NLN COMPETENCY-BASED EDUCATION TOOLKIT

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Executive Summary

Advancing the health of the nation and global community requires capable educators who ensure that graduates have mastered the knowledge and skills required to safely practice nursing. Competency-based education (CBE) is one approach to achieving this outcome. CBE shifts the learning process from memorizing content to demonstrating mastery and applying requisite knowledge and skills. CBE supports the acquisition of crucial competencies required for professional nursing practice, resulting in safer care delivery. While moving an organization to CBE may seem like a substantial change from traditional instruction and assessment methods, educators and academic leaders can take incremental steps to incorporate components of CBE into programs and institutions, thereby more successfully meeting learner needs.

The need for competent graduates prompted the NLN Strategic Action Group to offer a practical approach to assessing competence in real-world settings using a CBE Toolkit. The primary purpose of this work is patient safety. This innovative toolkit operationalizes the *NLN Vision Statement: Integrating Competency-Based Education (CBE) in the Nursing Curriculum* by providing context for educators to strategically close gaps in what learners are expected to *know* versus what they are expected to *do*. Within the toolkit are resources that assist nursing programs in developing a framework for a CBE curriculum and strategies to collect and use data to facilitate learning and design a systematic evaluation of learning outcomes. Academic leaders agree that nursing education must be transformed to meet the challenges of the future. CBE holds the promise of an outcome where competent new graduate nurses are prepared to transition to practice across all levels of care.

Introduction

In keeping with its mission to promote excellence in nursing education to build a strong and diverse nursing workforce to advance the health of our nation and the global community (NLN, 2024), the NLN in 2022 published a *Vision Statement: Integrating Competency-Based Education (CBE) in the Nursing Curriculum*. This vision statement was designed to provide a framework for faculty to incorporate competency-based education in the curricula.

Makulova et al. (2015) defined a competency-based approach as: "one that has been extended at the beginning of the 21st century in connection with discussions about problems and ways of modernization of education. Innovative education is not only a new way of teaching, but also a new way of thinking. This education is focused not only on the transfer of knowledge, which constantly outdates, but on mastering the core competencies that allow them to acquire knowledge on their own" (p.183). There are several characteristics of competency-based education: 1) it allows students to learn at their own pace; 2) it emphasizes learning outcomes and assessment; 3) it targets competencies that are aligned directly with workplace tasks; 4) it acknowledges learning outside the classroom; 5) it promotes equity and empowers students through individualized instruction (Boucher, 2021); and 6) it connects learning pathways to support learner progression through nursing career roles.

Faculty require a roadmap to assist them in their quest to strategically incorporate CBE in undergraduate and graduate curricula. Therefore, the NLN established the Strategic Action Group (SAG) to develop this Competency-based Education Toolkit. This international group brought together diverse nurse leaders interested in advancing CBE in nursing programs. The NLN core values of caring, diversity and inclusion, integrity, and excellence served as the foundation for guiding this work (NLN, 2024).

This toolkit introduces the implementation and use of CBE in nursing education. The contents include the background of CBE, its framework; what CBE encompasses; how to implement CBE, not only in clinical and simulation settings, but also in the didactic portion of a course; curriculum redesign to include CBE; evaluationt of CBE curricula; and resources to help programs as they begin to integrate CBE into their nursing programs. This toolkit includes resources to facilitate the identification and mapping of key competencies for practice-ready nurses and strategies for nursing programs to integrate CBE into the curriculum, with a particular emphasis on assessments as key for measuring learning and mastery of competencies. Within the toolkit are tools and resources to assist nursing programs as they develop a CBE curriculum, including the collection and use of data for facilitating learning and mastery and systematic evaluation of learning outcomes.

References

Bouchrika, I. (2021). Competency-based education guide. Benefits & differences to traditional education. https://research.com/education/competency-based-education

Hossler C., & Jamtes A. (2021). Competency-based nursing: Reducing cost while maintaining or improving quality. *The Journal of Competency-Based Education*, 6(2).

Makulova, A. T., Alimzhanova, G. M., Bekturganova, Z. M., Umirzakova, Z. A., Makulova, L. T., & Karymbayeva, K. M. (2015). Theory and practice of competency-based approach in education. *International Education Studies*, 8(8). https://doi.org/10.5539/ies.v8n8p183

National League for Nursing (2024). *Mission and core values*. https://www.nln.org/about/about/core-values

Background of CBE

Competency-based education (CBE) in higher education can be traced back to 1968, when a small number of colleges and universities were funded by the US Office of Education to create programs for primary school teachers (Nodine, 2016). There have been many evolutions of CBE in higher education. Today, CBE focuses not on the transfer of knowledge, which constantly becomes outdated, but on mastering the core competencies that allow students to acquire knowledge on their own (Makulova et al., 2015). CBE models are flexibly paced programs of learning in which progress toward a degree is determined by what students demonstrate they know and can do, regardless of the amount of time spent in a classroom (Hillard et al. 2018).

CBE is a learning model that focuses specifically on student outcomes in the form of demonstrating knowledge and skill mastery of identified key competencies (Hillard et al., 2018). There are many

elements and aspects of competency-based education including flexible time limits, individualization and customization to student needs, assessment and mastery of outcomes, and visible connections between student learning and students' career aspirations (Hillard et al. 2018; Nodine, 2016). Learning is accomplished independent of time, allowing learners to control the pacing of their journey, thus allowing for greater flexibility for learners. These characteristics make CBE a good fit for adults who have other responsibilities beyond their education, such as family and work.

CBE focuses on student outcomes and the demonstration of skill mastery of competencies. This happens multiple times during the student's learning journey. Through CBE, learning material is inherently tailored for the individual learner. This allows for greater customization, as the learner can spend more time on material not yet mastered and less time on material where competency has already been demonstrated. As students demonstrate mastery of learning competencies, they can move through a course, having obtained the foundational knowledge necessary to be successful in the courses to follow. Courses should be designed in such a way as to allow students to see connections between the learning material and their workforce goals.

