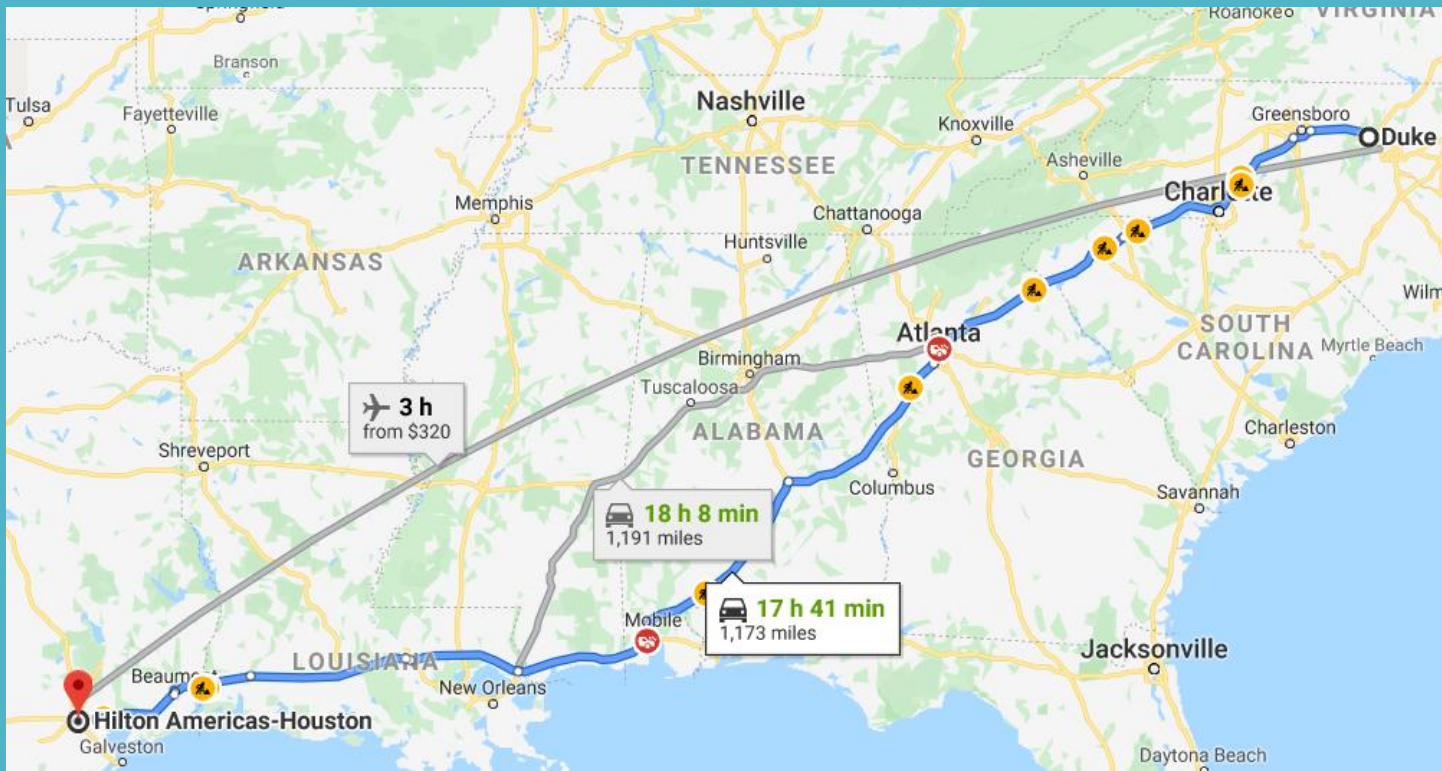


Alessandra Dinin & Evan Widney
The Office of Assessment
Duke University

Curriculum mapping:

defining, calibrating, testing and advancing
student learning outcomes

Where did we come from and where are we going?



17 h 42 min (1,173 miles)



via I-85 S and I-10 W

Fastest route, the usual traffic

⚠️ Your destination is in a different time zone.

