



Getting Started with Competency-Based Education

*A guide to help you plan and execute a
competency-based education pilot program*

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Introduction

The student demographic is changing and many educational institutions are looking for new ways to serve a growing number of non-traditional students and meet the expected demands of working adults. The competency-based education (CBE) model is one option which could hold promise for helping to meet both of these demands. However, a question that we hear from educators time and time again is, *“where do we start?”*

D2L developed this guide for institutions who are just getting started with CBE and are looking for guidance on how to begin to plan and execute a CBE pilot program. In addition to the best practices outlined below, D2L has Advisory Consulting Services available to help you plan and execute your CBE programs when you're ready to move to the next step.

Strategic Planning

The beginning of a CBE program within your organization should happen much the same way any other major change happens—with strategic planning. Implementing a new CBE program is often a significant change and can impact many areas of your routine operations.

The decision to create a CBE program is not one to be entered into lightly and needs to be thoroughly planned and evaluated.

IDENTIFY YOUR GOALS

One of the most important aspects of any CBE program is to first identify your goals.

- Why is a CBE program the right choice for your organization?
- What value will the CBE program bring to your organization?
- What problem are you trying to solve?

The answers to these questions will help you to guide the decision-making process as you develop your CBE program.

ENSURE ORGANIZATIONAL ALIGNMENT

Along with these questions, you must also look at the proposed (or desired) CBE program in light of your organization's mission statement and vision.

- How do the goals of your CBE Program (as identified based on the responses from the previous set of questions) align to (or support) the mission statement?
- How does the CBE program enable your organization to achieve your mission?
- How does the CBE program align to the vision of your organization?
- How will your organization's values actualize through the implementation of a CBE program?
- What resources do you have available within your organization to support a shift to CBE instructional methodology across your organization?

These questions might seem a bit formal or excessive. However, the answers to these questions help provide crucial insight into the needs of your organization and the hopes, aspirations, and expectations of the CBE program. These are also critical elements when determining appropriate performance metrics (which will be discussed a bit later). The performance metrics that you choose to evaluate need to provide evidence to support these hopes, aspirations, and expectations.

Strategic Planning

IDENTIFY STAKEHOLDERS

When planning for a new CBE program, it is essential to identify the key stakeholders within your organization and to assign an executive sponsor (or senior administration sponsor) for the project. It is highly recommended that you gather this collection of experienced leaders together in one room for a strategic planning discussion.

Talk through questions and foster honest and open communication regarding any issues. Key stakeholders should express their honest opinions and concerns so that everyone has an equal understanding of the situation. It is also highly recommended that you make notes of this discussion (either on flip charts, a whiteboard, or some other group discussion medium) so that the input can be distilled and provided back to all of the participants for later consideration.

This information will be extremely valuable moving forward in the project to refer back to if questions or problems arise.

LEVEL-SET

Some foundational level-setting may be needed across the organization before a CBE implementation project can begin. Quite often individuals or groups of individuals have their own conceptual ideas of what CBE means to them and to their discipline. However, rarely are those conceptual ideas consistent across the organization. It is a good idea to have some level-setting conversations at the beginning of the project to get everyone on the same page and to clearly communicate the CBE value proposition of the organization to all of the stakeholders who will be involved. This will help minimize conflicts and misunderstandings during the implementation phase of the project.

DEVELOP AN INTEGRATION PLAN

Internal systems must also be identified for which integrations will be required for a smooth and effective implementation of the CBE program. These could be technological systems or business process systems. Both are equally significant and must be considered. Each will have their own requirements and must be managed and coordinated effectively for a successful implementation.

Strategic Planning

ENGAGE FACULTY

Beyond discussions with key stakeholders, it is also important to engage with internal champion faculty or instructors who completely believe in the goals and vision of the CBE project. These influential members of your faculty or instructor body will be crucial to the initial success of the pilot program and instrumental to the CBE program as it expands beyond the pilot. (See the discussion in the **Implement the Pilot** section for recommendations on selecting courses for the pilot).

CREATE A COMMUNICATION PLAN

Effective and transparent communication is critical to the success of any implementation project. This could include both internal and external audiences to the organization so the information being communicated must be planned accordingly. The communication plan should identify appropriate timelines and specific owners for key deliverables.

An internal awareness communication campaign needs to be created to keep all of the key stakeholders informed of the progress. This communication plan helps stakeholders and other internal audiences feel a connection and sense of ownership for the project.

