

# Competency-based Education and Assessment



# Competency-based Education and Assessment

*The Excelsior Experience*

Edited by

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HUDSON  
WHITMAN

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EXCELSIOR COLLEGE PRESS

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# Foreword

Pamela Tate

*President and CEO, CAEL*

Since the Council for Adult and Experiential Learning (CAEL) has been working in the field of prior learning assessment (PLA) and competency-based education (CBE) for over forty years, we have been involved in PLA and CBE at every stage of their development in higher education. What is interesting about the current resurgence of CBE—estimates from a study in 2015 show that over 600 institutions were implementing CBE programs in various stages—is that it is being promoted primarily as a degree completion accelerator and a cost-saver in many states, and as a better way to prepare students for the workforce. In contrast, CBE in its early years—the years during which Excelsior began its competency-based nursing program—was primarily about increasing access for the underserved adult learner and ensuring that their learning would be recognized and counted. The idea that what a person knows and can do is more important than where or how the person learned it, an idea that has inspired both CAEL and Excelsior over the past four decades, is central to both CBE and PLA; this book reinforces my view that Excelsior’s approach to CBE—while responsive to employer needs and to cost savings concerns—still embodies the access goal we have worked so hard to reach. Yes, CBE can accelerate a student’s progress to a degree;

yes, it can save the student money and time—as can PLA; and yes, CBE is likely to enable graduates to be more prepared employees—but we cannot lose the core principle that CBE can open doors for those adults who might otherwise not be able to afford and finish higher education.

As we have carried out an increasing amount of research, training, and consulting with institutions and accreditors in CBE and PLA over the past several years, I have observed several trends: 1) Institutions are confused about what is meant by CBE and what their accreditor's response might be to their CBE plans; 2) Institutions are wary of the Department of Education's mixed messages on CBE, PLA, and other innovations related to non-traditional providers of postsecondary education; 3) Institutions are being pursued by a range of technology vendors with varying levels of expertise and cost proposals, and do not know to what extent these new technologies are useful; 4) Institutions are not doing enough to train their faculty and staff on these approaches so that they can be implemented with both rigor and enthusiasm; and 5) Institutions rarely have the assessment expertise and knowledge to undertake a true CBE approach at the outset—this capability must be built and nurtured over time.

In this complicated climate, Excelsior's book provides not only a good theoretical approach to defining and assessing competencies, but also includes practical, on-the-ground approaches that Excelsior has developed over decades, which can guide many other institutions embarking on this CBE path. The chapters on the two highlighted programs—Excelsior's groundbreaking CBE-based nursing program, built over forty years ago, and its recently-developed CBE business degree—are detailed, straightforward descriptions of program assumptions, design and challenges—all of which can help other institutions navigate CBE waters more easily. I believe that Excelsior can serve as a community of practice leader in this field and that this book is an important contribution to that thought leadership role.

What struck me as I read the book is the importance Excelsior places on having an assessment approach that is built upon psychometric expertise and assessment of performance, while at the same time, pay-

ing close attention to providing students with service and support. In addition, the book describes in some detail how the college has tried to deal with the challenges of satisfying licensing bodies, responding to industry standards, and meeting the skills needs of employers without sacrificing the broader learning goals of an undergraduate degree. The fact that Excelsior is able to draw upon a rich and successful history of CBE in nursing—one that is grounded in valid and reliable assessment—can give others who are newer to the field confidence in how to proceed as well as tactical strategies for embedding CBE approaches in the entire undergraduate experience.

As in any emerging field, there are risks and difficult questions, including: Will the role of faculty be diminished or enhanced? Will institutions attempt to innovate but find that the Department of Education's ambiguity on CBE is creating too much of a barrier to proceed? Can institutions implement CBE initiatives without investing too much up-front in technology solutions? Will students have difficulty transferring if they have been in a CBE program and are moving to another institution without this option? If institutions learn from CBE leaders like Excelsior, I believe they can avoid some of the pitfalls and sustain their CBE efforts—so I am delighted this book is being published especially at this time. CAEL's staff and consultants will certainly be using it as a resource in our next stage of work with colleges and universities.