Duke University

Durham, NC 27708

- Get on NC-147 N from Morreene Rd and Exits 108C-108D
4 min (1.6 mi)
- Take I-85 S, I-65 S, I-10 W, I-12 W and I-10 W to N Hamilton St in Houston. Take exit 770A from I-10 W
16 h 53 min (1,170 mi)
- Follow N Hamilton St to Avenida De Las Americas
5 min (0.9 mi)

Hilton Americas-Houston

1600 Lamar St, Houston, TX 77010

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Agenda:

1. Before you map: Student Learning Outcomes
2. What is a curriculum map? Why is it valuable?
3. Identifying a need for curriculum maps
4. Strategies (and challenges) for implementing curriculum maps
5. Discussion



Before you
map:

What is a
“Student
Learning
Outcome”?

Specific, measurable statements
of what students know or are able
to do by virtue of participation in
your program

Examples:

- Students will identify relevant assumptions underlying an argument in a scholarly paper.
- Students are able to discriminate between relevant and non-relevant information when forming an argument.
- Students will be able to deliver a persuasive argument in an oral presentation.
- Students form and execute well-functioning teams to solve a real-world problem.

Good Student Learning Outcomes:



Actor: Who is demonstrating the learning or change? This is the student, not the program.



Behavior: What will the student be able to do to demonstrate the knowledge or learning?



Context: What is the context? What is the thing they are using, making delivering, or acting upon?

Principle 1: The role of student learning in accreditation. The institution defines educational quality—one of its core purposes—by how well it fulfills its declared mission on student learning.

Principle 2: Documentation of student learning. The institution demonstrates that student learning is appropriate for the certificate or degree awarded and is consistent with the institution's own standards of academic performance.

Principle 3: Compilation of evidence. The institution derives evidence of student learning from multiple sources, such as courses, curricula, and co-curricular programming, and includes effects of both intentional and unintentional learning experiences. Evidence collected from these sources is complementary and demonstrates the impact of the institution as a whole on the student.

