

References

- Açıkğöz, T., & Babadoğan, M. C. (2021). Competency-based education: Theory and practice. *Psycho-Educational Research Reviews*, 10(3), 67-93. <https://files.eric.ed.gov/fulltext/EJ1326834.pdf>
- American Institutes for Research. (2021). *State of the field findings from the 2020 national survey of postsecondary competency-based education*. <https://www.air.org/project/national-survey-postsecondary-competency-based-education>
- Barros, M. D., Lopes, C., Mendes, C. J. L., & Tempski, P. Z. (2022). Using portfolio in medical education: A systematic review. *The FASEB Journal*, 36(S1). <https://doi.org/10.1096/fasebj.2022.36.s1.r6267>
- Bierer, S. B., & Dannefer, E. F. (2016). The learning environment counts: Longitudinal qualitative analysis of study strategies adopted by first-year medical students in a competency-based educational program. *Academic Medicine*, 91(11), S44-S52. <https://doi.org/10.1097/acm.0000000000001363>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp0630a>
- Brenner, C. A. (2022). Self-regulated learning, self-determination theory and teacher candidates' development of competency-based teaching practices. *Smart Learning Environments*, 9(1). <https://doi.org/10.1186/s40561-021-00184-5>
- Brumwell, S., & Pichette, J. (2024). *Ontario learning since the COVID-19 pandemic: An updated look at student experiences and outcomes in 2021-2022*. Toronto: Higher Education Quality Council of Ontario.
- Chacko, T. (2014). Moving toward competency-based education: Challenges and the way forward. *Archives of Medicine and Health Sciences*, 2(2), 247. <https://doi.org/10.4103/2321-4848.144365>
- Crawford, L., Cofie, N., McEwen, L., Dagnone, D., & Taylor, S. W. (2020). Perceptions and barriers to competency-based education in Canadian postgraduate medical education. *Journal of Evaluation in Clinical Practice*, 26(4), 1124-1131. <https://doi.org/10.1111/jep.13371>
- Dabney, B. W., & VanDerWoude, C. J. (2023). Implementing a specifications grading system in a nursing course. *Nurse Educator*, 48(4), 187-191. <https://doi.org/10.1097/nne.0000000000001372>
- Doer, B. (2008). *"Polytechnics" in higher education systems: A comparative review and policy implications for Ontario*. Toronto: Higher Education Quality Council of Ontario.
- Estrada, S., Mason, J., Boyer, N., & Telkamp, J. (2020). *Competency-based education and learner self-direction: Findings from an exploratory study*. American Institutes for Research. <https://www.air.org/sites/default/files/2021-07/Postsecondary-CBE-and-Learner-Self-Direction-March-2020.pdf>
- Ford, R., & Meyer, R. (2015). Competency-based education 101. *Procedia Manufacturing*, 3, 1473-1480. <https://doi.org/10.1016/j.promfg.2015.07.325>
- Gervais, J. (2016). The operational definition of competency-based education. *The Journal of Competency-Based Education*, 1(2), 98-106. <https://doi.org/10.1002/cbe.2.1011>
- Global Wellness Institute. (2023, November 7). *The global wellness economy reaches a record \$5.6 Trillion—And it's forecast to hit \$8.5 trillion by 2027*. <https://globalwellnessinstitute.org/press-room/press-releases/globalwellnesseconomymonitor2023/>
- Gruppen, L. D., Burkhardt, J. C., Fitzgerald, J. T., Funnell, M., Haftel, H. M., Lypson, M. L., Mullan, P. B., Santen, S. A., Sheets, K. J., Stalburg, C. M., & Vasquez, J. A. (2016). Competency-based education: Programme design and challenges to implementation. *Medical Education*, 50(5), 532-539. <https://doi.org/10.1111/medu.12977>
- Gruppen, L. D., Mangrulkar, R. S., & Kolars, J. C. (2012). The promise of competency-based education in the health professions for improving global health. *Human Resources*