How Can CBE Be Tailored to Schools?

CBE can be tailored to meet the needs of various learning institutions including traditional, hybrid, and nontraditional academic delivery models (Gravina, 2017). In a traditional setting, CBE begins with developing competencies, aligning those competencies to learning outcomes, and assessing mastery through test scores and written assignments. In a hybrid setting, students meet in a classroom or online during a traditional semester at traditionally set intervals. Students cannot progress until certain competencies are met through mastery assessment. In a nontraditional setting, the time parameters are removed, and students' progress through their learning at their own pace.

References

Hilliard, T., Bushway, D., Krauss, S., & Anderson, N. (2018). *Solving the four big problems facing CBE for underprepared college learners, Next-Generation CBE*. Jobs for the Future, https://eric.ed.gov/?id=ED588451

Gravina, E. W. (2017). Competency-based education and its effect on nursing education: A literature review. *Teaching and Learning in Nursing*, 12(2), 117–121. https://doi.org/10.1016/j.teln.2016.11.004

Makulova, A. T., Alimzhanova, G. M., Bekturganova, Z. M., Umirzakova, Z. A., Makulova, L. T., & Karymbayeva, K. M. (2015). Theory and practice of competency-based approach in Education. *International Education Studies*, 8(8). https://doi.org/10.5539/ies.v8n8p183

Nodine, T. R. (2016). How did we get here? A brief history of competency-based higher education in the United States. *The Journal of Competency-Based Education*, 1(1), 5–11. https://doi.org/10.1002/cbe2.1004

Implementing CBE

CBE requires greater attention to, and investment in, the assessment of outcomes because time is not assumed to be sufficient as a surrogate for competence (Gruppen et al., 2016). Evidence of competency attainment can take many forms and use various modalities. Assessment evidence must be evaluated using criteria derived from the definition of competence and the program outcome goals (Gruppen et al., 2016).

Schools can modify various aspects of CBE to meet their current curriculum and program requirements. Using the traditional, hybrid, and nontraditional models of CBE allows schools to tackle CBE in bite-sized pieces. Learning institutions can choose which aspect(s) to start with when transitioning to CBE, for example, the experiential experience portions of the course(s), the didactic portion of the course(s), a cointegration of the two, or even just focusing on one course and slowly integrating the methodology into the whole program. Using a backward design, schools can look at their program learning outcomes, and then course outcomes, to identify the best fit for CBE. Once faculty know the desired student outcomes for the course, those are developed into competencies. Subsequently, faculty can determine the assessment(s) that best assesses competency attainment.

Stakeholder Buy-In

The initial step in the implementation of CBE is to ensure there is commitment at all levels of the college or university. The best way to start the process and ensure commitment is to illustrate the benefits of CBE. Some benefits of CBE include flexibility and individualization of learning to meet the needs of students. This permits students to take ownership of their learning and provides a more individualized path to course and program completion. With a more self-paced pathway for students, CBE reduces time-to-completion costs for students (Bral & Cunningham, 2016). This individualization also allows learning to be the key driver of the education process versus time in a seat.

CBE also aligns with a more flexible faculty model for institutions of higher learning (Kelly-Cortez & Hossler 2020). With more self-directed learning, faculty models of teaching and learning become more flexible, which can allow the academic institution to utilize faculty differently and with greater impact. This can include a disaggregated faculty model where subject matter experts focus on their areas of expertise, including curriculum development, content delivery, assessment development, evaluation, and/or student academic coaching. The focus becomes student learning and the best way for students to achieve mastery of the content versus maintaining a traditional faculty model. CBE also allows schools the ability to adjust to the needs of the market and workforce trends, while embedding a process for continuous improvement.

As part of the buy-in process, certain items must be in place to ensure a successful move to CBE. The first is strong and stable institutional and instructional leadership. The shift to CBE can be a prolonged process, and, as such, you need a strong and supportive leadership team to provide the resources required to ensure a successful transition. Second, you must determine how your institution is planning to measure credit hours for your courses, not only for your institution but also

how your institution plans to oversee incoming transfer credit. Third, the institution needs to determine what is included in the transcript and how that is read and interpreted by other institutions, especially if the institution is considering a competent/not competent model, also known as pass/fail.

A final consideration is vendor management. It is important to choose vendors carefully, depending on your learning modality and your learning management system (LMS). The learning resource vendors you choose for competency-based education must have resources developed that allow faculty to assess competency mastery. If the resources are not already competency based, this requires faculty to create the competency bridge between student learning resources and CBE tenets of learning. The LMS must be designed in a way to facilitate learning delivery and assessment of CBE content.

Exemplars

Many schools have successfully implemented CBE. Some institutions have moved completely to CBE, while others are at various stages of adopting CBE for certain programs, courses, and activities. For example, Western Governors University, which was founded in 1997, is the largest school in the nation that uses CBE. This university was founded on the principles of CBE and all programs and courses have the full CBE model, including self-paced learning and a competent/not competent grading model. Walden University also offers many CBE programs, including nursing. Walden has adopted a direct assessment model for its CBE programs. Direct assessment CBE programs focus on the student's attainment of defined competencies, rather than clock hours, used to define credit equivalency. Competencies at Walden use a mastery, achieved, and did not achieve grading model.

References

Bral, C., & Cunningham, J. (2016). Foundations of quality in competency-based programs: Competencies and assessments. *The Journal of Competency-Based Education*, 1(3), 118–121. https://doi.org/10.1002/cbe2.1027

Gruppen, L. D., Burkhardt, J. C., Fitzgerald, J. T., Funnell, M., Haftel, H. M., Lypson, M. L., Mullan, P. B., Santen, S. A., Sheets, K. J., Stalburg, C. M., & Vasquez, J. A. (2016). Competency-based education: Programme design and challenges to implementation. *Medical Education*, 50(5), 532–539. https://doi.org/10.1111/medu.12977

Kelly-Cortez, K., & Hossler, C. (2020, September). *Competency-based education: Transforming the traditional education model*. National League for Nursing Education Summit, Washington, DC.

