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The Competency-Based Approach in Education: Concept, Principles, and Implications for Contemporary Teaching and Learning

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Abstract

Competency-based education (CBE) has gained increasing attention as an approach that seeks to move education beyond the transmission and reproduction of disciplinary knowledge toward the development and demonstration of integrated capabilities. This paper examines the competency-based approach in education by exploring its concept, theoretical foundations, core principles, benefits, challenges, and implications for contemporary teaching and learning. It conceptualizes competence as a multidimensional and contextual capacity involving the integration of knowledge, skills, attitudes, values, judgement, and performance. The discussion highlights the major principles underlying CBE, including clearly defined competencies, learner-centeredness, mastery and progression, authentic assessment, continuous feedback, flexibility, and constructive alignment among curriculum, teaching, learning, and assessment. The paper also examines theoretical perspectives that support CBE, particularly constructivism, mastery learning, and experiential and authentic learning. The literature suggests that CBE can strengthen the connection between academic learning and professional practice, increase transparency of learning expectations, support flexible learning pathways, enhance program coherence, promote lifelong learning, and encourage learner agency and engagement. The paper argues that CBE should be understood as a systemic educational framework rather than merely a teaching or assessment technique. Its effectiveness ultimately depends on coherent implementation, valid assessment, faculty engagement, learner support, and continuous institutional evaluation.

Keywords: competency-based education, competence, learner-centered learning, authentic assessment, higher education.

1. Introduction

Contemporary education is increasingly expected to accomplish more than the transmission of disciplinary knowledge. Universities and other educational institutions are under growing pressure to prepare learners who can use knowledge effectively, solve complex problems, communicate across contexts, collaborate with others, respond to technological and social change, and continue learning throughout their professional and personal lives. These expectations reflect significant changes in the nature of contemporary society and work. Rapid technological development, globalization, changing labor-market requirements, increased mobility, and the growing

complexity of professional practice have made it increasingly difficult for educational institutions to define successful learning solely in terms of the amount of information students can acquire and reproduce. Graduates are now expected not only to know, but also to demonstrate that they can apply what they know appropriately in unfamiliar and changing situations. Consequently, questions concerning the relevance, transferability, and practical application of learning have become increasingly important in educational policy and practice. These developments have contributed to increased interest in educational approaches that emphasize what learners are capable of demonstrating rather than what content they have merely encountered. Traditional educational models have often been organized around subjects, courses, instructional hours, and examinations. Although these elements continue to have an important role, they do not necessarily provide sufficient evidence that learners can integrate knowledge and skills or use them effectively beyond the classroom. A student may successfully recall concepts for an examination without being able to apply those concepts to a practical problem, communicate them effectively to others, or exercise appropriate judgement in a complex situation. The growing emphasis on demonstrable capability therefore represents an important shift in how educational achievement is conceptualized.

The competency-based approach has emerged as one important response to these developments. Although competency-based education (CBE) has roots in earlier vocational, professional, teacher education, and adult-learning movements, its application has expanded considerably across contemporary education (Burnette, 2016; Gervais, 2016; Lurie & Garrett, 2017). Historically, competency-oriented approaches were particularly concerned with preparing learners for clearly defined occupational roles and ensuring that they could perform tasks to specified standards. Over time, however, the concept has been extended beyond narrowly occupational skills to include broader forms of knowledge, critical thinking, communication, collaboration, ethical judgement, and other transferable capabilities. The literature indicates, however, that CBE is not a single uniform model. Rather, it encompasses a range of approaches that share an emphasis on clearly articulated competencies, demonstrated mastery, learner progression, and alignment among curriculum, pedagogy, and assessment

The conceptual difficulty begins with the term competence itself. Researchers have long observed that competence has been defined from different theoretical and national traditions, including behavioral, functional, cognitive, and holistic perspectives. Le Deist and Winterton (2005), for example, argue that one-dimensional understandings of competence are insufficient and advocate a multidimensional conception incorporating different forms of knowledge, skills, and behavioral capacities. This debate reflects the fact that competent performance is rarely the result of a single ability. In many professional and educational contexts, effective performance requires the integration of theoretical understanding, practical skills, interpersonal capabilities, values, attitudes, and judgement. The concept therefore becomes considerably more complex when it is applied to situations in which learners must respond to uncertainty, competing demands, or unfamiliar problems.

More recent research similarly confirms that there remains no universally accepted conceptualization of either competence or competency-based education (Gervais, 2016; Oroszi, 2024). This lack of conceptual consensus does not necessarily indicate a weakness in the field. Rather, it demonstrates that competence is a complex and context-dependent construct. What constitutes competence for a physician, engineer, teacher, researcher, manager, or social worker will inevitably differ because each profession

involves distinctive forms of knowledge, performance, responsibility, and judgement. Nevertheless, the absence of a universally accepted definition creates challenges for institutions attempting to design competency-based curricula because they must make explicit decisions concerning which capabilities matter, how those capabilities should be described, and what evidence is sufficient to establish their achievement.

Accordingly, this article examines the competency-based approach as both an educational philosophy and a framework for curriculum and assessment. It addresses five central questions: What is meant by competency-based education? What theoretical principles underpin the approach? How does competency-based education influence teaching, learning, curriculum, and assessment? What are its major benefits and limitations? And what implications does the approach have for contemporary higher education? Addressing these questions requires consideration not only of the practical mechanisms of CBE but also of the assumptions about learning, knowledge, performance, and educational purpose that underpin the approach.

The central argument advanced in this article is that competency-based education should not be understood simply as an alternative method of delivering courses or conducting examinations. Rather, when implemented comprehensively, it constitutes a systemic approach to educational design in which intended competencies, learning experiences, assessment practices, learner support, and graduate outcomes are deliberately connected. Its value therefore depends less on the label attached to a program than on the quality and coherence of its implementation. A program cannot be considered genuinely competency-based merely because it includes competency statements; rather, those competencies must meaningfully shape curriculum decisions, teaching practices, assessment, feedback, and opportunities for learners to demonstrate and improve their performance.

2. Conceptualizing Competency-Based Education

Competency-based education is grounded in the idea that the purpose of education extends beyond the acquisition of knowledge to include the development of capabilities that learners can demonstrate and apply in meaningful contexts. Although the term has become increasingly prominent in contemporary education, its meaning and application vary across educational systems, disciplines, and institutional contexts. CBE has developed through influences from vocational education, professional education, adult learning, outcomes-based education, and more recent efforts to strengthen the relationship between higher education and professional practice. At its broadest level, competency-based education can be understood as an educational approach in which learning is organized around clearly defined competencies and in which students are expected to demonstrate an appropriate level of achievement (Alsaeh et al., 2026). This distinguishes CBE from approaches that focus primarily on the amount of content covered or the amount of time students spend in formal instruction. The central concern is whether learners have developed the knowledge, skills, attitudes, and other capabilities necessary to perform effectively in relevant contexts.