- for Health, 10(1). <https://doi.org/10.1186/1478-4491-10-43>
- Hauer, K. E., & O'Sullivan, P. S. (2021). Making sense of milestones Data—Guiding residents or assessing training programs? *JAMA Network Open*, 4(12), e2137606. <https://doi.org/10.1001/jamanetworkopen.2021.37606>
- Hofmeister, E. H., Fogelberg, K., Conner, B. J., & Gibbons, P. (2022). Specifications grading in a cardiovascular systems course: Student and course coordinator perspectives on the impacts on student achievement. *Journal of Veterinary Medical Education*, 50(2), 172–182. <https://doi.org/10.3138/jvme-2021-0115>
- Holmes, A., Tuin, M., & Turner, S. (2021). Competence and competency in higher education, simple terms yet with complex meanings: theoretical and practical issues for university teachers and assessors implementing competency-based education (CBE). *Educational Process: International Journal*, 10(3), 39–52. <https://files.eric.ed.gov/fulltext/EJ1312102.pdf>
- Humber Polytechnic. (n.d.). *Wellness coaching*. Humber Polytechnic. <https://healthsciences.humber.ca/programs/wellness-coaching.html>
- Janssens, O., Embo, M., Valcke, M., & Haerens, L. (2023). When theory beats practice: The implementation of competency-based education at healthcare workplaces. *BMC Medical Education*, 23(484). <https://doi.org/10.1186/s12909-023-04446-3>
- 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>
- Katzman, S. D., Hurst-Kennedy, J., Barrera, A., Talley, J., Javazon, E., Diaz, M., & Anzovino, M. E. (2021). The effect of specifications grading on students' learning and attitudes in an undergraduate-level cell biology course. *Journal of Microbiology and Biology Education*, 22(3). <https://doi.org/10.1128/jmbe.00200-21>
- Kruger, J. S. (2023). Rethinking penalties for late work: The case for flexibility, equity, and support. *Pedagogy in Health Promotion*, 9(4), 234–236. <https://doi.org/10.1177/23733799231198778>
- Leach, D. C. (2008). Competencies: From deconstruction to reconstruction and back again, lessons learned. *American Journal of Public Health*, 98(9), 1562–1564. <https://doi.org/10.2105/ajph.2007.125302>
- Lechler, R. C., & Huemann, M. (2023). Motivation of young project professionals: their needs for autonomy, competence, relatedness, and purpose. *Project Management Journal*. <https://doi.org/10.1177/87569728231195587>
- Lewis, L. S., Rebesch, L. M., & Hunt, E. (2022). Nursing education practice update 2022: Competency-based education in nursing. *SAGE Open Nursing*, 8, 237796082211407. <https://doi.org/10.1177/23779608221140774>
- Linden, B., Stuart, H., & Ecclestone, A. (2022). Trends in post-secondary student stress: A Pan-Canadian study. *The Canadian Journal of Psychiatry*, 68(7), 521–530. <https://doi.org/10.1177/07067437221111365>
- Long, C., Bernotteit, S., & Davidson, S. (2020). Competency-based education: A clear, equitable path forward for today's learners. *Change the Magazine of Higher Learning*, 52(6), 30–37. <https://doi.org/10.1080/00091383.2020.1839335>
- McIntyre-Hite, L., Cheney, M., Bever, S. W., Mast, L., & Hapka, A. R. (2018). CBEN's quality framework: A case study in its application to CBE curriculum quality standards at Walden University. *The Journal of Competency-Based Education*, 3(3). <https://doi.org/10.1002/cbe2.1170>
- McMullen, J., Arakawa, N., Anderson, C., Pattison, L., & McGrath, S. (2022). A systematic review of contemporary competency-based education and training for pharmacy practitioners and students. *Research in Social and Administrative Pharmacy*, 19(2), 192–217. <https://doi.org/10.1016/j.sapharm.2022.09.013>
- 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>
- Oroszi, T. (2020). Competency-based education. *Creative Education*, 11(11), 2467–2476. <https://doi.org/10.4236/ce.2020.111181>
- Pichette, J., & Watkins, E. K. (2018). *Competency-based education: Driving the skills-measurement agenda*. Toronto: Higher Education Quality Council of Ontario.
- Polytechnics Canada. (2020). *Polytechnics and the future of work: Preparing today's learners for tomorrow's workforce*. <https://polytechnicscanada.ca/resources/best-practices/polytechnics-the-future-of-work>
- Prokes, C., Lowenthal, P. R., Snelson, C., & Rice, K. (2021). Faculty views of CBE, self-efficacy, and institutional support: An exploratory study. *The Journal of Competency-Based Education*, 6(4), 233–244. <https://doi.org/10.1002/cbe2.1263>

- Quintana, R., & Quintana, C. (2020). When classroom interactions have to go online: The move to specifications grading in a project-based design course. *Information and Learning Sciences*, 121(7/8), 525–532. <https://doi.org/10.1108/ils-04-2020-0119>
- Roberts, A., Roche, M., & Sainani, K. (2023). Exploratory analyses: How to meaningfully interpret and report them. *PM&R*, 15(6), 800–804. <https://doi.org/10.1002/pmrj.12980>
- Tan, S., & Sekercioglu, F. (2022). Examining the mental health impacts of the COVID-19 pandemic on international postsecondary students in Canada: A cross sectional analysis. *International Health Trends and Perspectives*, 2(3), 310–325. <https://doi.org/10.32920/ihtp.v2i3.1662>
- Tekian, A., Hodges, B. D., Roberts, T. E., Schuwirth, L., & Norcini, J. (2014). Assessing competencies using milestones along the way. *Medical Teacher*, 37(4), 399–402. <https://doi.org/10.3109/0142159x.2014.993954>
- Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., Hayek, S. E., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Creativity, critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence*, 11(3), 54. <https://doi.org/10.3390/jintelligence11030054>
- Townsley, 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>
- Walden, P. R. (2020). Competency-based education: Purposes and promises. *Seminars in Speech and Language*, 41(04), 289–297. <https://doi.org/10.1055/s-0040-1713780>
- Walters, G. (2016). Developing competency-based advising practices in response to paradigm shifts in higher education. *NACADA Journal*, 36(1), 66–79. <https://doi.org/10.12930/nacada-15-033>
- Winget, M., & Persky, A. M. (2022). A practical review of mastery learning. *American Journal of Pharmaceutical Education*, 86(10), ajpe8906. <https://doi.org/10.5688/ajpe8906>
- Wolever, R. Q., Simmons, L. A., Sforzo, G. A., Dill, D., Kaye, M., Bechard, E. M., Southard, M. E., Kennedy, M., Vosloo, J., & Yang, N. (2013). A systematic review of the literature on health and wellness coaching: Defining a key behavioral intervention in healthcare. *Global Advances in Health and Medicine*, 2(4), 38–57. <https://doi.org/10.7453/gahmj.2013.042>