

A close-up photograph of a woman with dark hair and bangs, looking down at a smartphone she is holding with both hands. The background is blurred with bokeh light effects. The text is overlaid on the left side of the image.

Blackboard®

Designing & Improving CBE Programs

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Associate VP Higher Education
Policy & Research

Bluenotes America 2017

Agenda

Competency-based education 101

Stakeholder engagement: Who and why

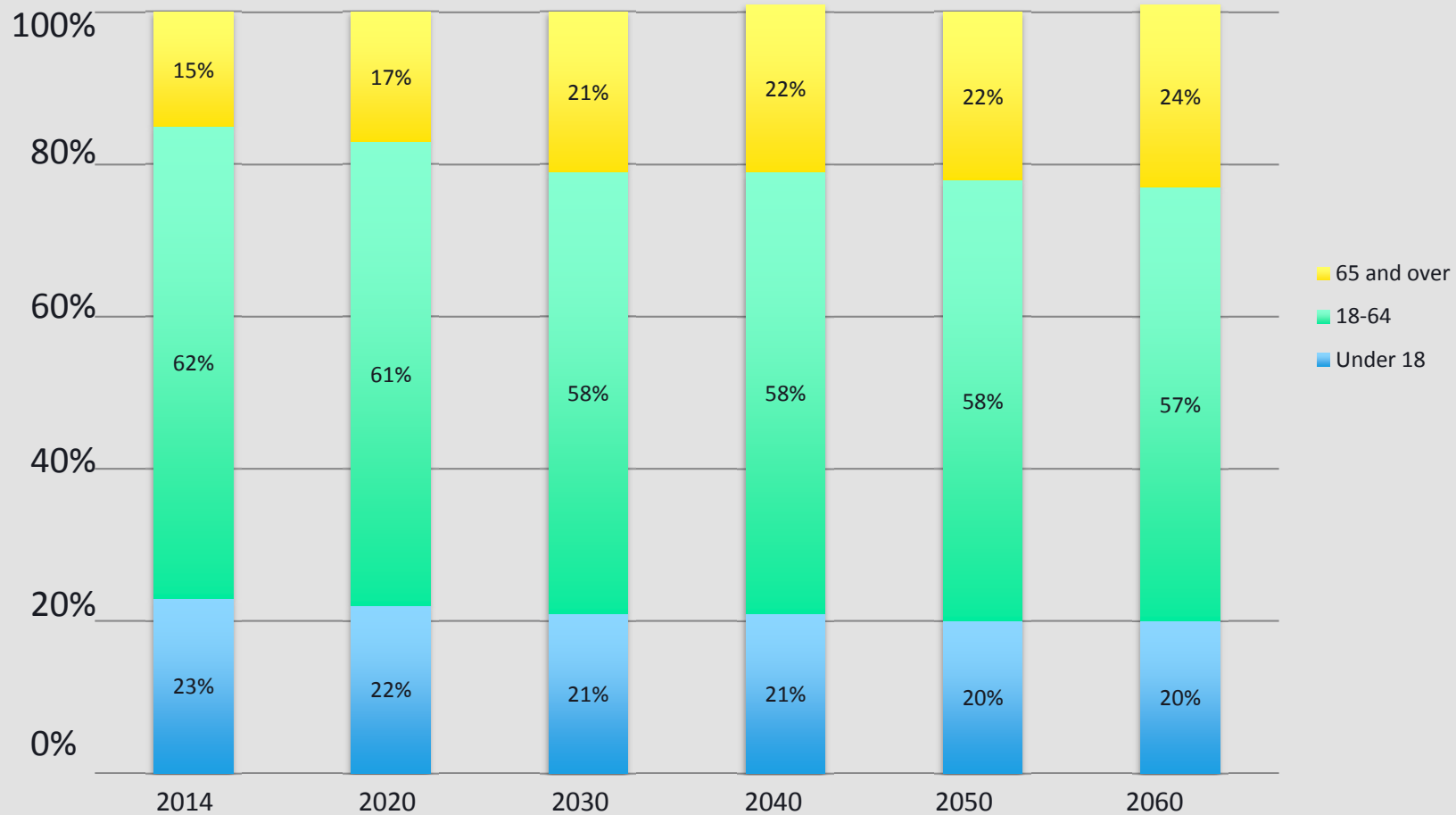
Stakeholder engagement: Students

Stakeholder engagement: Employers

Stakeholder engagement: Faculty

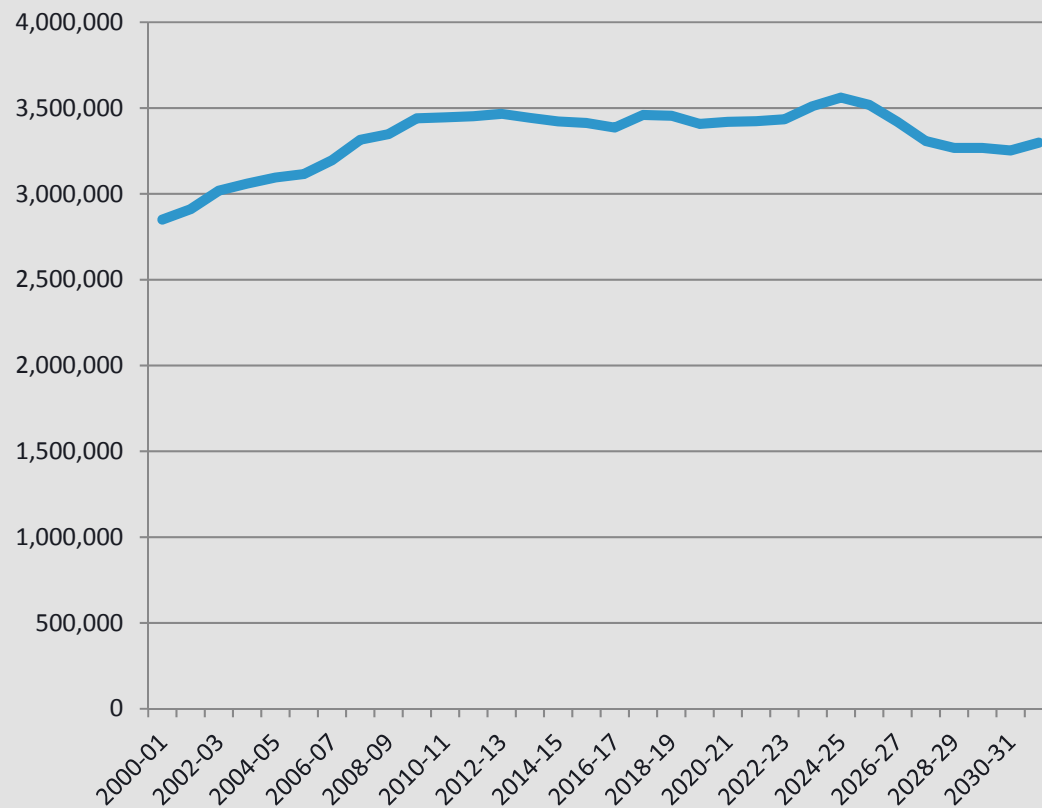
Competency-based education 101

Why CBE: Changing educational pipelines



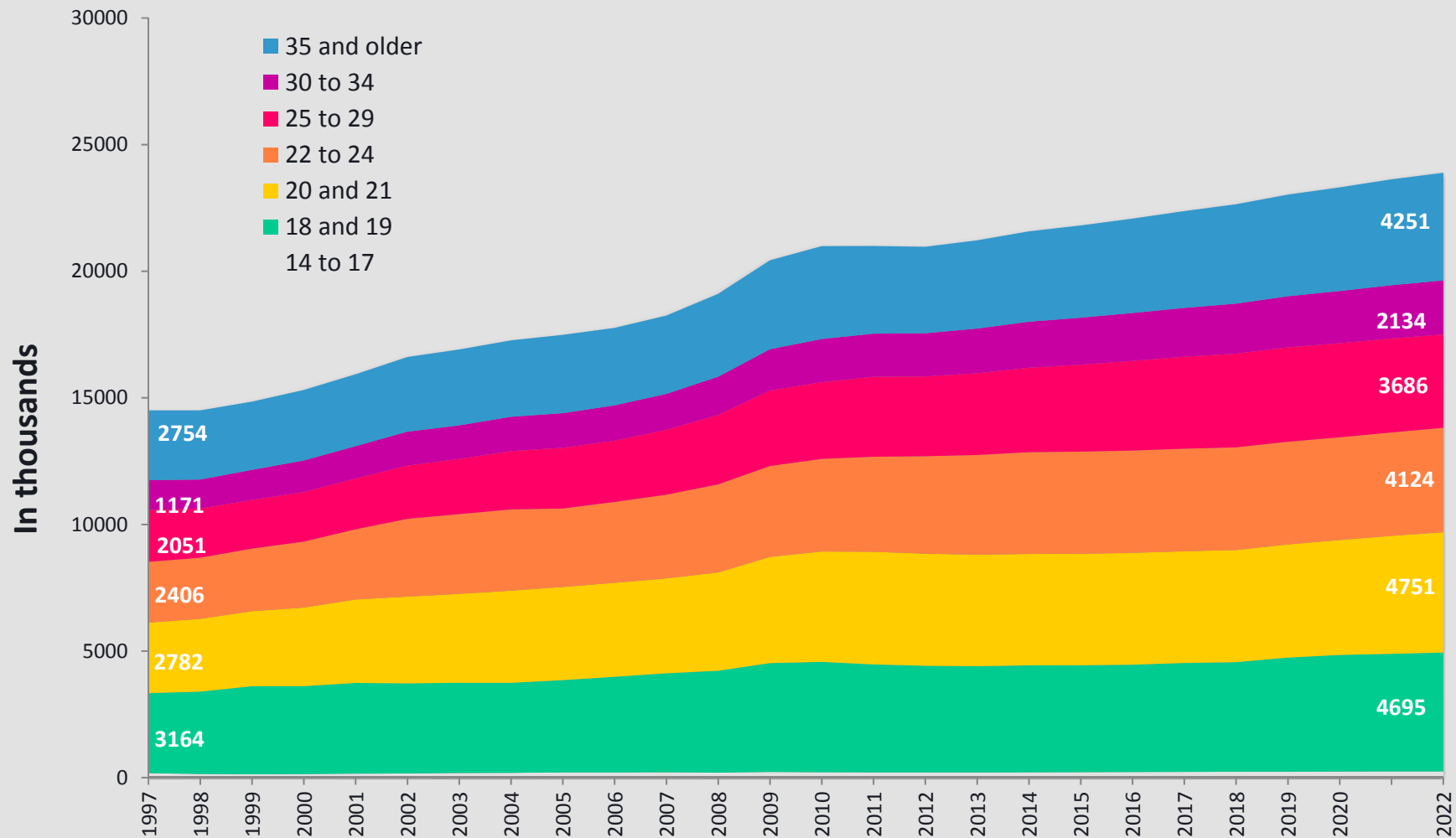
Why CBE: Changing educational pipelines

High School Graduates, 2000/01-2030/31

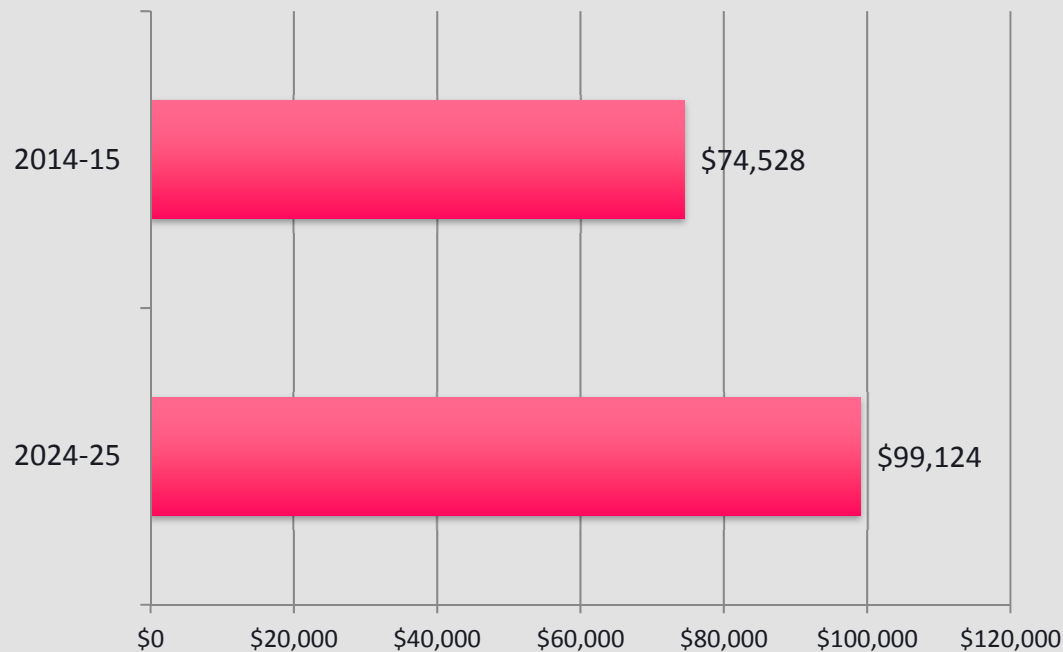


- Although there will be a slight growth in high school graduates between 2016-17 and 2026-27, the number of high school graduates will significantly decline after 2026-27.
- Some regions will be more affected than others with Northeast experiencing declines starting with 2015-16 and the Midwest starting with 2019-20.
- As a result, higher education will need to look at new pipelines for enrollments and will need to focus more on adult students.

Why CBE: Changing educational pipelines



Why CBE: Changing educational expectations



Projected cost of a baccalaureate degree
at a public university

- 58% of employers believe higher education needs improvement¹
- 16% of millennials believe that the current college tuition is a bad investment²
- College debt impacts student lives
 - 19% of 18-29 year olds delay marriage³
 - 30% postpone buying a home⁴
 - 48% say college debt makes it more difficult to make ends meet⁵

1) Hart Research Associates, *Falling Short? College Learning and Career Success*, 2015

2-4) Bankrate, *Is College Worth It?* 2016, <http://www.bankrate.com/finance/consumer-index/money-pulse-0816.aspx>

5) Pew Research Center, *College Graduation: Weighing the Cost and the Payoff*, 2012, <http://www.pewresearch.org/2012/05/17/college-graduation-weighing-the-cost-and-the-payoff/> 7