ESTABLISH PERFORMANCE METRICS

Within the strategic planning for the CBE program, system performance metrics must be identified in order to measure and determine the success of the project. As mentioned previously, the metrics selected should be chosen in coordination with the goals of the program. The selected performance metrics can also be used for continuous program improvement. The results of these metrics should be included in the communication plan to the involved stakeholders and stakeholder groups.

Analyze the Course Design

When planning to build a CBE course, the best practice is to use the backward design instructional design principles. This methodology identifies the learning outcomes, or competencies, which need to be achieved by the student at the end of the course, as the starting point for creating the course. In other words, where do your students need to be, what knowledge, skills or abilities (aptitudes) do they need to demonstrate mastery at the conclusion of the course. It is, therefore, important to ensure that the learning outcomes are well constructed and reflect the targeted competency. This might require a review of existing learning outcomes.

This same approach can also be taken to drill down from a higher level set of competencies (such as competencies at a program or degree level) down to course level student learning outcomes which a student completes within a course. The focus of this paper is on the course level aspect of the process but be aware that the same backward design type of approach can also be used to “deconstruct” the scaffolding of the program to course outcome structure.

After the course level student learning outcomes have been identified, you need to determine how mastery of those outcomes will be evaluated. The type of the assessment must correspond to the level of the knowledge, skill, or ability to be achieved. The assessment type must also be appropriate based on the cognitive level (or affective level) being addressed within the definition of the learning outcome.

EXAMPLE

If the learning outcome requires knowledge or awareness of facts, then a multiple choice exam could be an appropriate type of an assessment activity. However, if the learning outcome requires synthesis and evaluation then a multiple choice exam would probably not be the best choice for an assessment activity. Something like a written essay, a case study project, or a portfolio submission could be a better choice.

Analyze the Course Design

Once those items have been identified, work your way backward and build upon them. The next component in the process is to identify the appropriate course content, resources, materials, formative assessments, and activities which your students should consume in order to master the selected competencies.

The course materials should be selected with the desired outcomes in mind. These materials could take multiple forms, such as video, recorded lectures, podcasts, audio recordings, journal articles, textbooks, open educational resources, etc.

Next, design the learning scenario for the target competency. For instance, what will be the prior learning and summative assessment activities for the competency? What will be the desired mastery level and can a student repeat activities until it is achieved? Then, what specific content material and learning activities will help the student succeed in his summative evaluation? Once this is planned out, it is time to look at the delivery strategy.

The learning scenario and the delivery strategy go hand-in-hand with each other. Consider what the student experience should look like when they go through the course. Decide, for example, if all of the course materials and assessment activities will be visible and available to the students on day one of the course or, will they be released over time or based on other activities or performance within the course.

OTHER QUESTIONS TO CONSIDER

- What will the pace of the course be?
- How will the student know what to do?
- How will the student know what module, content or activity is next?
- How will the student know when activities are due or if there are performance deadlines?

All of these questions provide important details about what the student learning experience should look like and thus how to design the course. Once these learning scenarios (or student learning path experience) decisions have been made, then the appropriate tools from the learning environment can be selected to facilitate the assessment activities and the course materials that you have chosen.

Analyze the Course Design

Within any CBE program, interaction with the student is crucial. It is imperative that the student is able to judge his or her progress and performance within the course. The student needs to know if he or she is on the right track, performing appropriately, and achieving based on the expectations of success within the course.

Monitoring progress within the learning environment provides a great foundational set of information for students to track their progress through a course. Within the learning environment, this information should be available automatically for students with no configuration or setup required. Beyond that information, additional interaction points can be automated based on activities of the student. Remedial materials and encouragement can also be provided to the student when activity attempts are not successful. All of these interaction elements must be planned and configured prior to the course start.

Finally, it is necessary to identify a plan for students who are underperforming or not achieving appropriately. This consists first of identifying what metrics will be used at what points within the course to identify potentially underperforming students. Then, planning the course of action based on that identification. A common first step in this plan is an automated communication to the student notifying them that there is a problem. If that communication does not resolve the problem, then an escalation path must be identified. This could be additional communication from the instructor but it could also be a referral to a learning coach or an academic advisor.

Implement the Pilot

Once all of this critical groundwork has been laid, then the CBE pilot can begin. Testing of the CBE courses should take place. The designed workflow and student learning experience should be tested with demo or “fake” students to verify that the flow happens as intended and that the interaction points and automated communication items happen as designed.

