Blackboard

Game change: The theory, practice, and possibilities of competency-based education

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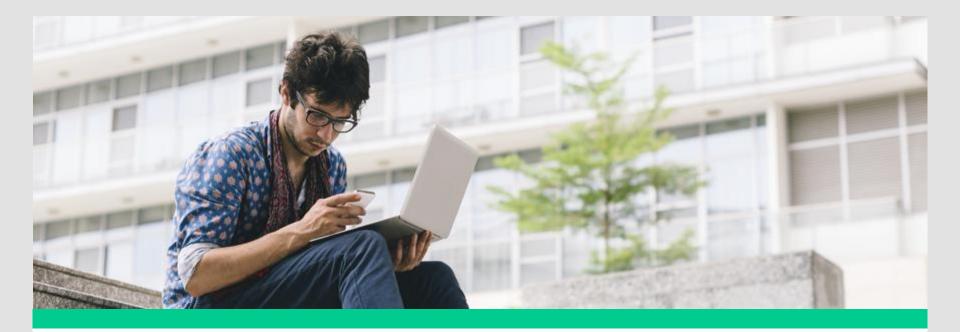
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Agenda

Theory
Practice
What will it take?

Questions and Discussions

Resources



In theory

In theory . . .

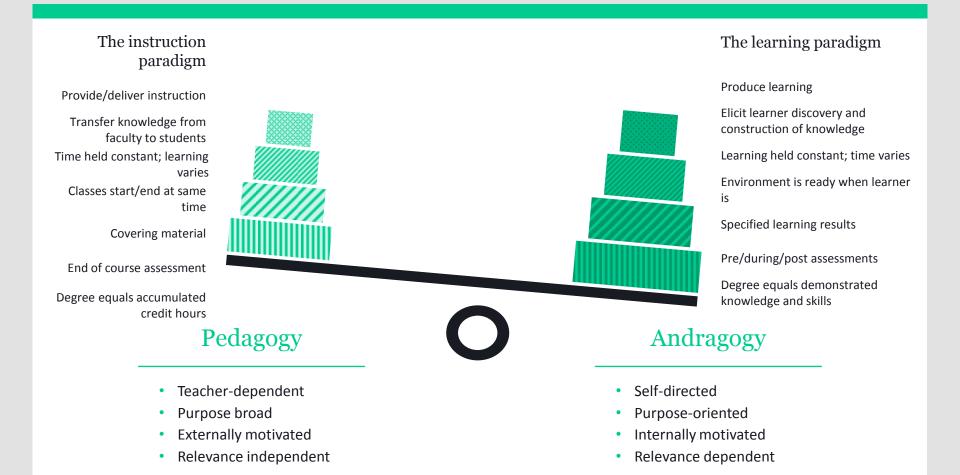
"Transitioning away from seat time, in favor of a structure that creates **flexibility**, allows students to progress as they **demonstrate mastery** of academic content, regardless of time, place, **or pace** of learning. Competency-based strategies provide flexibility in the way that credit can be earned or awarded, and provide students with **personalized** learning opportunities."

U.S. Dept. of Education

Theory that aligns with CBE

The instruction paradigm		The learning paradigm
Provide/deliver instruction	\rightarrow	Produce learning
Transfer knowledge from faculty to students	\rightarrow	Elicit learner discovery and construction of knowledge
Time held constant; learning varies	\rightarrow	Learning held constant; time varies
Classes start/end at same time	\rightarrow	Environment is ready when learner is
Covering material	\rightarrow	Specified learning results
End of course assessment	\rightarrow	Pre/during/post assessments
Degree equals accumulated credit hours	\rightarrow	Degree equals demonstrated knowledge and skills