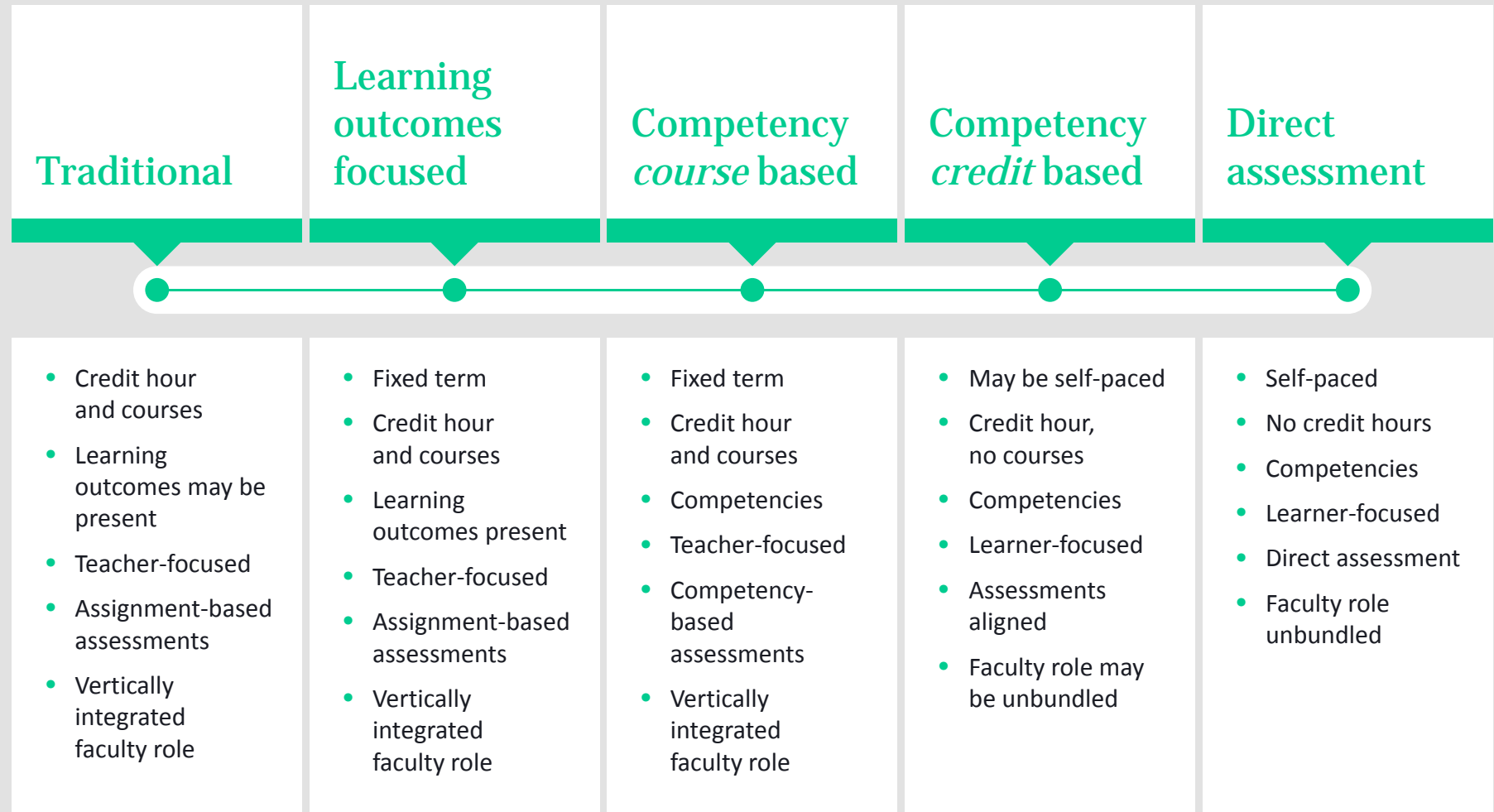
Calculations based on NCES, *Digest of Education Statistics*, 2015 assuming a 33% increase based on rate of increase between 2004-15 and 2014-15

In theory . . .

Competency-based education combines an **intentional** and **transparent** approach to curricular design with an academic model in which the **time it takes to demonstrate competencies varies and the expectations about learning are held constant**. Students acquire and demonstrate their knowledge and skills by engaging in learning exercises, activities and experiences that align with clearly defined programmatic outcomes. Students receive **proactive guidance** and support from faculty and staff. Learners earn credentials by **demonstrating mastery through multiple forms of assessment**, often at a **personalized pace**.

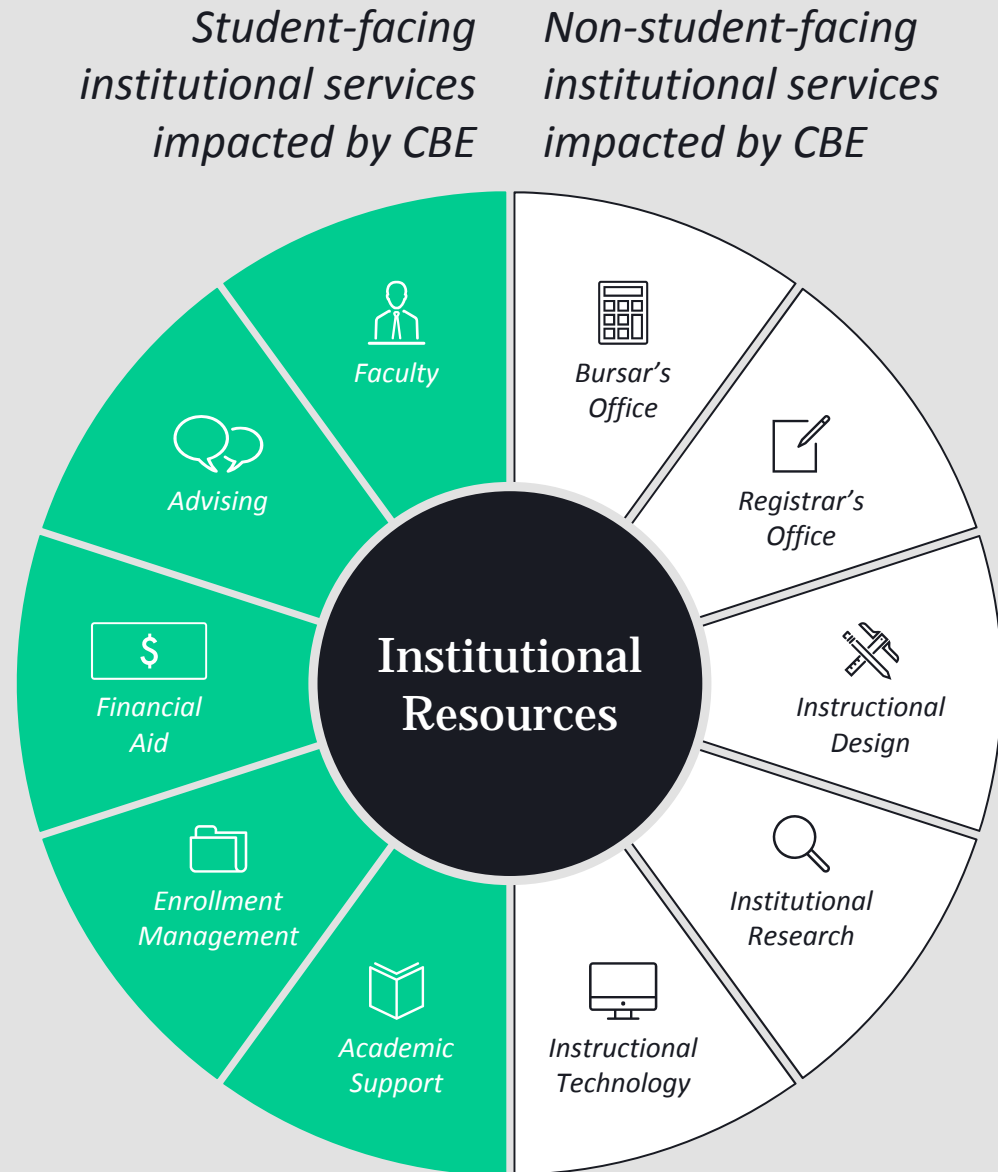
Competency-Based Education Network

CBE continuum



Beyond the
competency. . .

