

The role of formative assessment in online higher education

A WGU Case Study: Course Faculty



Welcome!

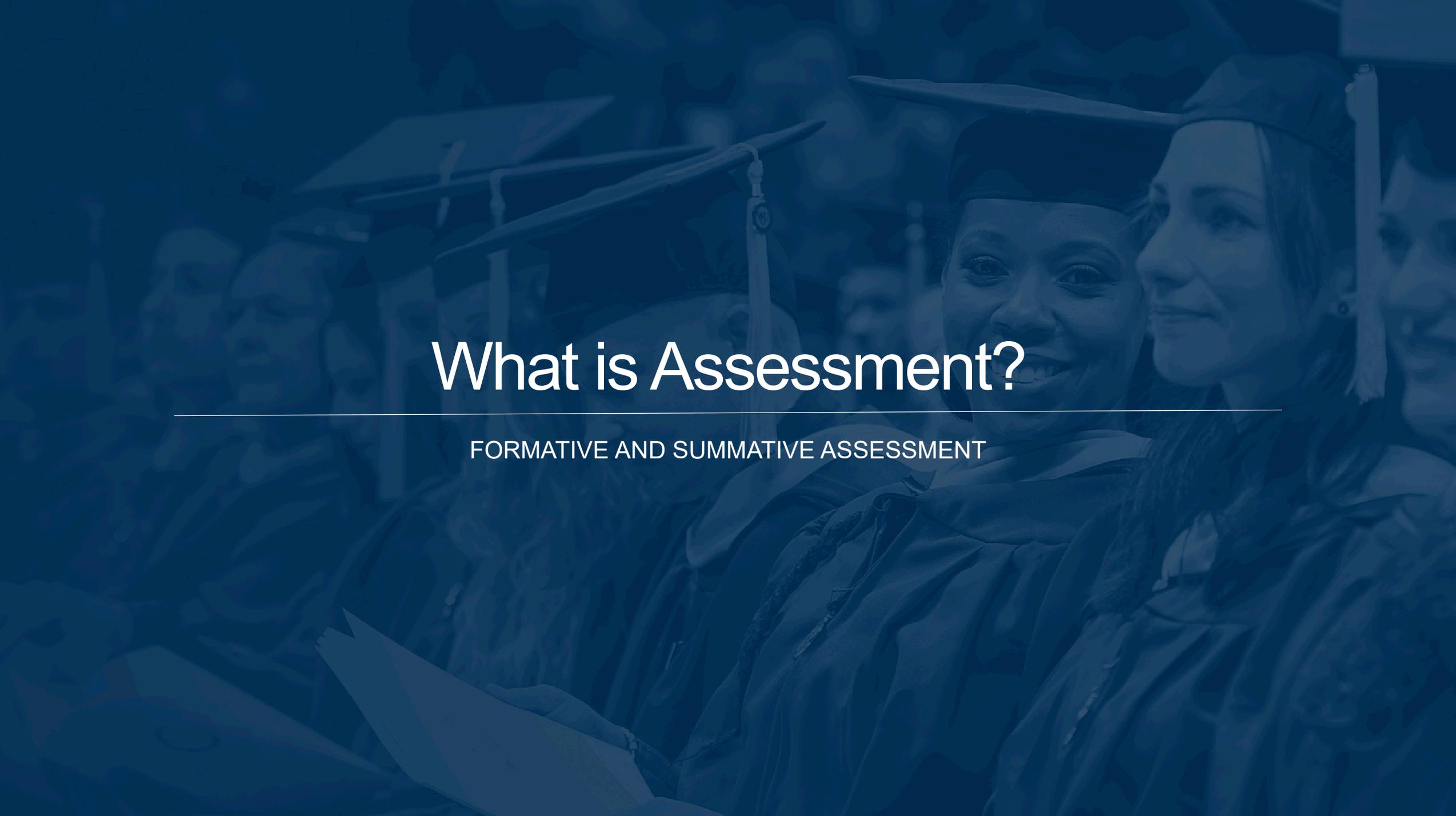


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How do you know your students are learning?



What is Assessment?

FORMATIVE AND SUMMATIVE ASSESSMENT

What is the definition of formative assessment?

A →

“...“to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited”. (Black & Wiliam, 2009 p. 9)

B →

“...is the process of appraising, judging or evaluating students’ work or performance and using this to share and improve their competence” (Tunstall & Gipps, 1996, p. 389)

C →

“...frequent, interactive assessments of student progress and understanding to identify learning needs and adjust teaching appropriately” (OECD, 2005, p. 21)

D →

“...simply a phenomenon that occurs in the moment-to-moment interaction between teachers and students” (Filsecker & Kerres, 2012, p. 3).