Drive towards and ragogy



Learning content visibility

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

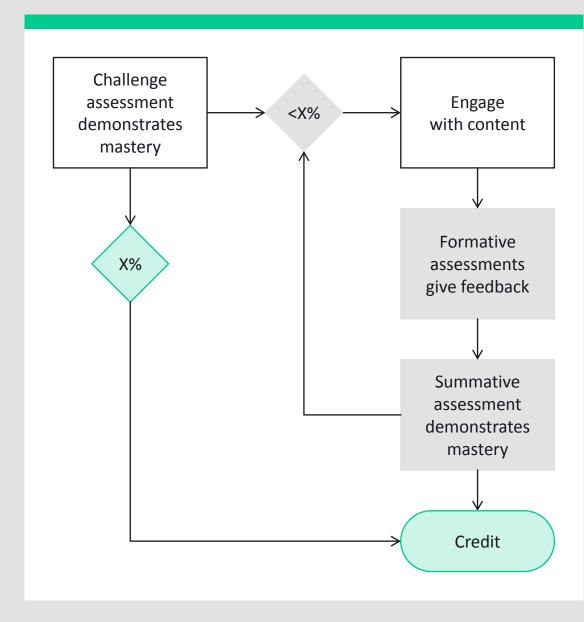
- Describe the differences between relational and hierarchical databases.
- Describe the general organization of a relational database and explain the functions of the basic relational operators.
- Given a list of data elements, code the data description specifications and create the physical files.
- Apply normalization techniques.
- Explain how choices made in defining and creating database files affect disk space requirements and computer performance.
- Plan, design, create and modify a database.
- Document a database.
- Create database objects using SQL commands.
- Retrieve and manipulate data using SQL commands.
- Identify data integrity and security requirements.
- Discuss the meaning and use of BIG Data, data warehousing, and data mining.

Competency Name	Competency Definition	Subcompetency		
Knowledge of	Identifies,	Relational database		
database purpose and structure	defines, of describes the types and nature of databases in a business setting	Hierarchical database		
		Relational operators		
		Data elements		
	business setting	Data specifications		
Knowledge of	Understands	Database manipulation language		
database technology	and applies technology of	Database definition language		
	database usage	Database control language		
		DBMS functions		
		ANSI standard structured query language		
Analysis of	Analyzes the impact of database size and performance on technology	Disc space requirements		
database interference with technology		Computer performance		
		Database objects		
		Data integrity		
		Data security requirements		
Application of	Understands	Database administration		
database operations	and applies the processes of	Database design methodology		
	creating and maintaining	Database design normalization		
	databases	Database back-up		
		Database recover		
Application of database content	Evaluates data needed to	Data creation		
	inform decision-	Table query		
	making in a business setting	Forms and subforms		
		Reporting		

Learner progress visibility

	🔝 Olivia Hafez
	My Monument Courses Community Content Collectio
oal Performance: Olivia Hafez	ments as they relate to broader goals. Results are calculated for the highest goal, but you can select
h smaller goal to learn more about it. You can also see	
	LM View Scale
Data management in healthcare Lead the nursing informatics lifecycle. Competency Foundation	
Data-informed strategy development	> Aligned Course Needs Improvement 0 - 54%
Integrate information technology to align with nursing practice. Foundatio Competency	Apply technical and project management skills to the
Interpretation of healthcare data Interpret clinical nursing practice through	implementation, operation and optimization of healthcare technology. Sub-competency
the lens of nursing informatics. Distinguish	hed Understand and apply change management skills associ
	Understand and apply change management skills associated with the introduction of new technology.
Use of healthcare data Integrate concepts of meaningful use into	Sub-competency
	80.53%

Personalization through selfpacing and coaching





In practice

Shift in delivery

Traditional

Blended Course based Self-paced Modularized Direct Assessment

 \rightarrow

Shift in curricular framework

Major Course Learning Objectives

Upon successful completion of this course the student will be expected to:

- 1. Describe the differences between relational and hierarchical databases
- 2. Describe the general organization of a relational database and explain the functions of the basic relational operators
- Given a list of data elements, code the data description specifications and create the physical files
- 4. Apply normalization techniques
- 5. Explain how choices made in defining and creating database files affect disk space requirements and computer performance
- 6. Plan, design, create and modify a database
- 7. Document a database
- 8. Create database objects using SQL commands
- 9. Retrieve and manipulate data using SQL commands
- 10. Identify data integrity and security requirements
- 11. Discuss the meaning and use of BIG Data, data warehousing, and data mining

Course Content

Topical areas of study include:

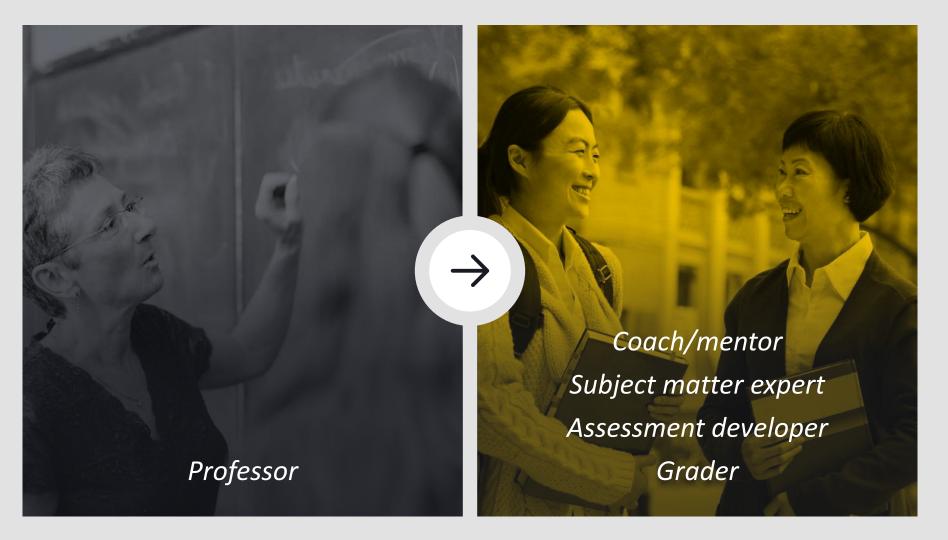
- Creating and managing data
- Multiple table queries
- Developing forms and sub-forms
- Complex reports
- Introduction to Database Management
- Database Administration
- Database Design Methodology
- Database Design Normalization
- Database backup and recovery
- Database administration and security
- ANSI Standard Structured query language (SQL)

Competency Name/Definition	Subcompetency
Knowledge of database purpose and structure Identifies, defines or describes the types and nature of databases in a business setting	 Relational database Hierarchical database Relational operators Data elements Data specifications
Knowledge of database terminology Understands and applies the terminology of database usage	 Database Manipulation Language Database Definition Language Database Control Language DBMS Functions ANSI Std. Str. query Language
Analysis of database interface with technology Analyzes the impact of database size and performance on technology	 Disc space requirements Computer performance Database objects Data integrity Data security requirements
Application of database operations Applies the processes of creating and maintaining databases	 Database Administration Database Design Methodology Database Design Normalization Database back-up Database recovery
Evaluation of database content Evaluates data needed to inform decision-making in a business setting	 Data creation Table query Forms and subforms Reporting

Shifts in assessment practice

Competency	Subcompetency	Assessed			
Name/Description	Description	Formative Assessment	Summative Assessment		
		A is a condition that results when a person ingests a substance.			
		A. Which of the following is NOT true?			
	Analysis of proximal pro-	A. About of the adult American population smokes tobacco.	Effectively analyzes patient behaviors and identifies proximal pro-inflammatory factors		
	inflammatory factors	A. Which of the following statements is NOT true?	including: smoking, diet, inactivity, obesity, alcohol/drugs, pollution.		
Analysis and classification of disease factors		A. True or False: Most of the people who have an alcohol addiction, seek			
Analyzes and classifies		A. Excessive alcohol use increases the risk of			
patient behaviors in order to manage proximal, medial, and distal pro-		A. If you are working with someone as a wellness coach, and they start to	Effectively analyzes patient behaviors and		
inflammatory factors	Analysis of medial pro- inflammatory factors	A. What are some lifestyle behaviors that often worsen anxiety?	identifies medial pro-inflammatory factors including: stress, anxiety, depression, social or peer pressure, psychological factors,		
		A. One of the best lifestyle behaviors to help mental health is	occupation, boredom, technology, genetics.		
	Analysis of distal pro-	C. The local is often a good source of information regarding	Effectively analyzes patient behaviors and identifies distal pro-inflammatory factors		
	inflammatory factors	C is a chemical often used in plastic water bottles, that appears to	including: industrialization, modernity, economic growth		