Orientation to CBE

As you design your transition to CBE, there must be an orientation strategy for faculty. The first step in this plan is to engage faculty early in the transition process. Faculty need to be part of the decision-making from the very beginning of the process to create the level of commitment necessary for a successful transition.

CBE has many definitions and attributes; thus, leaders must ensure that the model the institution plans to adopt is fully developed and articulated to all key stakeholders, highlighting the benefits of CBE. The implementation plan requires a strategic and intentional focus before starting the transition. The transition process needs to be conveyed from a change management lens. The faculty and staffing plan must be thoroughly designed and shared with faculty well in advance of any shift. The staffing plan needs to include a focus on continuous student support and program improvement. Flexibility must be built into the design. Questions that need to be answered include questions about the elasticity of the model for students and how the model can be successfully implemented by faculty. These questions will surface during the implementation phase and should be examined carefully before the model rolls out.

The curriculum must be meaningful and have measurable assessment(s) that determine and validate competence. Professional development is required in the early phases, and the redosing of the principles of CBE through professional development will need to be built into the process. The table below provides a sample framework for implementation.

	Traditional higher educational model	Looking toward CBE	Implementing CBE	Fine-tuning and expanding CBE	Leading and sustaining CBE
Primary Objective	Identifying ways to improve the success of the program.	Understanding what needs to happen for CBE roll-out and obtaining buy-in from all key stakeholders.	Taking the first steps to implementing CBE in selected course(s) or program(s).	Fine-tuning and expanding CBE across a program.	Documenting ROI on efficiency and quantity in education and link to learner and patient outcomes.
Competency Framework	None	Learning about competency frameworks and using regulatory agencies for guidance.	Implementing a competency-based education framework.	Participating in shaping competency frameworks.	Leading research and development of competency frameworks.
Curriculum Scaffolding	Siloed blocks	Siloed blocks with scaffolding of competency in selected courses	Cross-course competency integration with scaffolding	Program-wide competency integration with scaffolding	Cross-program competency integration with scaffolding
Assessment Data	Assessments from Didactic, Sim, and Clinical are isolated	Assessments from Didactic, Sim, and Clinical are isolated	Assessments from Didactic, Sim, and Clinical are manually integrated	Assessments from Didactic, Sim, and Clinical are integrated	Assessments from Didactic, Sim, and Clinical are streamlined and integrated

	Traditional higher educational model	Looking toward CBE	Implementing CBE	Fine-tuning and expanding CBE	Leading and sustaining CBE
Tracking Tools	Very basic, pen and paper	Few tools, usually hand-made, not integrated	Some tools are integrated and talk to one another.	Most tools are integrated and talk to one another.	Most tools are integrated and talk to one another.
Faculty expertise in CBE	No engagement in CBE	Trained in CBE	Delivering CBE	Widespread expertise and regular training	Upskilling, attracting CBE research grants
Learner competency performance data	No visibility on learner competency	Sporadic access to learner competency	Access learner competency	Access to fully integrated programmatic competency	A lifelong learner with an e-portfolio of competency

Table I: Sample Implementation Framework

Faculty and Student Roles in CBE

Competency-based education requires a shift from input to learning outputs, and this also necessitates a modification of the traditional role of faculty and instructors. The role of the educator is realigned from exclusively focusing on delivering knowledge to guiding and assessing the application of knowledge. "Most crucially of all, college staff have shifted their role from teaching to tutoring functions, in the sense that their expertise in needs analysis, individual program design and evaluation has become more crucial than their ability to present materials entertainingly to a class" (Burke, 1989).

Faculty and instructors must transfer their teaching strategies to focus on assessing what knowledge their learners can demonstrate, what and where remediation is required, and strategies to guide learners to needed resources, content, and applicable practice opportunities. Alternatively, students need to take ownership of their learning process and understand the expectations in a competency-based education system. Students must feel empowered in their learning using a competency-based education framework that requires students to practice self-regulation and self-assessment (Wittman-Price & Gittings, 2021). Faculty and instructors should set clear expectations for all learning experiences so that students can appreciate how preparatory work or reading will be applied (Forneris & Fey, 2018).

CBE Curriculum Alignment

Introduction

To integrate competency-based education in a school of nursing, it is essential to reimagine the current curriculum and consider beginning with the end in mind. An important step in reimagining a CBE curriculum is to map the current state of the curriculum and focus on preparing practice-ready nurses by the end of the program. Curriculum design in CBE is learner-centered and outcomes-focused and revolves around prioritizing knowledge, skills, and attitudes needed to perform as a professional nurse. There are numerous ways to implement a CBE nursing curriculum, including traditional time-based models and nontraditional self-paced models. It is important to understand the needs of the current student population when developing a competency-based curriculum and to remember that the curriculum should be designed in a manner that is student-centered and free from bias.

Backward Design

As nursing programs adopt CBE, applying the concept of backward design to existing curricula is a manageable endeavor. The process enables educators to realign instructional components with learning outcomes. Backward design is a framework rooted in the principles of planning, including clearly defining objectives, aligning activities and assessments with the objectives, and integrating real-world examples that are meaningful and relevant to learners. Starting with the end goal, such as defined competencies, nurse educators systematically work backward to ensure the curriculum equips students with the skills and abilities necessary for working in evolving health care systems. Understanding concepts and skills taught in the classroom is essential for application in practice, and teaching strategies must engage students in the learning process (Cline & Rinaldi, 2023; Emory, 2014).