CBE
impacts every
section of
an institution



From teaching to learning: Barr and Tagg

The instruction paradigm

Provide/deliver instruction

Transfer knowledge from faculty to students

Time held constant; learning varies

Classes start/end at same time

Covering material

End of course assessment

Degree equals accumulated credit hours

The learning paradigm

Produce learning

Elicit learner discovery and construction of knowledge

Learning held constant; time varies

Environment is ready when learner is

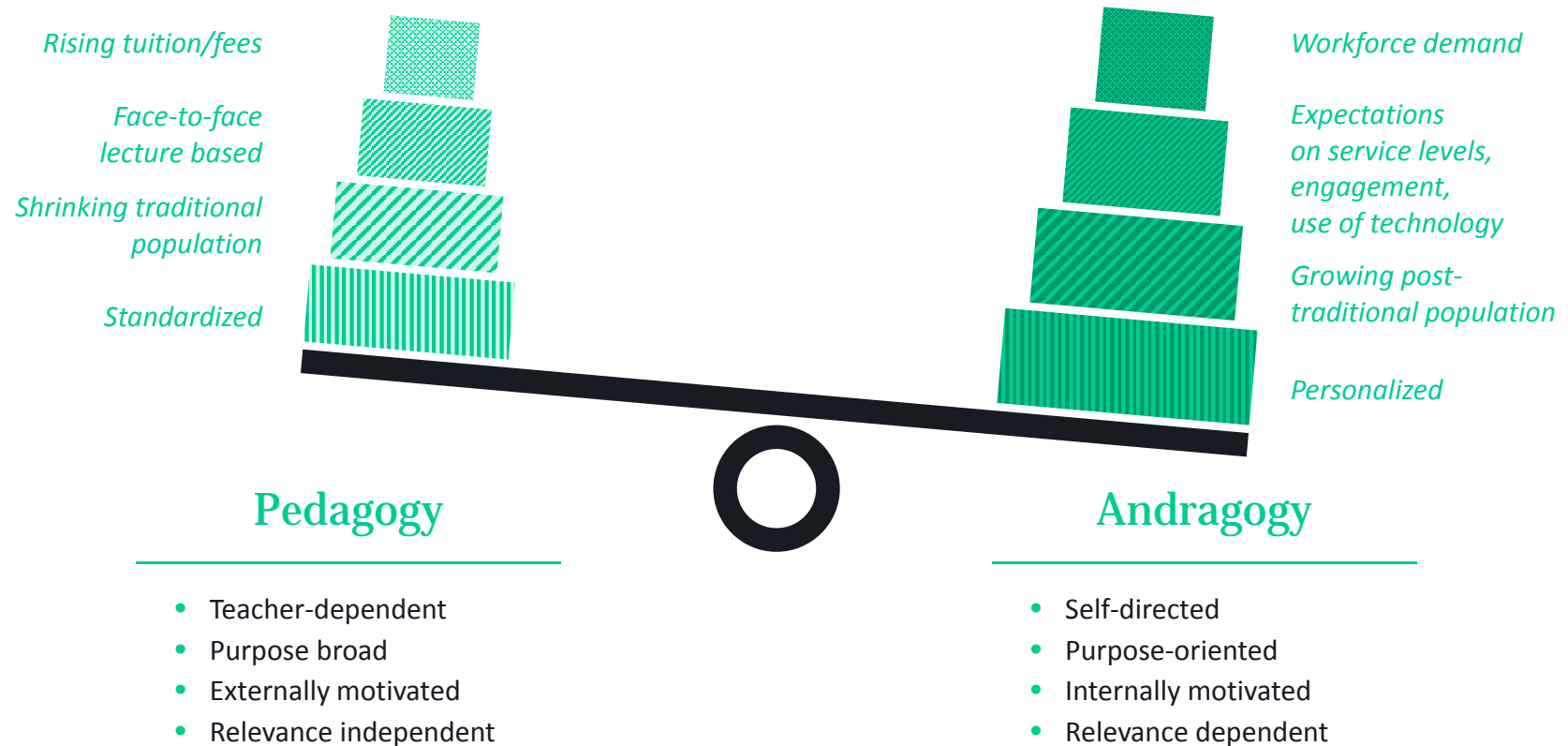
Specified learning results

Pre/during/post assessments

Degree equals demonstrated knowledge and skills

Note: Adapted from "From Teaching to Learning – A New Paradigm for Undergraduate Education" by Robert B. Barr and John Tagg, 1995, *Change*

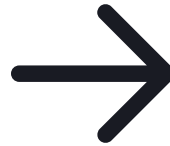
From pedagogy to andragogy



Learning content visibility

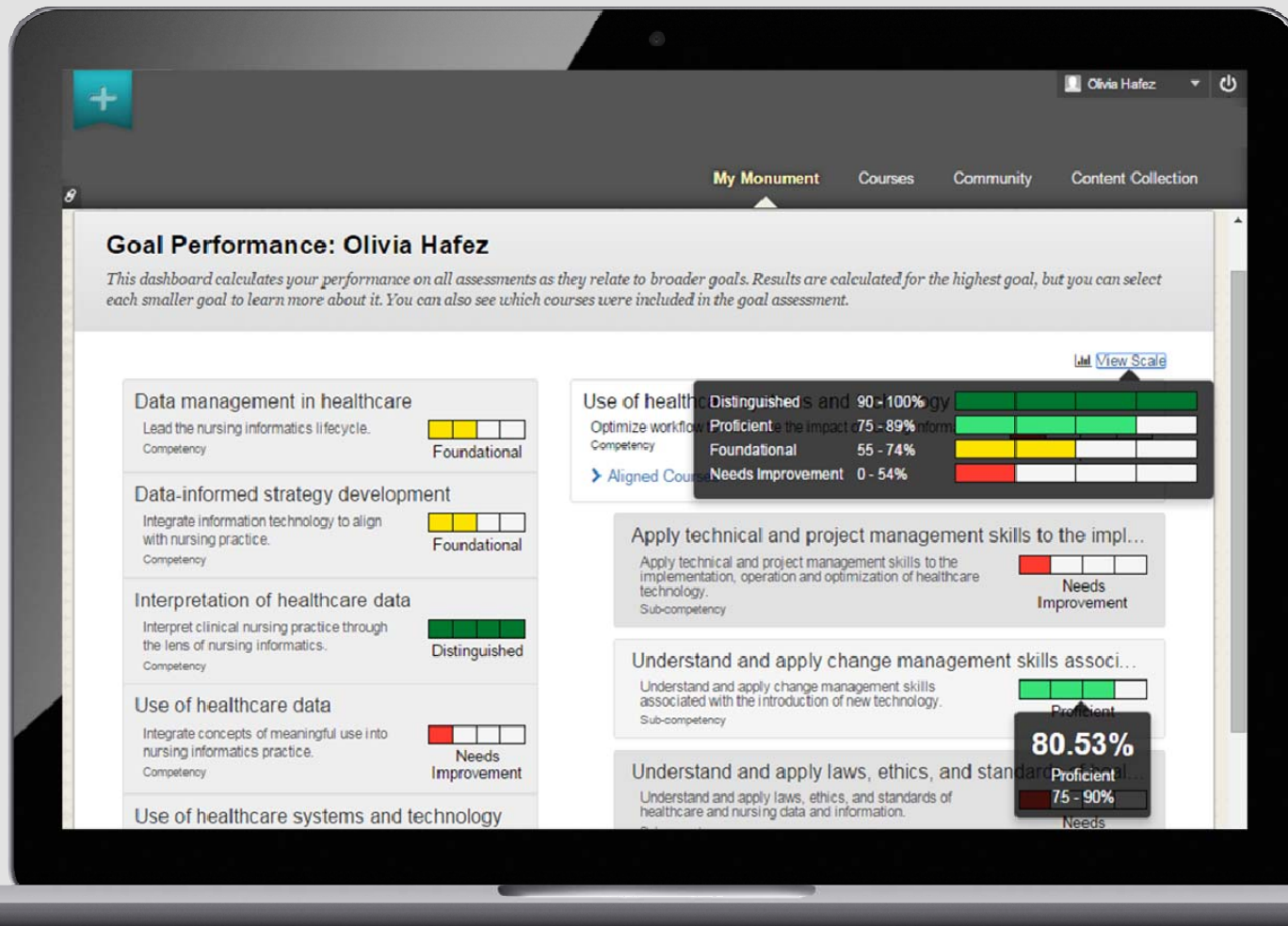
MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

- 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.