This step might seem obvious, however, this crucial step is often overlooked or trivialized. Significant student workflow issues can easily be identified and corrected through user testing before students are ever exposed to or aware of a problem.

After testing is completed, students can be enrolled into the CBE course and they can begin working through the course materials and assessment activities. During the time of the pilot, student interactions and performance should be monitored closely in case there are problems. If a problem is found, it should be resolved as quickly as possible to reduce the impact on other students within the course. It is also important to make notes of successes during the pilot as well as opportunities for improvement. It is common that items for improvement will be discovered during the pilot process. If the issue is not a critical problem, then it can be improved during the next iteration of the course.

These successes and improvement points should also be communicated to key stakeholders during the pilot and summarized to all stakeholder audiences at the conclusion of the pilot. Having notes or a journal to refer to for this information is very helpful. An ePortfolio can be an effective method for obtaining and collecting these journal entries. It can also provide a convenient method for publishing and sharing those journal entries to others as necessary.

When considering which courses to select for a pilot, the following list of topics can help provide some guidance.

- Select a relatively small number of courses to start with (ideally not more than six—could be multiple sections of the same course)
- The courses are taught by faculty or instructors who are currently teaching and are comfortable using a learning management system (LMS)
- The courses could be either hybrid or fully online
- The courses have a clearly identified purpose (or benefit) for integrating CBE into the course framework
- The courses have a clearly identified optimal student learning path

Measure and Monitor Results

Once the CBE pilot begins, periodic measurement of the selected performance metrics that have been identified for the CBE course provides a method for measuring and documenting the success of the pilot. Measurements should be taken in a timely manner according to the pilot plan so that a comprehensive set of performance data is collected.

Depending on the courses selected for the pilot, if the same course is offered in a traditional education experience and a CBE experience, then it can be useful to complete the same performance metrics in both course sections and compare the results to document the change. This type of A/B testing could also be compared with traditional courses offered in the previous semester with courses updated with CBE components in the current semester.

This measurement process also provides mid-course opportunities for correction if problems are identified which must be remedied before the conclusion of the course.

At the conclusion of the course, it could be beneficial to distribute a survey to the students to collect information regarding their CBE learning experience. That student-driven data provides perspective on the learning experience from the student point of view.

Both qualitative and quantitative measures should be used in the survey with open-ended questions provided to get free text feedback. This type of feedback can be a great source of input for optimizing and improving the course flow of a newly constructed CBE course.

Share the Success

At the conclusion of the CBE pilot, the results which have been measured need to be shared with other internal stakeholders to bring attention to the successes of the pilot. The success results also need to be summarized to external stakeholders to maintain transparency for the process. Details of this sharing process should be documented in the communication plan for the pilot.

In addition to documenting the current performance of the CBE pilot, it is also important to document the CBE program implementation over time as it expands and grows. The longitudinal documentation can provide perspective looking back at implementation strategies that were successful (or not successful) over time.

This step of the process is more than simply documenting the success of the pilot. It is about providing documentation so that the process can be replicated by others.

Some suggested forms for this type of documentation could be:

- Video case studies or an overview of the project which includes interviews with key project stakeholders.
- Internally published journal entries (or consolidated and summarized journal excerpts) to document the process, the success, the challenges, the opportunities for improvement and lessons learned along the way.
- An executive summary of the performance metrics comparing the traditional experience results to the CBE experience results or comparing the pre-and post-CBE results to document the improvements. This summary can focus on the key goals identified in the strategic planning phase of the project and address the successes or areas for improvement related to each of those goals.

Additional Consulting

D2L employs experts with extended experience leading academic programs. The Brightspace community of users includes experts in many fields related to management and delivery of instructional programs and technologies. D2L stands ready to collaborate and coordinate collaboration of grant applications, advanced consulting needs, and research studies related to instruction.

For more information, visit www.brightspace.com/services/advisory-consulting

About D2L

D2L is the software leader that makes the learning experience better. The company's cloud-based platform—Brightspace—is not a common one-size-fits-all learning management system (LMS). It's easier to use, more flexible, and smart. With Brightspace, you can personalize the experience for every learner to deliver real results. The company is also a world leader in learning analytics: its platform predicts learner performance so that you can take action in real time to keep them on track. Brightspace is used by learners in higher education, K-12, and the enterprise sector, including the Fortune 1000. D2L has operations in the United States, Canada, Europe, Australia, Brazil, and Singapore. | www.brightspace.com

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