Wiggins and McTighe (2005) detail a conceptual framework that serves as a guide for educators designing a particular unit, sharing the three sequential stages of planning a backward design – identify desired results, determine acceptable evidence, and plan learning experiences and instruction.

1. In the first stage, educators clarify learning outcomes and prioritize content to be addressed within a reasonable timeframe.
2. The second stage challenges educators and curriculum planners to consider pertinent assessments and evaluations that will determine student understanding and proficiency.
3. The third stage focuses on selecting specific teaching methods and materials that will lead students to achieve the desired results, closing the gap between current understanding and the identified goals.
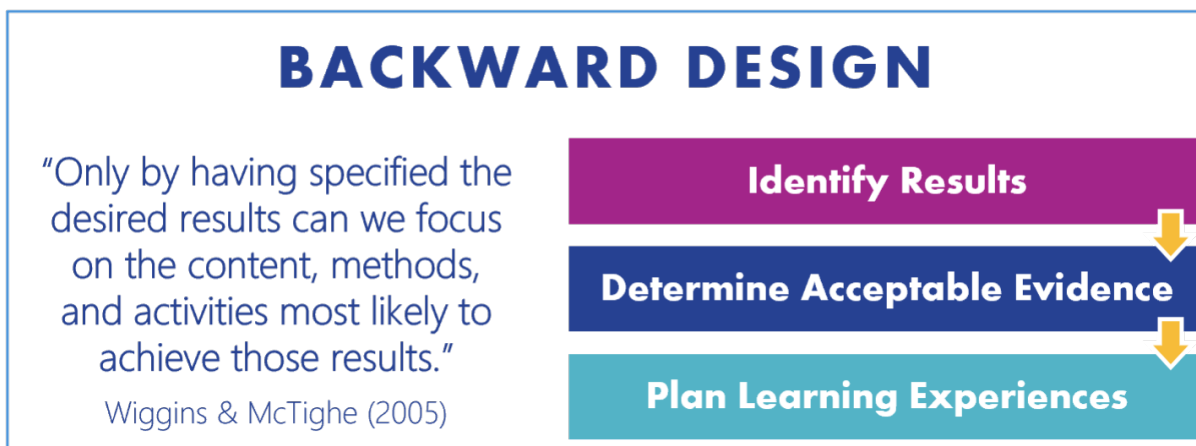
Figure 1: Backward Design Model

Establishing Competencies & Learning Outcomes

The implementation of backward design represents a strategic shift toward outcome-based learning where program goals inform the content, teaching methods, and assessments used within the curriculum. This approach begins with clear learning outcomes, concentrating on what students should know, understand, and be able to accomplish not only at the program's conclusion but also at the end of each semester, course, and class session.

Competencies

Nursing competencies must be aligned with current and future health care needs (Lewis et al., 2022) and centered on clearly defined and measurable learning outcomes.   This alignment ensures that the education provided is relevant and capable of preparing students for the situations and challenges they will face in practice (Bral & Cunningham, 2016). Program competencies are refined to reflect the knowledge and skills students are expected to acquire and demonstrate upon program completion (Johnstone & Soares, 2014). Competencies will vary from general to specific, depending on the learner's level. Each competency should include a statement that is concise, clear, specific, measurable, and focused on the learner's performance. The development of these competency statements should involve a collaborative approach, incorporating a variety of reputable sources to ensure thoroughness and relevance (McIntryre-Hite et al., 2018; NLN, 2023).

Scaffolding is an effective strategy that offers multiple opportunities for students to progress toward mastery by building on previously learned skills and behaviors applied to new contexts or situations. When expected competencies are scaffolded across the curriculum in a deliberate, organized, and meaningful way, learners can attain higher order outcomes that reflect greater degrees of nursing competence. By grouping competencies into learning themes, content becomes more manageable for learners.

Learning Outcomes

After broad areas of competency are determined, aligning program outcomes to desired competencies can begin. It is essential to structure the curriculum so that learners are systematically introduced to each competency and provided with ongoing opportunities to continue to develop

and master them. After establishing clear alignment between key nursing competencies and end-of-program outcomes, a review of existing courses and their sequence within the curriculum must occur. Using a holistic approach, evaluate the intent and purpose of each course to establish when and how learners will develop specific competencies. Then organize the courses to ensure their outcomes align with end-of-program outcomes, identify assessments for these competencies, and create opportunities for students to achieve various competencies.

A linear representation of the process follows in Figure 2:

Development of Learning Outcomes						
Competency Domain & Associated Performance Expectations (integrated knowledge, skills, and abilities)	End of Program Outcome (EPO)	Scaffolding of subcompetencies (introduced, reinforced, or mastered)	Course Name	Course Learning Outcome	Learner Assessments (Formative and Summative)	Learning Activities
Safety and Infection Control: *Protecting clients and health care personnel from health and environmental hazards.*	School-Specific Outcome Statement	Semester 1 & 2: Introduced Semester 2 & 3: Reinforced Semester 2, 3, & 4: Mastered	*Course A* *Course B* *Course C* *Course D*	*Outcome A1* *Outcome B1* *Outcome C1* *Outcome D1*		

Overarching Nursing Competency Statements → End of Program Outcomes → Determine Timepoints for Competency Attainment → Identify Courses that Support Competency Development → Course Learning Outcomes → Competency Assessments → Learning Activities

Figure 2: Outcomes & Assessments

In nursing education, determining broad domains of competency would be the initial step. Program outcomes should be created, revised, and maintained in alignment with competencies that all learners can consistently demonstrate independently. Before specifying course learning outcomes, especially when transitioning existing curricula using competency frameworks, it is helpful to consider which competencies should be achieved at specific programmatic time points and identify courses that are best suited to learners' development of such competencies. Once opportunities for scaffolded learning and course sequencing are considered, course outcomes, competency assessments, and learning activities can be determined.