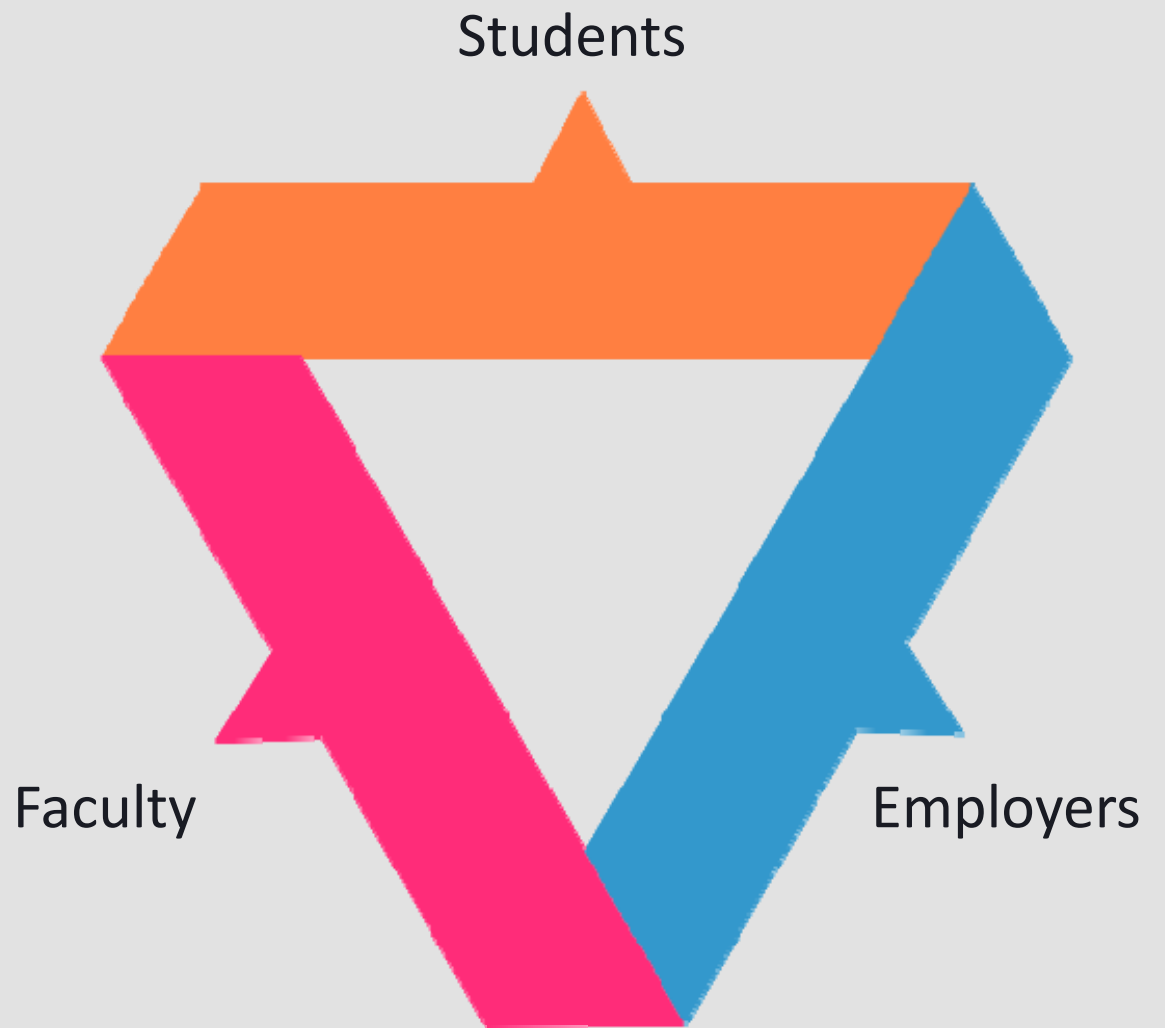
Competency Name	Competency Definition	Subcompetency
Knowledge of database purpose and structure	Identifies, defines, of describes the types and nature of databases in a business setting	Relational database
		Hierarchical database
		Relational operators
		Data elements
		Data specifications
Knowledge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

Learner progress visibility



Stakeholder engagement: Who and why

CBE stakeholder relationships



Comprehensive approach to CBE: The role of feedback

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

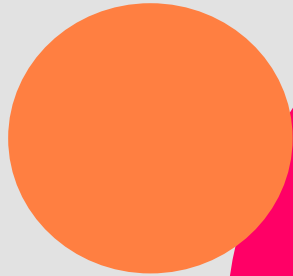
- **Learning module design**
- Quality and accessibility framework
- Technology and platform systems

Supporting

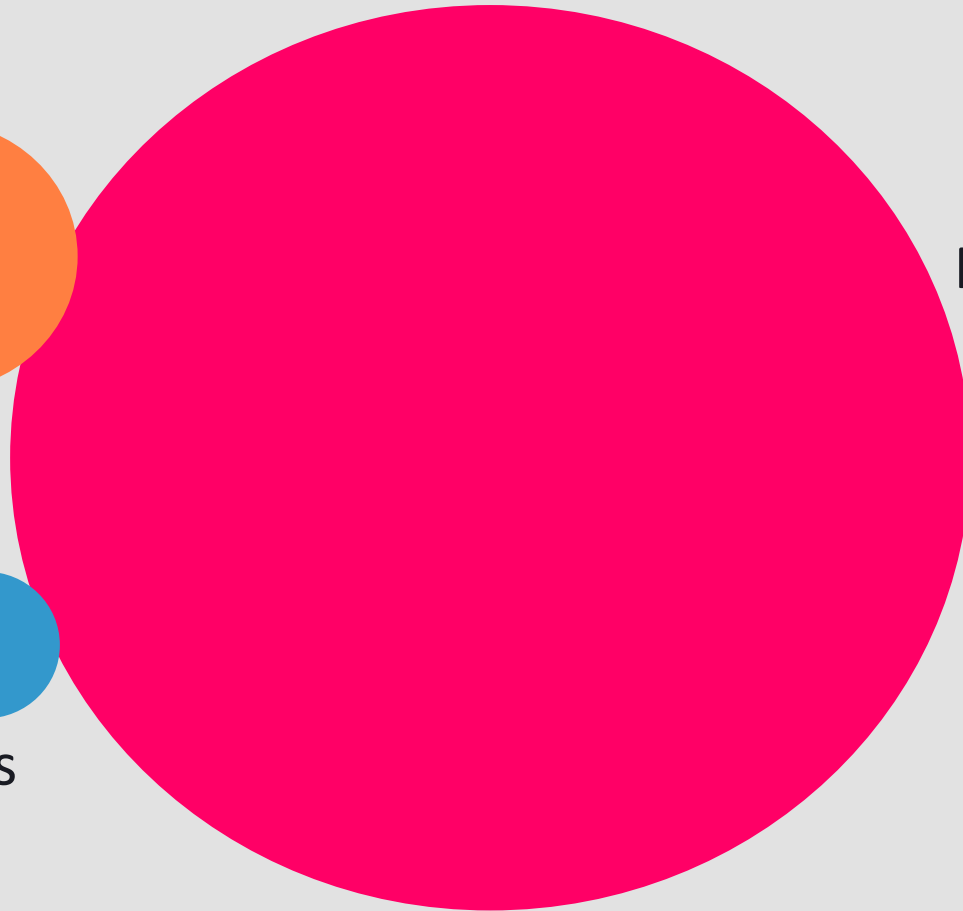
- Academic support services
- Student preparedness development
- Non-academic services

