# An Innovative Approach to Health Sector Regulatory Compliance Education

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***Essays** advance a new idea, summarize a development, or initiate or engage in discussion. They may be narrower in scope than the above categories, but the subject matter should be of general scholarly interest.

**Abstract**
The essay presents the authors' experience implementing a competency-based education (CBE) pilot program for the Health Sector Regulatory Compliance (HSRC) graduate certificate program at Humber Polytechnic. It also explores the authors' experience of the design, execution, and outcomes of an innovative 18-credit integrated course, "Health Sector Regulatory Skills in Practice" (HSRC 5020), which consolidated learning outcomes from four second-semester courses.

The CBE approach prioritizes skill mastery over traditional credit-hour models, addressing the growing skills gap between academia and industry. The HSRC program's pilot focused on students demonstrating four core competencies: Audit and Inspection Management, Risk and Compliance Management, Regulatory Research and Analysis, and Trending and Data Analysis. Faculty evaluated each competency on a scale from 'Foundational' to 'Developing' to 'Proficient,' providing students with regular feedback and coaching sessions. The course followed a 7-1-7 format, combining structured learning periods with a mid-term break. Implementation involved course design considerations, resource allocation, and student engagement through weekly coaching sessions and project-based learning activities. Assessment methods were diverse and authentic, including written reports, oral presentations, and digital portfolios, allowing students to demonstrate their skills through differentiated formats. The student feedback highlighted the benefits of self-paced learning, practical application of skills, and course flexibility. Students valued the autonomy to control their educational journey, emphasizing real-world scenarios. However, the challenges noted include students' inexperience with digital portfolios and the need for enhanced communication with instructors.

The CBE pilot successfully delivered a first-of-its-kind, unified 'open learning' stream that provided a flexible, practical, and personalized learning experience, fostering students' autonomy, critical thinking, and real-world readiness. Improvement recommendations include enhancing instructor-student

communication and increasing industry relevance through software training and potential site visits. These findings contribute to the ongoing discussion on innovative educational approaches in higher education, particularly in professional fields requiring regulatory compliance expertise.

## Introduction

In recent years, competency-based education (CBE) has emerged as a transformative approach to learning, focusing on students demonstrating mastery of specific skills and knowledge rather than simply completing a set amount of time in a classroom. CBE represents a paradigm shift in higher education, prioritizing mastery of practical skills over the traditional model of credit-hour completion (Pichette & Watkins, 2018). By enabling learners to progress at their own pace and demonstrate real-world competencies, CBE addresses the growing skills gap between academia and industry (Erstad, 2021; Nguyen, 2023). This framework is particularly relevant in sectors like the health sector, where regulatory compliance and ethical standards are critical for professional success. Across the globe, institutions are increasingly adopting CBE to meet evolving industries' demands and prepare students for complex, real-world challenges (Irex, n.d.; National Healthcareer Association, 2024; Or, 2024; Yaro, 2024).

In the summer of 2024, the Health Sector Regulatory Compliance (HSRC) graduate certificate program at Humber Polytechnic launched a pilot that effectively implemented a CBE model. The first-of-its-kind at Humber, the program's pilot delivered through an 18-credit integrated "Health Sector Regulatory Skills in Practice" (HSRC 5020), consolidated learning outcomes from four traditionally structured second-semester courses. Figure 1 illustrates the four core competencies that formed the foundation of HSRC 5020: Audit and Inspection Management, Risk and Compliance Management, Regulatory Research and Analysis, and Trending and Data Analysis. The authors examine the design, implementation, and outcomes of the HSRC CBE pilot and explore its broader implications for higher education.