A representation of how competencies should align with program outcomes, courses, and learning assessment is contained in the resource section.

Assessment and Evaluation

In a backward design approach, the next step involves considering the assessments to ensure students can demonstrate proficiency through various methods. Educators should offer diverse assessment measures to develop competency and provide individualized feedback for ongoing improvement. We acknowledge that exams will always remain integral for confirming knowledge and readiness for licensure and practice in nursing education. However, they should not dominate grade percentages as they do not align with competency-based assessment principles. Educators should incorporate a mix of formative and summative evaluations, as well as direct and indirect assessment opportunities.

A key to CBE is using formative assessment and feedback to track student progress toward the demonstration of competence in summative assessments of courses. Prioritizing individualized feedback ensures that students understand precisely where they need improvement. While this may initially seem daunting for faculty, it is important to reconsider our role, not just as the provider of knowledge, but as coaches guiding its application. Additionally, leveraging self-assessment, peer evaluation, and automated assessment methods can help alleviate faculty workload.

Transitioning to CBE requires a change in assessment focus, emphasizing students' ability to demonstrate competencies rather than relying solely on traditional performance metrics. In addition to assessing clinical knowledge, noncognitive skills like professionalism and teamwork must also be evaluated. Assessments should include activities and assignments designed to help students attain desired outcomes at both course and program levels. Utilizing direct and indirect assessment methods offers insights into student learning, skill development, and program effectiveness. These methods encompass performance tasks and objective assessments, utilizing multiple types of assessment to actively engage students and gauge their competency levels. In line with the concept of backward design, Johnstone, and Soares (2014) reiterate the importance of aligning assessments with the stated learning objectives and available resources.

Direct assessment methods involve evaluating students' performance or work to gauge their competence in specific areas. These methods are objective measures, often quantifiable, and provide evidence of students' knowledge and skills related to specific learning outcomes. In clinical settings, faculty observe students performing nursing tasks and procedures and provide immediate feedback about their skills, decision-making, and adherence to best practice guidelines. This is a hands-on approach ensuring that students can effectively apply nursing theory to practice.

Indirect assessments provide immediate access to information but may not offer concrete evidence of student learning. These methods often include observations, reflections, and perceptions, rather than direct measurement of knowledge or skills. Indirect assessments allow educators to gain a deeper understanding of students' overall learning and identify areas for improvement in the curriculum or instructional approaches. Tailoring teaching strategies to better support students enhances the quality of nursing education and prepares learners for successful practice. It is important to have various assessment methods that align with the learners' level and ideally mirror the tasks and responsibilities of nurses in real-life situations.

Competency-based education emphasizes the importance of frequently assessing students using a variety of activities. Regular assessments provide ongoing feedback and promote the development of skills needed in health care. Table 2 offers a sample of commonly used learning activities, aligned competencies that are measurable, and examples of assessment methods.

Learning Activities	Competencies to Assess (KSA)	Methods of Assessment
Case Study	Analysis and interpretation of data	Written assignment Group discussion
Classroom Learning	Foundational knowledge Theory comprehension	Quizzes Exams Class participation
Clinical Experiences	Clinical judgment Patient care Communication skills	Direct observation Debriefing Clinical assessment tools
Concept Map	Conceptual understanding Critical thinking	Concept map analysis Peer review
Evidence-Based Practice Project	Research literacy Synthesis of information Application of evidence	Project presentations Written reports
Patient Education	Health promotion Patient teaching	Role-playing
Reflection Journal	Self-awareness Reflective practice	Rubric
SBAR	Clinical judgment Communication skills	Feedback sessions Rubric
Simulation	Clinical judgment Patient care Communication skills	Direct observation Debriefing Simulation assessment tools
Skills Lab	Technical skills Procedural knowledge	Checklists Skill demonstrations Practical exams
SOAP Note	Documentation Clinical reasoning	Feedback sessions Rubric

Table 2: Sample Assessment Methods

As the use of formative assessment for evaluating competence development grows in nursing education, there is a large need for valid and reliable instruments to be used for best practice. All formative assessments should provide learners with clear, individualized, and actionable feedback for continued competency development.

One framework that has been utilized well in medical education to evaluate competencies is Miller's pyramid. Miller's pyramid is a framework for understanding the progression of clinical competence. It comprises four levels:

1. **Knows**: This level represents knowledge and understanding. Nursing students should possess the theoretical knowledge necessary for nursing practice.
2. **Knows How**: At this level, students should be able to apply their knowledge in practical scenarios. This includes understanding the basic principles of patient care and clinical procedures.
3. **Shows How**: Demonstrating skills and competencies in real clinical situations aligns with this level. Nursing students must showcase their ability to perform tasks, such as administering medications or conducting assessments.
4. **Does**: The highest level of Miller's pyramid signifies that students can independently perform clinical activities. In nursing, this equates to students being able to demonstrate competence in a real-world context (Miller, 1990).

To facilitate progression through these levels, the concept of milestones is crucial. Milestones are specific competencies or achievements that students must reach at various stages of their education. They help educators and students track progress and determine when learners are ready to move to the next level of competence. Milestones should be outlined as part of establishing your learning outcomes and competencies. A limitation of Miller's pyramid as applied in nursing is the nature of the clinical learning environment, where a student's ability to function at Miller's highest level is constrained. Opportunities for students to be independent in nursing care activities are impacted by factors including 1) the ratio of faculty to students in typical clinical rotations; 2) a shortage of qualified nurse educators; 3) patient care experiences that may/may not align with desired competency development; and 4) facility and regulatory restrictions on student activities. Additionally, the evaluation of learning outcomes in clinical environments is compromised by a lack of validated objective assessments (Leighton et al., 2021).

