COMPETENCY-BASED EDUCATION:

THE WHY, WHAT, AND HOW

IN REVIEW

January 31 - March 13, 2019

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Executive Summary

Competency-Based Education: The Why, What, and How (January 31-March 13, 2019) was a massive open online course (MOOC) that invited learners to consider the nature of competency-based education (CBE), why schools pursue it, and the opportunities and challenges educators and others face when implementing it. The course featured schools at various stages of implementing competency-based education, including Crosstown High (a member of the cohort of XQ schools in Tennessee, USA), Montpelier High School (Vermont, USA), and Noble High School (Maine, USA). **Nearly 4,000 educators and others from across the United States and 120+ countries enrolled** and many engaged in reflective activities and assignments, notably working towards the creation of an artifact that would support a conversation around CBE with a stakeholder in their context. We provided guidance for learners to take the class in learning circles, where registered learners from the same context meet in person to discuss course content. It's difficult to know exactly how many learners chose to participate in learning circles. Of 271 respondents to a quick mid-course survey, 27% indicated that they were participants in a learning circle.

“This CBE course has given me the tools to begin developing competency based learning targets, assessments, and rubrics...Moving forward, I plan on using these resources as I develop a curriculum model for next year, and plan to share these changes with my colleagues...”

Competency-based education is something that many schools are experimenting with. We expected that most of our learners would be affiliated with schools who are beginning exploration of CBE. While we did have many learners like this, we also had a sizable amount who were working in schools that had already implemented aspects of CBE. The mix contributed to a lively atmosphere in the forums. It was great to see learners sharing knowledge and interacting thoughtfully and animatedly in response to the videos and readings.

Thanks to XQ's support for certificate coupons, a relatively high percentage of learners signed up for the track to earn a verified certificate. **In total, 659 learners signed up for the verified certificate track, which was 17% of all registered learners—more than triple the rate of our other courses without this support. By the end of the course, 329 of these learners had earned certificates, which is about 50% of the verified learners and 8% of all registrants, which is a higher percentage than in our other courses.** We also observed higher rates of watching videos (35% vs 29%) and submitting assignments (16% vs 4%) in this course compared with our other courses. The people directly enrolled in the course are only a fraction of the educators and community members who are affected. Later in this report, we'll take a closer look at impact and share stories from learners.

Helping learners share and leverage course content was a top priority for this course. All course content was released under a Creative Commons-Attribution 4.0 International license that gave permission for anyone to freely use, adapt, and share materials with attribution. We also created a “Course To-Go,” which is a minimally-formatted, shareable, downloadable version of the entire course in a Google Doc. We believe this has encouraged learners to use the content in new and creative ways, whether that's creating a CBE workshop for parents or a presentation about challenges around implementing CBE for school administrators. In fact, in the days after releasing course to go, one of the consultants from reDesign (the coaches working with Crosstown) came to our office to visit, and she shared that she had already used the Course To-Go to share links with other clients.

We will continue to develop and share content on the open web through mechanisms like workshop guides, video playlists, and more. Exploring approaches like CBE can be useful for schools that are focusing on improving teaching and learning; we are proud to help educators delve into ideas and examples.

Course Overview

Unit 0: Welcome & What is Competency-Based Education?

Learners hear about characteristic elements of competency-based education (CBE).

Unit 1: Why Competency-Based Education

Learners are introduced to the featured schools and hear about why the educators there decided to pursue CBE, as well as what their systems look like. Learners explore research around CBE and begin the assignment they will work on throughout the course: creating an artifact that supports a conversation about CBE with a stakeholder in their context.

Montpelier High School is a public school with approximately 350 students in a small town in Vermont. They made significant changes to their schedule and grading system when they implemented proficiency-based learning.

Crosstown High is a new, urban charter school in Tennessee that opened with approximately 150 ninth grade students. It has a strong focus on project-based learning, in addition to being competency-based. Some classes are team taught to facilitate interdisciplinary learning.

Noble High School is a public school with approximately 1,000 students in rural Maine. They have heterogeneous class groupings, where students of all abilities take classes together. When they adopted proficiency-based learning, they decided to continue using letter grades, but to rethink other aspects of assessment, like retakes.

Unit 2: Competency-Based Education in the Classroom

Learners “visit” classrooms from the featured schools to see what competency-based education looks and sounds like. Teachers and students from those schools share their experiences with CBE, and the challenges and opportunities they’ve encountered.