# Introduction

John Ebersole

*President of Excelsior College*

When the idea of creating a practitioner’s guide to CBE was first proposed, we immediately recognized the time had finally arrived for Excelsior to contribute its expertise. As we monitored the developing national discourse and worked to create a focus for the guide, several observations about CBE emerged: There are and will continue to be multiple and diverging definitions of competency-based education; the number of and types of institutions engaged in the development and implementation of CBE programs is expanding and is not going to disappear any time soon; and, most importantly, the critical role of assessment—that is, how to measure the *application* of knowledge, skills and abilities, not merely its possession—the true foundation of a sound CBE program, was missing from the national conversation. While most agree that a student’s competency must be assessed, there is little information or collective experience about *how* to create and deliver a psychometrically sound assessment of competency. This is where we saw Excelsior’s expertise—four decades of rigorously defining and applying assessment—to be of most use.

A clearer understanding of assessment begins with a brief illustration of Excelsior’s foundational mission, a directive to develop alternative path-

ways to degree completion. In 1971, after its founding by the Regents of the State of New York, the college (which carried the “Regents” name until 2001), with funding and expertise from the Kellogg Foundation, launched a process for earning an associate degree which then, as now, provides the basic education requirement for becoming an RN, a Registered Nurse.

Regents’ model recognized learning gained from experience, as it augmented knowledge required for degree completion. Controversially, clinical skills were not taught as part of our nursing program, and clinical preceptorships were not required (a major bottleneck for traditional programs today). Instead, admission was limited to licensed health care workers with multiple years of experience. This included, over time, a large percentage of LPN/LVNs (80%), senior military corpsmen, paramedics, and licensed health care specialties such as respiratory therapists.

While it was expected that these students would come with considerable clinical experience, we kept with President Reagan’s philosophy: “trust, but verify.” Together, Regents and Kellogg Foundation designed the associate in nursing program to provide content knowledge in a number of areas, and to *assess* (verify) clinical competence. This verification was done through a multi-day, hands-on assessment, conducted under the trained eyes of graduate prepared nurse educators, in a real hospital, with real patients. This continues to be the case.

Decades later, associate degree nursing applicants are still screened for length and type of experience. Those admitted have the option of studying independently or through an online program. Both are now approved for Title IV financial aid. In either case, eight areas of content are assessed and must be passed in order to move to the capstone Clinical Performance Nursing Exam (CPNE). The clinical skills expected of an RN are, as they have always been, verified, measured, assessed, and held as a condition of graduation.

To date, tens of thousands of aspiring RNs have successfully completed the associate degree program, with 18,000 currently enrolled. The student body is large, national, and diverse (90% reside in states other

than New York) and are able to sit for, or transfer, their licensure into every state except, as of 2016, California.

Certainly, competency-based assessment can be considerably more difficult for students; as such, this model has been and is still subjected to frequent review and validation from both a probability and content perspective. While the model has its detractors, it has never been found deficient in either reliability or validity. Several of the more interesting legal challenges we faced and surmounted are addressed at length in the Appendix. We hope educators considering a licensure environment will see these examples as useful cautions.

For those of us who educate adult, posttraditional, or other students outside of the 18-22-year-old sector, CBE is technically not new. It is true, though, that the CBE movement has gained visibility and momentum over the past few years. Due to three factors, the need for quality assessment has snowballed. The first is the increasing irrelevance of the credit hour as a metric. As Amy Laitinen noted in her eye-opening 2012 critique, *Cracking the Credit Hour*, the credit hour may be needed for financial aid administration, but it is little more than a surrogate time in a seat. It doesn't measure outcomes of any type and is not suited to the many forms of alternative instructional delivery that exist today. In contrast, CBE, if it involves rigorous assessment methods, provides some assurance of both learning and an ability to apply it.

The second has come from the Obama Administration and its attempts to see more working adults complete their degrees, thus contributing to our country's economic competitiveness. By recognizing the legitimacy of knowledge gained from experiences outside of a traditional classroom, post traditional students are incentivized through the CBE process by reducing both the cost and the time needed to achieve a degree. A win-win.