2.1 The Concept of Competence

The concept of competence has a long and complex history. Its use has extended across education, psychology, vocational training, management, professional development, and human-resource development. Consequently, the meaning attributed to competence varies according to disciplinary and institutional contexts. The concept has also evolved in response to changing understandings of work and learning. Earlier approaches

frequently emphasized the ability to perform specific tasks according to predetermined standards, whereas later perspectives increasingly recognized the importance of cognitive processes, contextual judgement, interpersonal capacities, and the integration of different forms of knowledge.

This historical and disciplinary diversity helps explain why competence remains a contested concept. In vocational and professional education, competence has often been associated with effective occupational performance. In psychology and education, it may be associated with broader capabilities, development, or successful engagement with particular tasks and environments. In organizational contexts, competence can refer to the capabilities employees require to perform effectively and contribute to institutional objectives (Benarose & Hmouma, 2026). Although these interpretations overlap, they do not necessarily identify the same dimensions of human capability. As a result, using the term without specifying its underlying assumptions can create ambiguity in curriculum development and assessment.

Le Deist and Winterton (2005) demonstrated that competence cannot adequately be reduced to a single dimension. Their analysis distinguishes among cognitive, functional, behavioral, and broader holistic dimensions of competence and argues for an integrated framework. The cognitive dimension concerns knowledge and intellectual capabilities; the functional dimension is associated with the ability to perform tasks and apply knowledge in practice; the behavioral dimension relates to interpersonal and social capabilities; while holistic perspectives seek to integrate these dimensions within particular contexts of performance. Their analysis is important because it challenges the assumption that competence can be adequately represented through a list of isolated skills.

This perspective is particularly relevant to education because effective professional performance rarely depends on technical knowledge alone. A competent professional must normally combine knowledge with practical skills, communication, judgement, ethical awareness, and the capacity to respond appropriately to particular circumstances (Hmouma, 2024). For example, a teacher may possess extensive knowledge of educational theory but still struggle to manage a diverse classroom, adapt instruction to individual learners, communicate effectively with families, or respond appropriately to unexpected situations. Similarly, a healthcare professional requires not only scientific knowledge and technical skills but also communication, ethical judgement, empathy, teamwork, and the ability to make appropriate decisions under changing conditions.

This distinction is central to competency-based education. Gervais (2016) defined CBE as an outcome-based approach in which teaching and assessment are designed to evaluate learners' mastery through their demonstration of the knowledge, attitudes, values, skills, and behaviors required for a particular educational goal. The definition is significant because it places demonstration at the center of learning. Competence is not established merely because content has been taught or because a learner has successfully completed a specified number of classroom hours. Rather, competence becomes meaningful when the learner can demonstrate an appropriate level of performance.

The emphasis on demonstration also creates an important distinction between learning opportunities and learning achievement. Teaching a topic does not necessarily mean that learning has occurred, and exposure to instructional materials does not necessarily establish competence. Educational institutions may provide extensive opportunities for

students to acquire knowledge, but evidence of competence requires some indication that learners can use that knowledge appropriately (Ibrahim et al., 2026). CBE therefore shifts attention from what educators have delivered toward what learners can demonstrate as a result of the educational process.

This broader perspective is particularly important in an environment characterized by rapid change. Specific technical skills may become obsolete as technologies, organizational practices, and professional requirements evolve. Graduates therefore need not only current knowledge and skills but also the capacity to learn, adapt, evaluate new information, and transfer their capabilities to new circumstances. Competence, when conceptualized broadly, can therefore include the capacity for continued development rather than representing a fixed list of abilities acquired once and for all. More recent research similarly reinforces the complexity of defining competence. Oroszi (2024), for example, contributes to the continuing discussion concerning how competency-based education should be conceptualized and implemented. The continuing debate indicates that competence should not be assumed to have a universally agreed meaning. Instead, institutions must make explicit theoretical and educational choices concerning what they consider valuable and how those values will be reflected in curriculum and assessment.

2.2 Competency-Based Education as an Outcome-Oriented Approach

A defining characteristic of CBE is its orientation toward outcomes. Traditional educational systems have often organized learning around courses, semesters, credit hours, syllabi, and prescribed periods of study. In contrast, competency-based approaches begin by asking what learners should know, understand, value, and be able to do by the end of a learning experience. This shift represents more than a change in terminology. It involves a fundamental reconsideration of the organizing logic of education. Rather than beginning primarily with questions about what content should be taught or how much instructional time should be allocated, competency-based education begins with the capabilities that learners are expected to develop and demonstrate.

An outcome-oriented approach therefore requires educational institutions to articulate their expectations with sufficient clarity. Competencies need to be expressed in ways that communicate the intended level and nature of achievement while remaining sufficiently broad to accommodate authentic and complex learning. The formulation of outcomes is consequently a significant curriculum-design activity rather than an administrative exercise. Poorly formulated outcomes can result in fragmented learning, excessive emphasis on easily measurable behaviors, or ambiguity concerning what learners are actually expected to demonstrate (Karrar et al., 2026). Well-designed outcomes, by contrast, can provide a coherent framework connecting program objectives, course activities, teaching strategies, assessment, and graduate expectations.

Johnstone and Soares (2014) identified several principles associated with effective competency-based higher education, including the development of robust and valid competencies, flexibility in learner progression, accessible learning resources, learner support, and secure and reliable assessment. These principles illustrate that CBE involves much more than rewriting course objectives. For an institution to function effectively as a competency-based system, the competencies themselves must be meaningful, learning resources must enable students to develop them, support systems

must respond to learner differences, and assessment must generate credible evidence of achievement.