Unit 3: Considering Competency-Based Education Systems

Learners hear from each featured school about a specific facet of their implementation of competency-based education. Noble High School educators discuss Knight Time, their flex block. Crosstown High teachers and administrators consider the importance of professional development. At Montpelier High School, the principal explains the role of the Principal Advisory Team in the transition to CBE.

By the Numbers

3,967 enrolled learners

659 verified learners

40 median Age

Around **1,000** people have signed into the forums

≈ **6,200** posts

*Note: Not all people who sign into the forums are active.

According to survey data, learners represented approximately

91 unique K-12 schools in the US from **37 states** serving approx.

79,000 students of which **48% are students of color** and

37% are eligible for free or reduced price lunch

4 XQ Super Schools are represented in the forums

There may be more participants from XQ Super Schools who have not identified themselves in the forums.

- **Elizabethton High School**
- **Iowa BIG**
- **Furr High School**
- **Grand Rapids Public Museum School**

Virtual Live Events

Welcome YouTube Live Event (February 6, 2019)

Approximately **90 participants** attended and the recording has been **viewed 921 times** so far. Learners joined us from across the **U.S.** as well as **Saudi Arabia, India, Romania, Spain, Pakistan, Ukraine, Mexico, and Denmark.**

Final YouTube Live Event (March 11, 2019)

We featured two learners who shared their projects from the course. Approximately **47 participants** joined live. The recording has been **viewed 198 times** so far, with participants from the **U.S., Canada, Sweden, Brazil, Columbia, Egypt, Argentina, and South Africa.**

*Location pins from both live events

Research and Impact

The goal of our research was to better understand the backgrounds and motivations of our learners, and how their experiences in the course might have affected their beliefs and practices related to CBE. We collected data from a variety of sources. All participants could access a pre-course survey (N = 1,169, 55% response rate) and post-course survey (N = 367, 17% response rate) within the course platform which asked about participants' interests, background, school context, and attitudes and practices related to CBE. We also conducted interviews during the course with a stratified random sample of pre-course survey respondents (N = 6).¹ We will be sending a follow-up survey to participants at the end of May and conducting follow-up interviews with interview subjects.

The learners in the course had a wide range of prior experience with competency-based education, from learners who had little to no prior exposure to the concept, to experts in the field. **Among learners in K-12 schools, 17% had done nothing related to CBE, 34% said they were “exploring ideas” but had not implemented anything, 30% were just starting to implement CBE, and 16% had been implementing CBE for a while.**

We surveyed course participants on the pre- and post-course surveys about their self-assessed ability to describe and discuss CBE and respond to stakeholder concerns.

Respondents **substantially increased** in their self-assessed ability between the pre- and post-survey, reporting high levels of self-assessed ability on the post survey.

¹ Using pre-course survey data, we randomly selected subjects to contact for interviews with an over-sample of participants in K-12 schools. We interviewed six participants approximately halfway through the course.

At the beginning of the course and end of the course, we asked participants to rate their ability to engage in activities related to implementing competency-based education in school, such as describing different models of CBE or responding to stakeholder concerns about CBE. Across all the survey items we measured, we found that respondents (N = 304) substantially improved in their self-assessment of their abilities related to implementing competency-based education in schools.

Learners reported changes to their professional practice both at the **classroom level** and the **systems level** of their schools and organizations.

- **83% reported having conversations with stakeholders about CBE**
- **75% described changing something about their professional practice**
- **46% reported organizing colleagues to take action in the school/organization**

“I have much better understood the importance of competency vs. grading. I have slowly started to break down the barriers between teacher and student, by allowing the students to have a better understanding of my expectations. In addition, I have been trying to implement time periods where struggling students have the chance to come speak to me about their weaknesses so that we might overcome them together.”

“I work at the state level so the course has helped shape conversations that I have and will have with colleagues and stakeholders.”

“I feel like I’ve taken the time to be more intentional about my learning objectives and goals for students learning—and more direct in sharing those with students.”

“I am engaging in a variety of conversations within my administrative team and with district level supervisors to determine readiness levels and next steps...”

Learner Stories

From our interviews, we are pleased to share two stories of educators who participated in the course. One educator was inspired to experiment and make change in his context during the course. The other educator is laying the groundwork for a CBE pilot that was already in progress at her district's middle school, and is excited to have deepened her knowledge and found new resources to share.