Shift in faculty roles and practice



Shift in faculty roles

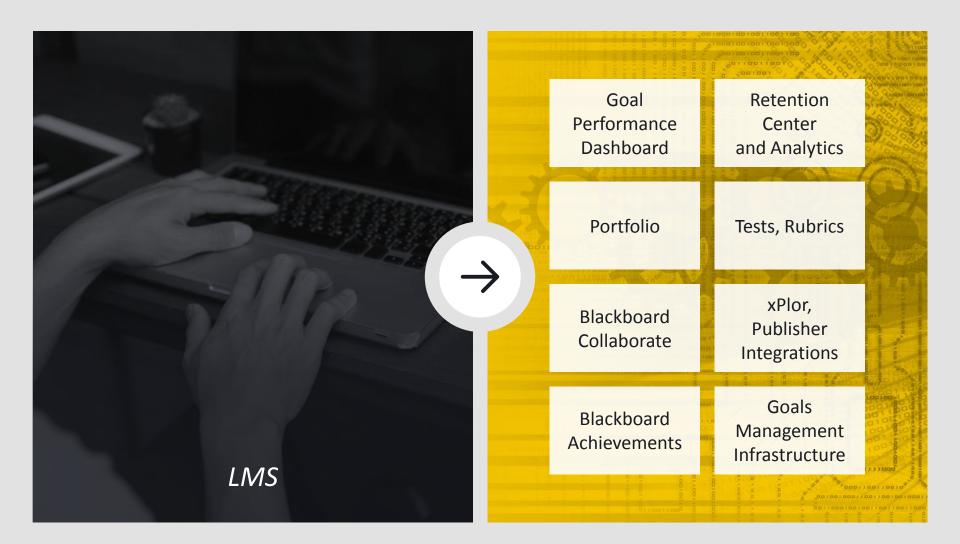
Faculty and coach needs

- Has the student logged into the course?
- How is the student performing on formative assessments?
- Is the student spending adequate time on task in the course?
- How is the student progressing through the summative assessments?
- How is the student progressing through the program?
- What additional help does the student need?
- How can I work with the student to improve their success?

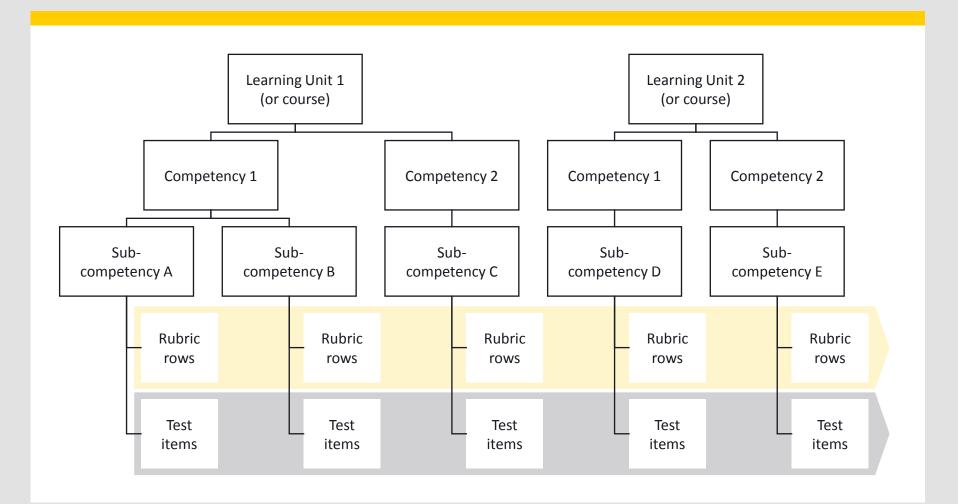
Student needs

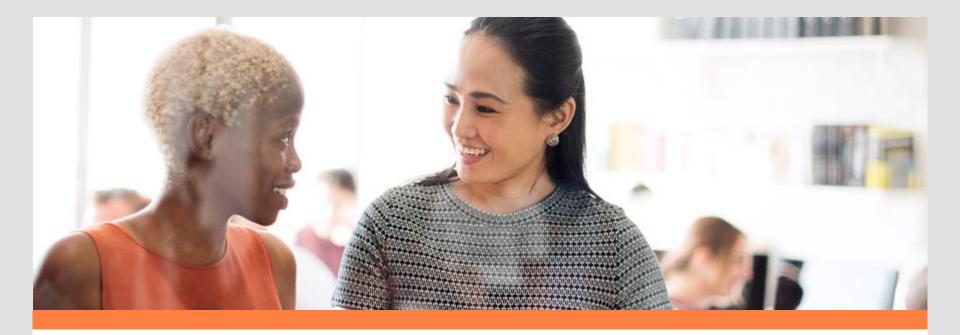
- How did I perform on the formative assessment?
- What areas do I need to brush up on in order to be ready for the summative assessment?
- How far along am I in the formative assessments?
- How far along am I in the summative assessments?
- How far along am I in the program? How many competencies have I completed, and how many do I have left?
- How many times have I taken the summative assessment?
- What tool do I use to engage with my coach or faculty?