## Background

CBE's emphasis on skill demonstration rather than seat time makes it particularly relevant in the field of HSRC, where adherence to ethical and legal standards is paramount. Historically, traditional educational models have struggled to align with the practical demands of industries, often leaving graduates underprepared for the workforce (National Healthcareer Association, 2024; ShiftIQ, 2024). The concept of CBE has its roots in the early days of vocational training, where practical, hands-on experience and relevance to real-world scenarios were essential. Hodge (2007) noted that CBE emerged in the United States during the mid-1960s, initially
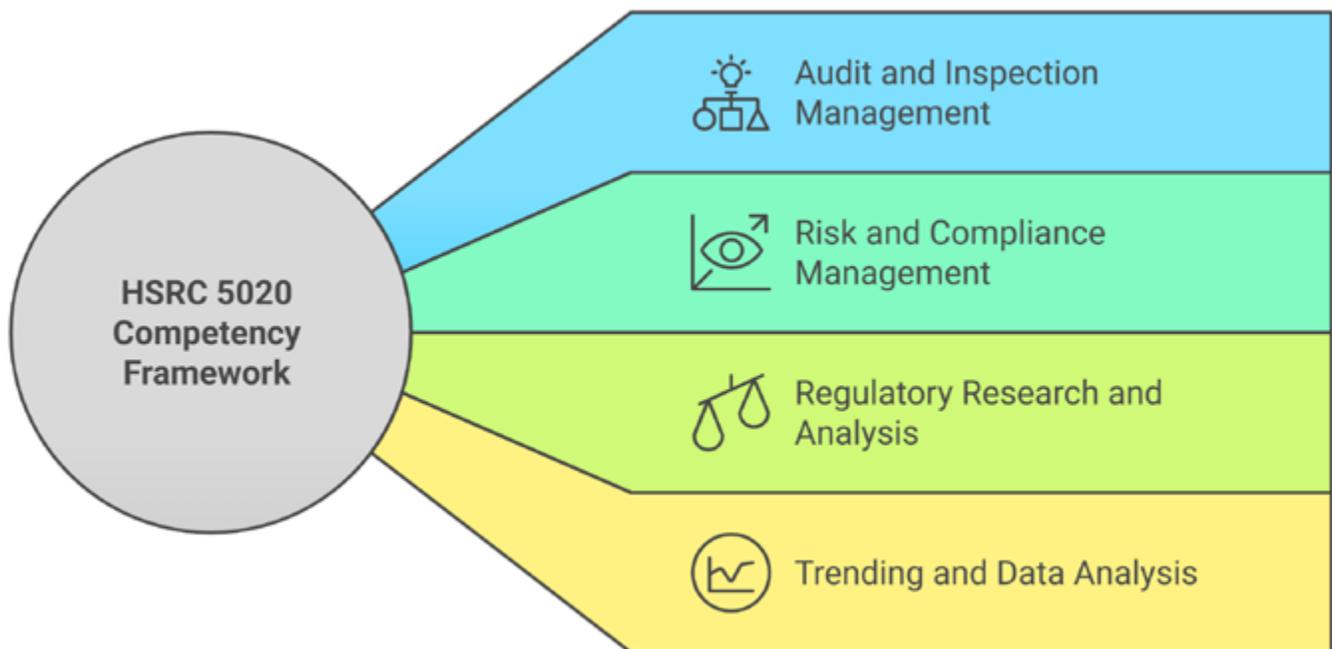


*Figure 1.* Competency Framework for the HSRC 5020 CBE course.

developing within teacher education programs. Rooted in behavioural psychology and systems theory, CBE responded to concerns about educational quality and ineffective training methods (Hodge, 2007).

Project-based learning (PBL) represents a transformative educational approach that can integrate CBE (Lee et al., 2024). By positioning students as active participants in their learning journey, this methodology emphasizes problem-solving, autonomous goal setting, and continuous skill development through practical, real-world challenges (Lee et al., 2024). The approach respects learners' existing knowledge and experiences while providing a structured framework for developing critical professional competencies. The PBL model goes beyond traditional educational methods by creating an environment where students discover and develop their strengths through projects that mirror professional practices (Lee et al., 2024). This approach also facilitates the acquisition of technical skills and cultivates essential soft skills such as communication, interdisciplinary collaboration, and adaptive thinking.

Building on these principles, the pilot also drew inspiration from the Information and Communication Technology (ICT) program at Fontys University, known for its 'open learning' model, which aligns with the self-directed and flexible nature of CBE (Fontys ICT InnovationLab, n.d.). In practice, "open learning" involves giving students considerable autonomy to determine their own learning pathways, pace, and focus areas. Within this environment, learners have the freedom to choose various resources, collaborate across disciplines, and selectively develop the competencies that resonate most with their professional goals (Fontys ICT InnovationLab, n.d.). By weaving these elements into PBL, students not only engage with authentic, real-world challenges but do so in a way that respects and adapts to their individual interests and readiness levels.

Moreover, the CBE approach, with the integration of PBL, fundamentally shifts from time-based learning to demonstrable skill mastery, allowing students to progress based on their ability to demonstrate specific competencies (Wilson, 2023). CBE has since expanded across multiple educational sectors, offering a more flexible and outcome-oriented approach to learning that emphasizes measurable skills and knowledge acquisition over traditional credit-hour models (Wilson, 2023). Today, CBE has evolved to incorporate

advanced technologies and flexible delivery models, making it accessible to a diverse range of learners.

In the health sector, regulatory compliance is critical for ensuring patient and consumer safety, maintaining quality standards, and adhering to legal requirements. The HSRC program, a fully online graduate-level certificate at Humber Polytechnic, was a suitable fit for the CBE pilot due to its professional focus, specific competencies, and the diverse backgrounds of its learners. The initiative further supported faculty expertise and the program's alignment with practical, industry-relevant skills. By consolidating four courses into a single integrated experience, the CBE pilot provided students with a comprehensive understanding of various aspects of regulatory compliance in professional practice.