Lopsided and disconnected CBE feedback

Students



Faculty

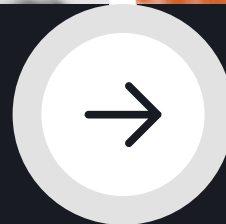


Employers



Stakeholder engagement: Students

Shift in student roles and practice

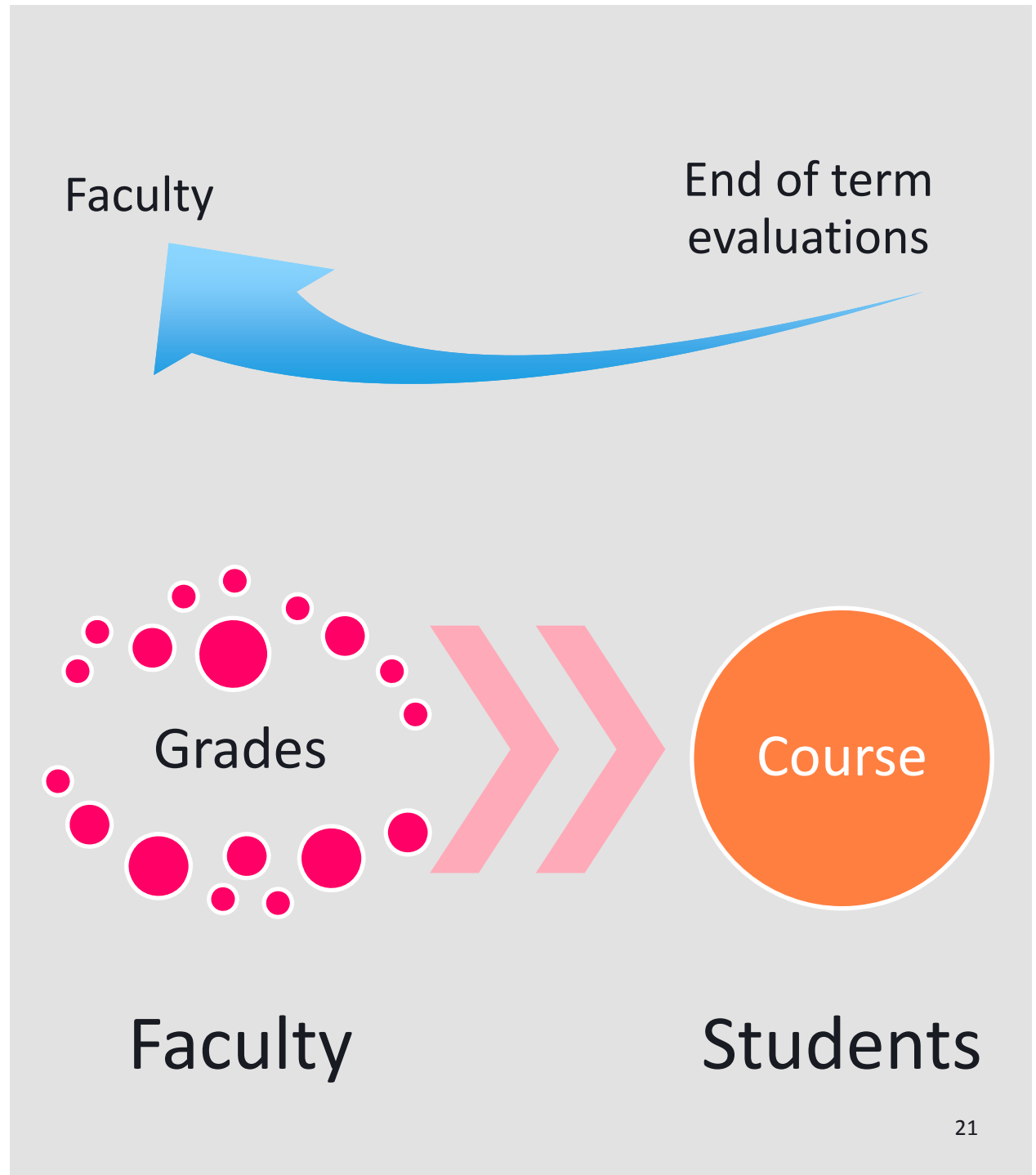


Passive learner
End of course feedback

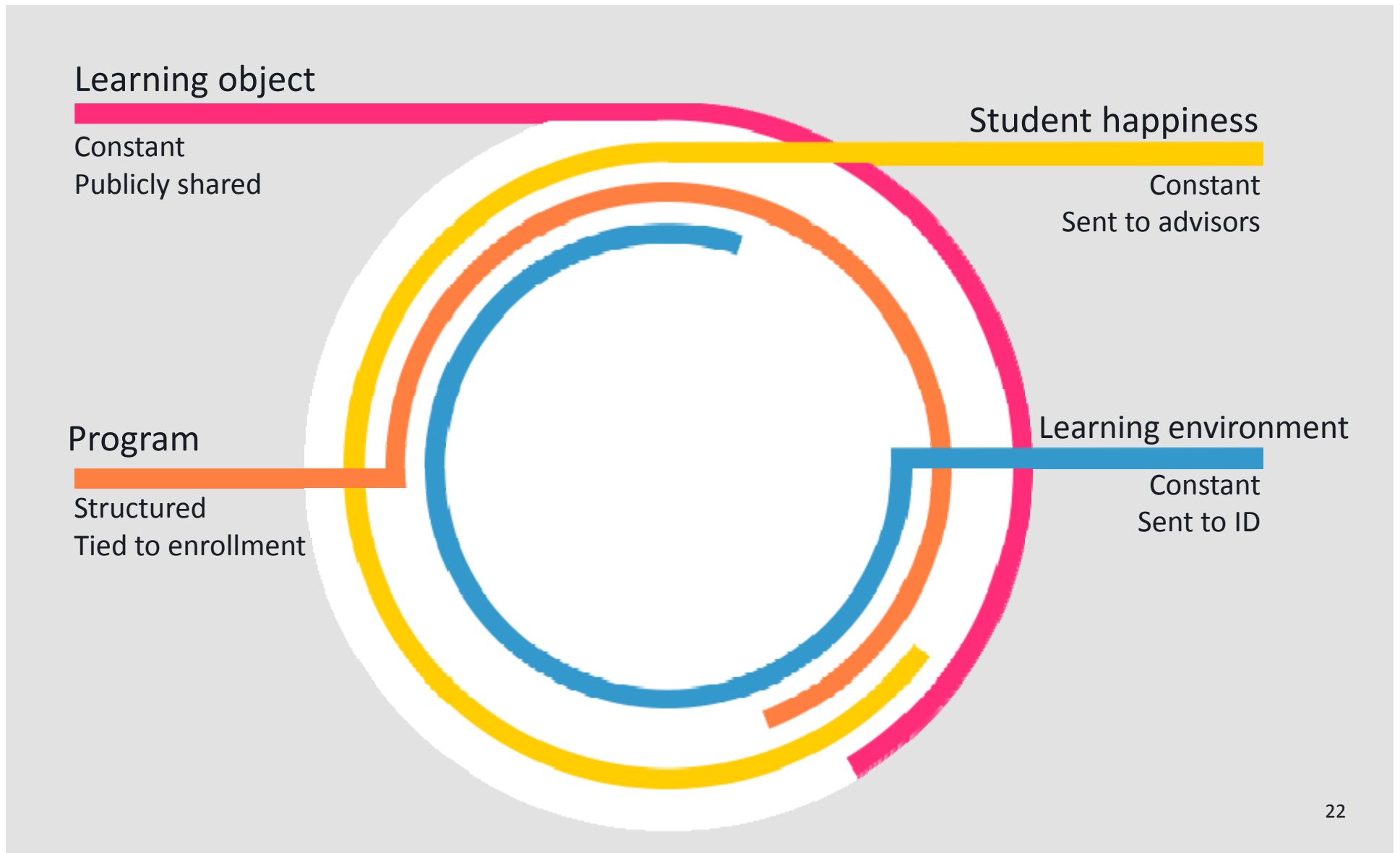
Actively engaged
Self-directed
Focused on knowledge application
Continued feedback opportunities