The third, and arguably the most important reason for the growth of CBE, is the increasing dissatisfaction of employers with the typical college graduate. The lengthening period between graduation and

employment that many students experience can be attributed partially to the practice of employers seeking a more capable alternative before settling on a recent graduate. If we can demonstrate to ourselves and to employers that it is producing “competent” entrants to the workforce, it is not just the new hire, their alma mater, and the employer who win. We all do.

In the desire to embrace this important form of credentialing, there are reasons for excitement, optimism, and concern. Dr. Paul LeBlanc, president of Southern New Hampshire University, in his testimony before Congress (2015) expressed a need to proceed slowly. While some heard his testimony as a call to limit experimentation and institutional participation, our view is that he is merely emphasizing the great need to get CBE right. Thus, we shall all continue our efforts, but at a pace that allows for conversations, sharing of experiences, lessons learned, and refinements.

In addition to moving too fast, and producing programs under a “let a thousand flowers bloom” strategy, there are concerns about best practices, definitions, and coordination. Where, for instance, can an institution turn for help in creating programs and rigorous assessments that address both the criticism and needs expressed?

This guide provides essential preliminary direction with an emphasis on the principles of assessment, applying the language of assessment, using assessment principles in determining competency, and finally illustrating principles in action. We do not see this work addressing all that is needed, but we believe that through continued sharing of lessons learned, we can build a body of knowledge equal to the need.

In the chapters that follow, Dr. Patrick Jones, Excelsior’s Vice Provost and former head of Excelsior’s Center for Educational Measurement (CEM), with assistance from Dr. Mika Hoffman, Executive Director of Test Development Services within the Center for Educational Measurement, discuss the complexities and need for an assessment process that reliably and accurately determines both knowledge levels and the ability to apply that knowledge in a way that demonstrates true competence. We have all met individuals who have dazzled us with their understand-

ing of a subject or discipline but were ineffective in their attempts to act on, or apply, what they knew. This, as Dr. Jones points out, is what we hope to avoid.

Dr. Mary Lee Pollard and Dr. Karl Lawrence share their perspectives regarding essential ingredients for a successful competency-based program. Dr. Pollard oversees the decades-old and very successful Associates Degree in Nursing program. She and her staff are focused on the needs of thousands of aspiring RN's, who if not for the CBE format, might never achieve the degree, license, salary, and commensurate professional opportunities that come with licensure.

Dr. Lawrence, as dean of the School of Business and Technology, and his executive director of accreditation, Dr. Scott Dolan, are currently leading the college's efforts to create a new competency-based path to an undergraduate degree in business. As you will read, this has been especially challenging as the team had to build consensus around needed competencies, how they are to be assessed, and by whom. While many of the school's faculty are drawn from the business community, there is also a need to include prospective employers in the process.

With our long history comes hard-earned wisdom and many lessons learned. This guide has been created to share those lessons for the benefit of other educators and institutions, our students (who need alternate and sound pathways to degree completion), and ultimately, our nation, as it regains its place in a competitive global environment.



## Chapter 1

# Assessment

### *What We've Learned and Why It Matters*

John Ebersole

*President of Excelsior College*

Tina Goodyear

*Executive Director for Assessment of  
Post-Traditional Instruction, Training, and Learning*

Assessment is one of most important aspects of any competency-based program. It is also one of the more difficult. In essence, assessment provides a type of certification or guarantee that the graduates receiving the degree in this manner have been found competent, not only in terms of their knowledge in a particular discipline, but that they also have the ability to apply that knowledge in an employment setting or for further study at a higher level. Thus, there are a number of questions Excelsior should be able to answer if asked about what many see as a new pathway to a degree, competency-based education. Those kinds of questions may include, “What are the core competencies that have been assessed?” “Who does the assessing?” and most importantly, “How do you know the graduate is competent, especially in the performance assessment?”

It is from these critical questions, and Excelsior's foundation in assessment, that we offer three significant lessons learned when considering assessment in CBE. These lessons frame this guidebook and are each addressed in more detail in the chapters that follow.