## Competency Framework

The HSRC 5020 course was structured around four interconnected core competencies, as illustrated in Figure 1. This comprehensive framework was deliberately designed to address key industry requirements while ensuring students develop a well-rounded skill set for health sector regulatory compliance:

- **Audit and Inspection Management:** This competency involves understanding and managing audits, preparing action plans, and implementing corrective measures. Sub-competencies included analyzing audit findings, developing regulatory responses, and creating structured action items with clear responsibilities.
- **Risk and Compliance Management:** This competency emphasizes risk analysis, fostering a compliance culture, and developing regulatory strategies. Students learned to forecast potential issues, develop preventive measures, and advocate for continuous improvement.
- **Regulatory Research and Analysis:** This competency focuses on ethical evaluation, effective communication strategies, and investigative reporting. Sub-competencies included delivering presentations based on regulatory findings and applying ethical considerations to compliance decisions.
- **Trending and Data Analysis:** This competency covers statistical applications, data evaluation, and metric development. Students created dashboards

to visualize trends and applied data-driven strategies to improve compliance processes.

Rather than following the traditional didactic teaching style, faculty acted as 'coaches' to facilitate the learning experience and assessed each competency on a scale from Foundational (1 point) to Developing (2 points) to Proficient (3 points), as outlined in a matrix framework shared with students. Regular feedback and one-on-one coaching sessions provided students with opportunities for continuous improvement.

## Implementation

The semester followed a 7-1-7 format, combining two structured seven-week learning periods with a one-week mid-term break. Students attended three key meetings to discuss course expectations, provide feedback, and review progress. One aspect of HSRC 5020 was a weekly meeting where two dedicated faculty members coached learners on their approaches to questions regarding their research on various topics. The faculty provided opportunities for regular meetings to ensure they gave the learners consistent messages, approaches, and directions for the learning outcomes.

The recurring theme and message conveyed in the course deliverables was to suspend any disbelief that these assignments were not for their professors but for their supervisor or manager in the field. The faculty intended to assure learners that they were preparing for the real world by working with them as professionals in the field, with assignments designed to foster professional development using authentic industry problems.

As shown in Figure 2, the HSRC 5020 CBE course implementation strategy progressed through five phases: Course Design, Resource Allocation, Student Engagement, Project-Based Learning, and Real-World Preparedness. Each stage was built upon the previous one to form a cohesive framework that guided the course's development and delivery.

1. **Course Design:** The foundation of the implementation strategy involved mapping learning outcomes from the four second-semester courses to sub-competencies directly aligned with real-world problem-solving. This ensured that students developed practical skills applicable to their field

while maintaining coherence across the integrated course (Pichette & Watkins, 2018; Nguyen, 2023).

2. **Resource Allocation:** Faculty leveraged existing resources and developed new materials to support the integrated course format. Digital tools and platforms were utilized to facilitate both learning and assessment, ensuring students had access to necessary resources (Wilson, 2023).

3. **Student Engagement:** Weekly coaching sessions were a cornerstone of the implementation strategy, allowing faculty to provide personalized guidance, address individual learning needs, and foster accountability among students. The meetings emphasized collaboration and incremental progress toward mastery (Zimmerman, 2002).

4. **Project-Based Learning (PBL):** Central to the program was the use of PBL, which engaged students with authentic, industry-relevant problems. For example, students created audit reports, analyzed compliance risks, and developed dashboards for data visualization. These activities bridged the gap between theoretical knowledge and practical application, preparing students for the complexities of regulatory compliance roles (Lee et al., 2024; Crespi et al., 2022).

5. **Real-World Preparedness:** The course culminated in preparing students for professional environments by aligning their learning pathways to real-world competencies. Assignments were designed to simulate workplace challenges, with faculty acting as mentors to guide students in adopting a professional mindset (Erstad, 2021; National Healthcareer Association, 2024).