The emphasis on valid competencies is particularly significant. Institutions must determine whether the competencies they identify genuinely represent the capabilities learners need to achieve the intended educational or professional outcomes. This requires consultation with relevant academic, professional, and other stakeholders and careful consideration of disciplinary knowledge and societal expectations. If competencies are selected primarily because they are easy to measure, rather than because they are educationally important, the resulting curriculum may become overly instrumental. Thus, outcome orientation should be accompanied by critical consideration of the educational purposes represented by those outcomes. The outcome-oriented nature of CBE also creates greater transparency for students. When competencies and performance expectations are clearly communicated, learners have a clearer understanding of what they are expected to achieve. This can strengthen learner agency and encourage students to take greater responsibility for their own learning. Rather than viewing assessment as a process in which teachers determine whether students have adequately completed a course, learners can use competency statements and assessment criteria to monitor their own development and identify areas requiring further improvement. Greater transparency can also strengthen the relationship between learning activities and assessment. When students understand why a particular activity is relevant to an intended competency, they may be abler to recognize the purpose of practice, feedback, and reflection. This can be particularly valuable in higher education, where learners are increasingly expected to become independent and self-regulated. However, transparency depends on the quality of the competency framework. Outcomes that are excessively broad, vague, or numerous may create confusion rather than clarity.

Nevertheless, an outcome-oriented approach does not eliminate the importance of educational processes. Competencies cannot simply be specified and then assumed to develop automatically. Learners require appropriate instruction, resources, opportunities for practice, interaction with teachers and peers, feedback, and sufficient time to engage with increasingly complex tasks. The emphasis on outcomes therefore needs to be accompanied by serious attention to the learning processes through which those outcomes are achieved. CBE can consequently be understood as an approach that seeks to establish a strong relationship between what education intends to achieve and the evidence used to determine whether it has been achieved. This relationship provides the foundation for many of the pedagogical and assessment practices associated with competency-based education. It also connects directly with the theoretical foundations of the approach, particularly theories that emphasize active learning, alignment, mastery, experience, and the application of knowledge.

3 .Theoretical Foundations of the Competency-Based Approach

Competency-based education does not originate from a single educational theory. Rather, it draws on several interconnected traditions, including outcomes-based education, mastery learning, constructivism, experiential learning, adult learning, and performance-based education. This theoretical diversity reflects the multidimensional character of competence itself. Since competence involves knowledge, application, performance, judgement, and continued development, no single theory adequately explains every aspect of competency-based learning. The theoretical foundations of CBE are important because they help explain why particular educational practices are

associated with the approach. For example, the emphasis on active participation can be understood through constructivist theories of learning, while flexible progression is closely related to mastery-learning principles. Authentic tasks and practical demonstrations are supported by experiential and situated perspectives, while learner autonomy and recognition of prior experience are particularly consistent with adult-learning theories. Understanding these foundations therefore helps distinguish CBE from the simple introduction of competency statements into an otherwise conventional curriculum.

3.1 Constructivist Perspectives

Constructivist perspectives are particularly relevant because competency-based learning requires students to actively construct and apply knowledge rather than simply receive information. From a constructivist perspective, learning is not understood as the passive transfer of information from teacher to learner. Instead, learners develop understanding through interaction with ideas, experiences, problems, other people, and their existing knowledge. Competence consequently develops through opportunities to use knowledge meaningfully and to reconsider and refine understanding in response to experience and feedback. This perspective is compatible with the emphasis that CBE places on active learning and performance. If competence involves the ability to mobilize knowledge in particular contexts, then learners need opportunities to engage with tasks that require such mobilization.

Constructivist perspectives also emphasize the importance of prior knowledge. Learners do not approach new educational experiences as blank slates; they bring existing concepts, experiences, assumptions, and skills that influence how new information is interpreted. This has implications for competency-based education because learners may enter program with substantially different levels of prior knowledge and experience. Effective competency-based learning should therefore recognize these differences and provide appropriate opportunities for learners to identify gaps, connect new learning with existing understanding, and develop progressively more sophisticated forms of competence. Biggs' (1996) theory of constructive alignment provides an especially useful framework for understanding this relationship. If collaboration is identified as an intended competency, students need meaningful opportunities to work collaboratively and should receive feedback concerning their contribution to group processes. If communication is an intended competency, learning activities should require students to communicate for authentic purposes and assessment should consider the quality and appropriateness of that communication. If professional judgement is an intended competency, students should encounter situations involving uncertainty or competing considerations rather than being assessed solely through questions with predetermined answers.

However, constructive alignment should not be interpreted mechanically. Complex learning outcomes may require multiple forms of teaching and assessment, and not every learning experience needs to correspond to a single competency in a simplistic one-to-one relationship. A single authentic task may involve knowledge, communication, critical thinking, collaboration, and ethical judgement simultaneously. Indeed, such integration may be essential to developing genuine competence because real-world performance rarely separates capabilities into isolated categories.

3.2 Mastery Learning

Mastery learning is another important foundation of competency-based education. Traditional education frequently assumes that learners progress through the curriculum according to a common timetable. Students typically begin and finish courses at predetermined times, receive broadly similar amounts of instructional time, and are expected to achieve learning outcomes within the same academic period. Competency-based education instead places greater emphasis on whether learners have achieved the required level of competence. In this sense, progression is associated with demonstrated mastery rather than simply completion of instructional time. The literature on CBE emphasizes that students may progress at variable rates and that assessment can be used to determine whether a learner is ready to move to subsequent learning experiences (Gervais, 2016; Johnstone & Soares, 2014). This represents a significant shift in the relationship between time and learning. Time becomes a resource for learning rather than the primary measure of educational achievement.

The principle is based on the recognition that learners differ in prior knowledge, learning experiences, motivation, and the amount of time required to develop particular capabilities. A fixed timetable may therefore result in some learners progressing before they have achieved adequate understanding, while others may spend considerable time revisiting material they have already mastered. A mastery-oriented system seeks to respond to these differences by providing additional opportunities where they are needed and allowing more efficient progression where prior competence can be demonstrated. This principle has important pedagogical implications. Learners who require additional support should have opportunities to revisit concepts, practice skills, receive feedback, and demonstrate improved performance. Similarly, learners who already possess particular competencies may be able to progress without unnecessarily repeating material. Such flexibility can make learning more responsive to individual differences and may contribute to greater learner engagement.

Despite these challenges, mastery learning provides an important theoretical justification for the competency-based principle that learning achievement should take precedence over the mere completion of instructional time. It reinforces the idea that educational systems should be designed around meaningful evidence of what learners have actually achieved. When combined with constructive alignment and appropriate learner support, mastery-oriented progression can help transform CBE from a set of assessment practices into a more coherent approach to educational design.