Inspired to make change in a district

"Carl" has spent the last twenty years working in many educational roles, from classroom teacher to assistant principal. Currently he works in the central office of a major US urban school district supporting K-8 teachers in the "planning, preparing and implementation of special education instruction." Carl happened across our course in edX, and enrolled just to "try to gain some insight and learn a few things." However, **the course materials ended up inspiring him to try a different way of tracking student achievement in his district.**

In the process of taking the course, Carl got inspired by the level of internal coherence that he observed in the featured CBE schools. He noticed that in his district there was no coherent "map" that compared state standards, skills, and subject rubrics for special education learners. Working with teams of teachers, he created these maps, and then calculated where students fell on the map in terms of their skills. Teachers were enthusiastic about this idea; some used the maps to communicate areas of strength and challenges to students, while others used them to plan or refocus instruction, based on what they revealed about student skill levels. Carl has been asked to bring this approach to multiple schools in his district, and has gotten good responses from teachers and administrators: "It's almost overwhelming that the feedback has been 'Oh, this is a good idea, this could be useful.' Hands down, I haven't had anyone that was even remotely ambiguous about it."

As a learner in our course, Carl found himself absorbed in the material: "my commute is two hours each way, so I find myself listening to the videos over and over again just to make sure it sinks in." He hadn't been very familiar with CBE to start with, and wanted to know how it was different from what was already being done in his district. As he says:

“I wasn't really expecting to have interactions that would be informative. I really wasn't expecting for questions to be posed that would lead to deeper contemplation or even impact my practice. But that's kind of what happened...in a very subtle way [it] led me to think about my professional practice and...when I talk with the teachers and the teams, [we talk about] how can we be more meaningful and make [teaching] more relevant.”

Preparing for a small-scale CBE pilot

“Gina” is an instructional specialist in a socioeconomically and racially diverse district of 4,200 students. This district is located in a small city on the East Coast of the US. Her role is to provide support for the middle and high school teachers in her district, and she helps them deliver the best possible learning experiences to their students.

Parts of Gina’s district are very traditional, but the middle school is more open to exploring new ways of teaching. The middle school is launching an innovation center soon and a small cohort of teachers are interested in piloting CBE. When she heard about the course through XQ, Gina decided to enroll and use the course “as a lens for building up more resources to work with teachers [participating in the pilot] and educate them more as we work to shift what we’re doing in our classrooms here.” She explained:

“If I’m going to expect my teachers to transition and understand, embrace this mindset and this way of learning, I needed to have a better understanding, and figuring out what that might look like and gathering the resources to help support them, and this was a great way to do that.”

Gina already had some basic familiarity with CBE, but was interested in a deeper dive. She found it particularly valuable to watch the videos with examples of what CBE looked like in classrooms at the featured schools. She is looking forward to sharing readings from the course with her colleagues and using them to spur conversations about their CBE pilot.

Learner Work

In this section, we include some samples of work from learners. We designed activities and assignments to help learners build an understanding of CBE and how it might relate, or not, to their contexts. In Units 0 and 1, learners considered what CBE is and how it affects systems in schools; they chose their stakeholder and goal for their conversation around CBE. In Unit 2, learners reflected on CBE in the classroom and thought about their own context through the lens of some implementation frameworks, as well as creating the first draft of their artifact to support their conversation. In Unit 3, learners took a closer look at various facets of CBE implementation and refined their artifact by adding resources and further reflection.

Activity: Readiness Assessment

Learners considered their own context through the lens of one of several CBE implementation “readiness” assessment tools. Some learners discovered that aspects of their context were already aligned with CBE. For others, the tools were a window into how their school could evolve.

“Through my reading of the assessment tool I have learned that my current school does implement some CBE tools in the classroom. We incorporate personalized learning plans...for gifted and weak students, we work on transferable skills through cross-curricular projects, and we use rubrics to evaluate (especially in English language classes).”

“I found [one of the readiness assessment tools] very enlightening. At first, I was certain that my school would be defined as “traditional” by most measures on the rubric. As I started to analyze the self-assessment tool, however, I began to see growth... [For example, we have] an atmosphere of authentic differentiated learning. Still, we have a long way to go when it comes to our learning pace and our learning program. For those, we are still traditional.”