How did WGU faculty define formative assessment?

“interactive learning **activity**”

“**in-the-moment** evaluation of a student’s comprehension and needs related to a topic”

“making sure your students understand the concepts before moving on, and **tailoring** what you teach **to their level** of understanding”

“assessment procedures to **modify teaching** to improve student learning outcome”

“a technique used to **evaluate** student understanding of material and identifying areas of improvement”

“**assessing** the student’s knowledge”

“The **process** of responding to students in real-time with the best learning method for them”

“Formal and informal assessment procedures used by teachers during the learning process. Procedures may include **modification** to the teaching process or learning activities to improve student attainment”

“**checking** to see what a student knows or doesn’t know, in order to **inform** appropriate steps for **future learning**”

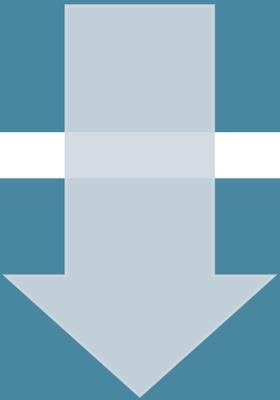
WGU College of Business: Definition

Formative Assessment is the process of interacting with students to **proactively evaluate** learning, **understanding** of learning objectives, and comprehending of course **content** to **develop competencies** as defined in the course

Assessment Literacy

Formative assessment:

- Assessment *for* learning
- Part of instructional process
- Guides next step in teaching



Summative Assessment:

- Assessment *of* learning
- Measure of content knowledge at point in time
- Evaluate student learning based on standard(s)

Curriculum Theory: Actions and Results

Competency (Curriculum)

- Desired knowledge, skill, and ability

Learning Objective (Instruction)

- Intended measurable knowledge, techniques, and values (Stefl-Mabry, J.(2018), Johnson, M. (1967))

Assessment (Formative & Summative)

- Two byproducts: a) monitor individual student progress and b) to evaluate instructional effectiveness

Formative vs. Summative Assessment

Formative assessment FOR learning	Summative assessment OF learning
Goal to improve learning in real-time or retrospectively	To measure or audit competency
Constant adjustment to student learning	Provides a snapshot of competency understanding
Focuses on learning process and progress	Focuses on outcomes
Collaborative	Teacher (assessment) driven
Learner self-reflection process	Learner self-reflection limited
Fluidity	Rigidity

Formative assessment is a process

“The process used by teachers and students to recognize and respond to student learning in order to enhance the learning, during learning” (Cowie & Bell, 1999, p. 32)

Responsive & Interactive

Adjust Teaching in Real-Time

“Formative Assessment can be labelled as a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students’ achievement of intended instructional outcomes” (Dyer, 2018, NWEA website)

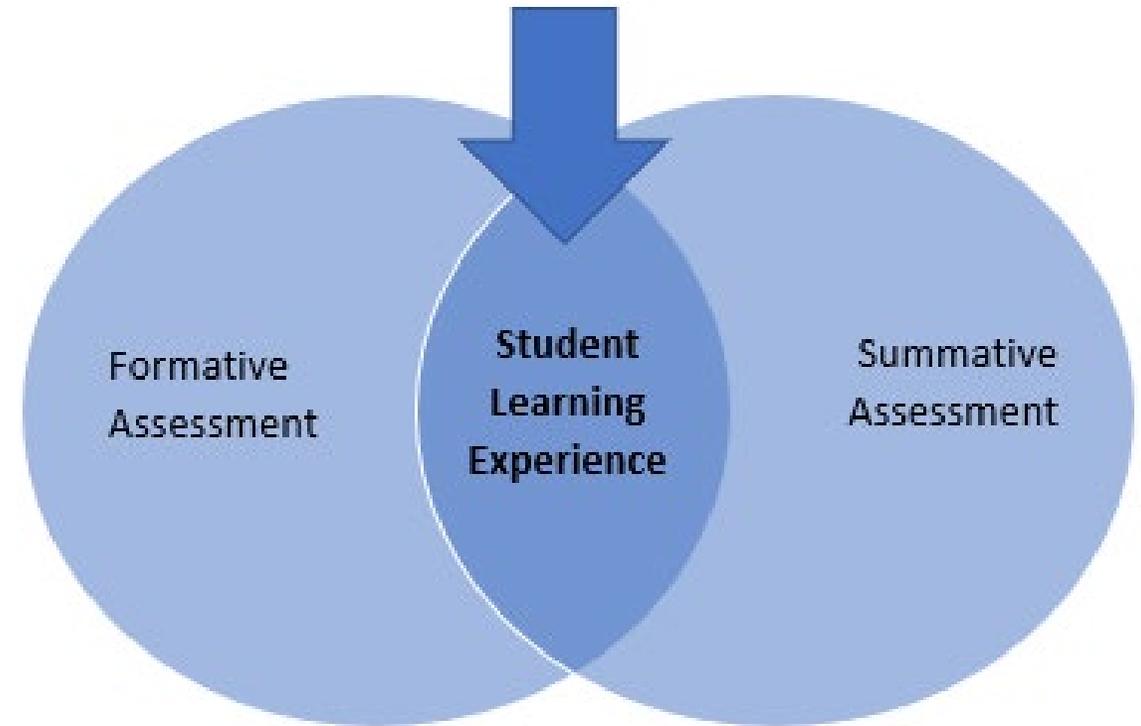
“... all those activities understood by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged” (Black & William, 1998, p. 7)