**Lesson 1: Assessment, regardless of format or method, must adhere to sound psychometric principles.**

Chapter two will make a strong argument that a well thought out assessment process supports the actions and knowledge to be evaluated, as well as clarifies who will be performing such an assessment. Perhaps, more importantly in the CBE context, the most critical question answered by a sound assessment is how we know the graduate is competent. More specifically, how do we know that our process is reliable, valid, and capable of being defended as statistically accurate? These can be complicated questions requiring skill in the field of assessment to answer. Although Excelsior is fortunate to have this specialized knowledge through its Center for Educational Measurement, and adheres to standards put forth by well-regarded evaluation associations, the college still relies on further confirmation from third-party evaluators, like the American Council on Education (ACE), to validate its process and outcomes. As a result, our oldest CBE degree program in nursing and its assessment procedure (the CPNE, Clinical Professional Nursing Examination), has become widely recognized as meeting the national standards of care and state licensing mandates.

**Lesson 2: Assessment in CBE must include a strong performance component.**

Success in meeting such rigorous requirements hinges on more than simply assessing student knowledge. In CBE, it is critical to assess students' ability to apply knowledge and to assess their performance in terms of meeting competency in the field. As evidenced in the development of Excelsior's CPNE (See Chapter 3), one important step in the CBE process is to create a common language between performance expectations in industry and those of higher education through the development of clear competencies that link to the priorities of both.

Without that crosswalk, performance assessment will not meet validity and reliability requirements. If a CBE-degreed graduate is found to be *not* able to perform functions considered key to a task or job, the negative consequences can be expected to be severe. They will be particularly severe if the inability repeats multiple times, in multiple graduates. As educators, if we do not address the psychometric accuracy of those performance assessments, we will have expended much effort on a process that fails to achieve the desired outcome, and will soon lose all credibility.

### **Lesson 3: Assessment in CBE must align with industry standards and employers' needs.**

Recent interest in CBE may have sprung from the fact that the credibility of higher education has already been questioned by the employment community. There is a wide disparity in the perception of employers and institutions regarding graduates' preparedness for the workforce. This disparity, however, sets the stage for CBE to encourage synergy between the two sectors.

Consider that less than three in ten employers think that college graduates are well prepared for the workplace, specifically in the areas of critical thinking, written and oral communication, and the application of knowledge and skills in real-world settings. Yet over half of academic provosts surveyed report their institutions "very effective" at preparing students for work, with another 40% reporting their institutions as "somewhat effective" (Jaschik, 2014).

Employers cannot wait for the discrepancy in perception to fix itself. To meet demand for qualified workers, companies often create their own skills-based competency training for new graduates. Some estimates indicate that employers are spending, collectively, nearly \$590 billion a year on employee learning through a combination of structured and informal learning; yet, our nation is still experiencing a significant skills gap in high demand areas (Carnevale, 2015).

One important way for institutions to become more active and innovative partners with employers entails aligning outcomes (or competencies) with the needs of those employers, as Excelsior College did in

creating its CBE capstone in the School of Business and Technology (see Chapter 4). This model is premised on the fact that, as both educators and employers agree, knowledge acquisition will do little to improve overall employee and organizational productivity if that knowledge is not readily applicable in the context of the work environment.

These changes are helping to reduce the divide between vocational and liberal education, and CBE—with its focus on assessing the application of skills—has the potential to provide that closure. To be sure, that closure will only be possible if the assessment process proves to be a valid and reliable indicator of results that align with employer expectations and are evidenced by employee performance after hire.

Also of great concern as CBE moves forward is the acceptance of such degrees at the graduate level. In much the same way that CBE must prove its rigor and relevance to industry, graduate programs will need to see continual evidence that our undergraduates are prepared for higher learning. Sound assessment in the CBE environment can help provide assurance that alternative forms of learning meet requirements of the academy as well.

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## Chapter 2

# Principles of Assessment

## *A Primer*

Mika Hoffman

*Executive Director of Test Development Services*

Patrick Jones

*Vice Provost and Former Dean of Assessment*

### Introduction

Although there may be uncertainty in higher education surrounding the definition and viability of CBE, one thing is clear: assessment is critical.

There are two uses of the term “assessment” that need to be disambiguated from the start: the first, which we will address in this chapter, is used to make evaluations of or decisions about **individuals**. The second, also known as outcomes assessment or institutional effectiveness, is used to make evaluations of or decisions about **programs**, and is beyond the scope of this chapter.