3.3 Experiential and Authentic Learning

Competence is inherently contextual. Consequently, competency-based education is closely associated with experiential and authentic learning. Learners need opportunities to apply concepts in situations that approximate, simulate, or represent the contexts in which those competencies will eventually be used. This emphasis follows directly from the understanding of competence as the ability to mobilize knowledge, skills, attitudes, and judgement appropriately in particular circumstances. If competence is demonstrated through performance, then learners need opportunities to perform meaningful tasks rather than simply acquire information about how such tasks might be performed.

Authentic learning is particularly important in professional education. For example, developing competence in teaching requires more than understanding theories of pedagogy; it requires the ability to plan instruction, interact with learners, assess learning, respond to classroom challenges, and reflect on professional practice. A

student teacher may understand effective classroom-management strategies theoretically but still encounter difficulty when attempting to manage an actual classroom. Authentic experiences provide opportunities to discover such gaps between theoretical understanding and practical performance and to address them through guided practice and feedback (Johnstone & Soares, 2014). Similarly, competency in engineering, nursing, business, law, education, or information technology cannot be adequately demonstrated through factual recall alone (Klella, 2024). The learner must demonstrate the ability to integrate relevant knowledge and skills in context. An engineering student may need to diagnose a technical problem and justify a proposed solution; a nursing student may need to assess a patient and make appropriate decisions; a business student may need to analyse an organizational problem and develop a defensible strategy; and an information-technology student may need to design, test, and troubleshoot a functioning system (Klella, 2026). These activities involve multiple forms of competence simultaneously and therefore provide richer evidence of learning than isolated factual questions.

Authentic learning does not necessarily require students to enter actual professional workplaces in every instance. Simulations, case studies, projects, role-play, clinical scenarios, laboratories, design tasks, fieldwork, virtual environments, and problem-based activities can all create contexts in which learners are required to apply their knowledge. The essential feature is that the task should require meaningful application rather than superficial reproduction of previously presented information. The closer the learning activity is to the kinds of reasoning and performance required beyond the classroom, the greater its potential to support transfer (Klella & Mrghem, 2024). This connection between academic learning and authentic contexts is particularly important because transfer cannot be assumed. A learner may perform successfully in a highly structured classroom exercise but struggle when confronted with an unfamiliar situation in professional practice. Authentic learning can gradually reduce this gap by exposing students to increasing levels of complexity, uncertainty, and independence. Learners can initially receive considerable guidance and subsequently assume greater responsibility as their competence develops.

4 .Core Principles of Competency-Based Education

Although models vary, the literature identifies several recurring principles. These principles provide a basis for distinguishing competency-based education from approaches that merely include learning outcomes or practical activities. They also demonstrate that CBE is best understood as a coherent educational framework in which curriculum, teaching, learning, assessment, progression, and learner support are interconnected. The precise implementation of these principles may differ across institutions and disciplines.

4.1 Clearly Defined Competencies

The first principle is the explicit identification of competencies. Learners and educators must have a shared understanding of what constitutes successful performance. Clearly articulated competencies provide the foundation upon which other elements of the educational system can be constructed because they identify the capabilities that the program considers essential.

Competencies should be sufficiently clear to guide curriculum design and assessment while remaining broad enough to capture meaningful forms of professional and intellectual performance. Poorly constructed competencies can create ambiguity and

make reliable assessment difficult. If a competency is expressed in vague terms such as "understand professionalism" or "develop good communication," it may be difficult for learners to determine what is expected and for educators to establish whether the competency has been achieved. More useful competency statements should communicate the nature of the expected capability and, where appropriate, the context and level at which it should be demonstrated. Johnstone and Soares (2014) emphasized that effective CBE program require robust and valid competencies. Robust competencies should reflect meaningful capabilities rather than superficial tasks, while valid competencies should genuinely represent the knowledge and performance required for the relevant educational or professional context. Developing such competencies may therefore require input from academic staff, professional bodies, employers, students, graduates, and other stakeholders. The process of defining competencies also requires consideration of their appropriate level of complexity. A program should normally distinguish between foundational competencies and more advanced forms of performance (Klella & Al Garaghoolee, 2026). Early learning may focus on acquiring essential concepts and basic skills, while later learning can require learners to integrate those capabilities in complex and less structured situations. Such progression prevents the competency framework from becoming merely a checklist of disconnected abilities. Clearly defined competencies also support curriculum mapping. Once competencies have been established, educators can identify where and how each competency is introduced, developed, practiced, and assessed throughout a program. This can help prevent important outcomes from being mentioned at program level but neglected within individual courses. It can also reveal unnecessary duplication and gaps in the curriculum.

4.2 Learner-Centeredness

Competency-based education shifts attention from what the teacher covers to what the learner is able to demonstrate. This represents an important movement toward learner-centered education. Instead of defining educational success primarily through the delivery of content, CBE emphasizes the learner's development and demonstrated achievement of meaningful capabilities. Learner-centeredness is closely connected to the recognition that students differ in their prior knowledge, experiences, interests, learning needs, and pace of development (Biemans et al., 2004). A uniform instructional model assumes that learners require broadly similar experiences at broadly similar times. Competency-based approaches have greater potential to accommodate learner differences because progression can be linked more closely to demonstrated achievement than to the simple passage of time. Learner-centeredness does not mean that teachers become less important. Instead, the teacher's role changes from being primarily a transmitter of information to becoming a designer of learning experiences, facilitator, assessor, mentor, and provider of feedback. Teachers remain essential because learners require expert guidance when developing complex knowledge and professional capabilities. The difference is that instructional activity is increasingly organized around creating conditions in which learners can actively engage with and demonstrate the intended competencies.

This shift can also increase learner agency. When learners understand what competencies, they are expected to develop and have access to clear performance criteria, they can take a more active role in monitoring their progress. They can identify strengths and weaknesses, seek appropriate resources, practice specific capabilities, and use feedback to improve their performance. In this way, competency-based education

can support the development of self-regulated learning, which is particularly important in higher education and lifelong learning. However, learner-centeredness should not be equated with complete learner independence. Students may require different levels of guidance depending on their prior experience and the complexity of the competency being developed. Novice learners may need structured instruction and close supervision, while more advanced learners may benefit from greater autonomy and increasingly complex tasks. Effective learner-centered CBE therefore involves providing an appropriate balance between support and independence.