The concentric circle structure of Figure 2 highlights how these components are interconnected, with each layer supporting the next. Starting from the foundational course design and resource allocation, the framework progresses toward student-centred activities such as personalized engagement and PBL, ultimately leading to real-world readiness. This systematic approach was designed to ensure that students not only developed theoretical knowledge but also honed the practical skills necessary for success in regulatory compliance roles.
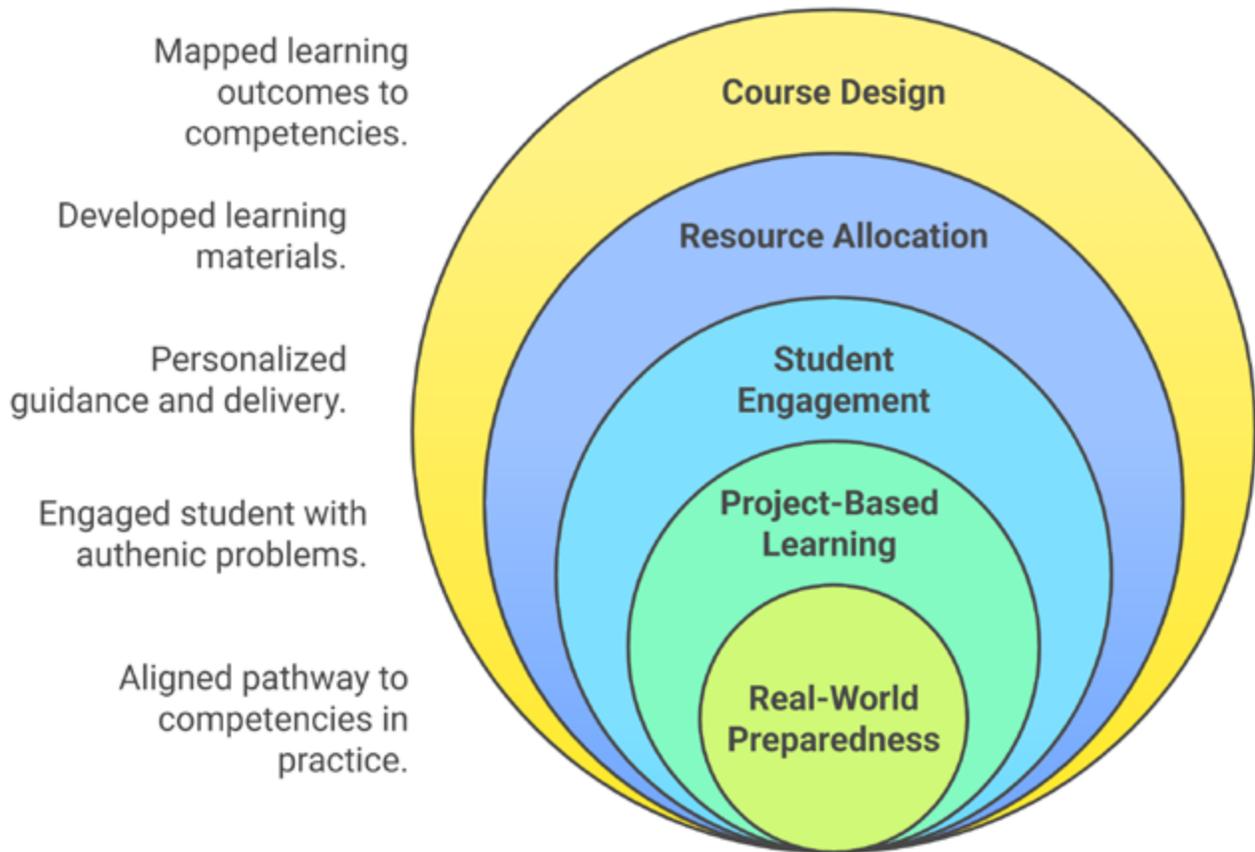
Mapped learning outcomes to competencies.

Developed learning materials.

Personalized guidance and delivery.

Engaged student with authenic problems.

Aligned pathway to competencies in practice.

**Course Design**

**Resource Allocation**

**Student Engagement**

**Project-Based Learning**

**Real-World Preparedness**

*Figure 2.* HRSC 5020 CBE Course Implementation Strategy

## Assessment Methods

Throughout the semester, authentic assessment methods offered students flexibility to align with their needs and learning preferences. These methods encompassed traditional written reports, oral presentations, recorded interviews, dashboard creation, reflective exercises, and the compilation of digital portfolios with reflective components. This multifaceted approach allowed students to demonstrate their relevant skills, such as research capabilities, communication skills, and analytical abilities, through various mediums. Students showcased their knowledge, critical thinking, and personal growth through various activities, including writing papers, conducting interviews, and creating digital work presentations. Including reflective elements across several assessment types further encouraged students to engage in self-assessment and metacognition, fostering a deeper understanding of their learning journey.

## Real World Application

The HSRC 5020 course strongly emphasized developing practical skills in Audit and Inspection Management, recognizing the role these competencies play in ensuring regulatory compliance within the health sector. One project, in particular, challenged students to create a comprehensive Standard Operating Procedure (SOP) for managing the audit and inspection process within a hypothetical health sector organization. This assignment was directly aligned with industry expectations, requiring students to master the skills necessary to construct effective audit standards, prepare organizations for inspections, and develop clear process flow diagrams.