In order to make claims about what students know and can do, schools need a clear basis for judgment. Perhaps the most significant takeaway from Excelsior’s experience, then, is the importance of using sound assessment strategies to promote best practices in CBE. Excelsior

began to establish its expertise in direct assessment in the early 1970s, and today the college's Center for Educational Measurement offers over sixty UExcel credit-bearing proficiency exams; our Associate Degree in Nursing (ADN) program was founded as an assessment-based program, and includes a clinical performance assessment, as well as proficiency examinations. Before diving into the details of these competency-based exams, it is important to discuss the principles and strategies that guide the development, scoring, and revision of assessments. The incorporation of these principles and strategies into the context of a competency environment will be illustrated in the chapters that follow.

### Assessment in a CBE Environment

What is assessment? It is more than creating a test that arbitrarily gives anyone who scores more than 90% a grade of "A." It is part of an educational process that includes

- establishing clear, measurable outcomes of student learning,
- ensuring that students have sufficient opportunities to achieve those outcomes,
- systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches expectations, and
- using the resulting information to understand and improve student learning (Suskie, 2009, p. 23).

The second bullet is not part of assessment development itself (although it is important for the quality of the educational program!), but the other three provide a good perspective on the goals of assessment.

All assessments have the same general purpose: to generate information that will be used to make decisions. In educational assessment,

decisions can range from what to focus on in the next lesson to whether a student can be admitted to or graduate from a program. The common thread is that they generate information about the achievement levels of students relative to established guidelines and expectations. In traditional programs, expectations might include “grading on a curve,” in which scores reflect where an examinee ranks in a group, for example in cases in which instructors must limit the number of “A” grades to a certain percentage of the class. Such scoring rules, known as norm-referenced assessment, are useful if you want to rank people. But they are not useful if you want to know whether a student has attained a competency.

In a competency-based education (CBE) program, the guidelines and expectations must be clearly defined based on competency definitions, curriculum requirements, and institutional standards. **CBE requires criterion-referenced assessment:** the score is tied to standards for the competency, and what one student does has no effect on another student’s score.

An important objective in a competency environment is to provide students, faculty and administrators with accurate, precise, and consistent information that can be used to inform teaching and learning activities in real time or to make decisions about student attainment of competencies. These requirements can place a heavy burden on assessment developers and users to assure that assessment methods are effective. To put the burden in context, consider some common challenges in creating a sound CBE assessment.

- It is often difficult for professionals in a given occupation to reach consensus on the definition of professionalism or required competencies within their field, yet such agreement is critical for the creation of measurable competency statements (Epstein, 2007).
- It is important to select assessment content that clearly aligns with the target knowledge, skills, abilities, and competencies, but the assessment results also need to

provide evidence that students have mastered the knowledge, skills, abilities, and competencies, rather than just memorized facts or process steps. Thus, the content cannot be just the same material students have already practiced (Good, 2011, p. 3–4).

- It is difficult to find an assessment format that is both appropriate for measuring the student learning outcomes (knowledge, skills, abilities, and competencies) and that will also produce consistent results, while at the same time keeping costs and staff time requirements at a reasonable level.
- It can be challenging to meet the need for personalized student learning feedback while simultaneously maintaining a standard and consistent approach to assessment.

A deeper look at the fundamental principles of assessment, such as validity and reliability, and their application to the CBE environment can help educators and test developers as they strive to overcome these challenges.

## Validity and Reliability

Given the importance of decisions concerning student progress and the awarding of degrees and credentials, how can schools evaluate the quality of the assessments that form the basis for those decisions? Assessment quality is usually described in terms of **validity** (relating to accuracy) and **reliability** (relating to consistency or precision). The popular media often misuse the terms validity and reliability by discussing an assessment *tool* as valid and/or reliable; in fact, it is the *inferences* based on the results of the assessment, not the assessment tool itself, that should be evaluated in terms of validity and reliability.

The results of a given assessment can be used in valid or invalid ways. For example, scores on a nursing quiz on dosage calculations may