4.3 Mastery and Progression

A central CBE principle is that students should progress when they demonstrate the required level of competence. This distinguishes competency-based progression from strictly time-based progression. In a conventional educational structure, progression is often closely associated with successful completion of courses within a predetermined semester or academic year. Although students may be expected to meet minimum academic requirements, the amount of time allocated to learning is generally standardized. Competency-based progression instead places greater emphasis on demonstrated achievement and asks whether the learner has acquired the required capability before moving to more advanced learning (Frank et al., 2010). The principle of mastery is important because competence is not necessarily developed at the same rate by all learners. Students enter higher education with different levels of prior knowledge, educational experience, confidence, and familiarity with particular forms of learning. A fixed progression model may therefore create difficulties for both learners who need additional time and those who are already capable of demonstrating particular competencies. CBE seeks, at least in principle, to make progression more responsive to these differences. However, flexibility should not be confused with lower standards. Effective CBE requires clear standards and credible evidence that learners have achieved them. Indeed, the emphasis on mastery can require more explicit standards than conventional systems because decisions about progression depend directly on evidence of competence. Institutions must therefore establish defensible criteria describing what constitutes acceptable performance and ensures that assessment processes can apply those criteria consistently.

The mastery principle also changes the way educators may interpret unsuccessful performance. In a highly time-bound system, failure on an assessment may result in a final grade that determines progression regardless of whether the learner later develops the required capability. In a mastery-oriented system, an unsuccessful attempt can instead be treated as evidence of an area requiring further development. The learner can receive feedback, engage in additional learning, and subsequently demonstrate improved performance. This creates a stronger relationship between assessment, learning, and progression. Nevertheless, repeated opportunities for demonstrating mastery require institutional capacity. Flexible progression may require adaptable scheduling, accessible learning resources, effective academic advising, appropriate assessment systems, and mechanisms for tracking individual learner progress.

4.4 Authentic Assessment

Assessment is perhaps the most consequential component of competency-based education. If competencies represent complex capabilities, then assessment must provide sufficient evidence of those capabilities. The credibility of a competency-based program therefore depends substantially on whether its assessment practices can validly

determine what learners know, understand, and are able to do. Gervais (2016) emphasized that assessment in CBE is central to determining whether learners have demonstrated competence and to identifying areas requiring further learning. This dual function distinguishes competency-based assessment from approaches in which assessment is primarily used to produce grades or rank students. In CBE, assessment should generate meaningful evidence about the learner's current level of performance and provide information that can guide subsequent learning.

Appropriate assessment methods may include portfolios, projects, simulations, demonstrations, case analyses, presentations, practical examinations, performance tasks, workplace-based assessments, structured observations, and appropriately designed written assessments. The selection of a particular method should depend on the nature of the competency being assessed. A written examination may be highly appropriate for determining conceptual knowledge, whereas a practical demonstration may be more suitable for assessing technical performance. Complex competencies may require several forms of evidence because no single assessment method is likely to capture every relevant dimension. Authenticity is particularly important when competencies are intended to prepare learners for professional practice. Authentic assessment attempts to reproduce, approximate, or meaningfully represent the kinds of tasks and decision-making processes learners are likely to encounter outside the educational setting. Such assessment can provide stronger evidence of transfer because students must apply knowledge under conditions that resemble those in which the competence will ultimately be used. However, authentic assessment presents challenges. Complex performance tasks can be time-consuming to design and evaluate, and judgements may be influenced by differences among assessors.

4.5 Continuous Feedback

Feedback is another essential element. If assessment is intended to support mastery, it cannot function solely as a mechanism for assigning grades. It must also provide information that helps learners understand the gap between current and desired performance. Feedback therefore represents an important mechanism through which assessment contributes directly to learning rather than simply evaluating learning after it has occurred. Competency-based assessment therefore has both summative and formative dimensions (Gervais, 2016). Formative assessment allows students and educators to identify learning needs before final decisions about mastery are made. Students can use feedback to recognize areas of strength, identify weaknesses, reconsider strategies, and make targeted improvements. Educators can similarly use assessment information to modify instruction and provide additional support where necessary. The quality and timing of feedback are particularly important. Feedback provided only after a final assessment may have limited value if learners no longer have an opportunity to apply it. In contrast, feedback provided during the learning process can guide subsequent practice and help learners progressively improve their performance. This is consistent with the mastery-oriented character of CBE, in which learning is viewed as an ongoing process of development rather than a single opportunity to demonstrate achievement.

Feedback should also be sufficiently specific to support improvement. General statements such as "good work" or "needs improvement" provide limited guidance. Effective feedback should identify what has been done successfully, where performance falls short of the expected standard, and what the learner can do to improve. Where

appropriate, learners should also be encouraged to engage in self-assessment and peer feedback, thereby developing the capacity to evaluate their own performance.

4.6 Flexibility

Flexibility is frequently associated with CBE, particularly in relation to pace, learning pathways, resources, and opportunities for demonstrating competence. Some CBE models permit learners to progress through learning experiences at different rates rather than requiring all students to move through content according to a fixed timetable (Johnstone & Soares, 2014). This flexibility can provide opportunities for learners to take greater responsibility for their educational progression and can accommodate differences in prior learning and individual circumstances. Flexibility may also involve recognition of prior learning. Where learners can demonstrate that they already possess a particular competency, requiring them to repeat identical learning experiences may be inefficient. A competency-based system can potentially recognize existing knowledge and skills and allow learners to focus their efforts on competencies that remain undeveloped. Such approaches can be especially relevant to adult learners who bring substantial professional and life experience into higher education.

However, flexibility requires robust systems of learner support. Without appropriate advising, feedback, academic resources, and monitoring, flexible learning can increase rather than reduce inequality. Learners with strong self-regulation skills, extensive prior experience, or greater access to external resources may benefit disproportionately from flexibility, while students who require more structure may struggle to navigate an open-ended learning environment. For this reason, flexibility should be accompanied by clear expectations and structured support. Learners need to know what they are expected to achieve, what resources are available, how their progress will be monitored, and where they can obtain assistance. Flexibility should therefore be understood as structured choice rather than the removal of educational structure.

5. Curriculum Implications

The adoption of a competency-based approach has substantial implications for curriculum design. The curriculum must move beyond lists of topics toward a coherent framework connecting graduate competencies, course outcomes, learning experiences, and assessment. This requires institutions to reconsider not only what is taught but also how different elements of the program contribute to the development of integrated capabilities. A competency-based curriculum therefore begins with the question: What should graduates be capable of doing, and under what conditions should they be capable of doing it? This question changes curriculum development in several ways. First, program-level competencies must be identified. Second, those competencies need to be translated into course and module outcomes. Third, learning experiences must be designed to support progressive development. Fourth, assessment tasks must generate credible evidence of achievement. Finally, the curriculum must provide opportunities for learners to integrate competencies rather than encountering them only as isolated skills within individual subjects. This logic closely parallels constructive alignment. Biggs (1996) argued that curriculum objectives, learning activities, and assessment should be systematically aligned around the performances that learners are expected to achieve. In a competency-based program, this means that the intended competencies should influence decisions throughout the curriculum rather than appearing only in program documentation.