Take Cues from Student



The why

- Competency based education (CBE): outcome based
- Student learning experience: personalized, actionable, and relevant
- Accreditation standards: defined assessment process that leads to continuous improvement
- Checks and balances: Closes gap between what student knows and desired outcome



Interaction: Poll

- Do you teach online?
- Do you teach on-ground, brick & mortar only?
- Do you teach both online and on-ground?

Formative Assessment: Online learning environment

Formative assessment principles remain regardless of delivery mode (Benson, 2003)

- Multi-dimensional process: cognitive development
- Self-learner regulation opportunities: metacognitive
- Social-affective need for trust
- Assessment validity and reliability
- Student perceptions of quality (Ogange et al., 2018)
- Interaction and engagement are not the same
- (-) No shared proximity
- (-) Loss of informal observation and instruction
- (-) Greater initiative on part of faculty & student
- (+) Learning analytics to monitor learning trajectory, improve instructional design, and use of diverse and varied formative assessment
- (+) Technological advancements make formative assessment more effective (machine grading and automated feedback)

Formative Assessment: Online learning environment

- Online formative assessment is associated with gains in student achievement scores (McLaughlin & Yan, 2017; Kibble, 2007)
- Use of automated feedback has been shown to enhance memory and long-term retention with correct answers given after (Roediger and Bulter, 2011)
- Online formative assessment promotes development of cognitive processes, such as self-regulation (McLaughlin & Yan, 2017)
- Online formative assessment provides opportunities for learner self-regulation and instructor assessment of self-regulatory activities and inquiry, e.g., discussion boards (Vonderwell et al, 2013)
- Students perceived all types of online formative assessment as effective and value prompt, meaningful feedback (Ogange et al, 2018)