To achieve these objectives, students first developed audit standards that adhered to relevant regulatory guidelines, industry standards, and best practices while also integrating them into the organization's existing quality management system. This required students to research and interpret complex guidelines, benchmark industry best practices,

and adapt existing organizational policies to meet specific compliance needs. Students also focused on preparing the organization for upcoming audits by identifying key stakeholders, defining roles and responsibilities, and establishing a comprehensive communication plan to keep all relevant departments and personnel informed. This communication plan involved developing a notification system to ensure the timely dissemination of crucial information, such as audit schedules, document requests, and potential areas of concern. Finally, students designed a detailed process flow diagram that mapped out each stage of the audit process, from the initial opening meeting to on-site activities and post-audit follow-up procedures. By visualizing the entire process, students could identify potential bottlenecks, streamline workflows, and ensure a systematic and efficient approach to auditing.

This project gave students a deep understanding of the theoretical principles behind Audit and Inspection Management. It equipped them with the practical skills and tools to excel in real-world compliance roles. As demonstrated through the creation of the SOP and process flow diagram, students successfully developed their abilities to analyze audit findings, develop regulatory responses, create structured action items, and evaluate the effectiveness of the audit/inspection process, demonstrating proficiency in this essential competency. The emphasis on a structured approach to the audit and inspection process allowed students to perform continuous improvement, thus showcasing real-world readiness.

## Student Experience and Learning Process

Zimmerman (2002) suggested that CBE focuses on the importance of self-regulated learning in educational settings. The CBE stream in this pilot offered a unique, self-paced learning approach emphasizing student autonomy and active engagement. Students took ownership of their learning journey, arriving at meetings well-prepared with specific inquiries and progress updates. The intentionally designed meeting structure supported individualized learning, allowing students to articulate challenges while providing mentors insights into competency development. Our mentor-coach framework fostered a collaborative learning environment, encouraging continuous improvement through regular interactions and open dialogue. This approach resonates with Vygotsky's sociocultural theory of learning, emphasizing the

importance of guided interaction in educational development (Cherry, 2024).

CBE's focus on tangible skill acquisition was evident in its approach to competency development. Students engaged with real-world scenarios to demonstrate and build proficiency, allowing learners and mentors to track skill development over time. The emphasis on practical application and incremental mastery contributed to a deeper understanding and development of skills.

The self-paced nature of the CBE stream recognizes that learning is a personalized journey, enabling students to progress through competencies at their preferred pace. Or (2024) argued that flexibility accommodates individual learners and enhances the educational experience. By allowing students to customize their learning paths, the CBE approach fosters greater engagement and mastery of skills (Or, 2024).

## Students' Feedback and Faculty Reflection

Students' feedback on the CBE pilot offered valuable insights into the overall effectiveness of the approach. Students shared feedback about their experiences throughout the course through questionnaires and surveys. Additionally, feedback about the contents and course was shared with the faculty through conversations with the students throughout the course. Figure 3 outlines the key themes of the HSRC 5020 CBE course that students reported most valuable, including the importance of self-paced learning (green section), the practical application of content (blue section), and the personalized approach through coaching (yellow section). These factors significantly contributed to student satisfaction and learning outcomes. Specific areas for improvement are also highlighted, such as enhancing instructor-student communication and integrating more industry-relevant experiences.