Consequently, competency-based curriculum design should not involve simply adding a list of competencies to an existing syllabus. Such an approach risks producing superficial compliance rather than genuine curriculum transformation. If competencies are added without changing learning activities, teaching approaches, or assessment practices, the program may continue to operate according to a conventional content-centered model despite its competency-based terminology. Curriculum mapping can support this process by identifying where competencies are introduced, developed, and assessed across a program. Such mapping can reveal whether some competencies are overemphasized while others receive insufficient attention. It can also help educators identify opportunities for integration among courses. For example, a program might determine that critical thinking is introduced in first-year courses, developed through disciplinary analysis in the second year, and demonstrated through independent research or professional projects in the final year.

6. Assessment in Competency-Based Education

Assessment represents both the greatest opportunity and one of the greatest challenges associated with competency-based education. Because assessment determines whether learners have demonstrated the intended competencies, it has a direct influence on the credibility of the entire CBE system. If assessment does not accurately represent the competencies specified by a program, there is a risk that students will learn to optimize their performance for the assessment rather than develop the broader capabilities the program intends to cultivate. A conventional examination may efficiently measure certain forms of knowledge, but complex competencies frequently require multiple forms of evidence. For example, a medical student may need to demonstrate knowledge, clinical reasoning, communication, technical performance, ethical judgement, and professional behavior. A single written examination cannot adequately capture all of these dimensions. Similar challenges arise across other professional disciplines. An engineering student may need to design and test a solution, a teacher may need to demonstrate classroom practice, and a business student may need to analyze an organizational problem and defend a proposed course of action.

This creates a significant implementation gap between the theoretical principles of CBE and actual assessment practices. An institution may identify complex competencies at program level while continuing to rely heavily on examinations that measure relatively narrow forms of knowledge. Assessment validity is therefore crucial. Gyll and Ragland (2018) emphasized that competency-based assessment requires careful attention to assessment validity and the quality of evidence used to make decisions about learner competence. The fundamental issue is whether the assessment actually provides appropriate evidence for the competency it claims to measure. If a program claims to assess students' ability to communicate professionally but uses only multiple-choice questions, for example, the resulting evidence may be insufficient to establish authentic communication competence. A strong competency-based assessment system should address at least four questions:

- What competency is being assessed?
- What would competent performance look like?
- What evidence is sufficient to establish competence?
- How will feedback support further development?

These questions help prevent the common problem of treating competency assessment as merely another form of grading. They encourage educators to begin with the intended

capability and then determine what type of evidence would provide the strongest basis for a judgement about achievement.

Assessment criteria and performance standards are particularly important in this context. Learners need to understand what constitutes acceptable performance, while assessors need sufficient guidance to make consistent judgements. Rubrics, rating scales, performance descriptors, structured observation protocols, and assessment guides can support transparency and consistency (Henri et al., 2017). However, these tools must be carefully designed because overly detailed criteria can fragment complex performance, while excessively general criteria can make assessment subjective. Assessment in CBE also needs to distinguish between formative and summative purposes. Formative assessment provides information that supports further learning, while summative assessment contributes to formal decisions concerning achievement. In a well-designed competency-based system, these functions should complement rather than compete with one another. Learners should have opportunities to practice competencies, receive feedback, improve performance, and subsequently provide stronger evidence of mastery.

7. Implications for Teachers and Faculty

The transition toward competency-based education has significant implications for educators. Faculty members must develop competencies not only in their disciplinary areas but also in curriculum design, assessment, feedback, learning analytics, and educational technology where appropriate. This broadening of responsibilities reflects the systemic nature of CBE. Educators are no longer concerned exclusively with delivering disciplinary content; they must also consider how students will develop, practice, and demonstrate the capabilities represented in programmer outcomes. The role of the educator becomes more complex. Teachers must interpret programmer competencies, develop appropriate learning experiences, construct valid assessment instruments, establish performance criteria, provide meaningful feedback, and support students who progress at different rates. They may also need to collaborate with colleagues to ensure that competencies are developed progressively across courses rather than being addressed independently within individual subjects. This can significantly increase the demands placed on faculty. Designing authentic assessment, developing detailed performance criteria, providing individualized feedback, and monitoring competency progression can require more time than conventional lecture and examination models. Faculty members may also need to learn new approaches to assessment and become familiar with technologies that support evidence collection, learning management, digital portfolios, or progress monitoring.

Faculty engagement is therefore a major condition for successful implementation. If educators perceive CBE as an externally imposed administrative requirement, implementation may become superficial, with competency statements added to course documents without meaningful changes to teaching or assessment. By contrast, when faculty members participate in the design process and understand the educational rationale, they are more likely to adapt practices thoughtfully and contribute to continuous improvement. The literature on higher education implementation also suggests that CBE is not simply an instructional innovation. It can challenge established institutional arrangements concerning curriculum design, faculty roles, assessment, student support, funding, and organizational structures (Lurie & Garrett, 2017). This is because competency-based education can affect multiple parts of the university simultaneously. Changes in assessment may influence workload; changes in

progression may affect registration and scheduling; changes in curriculum may require new resources; and changes in faculty roles may require revised workload and recognition systems.

8. Implications for Learners

From the learner's perspective, competency-based education can increase transparency and agency. When competencies and assessment criteria are clearly articulated, students have a better understanding of what they are expected to achieve. Rather than approaching a course primarily as a sequence of topics to be covered, learners can identify the knowledge, skills, attitudes, and forms of performance they are expected to develop. This greater clarity can help students understand the purpose of learning activities and make stronger connections between individual assignments, assessments, and broader programs outcomes.