Entrustable Professional Activities (EPAs), a model of competency assessment used in medicine, pharmacy, physician assistant, and dietician programs, may also be useful in nursing education. Expected to be performed competently without direct supervision, EPAs are "units of practice that can be overseen, assessed, monitored, documented, and certified (ten Cate & Taylor, 2021, p. 1107). The application of EPAs in advanced practice (Lipps et al., 2024) and prelicensure (Lau et al., 2020) nursing education has been explored; however, greater development of EPAs that are suited to essential nursing functions is needed before widespread adoption can be realized (Wilson et al., 2021).

Rubric Development

As competency-based learning is outcomes-dependent, rubrics used to assess competency attainment must be developed using specific and transparent language that is consistent with what is being assessed (McIntyre-Hite, 2016). Well-designed rubrics improve objectivity and provide detailed criteria that convey the expectations for the assessment to learners (Dennison et al., 2015). As discussed by Renjith et al. (2015), rubrics are classified as holistic (i.e., score overall performance without regard for individual criteria) or analytic (i.e., judge performance based on individual components of expected performance), and can be generic (i.e., used across tasks based on general criteria) or specific (i.e., constructed to assess specific tasks). Rubric components include 1) a description of the task, assignment, or competency the instrument is used for; 2) a scale by which quality of performance is determined; 3) dimensions or criteria being assessed; and 4) dimension descriptors that describe the level of performance within each scale by level of dimension (Renjith et al., 2015). An iterative process of rubric development that includes pilot testing with learners to determine the functional performance of the instrument, and that uses multiple assessors to assess inter-rater reliability, helps to improve and establish rubric validity (McIntyre-Hite, 2016). Moreover, in discussing rubrics used in nursing education, Stanley et al. (2020) suggested that exceptional rubrics are not only analytic but contain explicit language that describes the learning outcomes that students are expected to achieve.

Most educators are familiar with developing and using rubrics to evaluate assignments outside of clinical experiences. Rubrics that are suitable for use in traditional and simulated clinical environments include the Creighton Competency Evaluation Instrument (C-CEI) and the Lasater Clinical Judgment Rubric (LCJR). The C-CEI has been widely used to assess competency in nursing students (Todd et al., 2023); an updated version of the C-CEI (C-CEI 2.0) has recently undergone psychometric testing and will be available for public use very shortly. The LCJR is another freely available rubric that can be adapted for clinical and classroom learning. Initially designed for use in simulation (Lasater, 2007), the LCJR has also been used to assess clinical learning outcomes. Nearly two decades of research surrounding the use of the LCJR have demonstrated it to be an effective instrument for formative assessment of clinical competencies in prelicensure nursing students (Lasater, 2024).

Teaching Methods and Materials

The final step in backward design is to identify teaching methods and materials that assist learners in meeting desired outcomes. Factors contributing to the persistent knowledge-practice gap in nursing include individual student characteristics (i.e., motivation to learn, learning preferences, and interpersonal factors), the structure of educational environments (i.e., exposures to clinical educators, preceptors, and school curriculum), and the milieu of clinical settings (i.e., exposures to patient populations, time spent in clinical rotations, and interactions with clinical agency staff) (Gassas, 2021). Over a decade ago, Benner and colleagues (2010) called for radical transformation in nursing education and implored educators to teach for a sense of salience (pp. 82-83). While opportunities for contextualized learning have expanded, especially within simulated clinical environments, only 9 percent of new graduates were found to possess essential novice nurse

competencies (Kavanagh & Sharpnack 2021). Transitioning to CBE allows for authentic learning that promotes students' ability to integrate nursing knowledge, skills, and behaviors into patient care activities.

Integrating Classroom, Clinical, and Simulation-Based Learning

Lesson planning is essential when adopting CBE principles into nursing programs. Clear relationships between learned content and its application in real-world settings are a critical aspect of lesson planning, helping ensure that curricula are implemented as planned and reflecting the needs of the practice environment. Frameworks that support higher order learning outcomes and processes for integrating them into classroom, clinical, and simulated learning environments are reviewed below.

Narrative Pedagogy

First proposed as a discipline-specific educational theory in nursing (Diekelmann, 1993), and now widely applied within the sciences and humanities, narrative pedagogy emphasizes the value of shared dialogue to advance holistic learning in nursing. By examining diverse perspectives, reflecting on the meaning of nursing encounters (e.g., nurse-patient, nurse-family, nurse-nurse, nurse-student), and exploring the impacts of nursing care on individuals, communities, and populations, teachers and learners derive a common appreciation of the context for care that facilitates decisions and actions taken in real-world settings. Classroom-based teaching strategies that incorporate principles of narrative pedagogy include Socratic questioning used in conjunction with case-based learning, guided reflection/critique of literature, film, or other media, unfolding case studies, and virtual simulated clinical experiences combined with debriefing.

Situated Cognition

While several educational theories contributed to its development, situated cognition is understood as a process by which connections between knowing and doing are realized (Brown et al., 1995). As espoused by Benner and colleagues (2010), situated cognition allows for the integration of knowledge and know-how, thereby creating effective (and efficient) learning opportunities. Moreover, situated cognition is useful for scaffolding learning in that nursing concepts that build in complexity over time can be introduced as learners move through the curriculum. This helps ensure multiple opportunities for students to practice applying knowledge, skills, and behaviors to patient care situations, receive feedback, and develop competencies. Collaborative learning is integral to situated cognition, as social interactions influence and elevate individuals' abilities and replicate real-world contexts in which concepts are applied. In nursing education, this social context for learning allows for authentic activities that enhance enculturation into the nursing profession. Teaching strategies that incorporate situated cognition include case-based learning, role-modeling and role-play, traditional clinical learning environments, service-learning experiences, and clinical simulation.