Assignment 3: Refine Your Artifact

In this assignment, learners created a polished draft of the artifact they had been building throughout the course. The artifact could be in any format, and was meant to support a conversation around CBE with a stakeholder in their context. Learners found many ways to adapt this assignment to their needs. We noticed that the artifacts were often oriented around action. For example, teachers indicated that they were planning to speak to colleagues about making changes in their classrooms, or school leaders described planning to share new ideas and receive feedback from stakeholders. **In our post-course survey, over 60% of respondents reported having conversation with the stakeholder identified in their assignment.**

Chosen Stakeholder: My literacy coach

Goal: "I want to talk about implementing some form of CBE in my 7th Grade classroom next year. (My district is in the process of transitioning to CBE)."

Why make a classroom switch before full school system implementation?

- Increases actual learning of standards vs. grades based on effort
- Provides relevance/meaning for our standards-based report cards
- Students will take ownership over their learning, reducing behavior issues
- Better use of both teachers in co-taught classes
- Focused Lessons and Units of Study can be incorporated
- If successful, could serve as a model classroom for other teachers

Questions, comments, thoughts, potential issues

- Will there be any whole-group instruction if everyone is at a different pace?
- For students who show competency early—provide extension activities or allow them to get ahead (move on to next unit)?
- What to do about students who don't show competency after multiple attempts, even with extensive support?
- How to equate competency scores (1-4) with traditional number grades (0-100) still used by our system?
- How to handle team content planning if the other teacher and/or the co-teacher doesn't "buy in"?
- What other issues might come up? Add your thoughts/questions to the next slide.

Classroom setup

- The room will be organized into a variety of centers, some independent and some small group. For example:
 - Teacher-led mini-lesson
 - Tech center (iReady, DXL, quill.org, noredink.com)
 - Writing station
 - Editing station
 - Conference station
 - Reading center
 - Peer tutoring center
- Competencies will be posted at the appropriate centers.
- Early in the year, students will rotate through all centers on a schedule. The goal would be to allow more autonomous movement after they learn how to use each center and can track their own competencies.

Chosen Stakeholder: High school science team

Goal: "To find out where my colleagues are at with their understanding of and openness to CBE practices and to develop action items to implement in the classroom."

Teachers already do this:

Differentiated instruction:

- Provide students choice in projects to pique interest
- Develop authentic learning experiences for skill development and for demonstrating mastery
- Differentiate modalities of instruction to convey similar content
- Continuous feedback and activities that help students where they're at

A **competency-based model** provides a strong backbone allowing for personalization in the classroom

What do we need?

"COMMON GOALS, COMMON LANGUAGE"

- We need to determine which competencies (bundled standards) that reflect the our school's values
 - Students grow K-12 in these competencies
- We need to develop detailed rubrics (learning continuum) for students and teachers to evaluate growth and proficiency.
- We need to create reliable and accurate assessments that that evaluate these competencies.

Where can we grow from here?

What **next steps** should we take to move in the direction of CBE?

- Can we collaborate as a science team to determine what our competencies should be?
- Can we develop assessments that allow for students to demonstrate proficiency of competencies, or at a minimum, NGSS standards?
- Can we re-evaluate the activities in our classroom so they directly relate to learning targets and help students develop these competencies?
- Can we pick a competency or learning target and develop multiple activities that would allow students the ability to practice?

“The artifact assignment was one of my favorites. We were given choice and voice over design, goal, stakeholder and deliverable. Along the way we utilized feedback from course participants. The rigor and complexity of the artifact increased as we progressed from unit 1 to unit 3. Ultimately, the final product was relevant to our experience and practice of CBE in our unique environments.”

“...I loved that the assignments were designed to be broad enough in their scope to permit me to customize the assignments to fit my personal goals and my professional context.”

Activity: I Used to Think, But Now I Think

At the end of the course, we used a simple reflection tool to help learners think about how their knowledge and mindsets changed throughout the course. The answers to the prompt “I used to think _____, but now I think _____” show that for many learners, the course brought about a change in their conception of CBE and its relevance to their context.

“I used to think CBE was a “thing”; something that you could pick up and implement; purchase training and get everyone on board; something I could take a class on and become “knowledgeable-enough” to share. I now think that CBE is much, much more. It is a change in mindset, habits and hundred year old methods. While I still strongly believe it is the right direction to take, I now have a clearer understanding what we are asking of our staff, students and parents is to take a leap of faith—and that’s difficult and scary.”