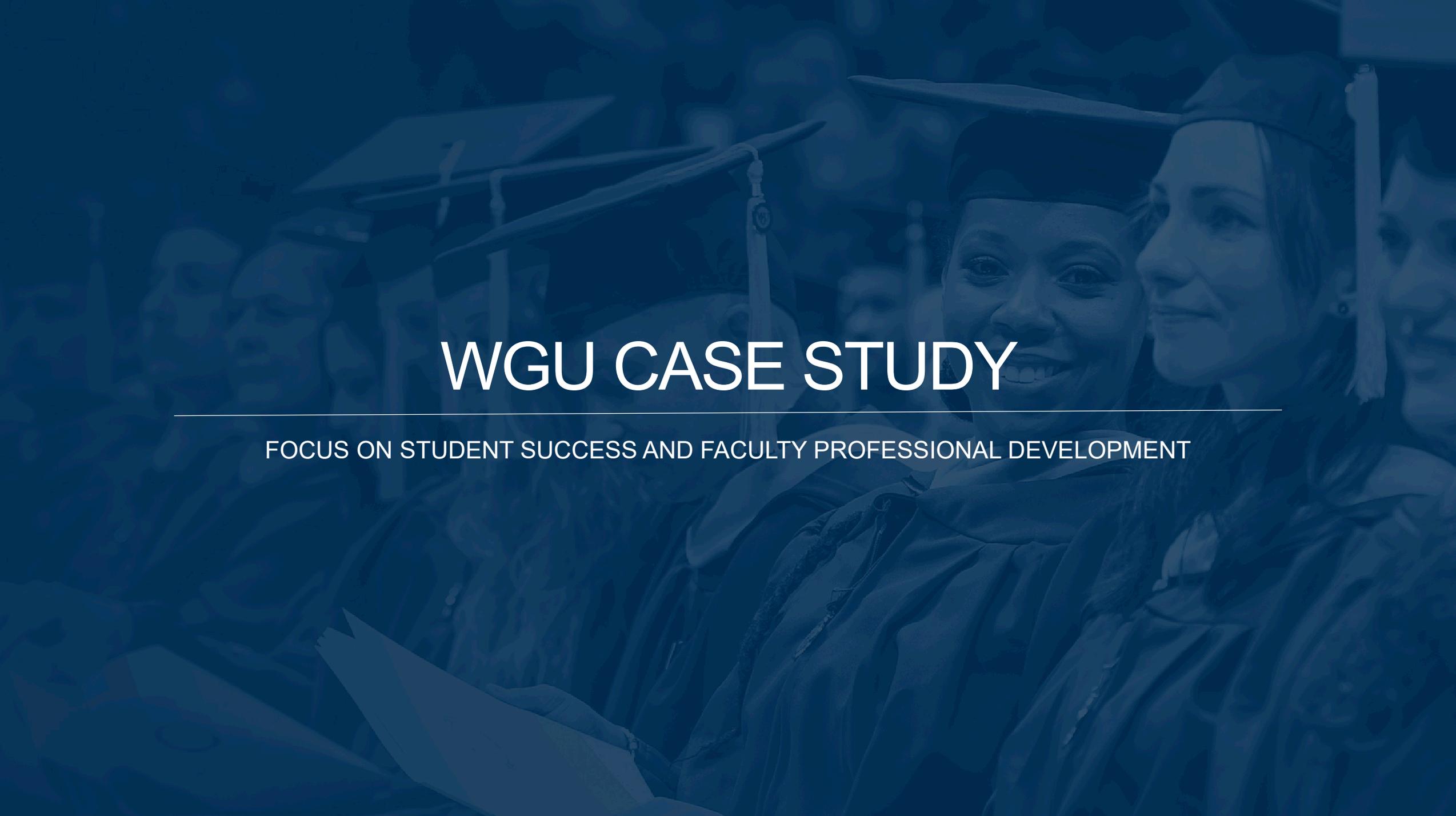
Maximizing teacher effectiveness

- Assessment is not a single component and requires a blending of assessment and teaching
- Greenstein's (2010, p.24) cycle of instruction with formative assessment illustrates the many components that lead to maximizing teacher effectiveness by blending curriculum, teaching and assessment



Maximizing teacher effectiveness

- Literature focuses on K-12 and limited higher education research
 - Large body of literature on primary and secondary education; limited higher education research and even more limited online higher education; recent articles on MOOCs
 - Can apply and be used in any discipline and content area
 - Paradigm shift outside educational literature, towards higher-education, online learning environments, and CBE models
- Evidence formative assessment is effective (Black & Wiliam, 1998)
 - Black & Wiliam's work emphasized formative assessment can improve learning outcomes
 - "The success of formative assessment is highly related to how teachers use it to adjust teaching and learning practices" (Greenstein, 2010, p.22)
- Need for faculty professional development
 - "...teacher education and training efforts lag behind" (Greenstein, 2010, p.23); little training and support (Black & Wiliam, 1998, Shepard, 2000, Stiggins, 2001, Guskey, 2003)
 - Gap between effective practices and what is actually done in the classroom (Greenstein, 2010); need to integrate instruction and assessment
 - A key part of formative assessment is self-assessment and this is necessary at the faculty level too when learning
 - Professional development recommended in literature for disciplines outside education (Gaikandi et al., 2011)



WGU CASE STUDY

FOCUS ON STUDENT SUCCESS AND FACULTY PROFESSIONAL DEVELOPMENT

The WGU story

- Nonprofit, founded in 1997 by 19 governors
- 115,000+ students and 136,000+ graduates in all 50 states
- 60+ degrees in 4 colleges for high-demand fields:
 - Business
 - K-12 teacher education
 - Information Technology
 - Health professions
- Competency-based, all online
- Affordable, flat-rate tuition per term