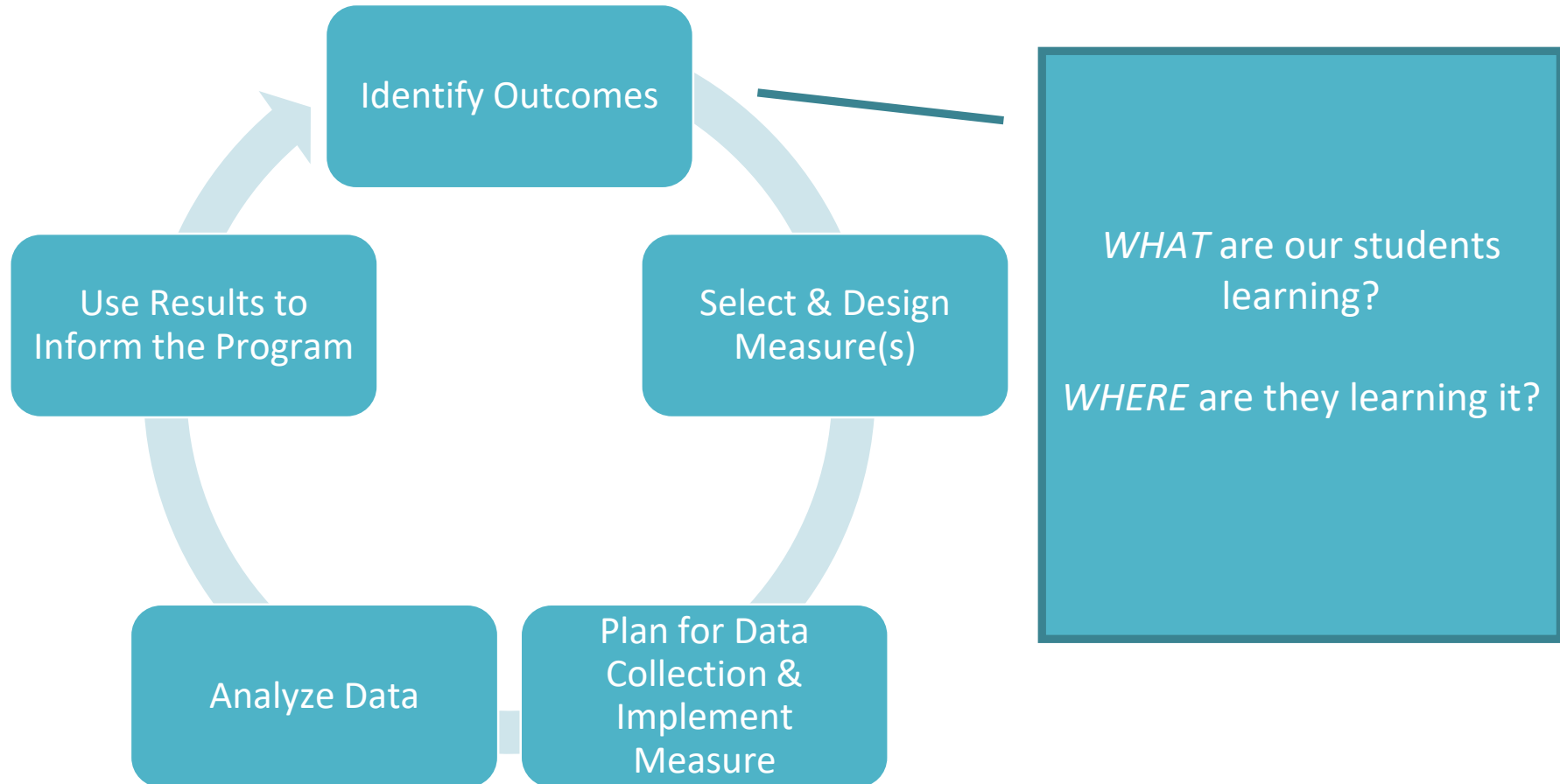
Principle 4: Stakeholder involvement. The collection, interpretation, and use of student learning evidence is a collective endeavor, and is not viewed as the sole responsibility of a single office or position. Those in the institution with a stake in decisions of educational quality participate in the process.

Principle 5: Capacity building. The institution uses broad participation in reflecting about student learning outcomes as a means of building a commitment to educational improvement.