### Self-Paced Learning: Empowering Student Autonomy

The CBE pilot received positive feedback for its self-paced learning approach (illustrated in the green section of Figure 3). Students appreciated the flexibility to control their educational journey, allowing them to spend more time on challenging concepts while quickly having the option to progress more quickly through familiar material. This
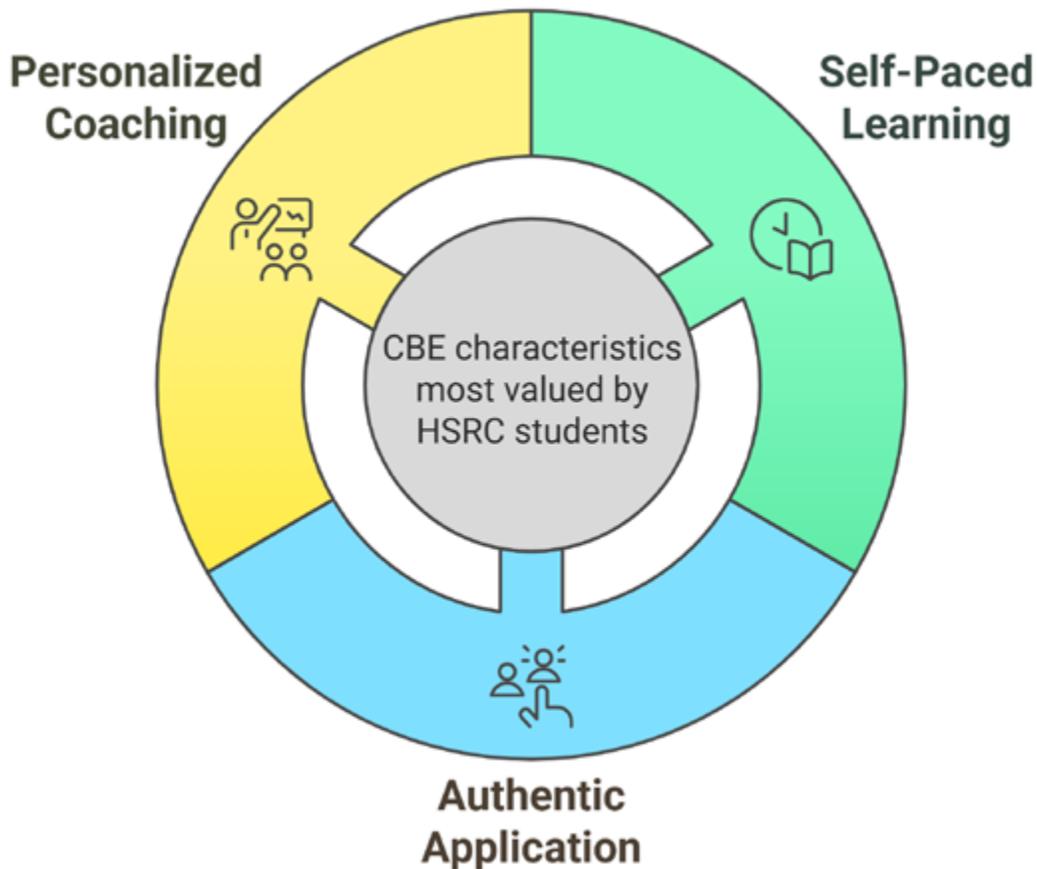
*Figure 3.* Most Valuable Components of the HSRC 5020 CBE Course.

autonomy fostered transformation for learners who prefer to explore complex subjects or focus on personal interests.

One student captured this sentiment, stating that the self-paced format enabled them to revisit complex topics without feelings of time pressure. It also allowed them to advance when they felt assured, which improved their time management. The ability to personalize learning improved educational efficiency and significantly enhanced student engagement and motivation.

### Authentic Application and Real-World Relevance: Using Immediate and Practical Skills

A standout feature of the CBE pilot was its emphasis on bridging theoretical knowledge with practical applications (blue section of Figure 3). Students praised the curriculum's focus on real-world scenarios that mirrored workplace challenges. The course equipped learners with immediately applicable skills by simulating professional problem-based scenarios.

One student felt they developed the skills needed for success outside of the academic environment by addressing real-world issues. The student felt equipped to handle similar challenges professionally, highlighting the program's commitment to preparing students for their future careers. These hands-on projects provided invaluable experience, helping students feel more confident and ready for professional roles.

### Flexibility and Adaptable Learning Environments: Personalized Coaching

The course's flexibility extended beyond pacing, encompassing a holistic approach to personalized learning (represented in the yellow section of Figure 3). Students appreciated the ability to engage with the material according to their learning style preferences. The agile learning approach allowed learners to explore topics deeply and interact with content in ways that suited their strengths.

A student highlighted the program's commitment to personalized learning and learner autonomy through a

specific experience with their coach. When struggling with a compliance strategy assessment, the coach provided targeted guidance, recommending the student focus on an area of regulatory compliance aligned with their background and expertise. This tailored advice proved invaluable, allowing the student to refine their approach and leverage their existing knowledge more effectively. As a result, the student's understanding of the subject matter deepened significantly, leading to completing the assignment. This personalized coaching enhanced the student's satisfaction with the program. It promoted a more profound engagement with the curriculum, demonstrating the effectiveness of individualized support in promoting academic success and student confidence.

## Additional Insights and Recommendations

While feedback was generally positive, students provided constructive suggestions for improvement. They appreciated the iterative assessment approach, which allowed multiple attempts and fostered a growth mindset. However, many suggested enhancing communication with instructors, recommending post-assignment meetings to discuss feedback. Students also desired increased industry relevance, suggesting more training on industry-standard software and potential site visits to real-world operational environments. These recommendations reflect a keen interest in ensuring the curriculum meets professional expectations.

## Faculty Reflection and Future Directions

The feedback from students on the CBE pilot indicates that the program successfully delivered a flexible, practical, and personalized learning experience. Self-paced learning, real-world application, and the adaptable course structure contributed significantly to positive outcomes for students. However, there remain opportunities for improvement, particularly in fostering better communication between students and instructors and increasing the industry relevance of the curriculum. Addressing these areas further enhances the program's ability to prepare students for future professional roles, ensuring a more comprehensive and career-aligned educational experience.