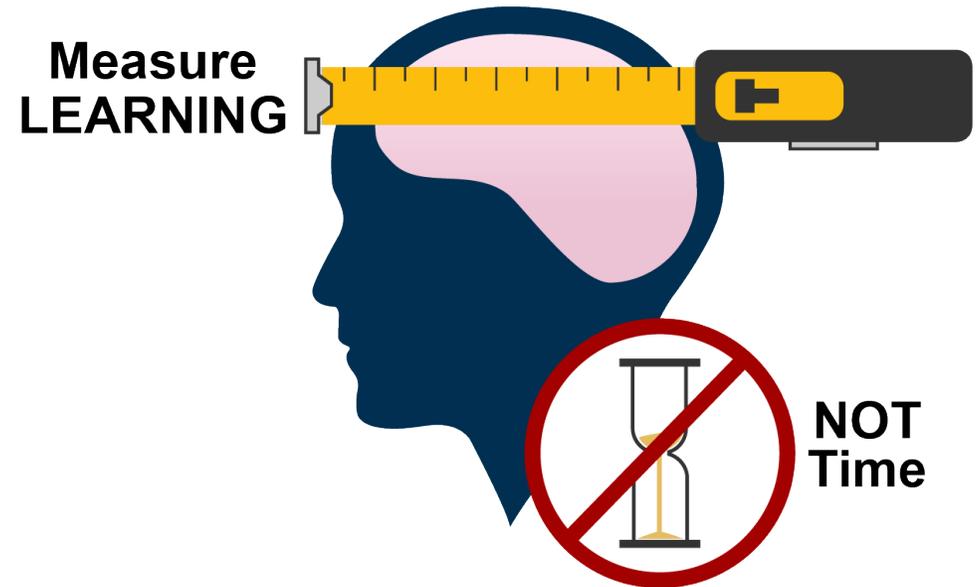


Created to increase access and improve quality of higher education opportunities for underserved adults

Competency-based education

Recognizes adults have different levels of knowledge and learn at different rates.

- Hold learning constant, let time vary
- Advance when mastery demonstrated
- Personalize and adapt learning path
- Focus on relevance and outcomes



ONLINE ≠ CBE

WGU: CBE at Scale



Quality

- College & Program councils
- Academic & industry advisors
- Assessments designed into curriculum
- Data-driven

+



Relevancy

- Aligned with workforce needs
- Regular review by employers
- Graduate surveys

+



Assessment

- Knowledge & Application
- Expert, independent evaluators
- Secure, online proctoring
- Integrated field / clinical experiences

+



Faculty

- Specialized roles
- One-to-one, personalized support
- Guided by real-time data
- 100% student focused

WGU Case Study: Goal

Support WGU's *innovative learning model* and *student experience through personalized learning* with our faculty by providing opportunities to maximize our teaching effectiveness through continuous faculty professional development.

Interaction: Poll

- Do you use formative assessment techniques in your teaching?
- What types of formative assessment techniques are you using?

WGU Case Study: Formative assessment techniques

- Open-ended questions
- Practice quizzes
- Study guides
- Worksheets & problem sets
- Live review (in Adobe room)
- Teach back
- Role play
- Self-reflection
- Adobe polls
- Graphical organizers & conce...
- Student-led discussions
- Other

Intentionally left blank – survey results

Which formative assessment techniques do you use the most?

Which formative assessment techniques do you use the least?

WGU Case Study: Formative assessment techniques

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- Other

Intentionally left blank – survey results

Which formative assessment technique are you unfamiliar with, or want to learn more about?

WGU Case Study: Formative assessment techniques

1:1 techniques

- Discussions
- Open-ended questions
- Follow-up questions
- Socratic method questioning
- Practice quizzes
- Study questions / guides
- Worksheets, Problem sets
- Live review sessions (adobe room)
- Line-up (sequencing activities)
- Journaling
- Teach the teacher
- Role play
- Graphical organizers, concept maps
- Self-reflection

1:Many techniques

- Adobe polls: Tea (concept)
- Adobe polls: MC questions
- Post-cohort quizzes
- Pulse checks (hand raise)
- Bump in the roads (confusing point)
- Think-pair-share
- One minute paper: exit commentary / key takeaway
- Work-alongs (give at beginning to follow during lecture)
- Response to chatter / discussion boards (teach to all, not one)
- Graphical organizers, concept maps
- Peer feedback during cohort, sprints
- Student led discussions / conferences

WGU Case Study: Online challenges

Challenge	Opportunity
1. Appropriateness of technique in learning environment	Some better for on-ground vs. online. Key is adaptation. - Setup 4 chat pods that “act” as corners of a room
2. Structure and limited time	Individual: Work on a comprehensive study plan with the student that has built in <i>synchronous and asynchronous</i> instruction lessons over time and not view as one-time instruction; need for greater proactive initiative Course: knowledge checks, unit quizzes, distributed formative assessment throughout course within LMS
3. Lack of shared proximity	Individual: discerning of tone, inflection of voice, and other indicators Group: Use signal-based strategies; “quick pulse” that include anonymous responses and group responses (e.g., Adobe hand raise, yes/no, agree/disagree)
4. Peer-reflection and feedback	Create writing workshops, offer cohort sessions or sprints, use of chatter and discussion boards; opportunity to evaluate learner self-regulation and to create effective automated feedback appropriately