Shift in technology



Shift in use of assessment technology





What will it take?

Beyond the course . . .

CBE impacts every section of an institution

Student-facing Non-student-facing *institutional services* institutional services *impacted by CBE* impacted by CBE rin Bursar's Office 1 Registrar's Office Institutional \$ Financial Resources Instructional Design **F** Institutional Research Instructional Support Technology

Comprehensive approach to CBE

Planning

- Academic program demand
- CBE financial model
- Operational process and quality improvement

Preparing

- Regulatory authorization
- Administrative and academic policy
- Staffing model

Orienting

- Faculty and staff ownership
- Competency definition and development
- Assessment design and development

Delivering

- Learning module design
- Quality and accessibility framework
- Technology and platform systems

Supporting

- Academic support services
- Student preparedness development
- Non-academic services

CBE readiness tool

blackboard.com/cbetool

Blackboard

Are You Ready To Go The CBE Distance?

Use this tool from the CBE experts at Blackboard to better understand your current level of readiness to launch a CBE program.

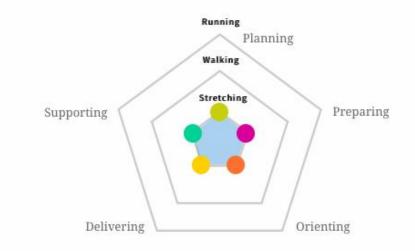
Ready to pick up the pace?

Take Your Mark

Scenario 1: Starting to Stretch

Great! You're Starting to Stretch Your Legs

You are ready to begin - determine where you need help to start developing a strong CBE program.



This is a great first step! Now is the time to make sure that all of your major stakeholders are involved in these conversations. It's not too early to think about what key aspects of your CBE program will look like, such as the financia and staffing models, faculty and staff ownership, and learning module design.

Scenario 2: Starting to Walk

Great! It Looks Like You're Starting To Walk

You are making good ground - focus on areas where you have more challenges to come up to speed.



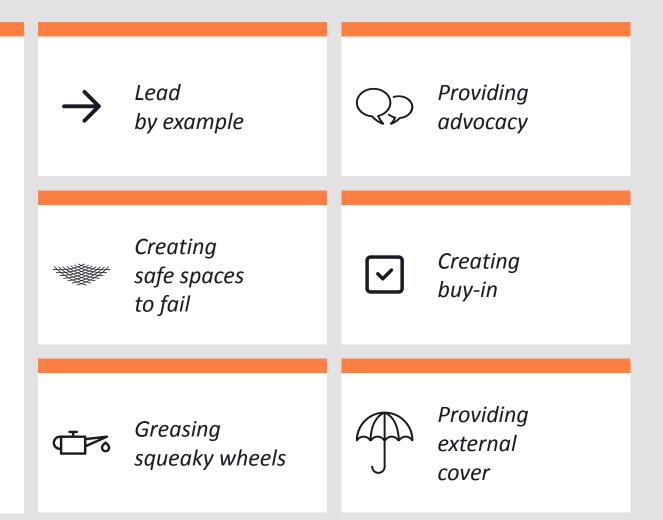
You've moved past those early exploratory converations about the role of CBE at your institution and have made a commitment to move forward with program development. Congratulations! Now is the time to make sure that you have your CBE team assembled and everyone knows the game plan.