The transparency associated with CBE can also strengthen students' capacity to monitor their own learning. When performance expectations are communicated clearly, students can compare their current level of achievement with the expected standard and identify areas requiring further development. This can encourage self-assessment and reflection and can help learners become more actively involved in decisions about how they learn. In this sense, CBE can contribute to the development of self-regulated learning, in which students increasingly take responsibility for planning, monitoring, and evaluating their own progress (Gervais, 2016). The approach can also accommodate learner diversity. Students enter higher education with different levels of prior knowledge and experience. Some may have acquired relevant competencies through previous education, employment, professional practice, or other forms of experience, while others may require substantial additional learning and practice. A competency-based system that recognizes prior learning and allows progression based on demonstrated mastery may reduce unnecessary repetition and provide more individualized pathways

However, increased learner autonomy also creates greater responsibility. Students must understand expectations, monitor their progress, respond to feedback, and engage actively with learning opportunities. A system that provides greater freedom without providing sufficient structure can create difficulties, particularly for learners who have limited experience with independent learning. The ability to manage time, identify appropriate resources, interpret assessment criteria, and seek assistance becomes increasingly important. This creates a potential tension within competency-based education. Greater learner autonomy can be empowering, but autonomy without adequate support may disadvantage some learners. Students who are confident, highly self-regulated, or familiar with higher education expectations may find flexible learning environments easier to navigate than students who require more structured guidance. Therefore, learner-centered CBE should not assume that all students possess the same capacity for independent learning (Mulder, 2001). Consequently, learner-centered competency-based education should not simply transfer responsibility from teachers to students. Institutions must provide appropriate academic advising, learning resources, mentoring, and support systems. Students should be guided in interpreting competencies, planning their learning, understanding assessment requirements, and responding constructively to feedback. Support should also be available when learners experience difficulties in meeting competency standards. The relationship between students and teachers may consequently become more developmental. Rather than relying primarily on teachers to determine what students should learn at each stage,

learners can participate more actively in identifying their learning needs. Teachers, however, remain responsible for providing expert guidance and ensuring that students understand how to progress toward the required standard. Effective CBE therefore combines learner responsibility with institutional and academic support.

9. Benefits of the Competency-Based Approach

Several potential benefits can be identified from the literature. These benefits help explain why competency-based education has attracted increasing attention in higher education and professional education. However, they should be understood as potential outcomes rather than automatic consequences of adopting CBE. Their realization depends on the quality of curriculum design, assessment, teaching, institutional support, and implementation.

9.1 Stronger Connection Between Academic Learning and Professional Practice

First, CBE can strengthen the relationship between academic learning and professional practice. By emphasizing application and performance, it encourages students to connect theoretical knowledge with authentic problems. Rather than treating academic knowledge as an end in itself, competency-based education asks learners to consider how knowledge can be mobilized to address practical, professional, and societal challenges (Mulder, 2014). This connection can be particularly valuable in programs with clear professional or vocational dimensions. Students may have opportunities to apply disciplinary concepts through projects, simulations, placements, case studies, practical demonstrations, and other authentic learning experiences. Such activities can help learners understand the relevance of theoretical knowledge and develop greater confidence in applying it.

9.2 Greater Transparency of Learning Expectations

Second, CBE can improve transparency. Clearly articulated competencies and assessment criteria help students understand educational expectations. Learners can identify what they are expected to know and what they should be able to demonstrate, which can make the purpose of individual learning activities and assessments more apparent (Mulder, 2017a). Greater transparency can also improve communication between students and educators. When standards are explicit, students are better positioned to ask questions about their progress and use feedback constructively. Educators, meanwhile, have clearer reference points for designing learning experiences and evaluating performance.

9.3 Flexible Learning Pathways

Third, CBE can support flexible learning pathways. Students may progress according to demonstrated mastery rather than strictly according to time. This can provide greater responsiveness to differences in prior learning, learning pace, professional experience, and individual circumstances. For learners who already possess particular competencies, recognition of prior learning or competency-based progression may reduce unnecessary repetition (Mulder, 2017b). Conversely, learners who require additional time can be provided with further opportunities for practice, support, and reassessment. Such flexibility can be particularly relevant to adult and lifelong learners, whose educational experiences may not fit neatly into conventional semester-based structures. However, as discussed earlier, flexibility must be accompanied by adequate

academic advising, learner support, and clear standards. Otherwise, the benefits of flexibility may not be distributed equally among students.

9.4 Greater Program-Level Coherence

Fourth, competency-based education can strengthen program-level coherence. When competencies are deliberately mapped across courses, institutions can identify gaps, duplication, and progression problems within curricula. For example, curriculum mapping may reveal that a particular competency is introduced repeatedly but never developed to an advanced level. Conversely, another competency may be expected in final-year assessments despite receiving little explicit development earlier in the program (Mulder et al., 2009). Identifying such patterns allows program teams to redesign learning sequences and establish more coherent progression. This can also encourage collaboration among faculty members. Instead of viewing courses as largely independent units, educators can consider how their teaching contributes to the development of broader graduate capabilities. Such an approach can strengthen the relationship between individual courses and the overall purpose of the program.

9.5 Support for Lifelong Learning

Fifth, competency-based education can contribute to lifelong learning by focusing attention on capabilities that learners can continue to develop across professional contexts. The emphasis on transferable capabilities such as problem-solving, communication, critical thinking, collaboration, digital competence, and adaptability is consistent with the increasingly dynamic nature of contemporary employment and professional life. The European competence framework similarly emphasizes competencies in relation to lifelong learning, employability, social participation, personal development, and active citizenship (Mulder et al., 2007). This broader perspective is important because the purpose of higher education extends beyond immediate employment. Graduates may change professions, encounter new technologies, assume different social responsibilities, or need to acquire new knowledge throughout their lives. CBE can support this continuing development by emphasizing the capacity to apply knowledge, learn from experience, respond to unfamiliar situations, and identify areas for further learning. In this respect, competence is not necessarily a fixed endpoint. Rather, it can be understood as a foundation for continued development.

10. Challenges and Criticisms

Despite its potential, competency-based education has significant limitations. The growing interest in CBE should therefore be accompanied by critical examination of its conceptual assumptions, assessment practices, institutional requirements, and possible effects on the broader purposes of higher education. The central challenge is that competence is a complex and multidimensional concept. Attempting to make competence explicit and assessable can improve educational clarity, but it can also create pressures toward simplification and standardization.