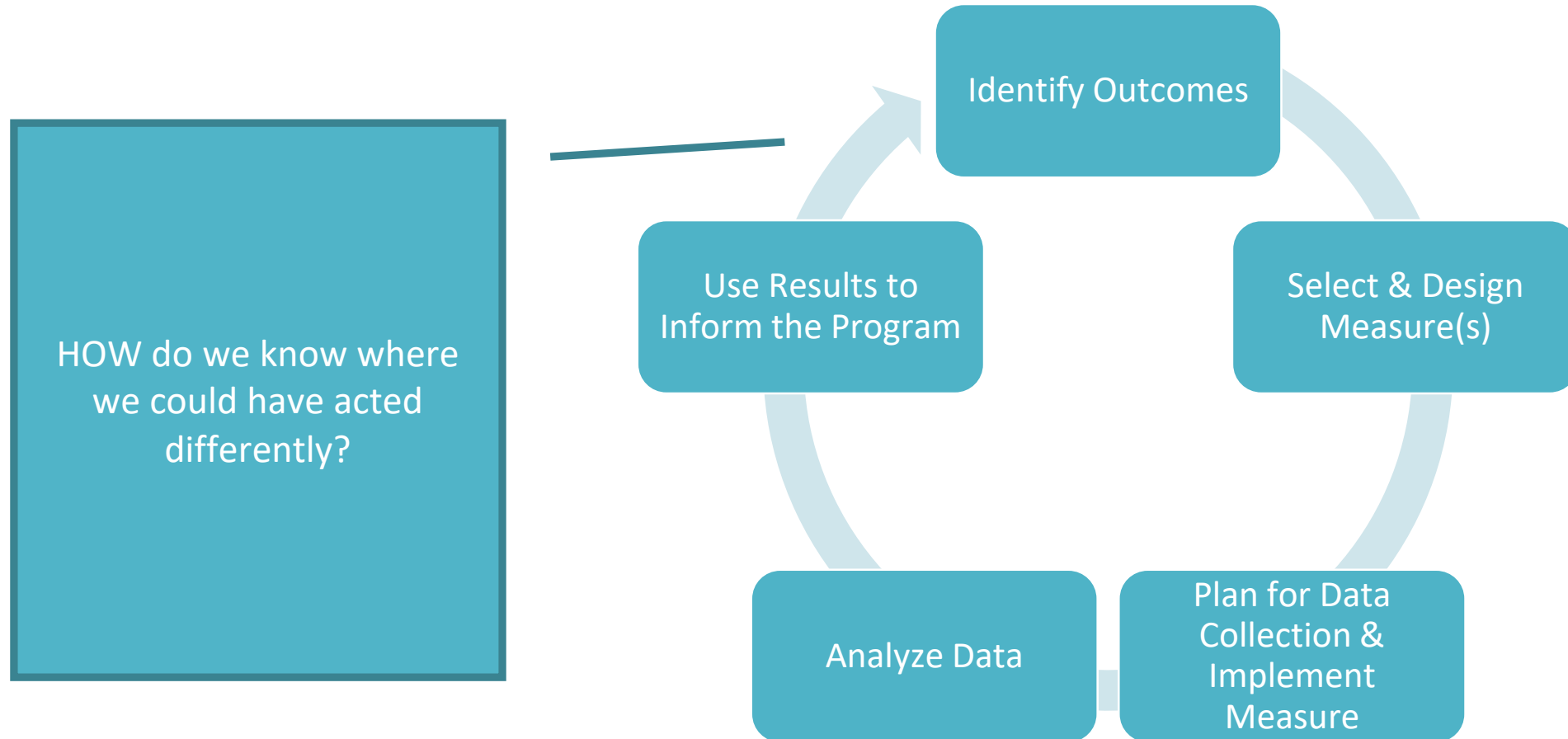
What does SACSCOC have to say about your learning outcomes?

<http://www.sacscoc.org/pdf/handbooks/GuideForInstitutions.pdf>

So, why did we talk about SLOs?



Why is a curriculum map valuable?