The HSRC CBE pilot underscored the transformative potential of a competency-based learning format. Aligning education with industry needs equips students with theoretical knowledge and practical skills, bridging the gap between academia and the workforce. Future iterations could

address identified challenges by enhancing communication, expanding industry partnerships, and scaling CBE practices to broader audiences (Juraschka, 2021; Wilson, 2023).

Expanding the scope of CBE in higher education requires a multifaceted approach. Institutions must invest in hiring faculty to support its delivery, training for existing faculty, technological infrastructure, and curriculum development to support the innovative framework. Collaboration with industry stakeholders can further enhance program relevance and ensure graduates are well-prepared for their careers.

## Challenges and Adaptations

Implementing the HSRC 5020 CBE course required addressing several challenges, as outlined in Figure 4. The figure uses an iceberg metaphor to depict the visible success of the CBE program above the surface and the less visible but critical challenges below. These challenges include digital portfolio complexity, communication barriers, diverse learning needs, and curriculum adaptation. Each of these factors played an essential role in shaping the experiences of both faculty and students.

One major challenge was digital portfolio complexity, which arose because students were unfamiliar with the tools and processes involved in organizing their work into professional portfolios. Digital portfolios are central to CBE, allowing students to demonstrate their competencies to external stakeholders. Faculty responded by offering tutorials, providing examples of successful portfolios, and emphasizing their value for career progression (Nguyen, 2023).

Communication barriers also emerged as a key area for adaptation. Students reported difficulties understanding assignment expectations and needed more detailed and iterative feedback. To address this, faculty introduced more regular one-on-one coaching sessions and post-assignment discussions. These adjustments aimed to clarify expectations and provide individualized support, aligning with recommendations for guided learner-instructor interaction in competency-based models (Zimmerman, 2002).

The diverse learning needs of students posed additional challenges. The self-paced nature of CBE allowed students to progress at different speeds, but this required faculty to personalize their teaching strategies. Regular coaching
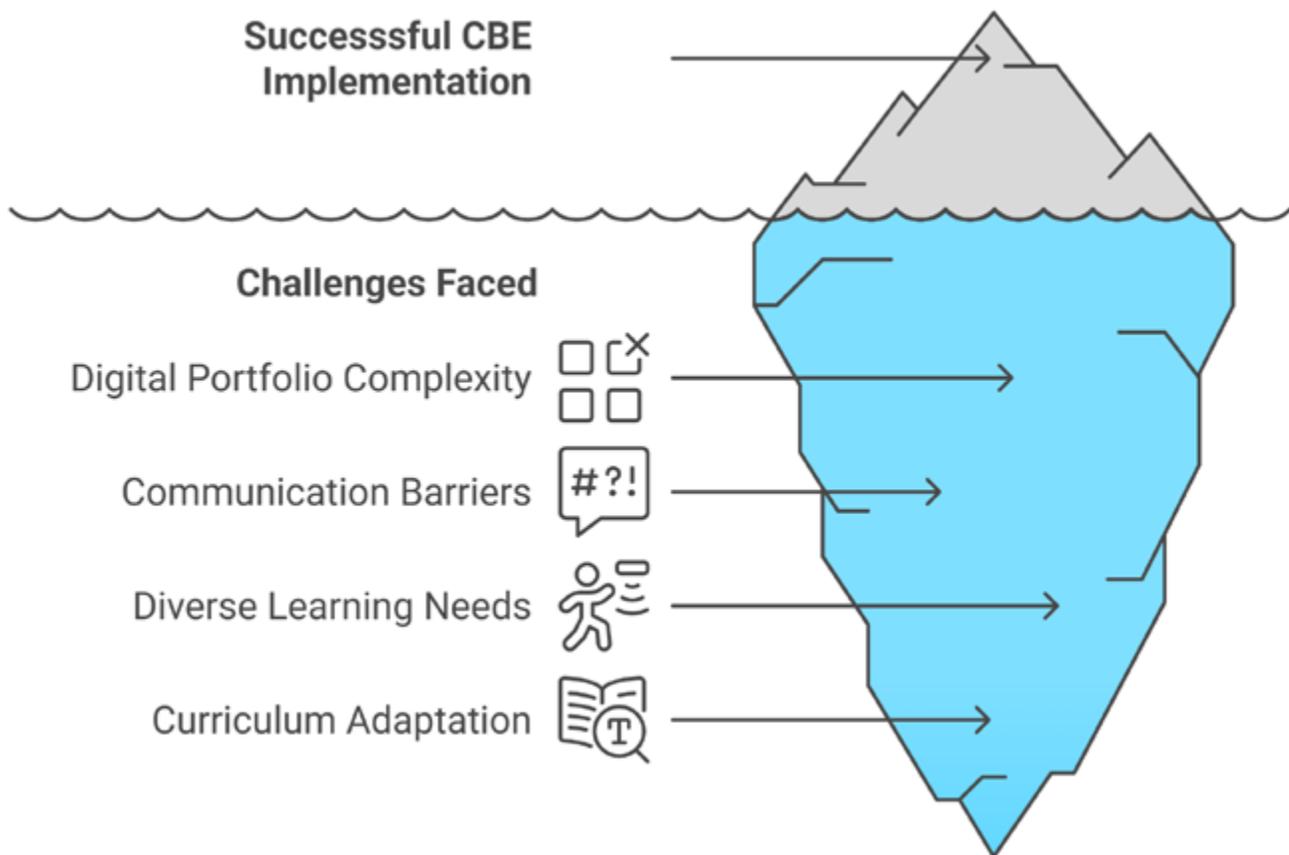
*Figure 4.* Challenges in HSRC 5020 CBE Implementation