The disconnect between student & faculty feedback

- Students send out feedback at end of term but only on course and not on program nor do they ever see impact of that feedback
- Faculty push feedback, usually grades/comments, to students perhaps throughout the semester but only focus on one course



Examples of student feedback for CBE



Providing immediate feedback to students

Goal Performance: Olivia Hafez

This dashboard calculates your performance on all assessments as they relate to broader goals. Results are calculated for the highest goal, but you can select each smaller goal to learn more about it. You can also see which courses were included in the goal assessment.

Data management in healthcare

Lead the nursing informatics lifecycle.

Competency

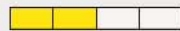


Foundational

Data-informed strategy development

Integrate information technology to align with nursing practice.

Competency



Foundational

Interpretation of healthcare data

Interpret clinical nursing practice through the lens of nursing informatics.

Competency

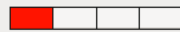


Distinguished

Use of healthcare data

Integrate concepts of meaningful use into nursing informatics practice.

Competency



Needs Improvement

Use of healthcare systems and technology

Optimize workflow to maximize the impact of nursing informatics.

Competency



Needs Improvement

View Scale

Use of healthcare data

Competency



Needs Improvement



Understand and use medical record technologies, their components, their specific use...

Understand and use medical record technologies, their components, their specific uses, and the organizational contexts where they are used.

Sub-competency



Needs Improvement

About this goal

▼ Goal Description

Integrate concepts of meaningful use into nursing informatics practice.

Stakeholder engagement: Employers

Shift in employer roles and practice



Examples of employer feedback for CBE



Employers should be involved in developing program competencies and sub competencies



Employers should be involved in developing curriculum.



Employers should be involved in developing assessments, especially project-based and applied assessments



Employers should be involved in helping assess project-based, applied assessments



Employers should be involved in providing feedback on program graduates

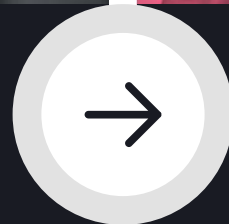
Traditionally, employer feedback is based on relationship with program graduates. Feedback happens at the end of the cycle and is not dynamic.

Stakeholder engagement: Faculty

Shift in faculty roles and practice



Professor



Coach/mentor
Subject matter expert
Course developer
Assessment developer
Grader

Shift in faculty roles

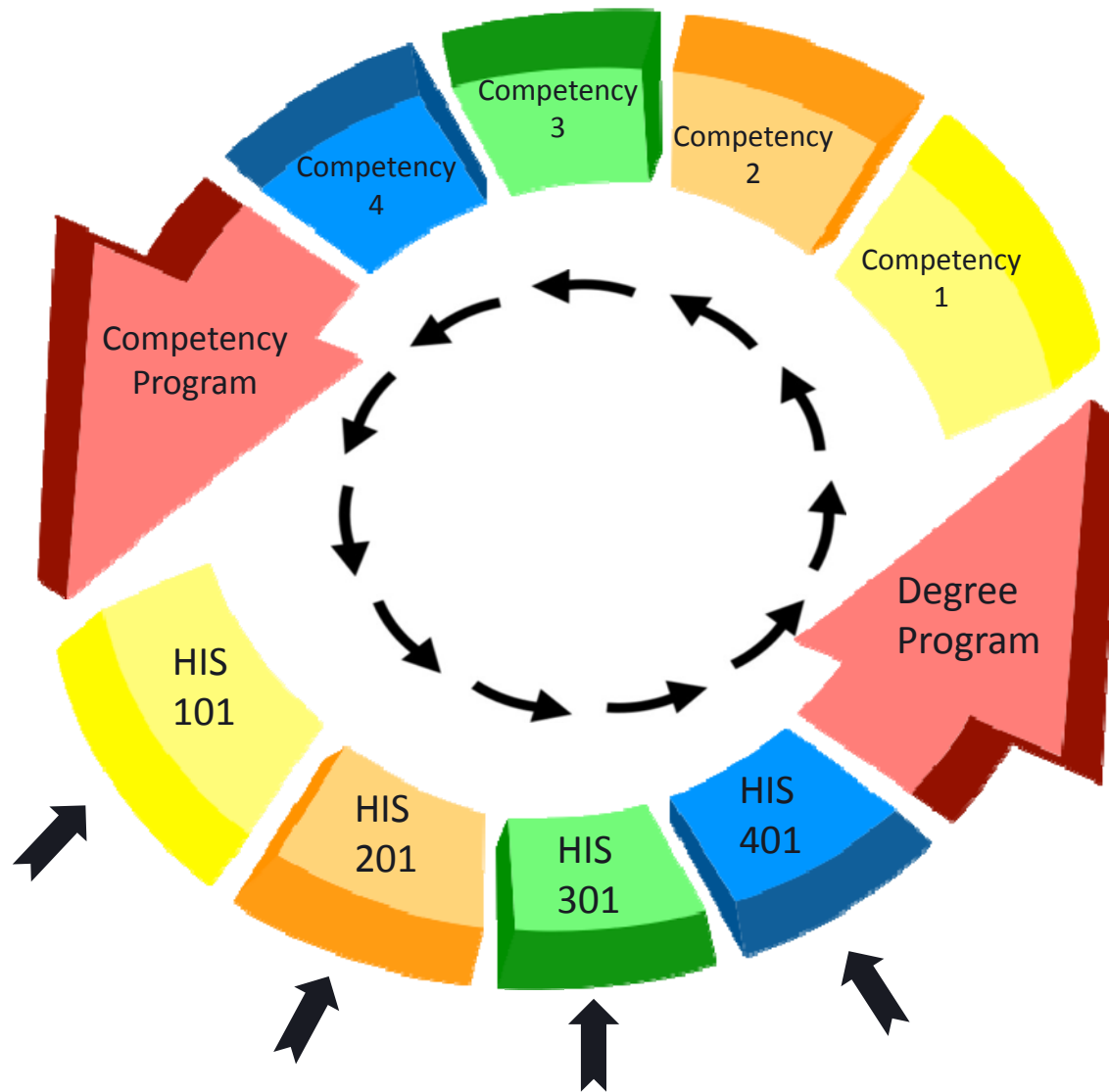
Faculty and coach needs

- 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?