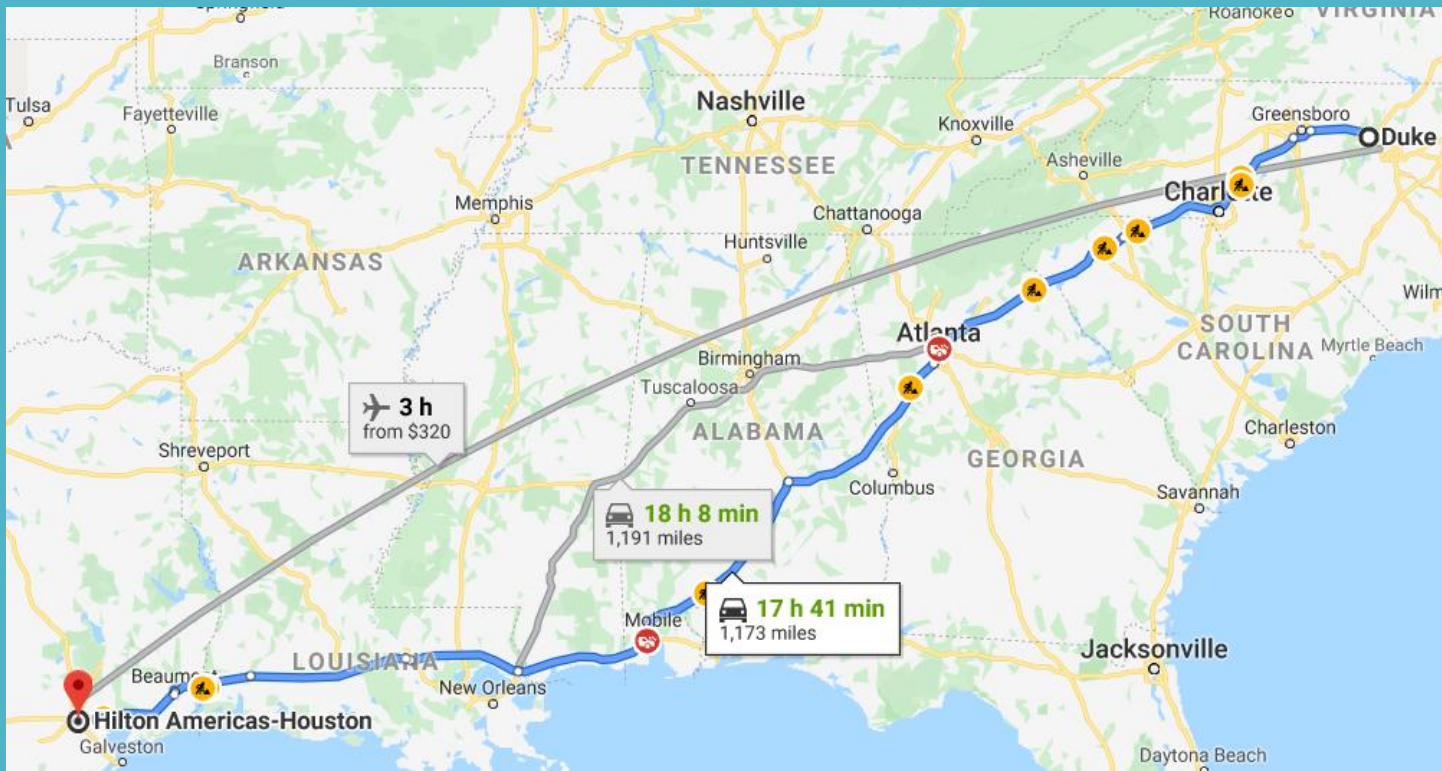




How do we keep on course?

Why Maps Matter...

What if we miss a turn?



17 h 42 min (1,173 miles)



via I-85 S and I-10 W

Fastest route, the usual traffic

⚠️ Your destination is in a different time zone.

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What Is A Curriculum Map?

Curriculum mapping is a systematic process to document and visualize student learning at a higher level, identifying gaps and redundancies, and affording an opportunity to align a program's learning outcomes with that of an institution (Archambault & Masunaga, 2015)

What Is A Curriculum Map?

Curriculum mapping is a consideration of when, how, and what is taught, as well as the assessment measures utilized to explain achievement of expected student learning outcomes (Harden, 2001)

What Else Is A Curriculum Map?



It is a foundational process that is key to understanding the story of student learning and how the student experience unfolds



It is an opportunity for reflective thinking



It is a strategy for collaboration (Uchiyama & Radin, 2009)



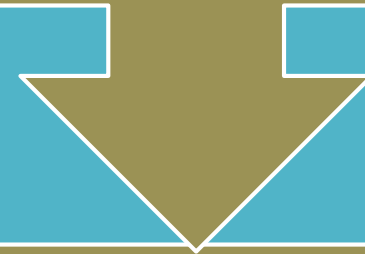
It is a common ground which helps guide behaviors, expectations, and future actions



It is the “glue” of the curriculum (Harden, 2001).

Important!

Meeting student learning outcomes
shouldn't be a gamble.