WGU Case Study: What formative assessment is NOT

- Closed questions: yes/no
- Rhetorical questions: “Do you understand?” “Does this make sense to you”?”
- Using same assessment study plans or techniques for all students
- Not adjusting to student attitude, learning style, or needs
- Not responding to chat pods or discussion postings
- Using formative assessment techniques but not adjusting teaching to address misunderstanding or area to focus on

WGU Case Study: Faculty self-reflection

I understand what formative assessment is.

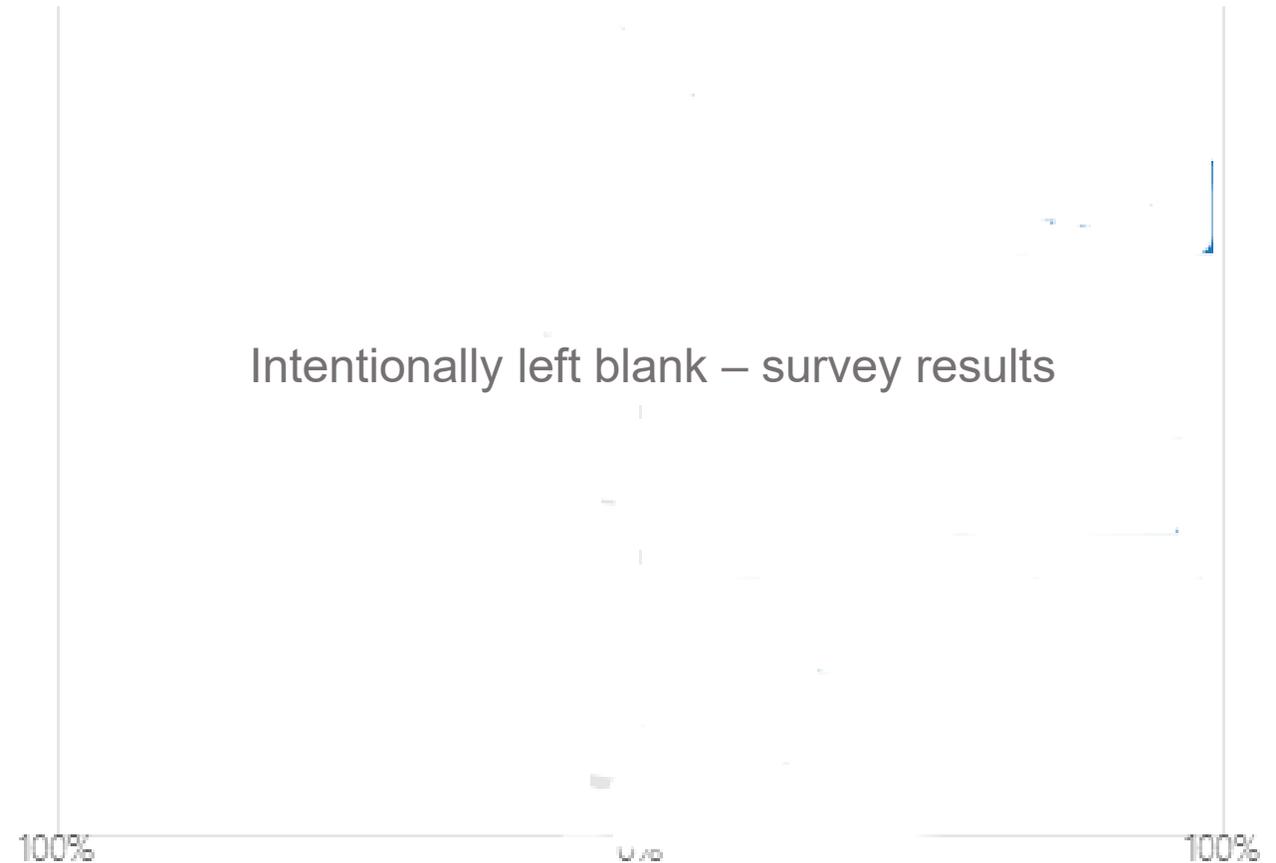
I see the value and purpose of formative assessment as it relates to preparation for the summative...

I use formative assessment techniques every time I work with a student.

I enjoy engaging in formative assessment.