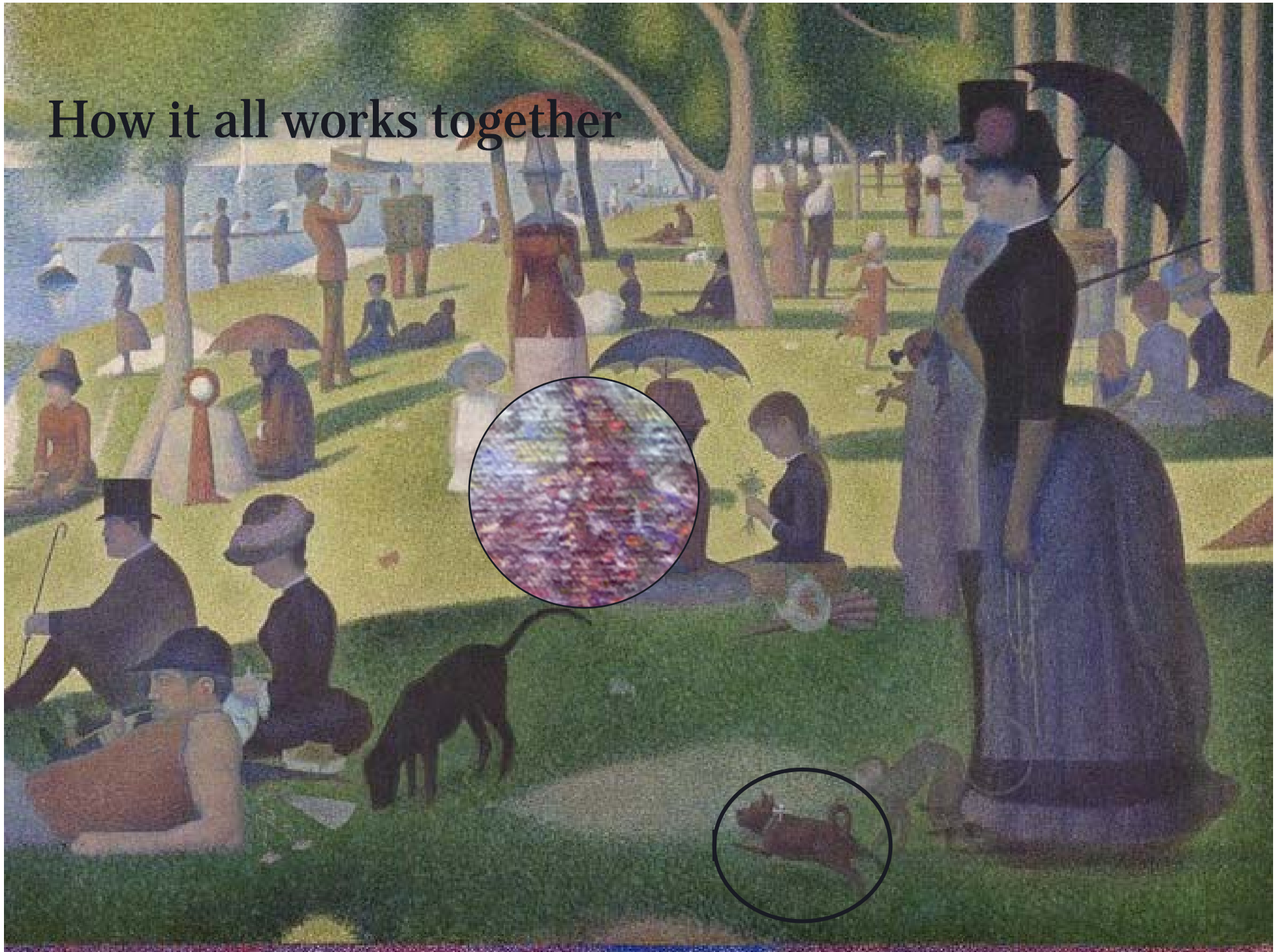
Student needs

- 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?

Changing the faculty feedback model



How it all works together



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.**

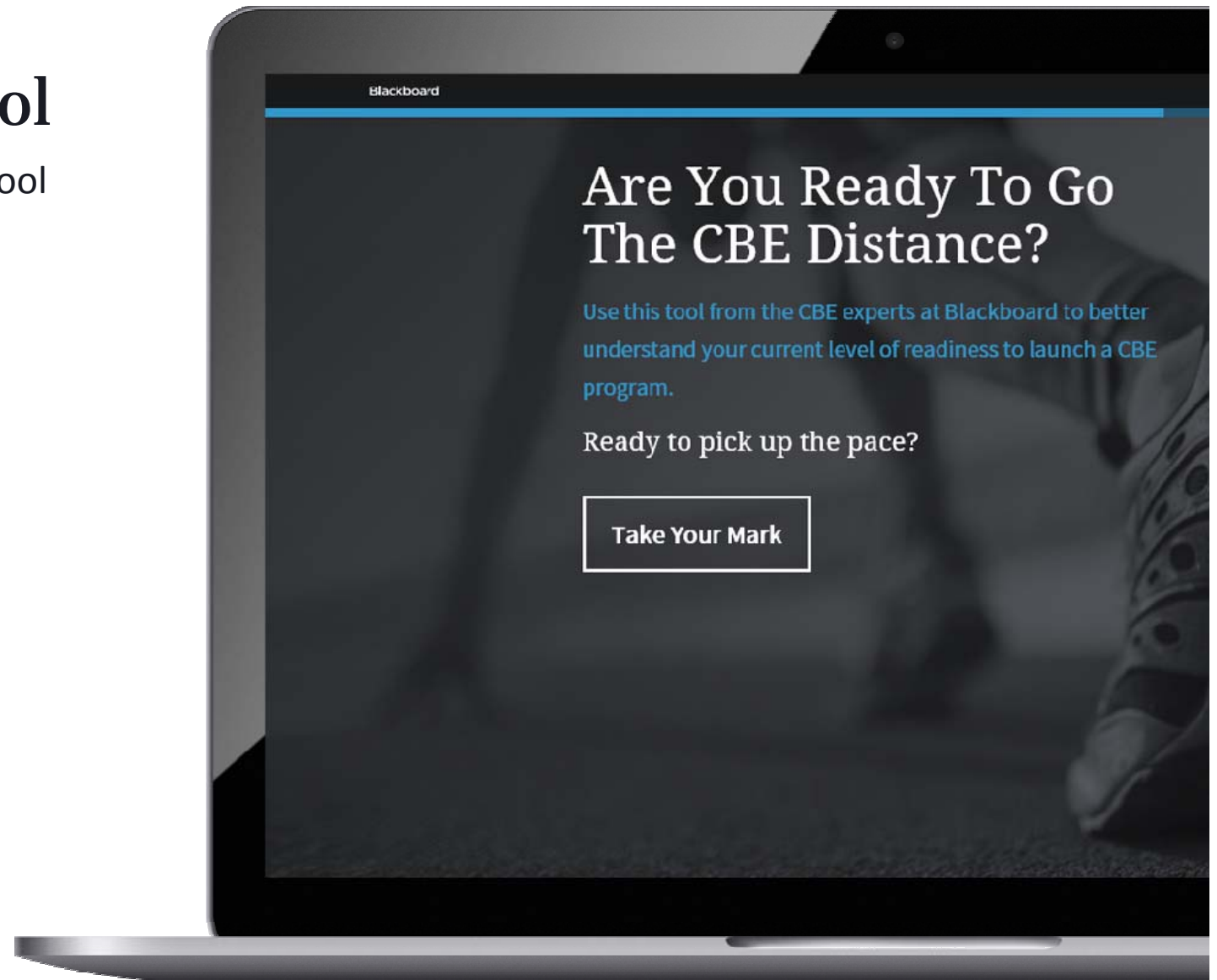
Every institution of higher education
will have to make this shift,
and the time to plan for it is now.”

Arthur Levine

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

CBE readiness tool

blackboard.com/cbetool



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