Lessons learned

The right leaders matter	Managed growth
Use external facilitators	Rolling implementation
Leave room for fear and questions	Automate processes from the start
Provide ongoing and just-in-time professional development	Leverage instructional designers
Faculty-driven with the right mix of junior and senior faculty	Clarity, consistency, granularity of competencies

Leadership matters

Having the right leaders at every level of the program is critical. It creates buy-in, it means there is an institutional champion, and it greases squeaky wheels



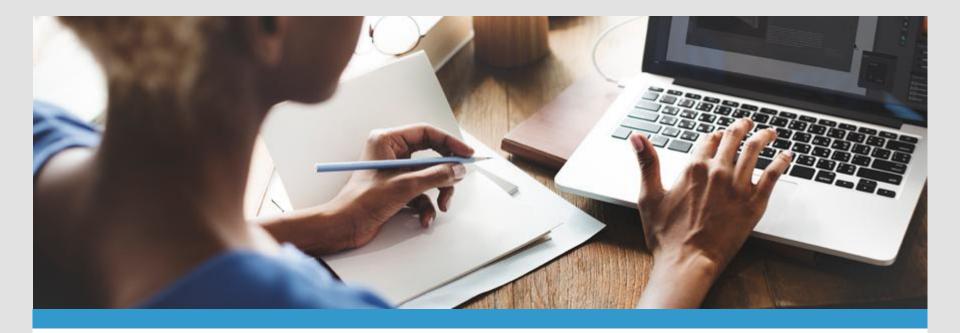
Hard work but big payoffs

"[This is] the most visible aspect of a revolution occurring in education at all levels: **the shift to learning outcomes and learner-centered education**.

Every institution of higher education will have to make this shift, and the time to plan for it is now."

Arthur Levine

President of the Woodrow Wilson National Fellowship Foundation and past president of Teachers College of Columbia University



Resources

Competencybased education resource hub

blackboard.com/cbehub

Blackboard

K-12

Higher Education Government

Business

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Competency-based education resource hub

As a service to the educational community, our experts have collected the best resources on competency-based education in order to help faculty, staff, policymakers, and other interested groups better understand CBE. We will regularly update this resource hub with case studies, promising practices, research, regulatory information, and more as the field develops.

Meet our CBE experts

What is CBE?

What is competency-based education? It's an alternative mode of delivery that focuses on learner mastery of knowledge, ability, and skills. Working at their own pace, students may access a variety of learning materials; activities are guided and supported by faculty and staff.

NCHEMS competency-based education cost modeling

			2.1.0. National C	enter for Higher Education Management Sy	stems, 2016			I	Note: Yellow Cells are Variab
	Set Student-Level Variables			Tultion & Re	venue			Costs	
Enrollment (Year o		700		Charge per Credit Hour	\$	82.00			
Enrollment (Year t		750		Revenue per FTE	\$	2,460	Projected Annual Staffing C		\$ 2,707,0
Enrollment (Year t	three only)	850		Annualized Tuition Revenue	\$	1,722,000	Projected Annual Benefits C		\$ 558,2
	and Mana			State and Local Support (FTE)	s	1,685	Projected Annual Operation	s Costs	\$ 79,4
Courses per Acade	emic Year	18	-	Total S&L Support Projected Tuition Annual Increase	\$	1,179,500	Total Anticipated Annual Co		\$ 3,344,6
				Total Annual Revenue in Year One	s	2,901,500	Total Anticipated Annual Co	565	\$ 3,344,0
				Total ventue in real one	1	2,301,300			
	Input CBE Model De	finitions							Instructions
	Set Staff and Unit (Set Staff and Unit F Set Course Design Set Course Delivery Set Enrollment Proj	Latios Costs Costs	\$4,000,000 \$3,500,000 \$3,000,000 \$2,500,000 \$1,500,000 \$1,000,000 \$5500,000			Revenue			The GE Cost Modeling tool designed as a high-level designed as a high-level designed as a high-level designed with GE related second with GE related decision and resources for unsare design and delivery. I alaxning tool helps to illustry and delivery is and delivery in the statistical and the delivery is and designed to be and any of the activity and delivery is and delivery is and the statistical and the statistical and illing the cells. Definitions can be used with the of the sheet of the state of the state of the sheet of the state of the sheet of the sheet of the state of the sheet of the sheet of the sheet of the state of the sheet of the sheet of the sheet of the sheet of the sheet of the sheet of the she
	Set Enrollment Proje	ecuon	s	Year One		Year Two	Year Three		pol.

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blackboard.com/cbetool

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Ready to pick up the pace?

Take Your Mark



Questions and discussion



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Blackboard®

CBE continuum