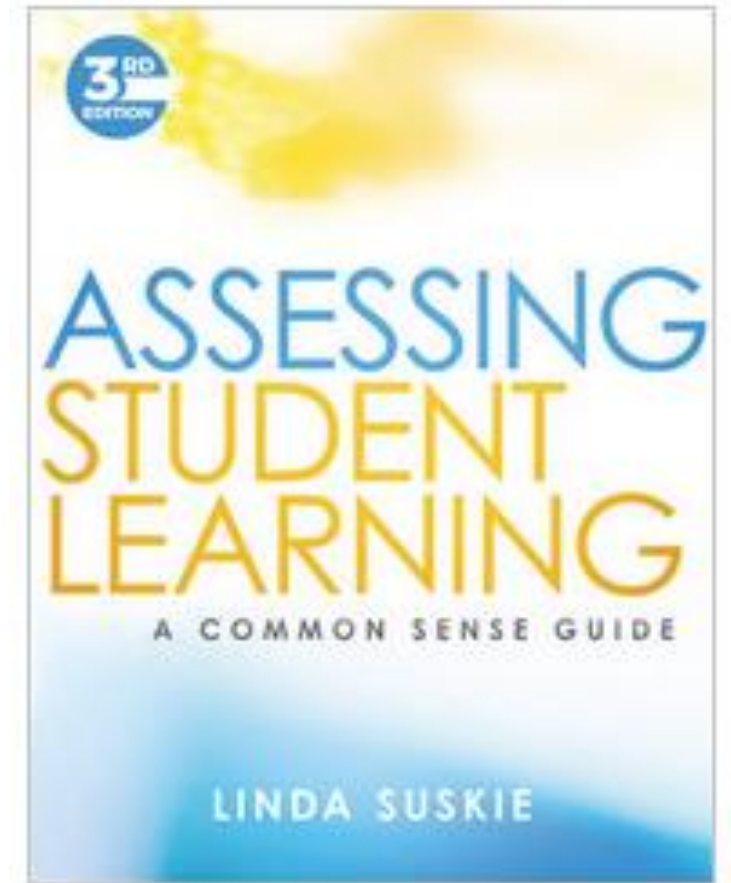
By effectively mapping learning
outcomes to specific student
experiences we know how the story of
student learning should unfold.

Finding a need for a curriculum map...

Is the curriculum designed to ensure that every student has enough opportunity to achieve each of its key learning goals?

Is the curriculum appropriately coherent?

Does the curriculum give students ample and diverse opportunities to achieve its learning goals?