Simulation

Simulation has become an invaluable component of nursing education, allowing students to develop clinical skills, practice in realistic contexts, and learn experientially in a safe and controlled environment. Simulation prepares students to face the unpredictable nature of clinical practice with greater capacity for clinical judgment. Practicing in a simulated environment provides students with exposure to patient populations and clinical situations that might not be possible during traditional clinical rotations and affords students greater autonomy in clinical decision-making. When combined with a structured debriefing method, simulation fosters reflective learning and allows students to better appreciate the nuances of nursing care.

Simulation integrates classroom and clinical knowledge in the context of nursing care, fosters capacity for clinical reasoning and ways of knowing, and emphasizes professional role formation. When considered within the framework for CBE, simulation is a superior learning method. In contrast to traditional clinical environments, where the nature of learning is opportunistic at best, opportunities for developing and demonstrating desired competencies can be deliberate with simulation.

The key objectives of the above-referenced frameworks are to develop competence that is transferable to clinical practice. While several teaching strategies aligned to these frameworks are suggested, any activity that affords students multiple opportunities for deliberate practice and objective assessment, combined with the provision of constructive feedback, facilitates competency development. Therefore, the context for care must be considered when designing learning activities, as transferability is crucial for ensuring that nursing graduates are well-prepared to function within dynamic and demanding health care environments.

Teaching Materials

The process of designing learning experiences involves aligning learning resources with the desired competencies and ensuring that these resources are accessible and appropriately scaffolded for learners at different levels (Johnstone & Soares, 2014; McIntire-Hite et al, 2018). Learners need to have access to all learning resources to successfully achieve the competency assessment and learning outcomes associated with that competency. To achieve this alignment, instructors should provide a range of learning resources that stimulate learning and offer various types of interactions. Learning resources must be readily available to learners and scaffolded based on the level of the learner (McIntire-Hite et al, 2018). Variable learning resources can include materials from reputable websites, scholarly research articles, books, videos, and even custom-created content such as recorded lectures (Johnston & Soares, 2014).

These learning resources need to be current, relevant, and grounded in scholarly evidence-based practice. Instructors should continually update and adjust resources based on developments in real-world nursing practice to ensure learners are receiving accurate and up-to-date information.

Call to Action

Despite decades of calls to reform nursing education, operationalizing recommendations and implementing curricular frameworks that are not only useful but applicable to all pathways into the nursing profession has been challenging. Competency-based education, applied to nursing, provides an avenue of common ground across programs, as the emphasis becomes what students can do, as opposed to what students should learn. For too long, nurse educators have felt compelled to teach content, which is understandable (and perhaps comfortable) without demonstrated gains in the practice-readiness of new graduates. When viewed as a whole, transitioning to CBE in nursing curricula may appear daunting. Backward design principles can be used to foster incremental change in nursing curricula one lesson at a time, thus providing an avenue for sustainable change in nursing education. Collectively, nurse educators serve as the greatest influence on the future of the nursing profession. Individually, nurse educators are obliged to serve as agents of change within academic settings, charting the course for the future of CBE.

References

Benner, P., Sutphen, M., Leonard, V. & Day, L. (2010). *Educating nurses: A call for radical transformation*. Jossey-Bass.

Bral, C., & Cunningham, J. (2016). Foundations of quality in competency-based programs: competencies and assessments. *The Journal of Competency-Based Education*, 1(3), 118-121. https://doi.org/10.1002/cbe2.1027

Brown, J. S., Collins, A., & Duguid, P. (1995). Situated cognition and the culture of learning. In P. Murphy, M. Selinger, J. Bourne, & M. Briggs (Eds.) *Subject learning in the primary curriculum: Issues in English, science, and mathematics* (pp. 301-319). Routledge.

Burke, J. (1989). *Competency-based education and training* (1st ed.). Falmer Press.

Cline, G., & Rinaldi, K. (2023). A compelling case for the use of backward design to advance competency-based nursing education. *Nurse Educator*, 48(5), E168–E169. https://doi.org/10.1097/NNE.0000000000001388

Dennison, R. D., Rosselli, J., & Dempsey, A. (2015). *Evaluation beyond exams in nursing education: Designing assignments and evaluating with rubrics*. Springer Publishing.

Diekelmann, N. L. (1993). Behavioral pedagogy: A Heideggerian hermeneutical analysis of the lived experiences of students and teachers in baccalaureate nursing education. *Journal of Nursing Education*, 32(6), 245-250.

Emory, J. (2014). Understanding backward design to strengthen curricular models. *Nurse Educator*, 39(3), 122–125. https://doi.org/10.1097/NNE.0000000000000034

Forneris, S., & Fey, M. (2016). Critical conversations: The NLN guide for teaching thinking. *Nursing Education Perspectives*. 37, 248-249. 10.1097/01.NEP.0000000000000069.

Gassas, R. (2021). Sources of the knowledge-practice gap in nursing: Lessons from an integrative review. Nurse Education Today, 106, 105095. https://doi.org/10.1016/j.nedt.2021.105095

Gravina, E. W. (2017). Competency-based education and its effect on nursing education: A literature review. *Teaching and Learning in Nursing*, 12(2), 117–121. https://doi.org/10.1016/j.teln.2016.11.004

Gruppen, L. D., Burkhardt, J. C., Fitzgerald, J. T., Funnell, M., Haftel, H. M., Lypson, M. L., Mullan, P. B., Santen, S. A., Sheets, K. J., Stalburg, C. M., & Vasquez, J. A. (2016). Competency-based education: Programme design and challenges to implementation. *Medical Education*, 50(5), 532–539. https://doi.org/10.1111/medu.12977

Hilliard, T., Bushway, D., Krauss, S., & Anderson, N. (2018). Solving the four big problems facing CBE for underprepared college learners. Next-Generation CBE. *In Jobs for the Future. Jobs for the Future.*

Johnstone, S., & Soares, L. (2014). Principles for developing competency-based education programs. *Change: The Magazine of Higher Learning*, 46 (2) 12-19. https://doi.org/10.1080/00091383.2014.896705