Students benefit from formative assessment.

I believe a student's success depends mostly on their ability to engage in their learning process.

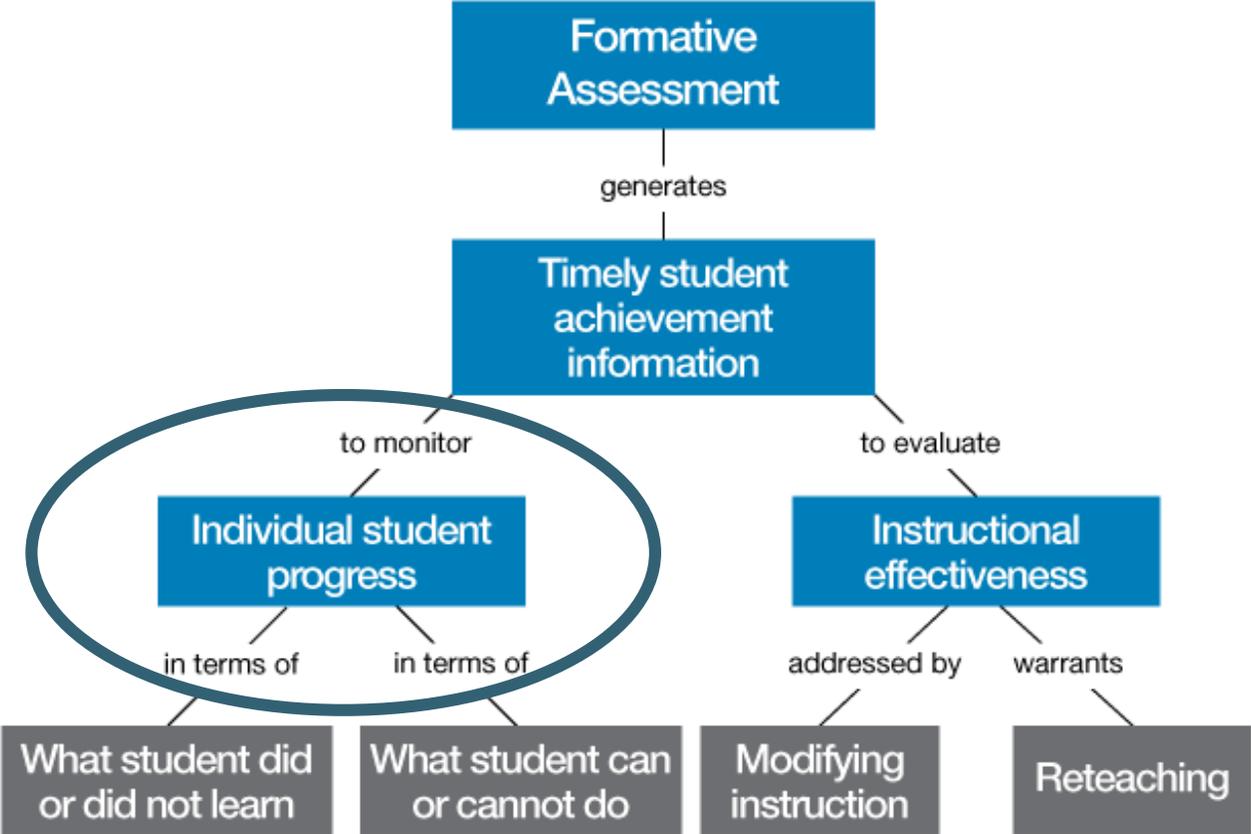


WGU Case Study: Faculty professional development

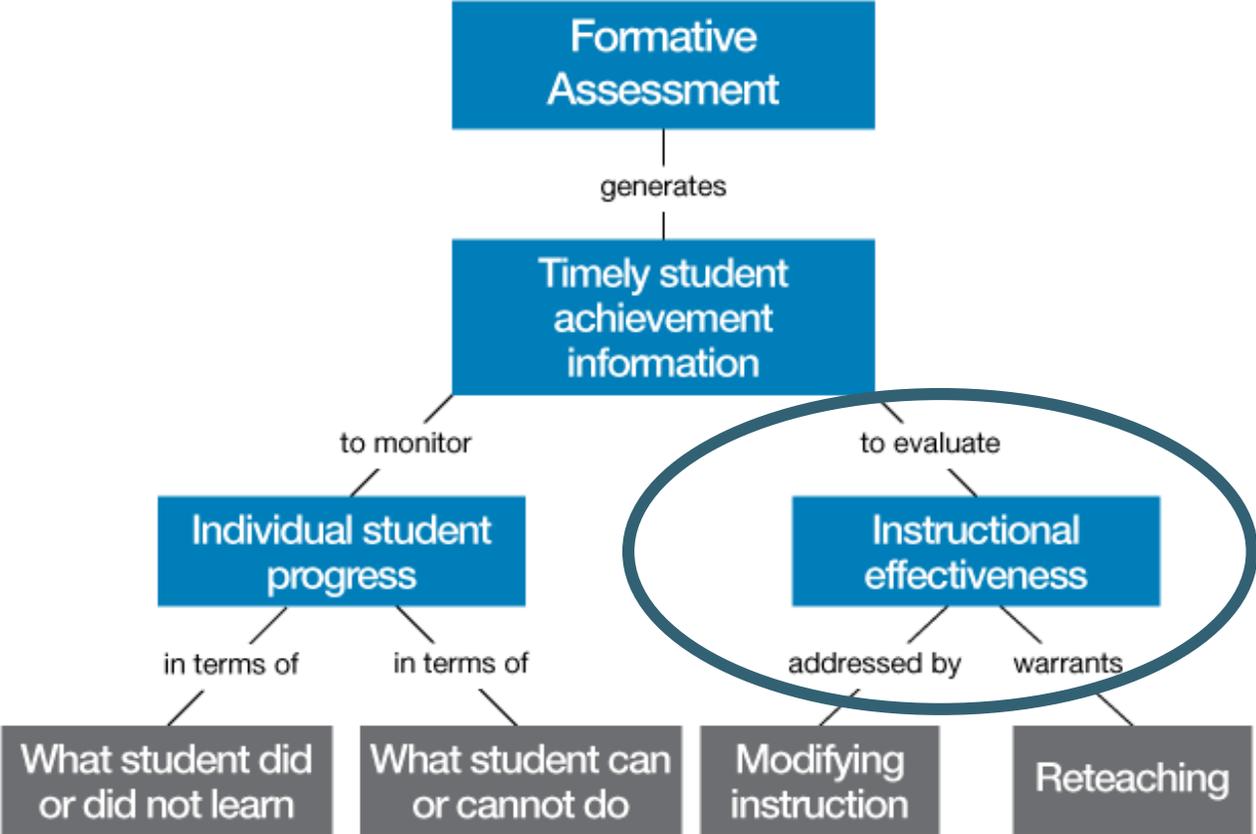
- Developing culture of professional development and using formative assessment as faculty professional development tool
- Viewing ourselves as learners and being open to new ways of teaching
 - When teachers see themselves as learners, are open to new ways of teaching, and are willing to modify their current teaching practice through repeated cycles of systematic practice and reflection, they can gradually arrive at this accomplished level of formative assessment practice.
- Honing of craft occurs over time gradually and is the result of thoughtful practice
 - It takes time and targeted attention on formative assessment to build the necessary expert capacity to create and manage an accomplished formative assessment classroom. It is this expertise that ultimately equips teachers to navigate the complexity of both their classrooms and their students' minds.

Activity	Purpose
Faculty kick-off meeting	Create culture and common terminology
Quarterly Meet-ups	Depth and development on various aspects of formative assessment and various techniques
Faculty Survey	Gather information on development areas and faculty perception; provide self-reflection and gather feedback
Practice Workshops	Hands-on learning opportunities; teach-back opportunities in practice sessions
Peer-shadowing	Enhance professional growth by being exposed to various approaches used by others; provide feedback and peer evaluation
Manager teaching observations	On-going assessment of craft through feedback and rubric standards
Flipgrid	Share feedback and knowledge through self-reflection and peer feedback
Formative Assessment website	Repository of professional development tools; teaching aids and learning resources to foster self-learning

WGU Case Study: Student learning & teaching effectiveness



WGU Case Study: Student learning & teaching effectiveness



WGU Case Study: Summary

- Guiding principles created culture of faculty professional development
- Professional development through use of formative assessment techniques with our faculty
- Quality formative assessment as integral part of our personalized student learning experience
- Active student involvement is necessary for effective learning and addresses ways for student to integrate self-reflection into learning process
- Collaborated with instructional and assessment developers and faculty across disciplines
- Learning involves consideration for curriculum, assessment design, pedagogy, epistemology and learner behaviors
- Recognized need for more distributed assessments throughout learning process and courses
- Development of innovative learning model includes adapting and creating formative assessment techniques for online learning and competency-based education
- Professional development is a continuous process that should never end

Thank you.



WGU



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REFLECTION AND FEEDBACK



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Citations

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