sessions and iterative adjustments to the curriculum helped meet these varied needs, promoting inclusivity and engagement for students with different levels of prior knowledge and learning preferences (Lee et al., 2024).

Lastly, curriculum adaptation involved reconfiguring content from four traditionally structured courses into a single integrated CBE framework. Faculty worked to align learning outcomes with industry-relevant competencies, reflecting practical, real-world applications. This iterative process incorporated feedback from students and industry partners to refine assignments, assessments, and instructional materials (Erstad, 2021).

## Improvements and Future Recommendations

Student perspectives from the HSRC 5020 CBE pilot revealed opportunities to strengthen course delivery for future iterations. By considering these perspectives, focused changes can reinforce competency development, industry connections, and the overall student learning journey. The

following is a summary of the main feedback themes and the planned updates they will guide:

### 1. Communication and Feedback Delivery

Students expressed a need for more detailed, repeated feedback to better understand assignment expectations and competency progress. To address this, future iterations of the CBE course stream will add post-submission debrief sessions after major assessments. These meetings will permit instructors to explain feedback, address knowledge gaps, and direct guidance regarding individual learning paths—particularly within the Risk and Compliance Management competency. For example, targeted assistance will help students to develop their ability to translate risk assessments into actionable compliance strategies.

### 2. Industry-Relevant Software Training

Another theme in student feedback was the need for more training on industry-standard software to strengthen the 'Trending and Data Analysis' competency. In response, future course offerings will aim to integrate dedicated software-

specific modules on platforms such as Tableau or Excel for data visualization, as well as compliance management systems (e.g. MasterControl or Qualio). These modules will include practical exercises and step-by-step simulations designed to build the necessary skills in creating dashboards and presenting data in a clear and compelling manner for industry stakeholders. The training will also involve building data visualizations in the area of regulatory compliance.

## 3. Site Visits and Industry Engagement

Students also suggested incorporating site visits and other real-world engagement opportunities to create skills within the 'Audit and Inspection Management' group of competencies. To fulfill this need and provide an environment for the students to develop action items, future iterations of the course will actively pursue partnerships with health sector organizations to offer site visits and/or guest lectures from industry professionals or experts for mock inspections. These experiences will provide students with first-hand exposure to real-world operational environments and allow them to see how regulatory compliance principles are put into practice, particularly in audit and inspection settings. During the visits, there can be on-the-spot action items that should be resolved and later incorporated into any future course material.

## 4. Streamlined Digital Portfolio Development

Organizing work samples into digital competency portfolios was another challenge faced by some students. In response, the course will include orientation sessions on this item at the outset, along with template guides and examples from previous cohorts. Regular checkpoints will provide ongoing feedback on portfolio structure. This process will help to maintain consistency with competency rubrics and aligns with industry presentation standards.

Collectively, these recommendations contribute to the refinement and strengthening of the existing CBE model. By integrating a sustained cycle of collecting and acting on student feedback, the HSRC program can continue to improve. Regular surveys, one-on-one coaching, and portfolio reviews will remain central in refining the course structure and supporting learners in acquiring skills valued across regulatory fields.

## Conclusion

The HSRC 5020 CBE pilot discussed in this essay demonstrates how CBE can transform learning by focusing on a personalized journey toward professional skills mastery. By fostering autonomy, critical thinking, and professional readiness, this approach has great potential to address the needs of both contemporary learners and the health sector. The HSRC CBE pilot can serve as a model for other programs, faculties, and institutions seeking to innovate and improve alignment between academic training and industry expectations. It exemplifies how education can transform its programmatic offering to meet the demands of a complex and dynamic global workforce, setting the stage for a more adaptive, effective, and valuable approach to higher education.

## Note on Contributors

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