Kavanagh, J. M., & Sharpnack, P. A. (2021) Crisis in competency: A defining moment in nursing education. *OJIN: The Online Journal of Issues in Nursing*, 26(1). https://doi.org/10.3912/OJIN.Vol26No01Man02

Lasater, K. (2007). Clinical judgment development: Using simulation to create an assessment rubric. *Journal of Nursing Education*, 46(11), 496-50. https://doi.org/10.3928/01484834-20071101-04

Lasater, K. (2024). The Lasater Clinical Judgment Rubric: 17 years later. *Journal of Nursing Education*, 63(3), 149-155. https://doi.org/10.3928/01484834-20240108-05

Lau, S. T., Ang, E., Samarasekera, D. D., & Shorey, S. (2020). Development of undergraduate nursing entrustable professional activities to enhance clinical care and practice. *Nurse Education Today*, 87, 104347. https://doi.org/10.1016/j.nedt.2020.104347

Leighton, K., Kardong-Edgren, S., McNelis, A. M., Fousy-Doll, C., & Sullo, E. (2021). Traditional clinical outcomes in prelicensure nursing education: An empty systematic review. *Journal of Nursing Education*, 60(3), 136-142. https://doi.org/10.3928/01484834-20210222-03

Lewis, L., Rebeschic, L., & Hunt, E. (2022). Nursing Education Practice Update 2022: Competency-Based Education in Nursing. *SAGE Open Nursing*, 8. https://doi.org/10.1177/23779608221140774

Lipps, T., Doucette, J., Moore, J., Chan, T., & Slager, D. (2024, Jan 19). *Reimagining nurse practitioner student competency evaluation*. AACN Doctoral Education Conference; Naples, Fl.

Kelly-Cortez, K., & Hossler, C. (2020, September). *Competency-based education: Transforming the traditional education model*. National League for Nursing Education Summit, Washington, DC.

Makulova, A. T., Alimzhanova, G. M., Bekturganova, Z. M., Umirzakova, Z. A., Makulova, L. T., & Karymbayeva, K. M. (2015). Theory and practice of competency-based approach in education. *International Education Studies*, 8(8). https://doi.org/10.5539/ies.v8n8p183

McIntyre-Hite, L. (2016). A Delphi study of effective practices for developing competency- based learning models in higher education. Competency-based Education, 1, 157-166.

McIntyre-Hite, L. M., Cheney, M., Bever, S. W., Mast, L. J., & Hapka, A. R. (2018). CBEN's quality framework: A case study in its application to CBE curriculum quality standards at Walden University. Walden Faculty and Staff Publications.

Miller, G. (1990). The assessment of clinical skills/competence/performance. AcademicMedicine, 65(9), S63-567

National League for Nursing. (2023). NLN vision statement: Integrating competency-based education in the nursing curriculum. https://www.nln.org/docs/default-source/default-document-library/vision-series_integrating-competency-based-education-in-the-nursing-curriculumd6eb0a1e-1f8b-4d60-bc4f-619f5e75b445.pdf?sfvrsn=b37e7538_3

Nodine, T. R. (2016). How did we get here? A brief history of competency-based higher education in the United States. *Journal of Competency-Based Education*, 1(1), 5–11. https://doi.org/10.1002/cbe2.1004

Renjith, V., George, A., G., R., & D'Souza, P. D. (2015). Rubrics in nursing education. *International Journal of Advanced Research*, 3(5), 423-428.

Stanley, D., Coman, S., Murdoch, D., & Stanley, K. (2020). Writing exceptional (specific, student and criterion-focused) rubrics for nursing studies. *Nurse Education in Practice*, 49, 102851.

Ten Cate, O., & Taylor, D. R. (2021). The recommended description of an entrustable professional activity: AMEE guide no. 140. *Medical Teacher*, 43(10), 1106-1114.

Todd, M. J., Manz, J. A., Iverson, L., Ball, S. J., & Manning, L. (2023). Conceptual framework and content validity for the Creighton Competency Evaluation Instrument 2.0© (C-CEI 2.0©). *Clinical Simulation in Nursing*, 85, 101467. https://doi.org/10.1016/j.ecns.2023.101467

Wittman-Price, R. A., & Gittings, K. K. (2021). *Fast facts about competency-based education in nursing: How to teach competency mastery*. Springer Publishing.

Wiggins, G., & McTighe, J. (2005). *Understanding by design* (2nd ed.). Association for Supervision and Curriculum Development.

Wilson, R. D., Wilson, B. L., 7 Madden, C. (2021). Creating a national standard for prelicensure clinical evaluation in nursing. *Journal of Nursing Education*, 60(12), 686-689. https://doi.org/10.3928/01484834-20211004-01

Strategic Action Group: Toolkit for NLN Vision Statement: Integrating Competency-Based Education (CBE) in the Nursing Curriculum Toolkit

Members

Patricia A. Sharpnack, DNP, RN, CNE, NEA-BC, ANEF, FAAN, Chair
Dean, The Breen School of Nursing and Health Professions
Ursuline College
NLN Chair

Yolanda VanRiel, PhD, RN, MEDSURG-BC, OCN, CNE, ANEF
Department of Nursing
North Carolina Central University
NLN Chair-elect

Cansu Akarsu, EMBA, BSc
Laerdal Medical

Kim-Kelly Cortez, PhD, MSEd, MBA, RN, CNE, NPD-BC
Western Governors University

Amy Kline, MA, RN, CHSE
Laerdal Medical

Jamil Norman, PhD, RN, CNE
College of Nursing
Walden University

Rosemary Samia, MSN, CNS, CHSE
Manning College of Nursing and Health Sciences
University of Massachusetts Boston

Michele Roberts, EdD, RN, CNE, CHSE
School of Nursing
Rutgers, The State University of New Jersey