“I used to think that CBE was most likely to be implemented in schools whose demography is white and affluent and live in certain zip codes (U.S.A, context). I also thought that students and teachers who would most likely gravitate to this way of learning would be those who had already figured out the “game” of school and could succeed in any school setting. But now I think that CBE if implemented correctly could be a great vehicle for educational equity...”

“I used to think it is just about meeting standards and designing rubrics...but now I think it is really a whole individualized and holistic approach to teaching that does not stand alone but require[s] participation of teachers, parents, students, administrators and even directors and ministries.”

“I used to think that competency-based education was just an improvement to the traditional system [of] education, but now I think that it is an approach to prepare students to be productive citizens in a world of frequent change.”

Sharing Content From the Course

Creative Commons

Allowing learners to freely share and reuse our content is an important part of our mission; we want learners to disseminate and utilize materials in the ways that are most helpful considering their context. To facilitate this process, the course was released under a Creative Commons-Attribution 4.0 International license, which permits sharing and adaptation with attribution. In the post-course survey, approximately half of respondents (51%) said that the course's Creative Commons license affected how they used and shared materials from the course.

In response to the survey question "Please describe how the Creative Commons license affected how you used and shared materials from the course," learners said:

- **"I was able to download the resources and share the content at our team meetings. For example, we used the self-assessment tools, we studied sample student report cards and transcripts, and we held text-based conversations anchored in a few of the articles provided."**
- **"This helped me gain so much information...the shareable material made this worth every penny!"**
- **"It allowed me to discuss and share content with others in my learning community that did not necessarily have the time for the course. Their increased learning will have direct impacts within our school."**
- **"I was able to use the material from this course to create a beginner's guide to CBE course for parents."**

Social Media

Twitter has an active community of K-12 educators who we wanted to reach, whether or not they were enrolled in the course. While we were happy to use Twitter to share content from the course and other resources, we were especially pleased to see learners in the course sharing what they found impactful, including links to resources, and even encouraging others in their network to enroll.

57% of respondents to the pre-course survey reported that they used Twitter within the last month and 42% reported using it for professional learning within the last month. In the post-course survey, 16% of respondents said they interacted with course content through Twitter. Of these respondents, the most common ways they interacted with the course on Twitter was by following the Teaching Systems Lab Twitter account ([@MoocsTsL](#)) (90%), checking the course hashtag ([#cbemooc](#)) (79%), and tweeting with the course hashtag (50%). Here are some examples of the ways our learners shared course resources on Twitter:

Learners shared their favorite quotes from featured schools...

Theresa [redacted] Following

Yes! This is what I love about Competency Based education! "...it allows students of any ability to enter where they are and grow to where they need and want to be."
[#cbemooc](#) [#competencyed](#)

Crosstown High: Competency-Based Education in the Classroom

1:15 PM - 26 Feb 2019

5 Likes

shared course readings with their online networks...

Jean [redacted] Following

Demonstrations of Learning | [#cbe](#)
[#cbemooc](#) [#stuvoice](#) [#choice](#) [#mastery](#)

Demonstrations of Learning
 Competency-based education personalizes how students show mastery by giving them choice in how they're assessed.
[edutopia.org](#)

4:05 AM - 3 Mar 2019

3 Likes

MIT's Teaching Systems Lab MOO...
 @MoocsTsl

Trying to fit MOOCs into teacher's busy lives!
 Thanks for the signal boost, @EDvidence!
[#cbemooc](#) [#dtllmooc](#) [#futuregradsmooc](#)

Tosha [redacted]
 Replying to @Chris [redacted]

Not intentionally trying to add more to your busy schedule... but I'm really enjoying these ED offerings from MIT, @MOOCsTSL. Maybe we could make an Iron Horse sponsored learning group? 😊

9:29 AM - 25 Feb 2019

invited others to learn with them...

Tom [redacted] Following

"Teacher-to-teacher learning is central to change." -@MoocsTsl CBE & School Innovation youtu.be/nfhpHQfah7A
[#cbemooc](#)

CBE & School Innovation
 Justin Reich identifies coherence as a quality that effective schools have. He makes some observations on the nature of school innovation; teacher-to-teacher...
[youtube.com](#)

11:21 AM - 5 Mar 2019

and highlighted their favorite course videos!

Acknowledgments

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