10.1 Conceptual Ambiguity

The absence of a universally accepted definition of competence remains a fundamental challenge. If institutions use the same term to mean different things, comparison and quality assurance become difficult (Gervais, 2016; Ayalew et al., 2024). As discussed earlier, competence has been conceptualized from behavioral, functional, cognitive, and

holistic perspectives. Some definitions emphasize observable performance, while others incorporate knowledge, skills, attitudes, values, judgement, and contextual adaptation. These differences matter because the definition adopted by an institution directly influences curriculum and assessment. For example, if competence is defined primarily as the successful completion of observable tasks, assessment may focus heavily on performance indicators. If competence is understood more holistically, assessment may need to consider contextual judgement, ethical reasoning, communication, reflection, and the integration of multiple forms of knowledge. Conceptual ambiguity can therefore produce inconsistency between programs and institutions. Institutions may respond to the complexity of competence by identifying large numbers of competencies, sub-competencies, indicators, and performance criteria. While this can create an appearance of precision, it may also make the curriculum difficult to understand and manage. The challenge is therefore to achieve sufficient clarity without creating unnecessary fragmentation.

10.2 Reductionism

There is a risk that complex educational goals may be reduced to lists of observable behaviors. Not everything of educational value can be easily captured through narrowly defined performance indicators. Critical thinking, ethical judgement, creativity, intellectual curiosity, professional identity, and wisdom often develop gradually and contextually. A competency framework that focuses exclusively on easily measurable behaviors may therefore distort rather than improve education. Reductionism is particularly problematic when institutions equate what is easy to measure with what is important to learn. Some capabilities may be highly significant but difficult to observe directly or assess through standardized procedures (Mulder & Winterton, 2017). For example, intellectual curiosity may influence lifelong learning but may not be adequately represented by a simple performance indicator. Similarly, ethical judgement may involve sensitivity to context, competing values, uncertainty, and consequences that cannot easily be reduced to a checklist. There is also a danger that students may interpret competencies as isolated items to be completed rather than interconnected dimensions of development. If learning becomes organized around satisfying individual competency statements, learners may concentrate on demonstrating minimum requirements rather than developing deeper understanding and professional identity.

10.3 Assessment Complexity

Authentically assessing complex competence is demanding. High-quality performance assessment requires well-designed criteria, trained assessors, appropriate tasks, reliable evidence, and adequate resources. The more authentic an assessment becomes, the more difficult it can be to standardize. Real-world performance often involves ambiguity and multiple acceptable solutions, whereas conventional examinations can provide relatively straightforward scoring procedures. Assessors may therefore need professional judgement to determine whether a learner's performance meets the required standard (Wesselink et al., 2017). This creates potential concerns about reliability and fairness. Different assessors may interpret the same performance differently, particularly when competency criteria are broad or insufficiently specified. Institutions may need moderation procedures, assessor training, multiple assessors, standardized rubrics, and multiple sources of evidence to improve consistency. Assessment complexity can also increase the workload experienced by students. If every competency requires a separate assessment, learners may face excessive assessment demands.

10.4 Faculty Workload

Developing competency maps, authentic assessments, rubrics, feedback systems, and learning resources can increase faculty workload, particularly during the transition phase. The work involved extends beyond writing new learning outcomes. Faculty may need to redesign courses, develop new learning activities, create performance criteria, construct assessment instruments, moderate judgements, provide more individualized feedback, and participate in program-level curriculum mapping (Wesselink et al., 2010). These activities can require substantial time and collaboration. Workload concerns may be particularly significant when authentic assessment is introduced. Evaluating a portfolio, observing a practical demonstration, supervising a project, or providing detailed feedback on a complex performance can require considerably more time than marking automatically scored examinations.

10.5 Standardization Versus Individualization

Another challenge concerns the tension between standardization and individualization. CBE requires clearly defined standards because institutions must be able to determine whether learners have achieved competence. However, excessive standardization can restrict opportunities for learners to demonstrate competence in diverse and authentic ways. Complex competencies may be demonstrated through different pathways. Two students may reach the same level of professional capability through different learning experiences or may produce different but equally valid solutions to an authentic problem (Lassnigg, 2017). An assessment system that permits only one predetermined form of performance may therefore confuse conformity with competence. Institutions must consequently establish standards that are sufficiently clear to support fairness while allowing reasonable variation in how competence is demonstrated. This is particularly important in disciplines where professional judgement, creativity, or contextual adaptation is central.

11. Conclusion

Competency-based education represents an important shift in contemporary educational thinking because it moves attention beyond the transmission and reproduction of knowledge toward the development and demonstration of meaningful capabilities. As discussed throughout this paper, competence is a multidimensional, contextual, and developmental construct that integrates knowledge, practical skills, attitudes, values, communication, judgement, and the ability to apply learning effectively in authentic situations. Consequently, competency-based education should not be understood simply as a method of assessment or as a curriculum organized around lists of learning outcomes. Rather, it represents a systemic educational framework in which competencies, curriculum, teaching, learning experiences, assessment, feedback, and learner progression are deliberately aligned.

The review has demonstrated that several principles are central to an effective competency-based approach, including clearly defined competencies, learner-centeredness, mastery-based progression, authentic assessment, continuous feedback, flexibility, and constructive alignment. These principles can strengthen the relationship between academic learning and real-world application by encouraging learners to demonstrate what they can do with their knowledge rather than merely reproduce information. In this respect, CBE has important implications for contemporary teaching and learning, particularly in educational environments that seek to prepare learners for complex professional, technological, and social contexts.

The approach also offers several potential benefits, including greater transparency of learning expectations, increased learner agency, flexible learning pathways, improved program-level coherence, stronger connections between education and professional practice, and support for lifelong learning. However, these benefits should not be regarded as automatic consequences of adopting competency-based terminology. The effectiveness of CBE depends substantially on the quality of its implementation. Institutions must address important challenges related to conceptual ambiguity, the risk of reducing complex learning to isolated measurable behaviors, the difficulty of designing valid and reliable assessments, increased faculty workload, and the tension between standardized expectations and individual learning pathways.

For teachers, the transition toward CBE requires a reconsideration of professional roles. Educators must move beyond the exclusive transmission of disciplinary content and increasingly act as designers of learning experiences, facilitators, mentors, assessors, and providers of meaningful feedback. Similarly, learners are expected to assume a more active role in monitoring their progress, responding to feedback, and demonstrating mastery. Nevertheless, greater learner autonomy must be supported by appropriate guidance, resources, mentoring, and institutional structures.

Ultimately, the value of competency-based education lies not in replacing knowledge-based learning but in integrating knowledge with meaningful application, reflection, judgement, and performance. A successful competency-based system should therefore avoid treating competencies as isolated checklists and instead recognize their interconnected and contextual nature. Future development of CBE should focus on improving conceptual clarity, strengthening authentic and multidimensional assessment, supporting faculty professional development, and ensuring that flexibility and learner autonomy are accompanied by adequate institutional support.

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