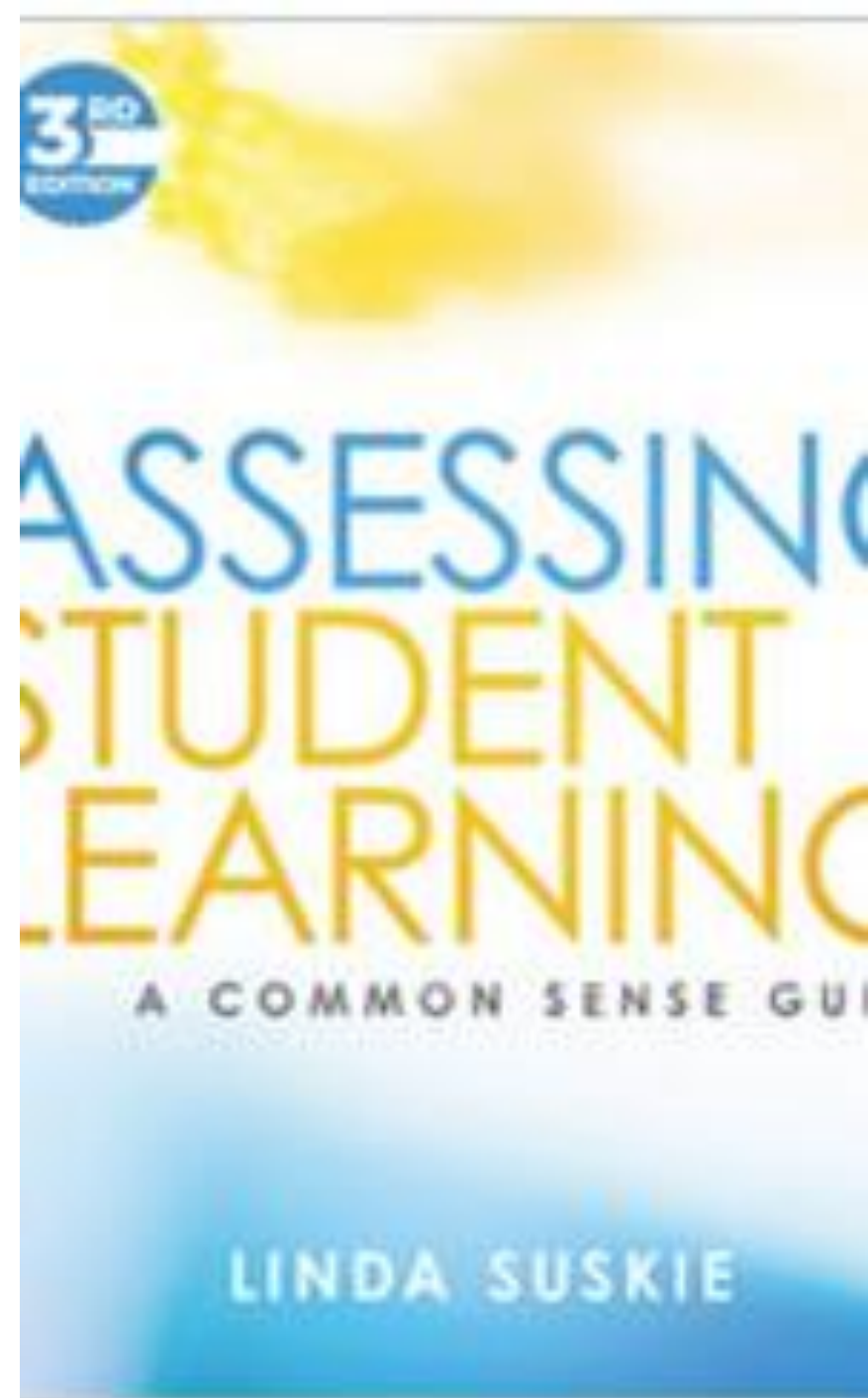
Finding a need...

Does the curriculum have appropriate, progressive rigor?

Does the curriculum conclude with a capstone experience?

Is the curriculum sufficiently focused and simple?

Is the curriculum responsive to the needs of students, employers, and society?



Contents

Start here!

Foundation

Closing the loop

Indicate your learning outco...

Student Learning Outcome 1

Student Learning Outcome 2

St

This asset has been shared for assessment.



Your program's portfolio of student learning begins here.
2018-19

Finding A Need...

Preview

here!

Background

Indicate your learning outco...

Student Learning Outcome 1

Student Learning Outcome 2

Stude...

DIRECT measures for SLO number 1

If you utilized multiple *direct* measures to measure this SLO, please separate them into multiple rows. The table can accommodate as many rows as you need.

Clarification of the difference between Direct and Indirect measures (i.e., sources of evidence) is located [here](#).

We selected the following direct measure(s) to collect evidence of students learning...	We set the following target for each of our direct measures. These targets are what we expect to see from the direct measure described at left...	When evidence was collected via this direct measure, we found the following...	Did we meet this target for this measure? (Yes / No)
Enter text...	Enter text...	Enter text...	Enter text...
Enter text...	Enter text...	Enter text...	Enter text...
Enter text...	Enter text...	Enter text...	Enter text...
Enter text...	Enter text...	Enter text...	Enter text...
Enter text...	Enter text...	Enter text...	Enter text...

Finding A Need...

PebblePad

ve

Preview

ents

Start here!

Foundation

Indicate your learning outco...

Student Learning Outcome 1

Student Learning Outcome 2

Looking ahead...

This is where you and your colleagues articulate a plan to address the findings listed above. Remember that we're still looking only at SLO number 1.

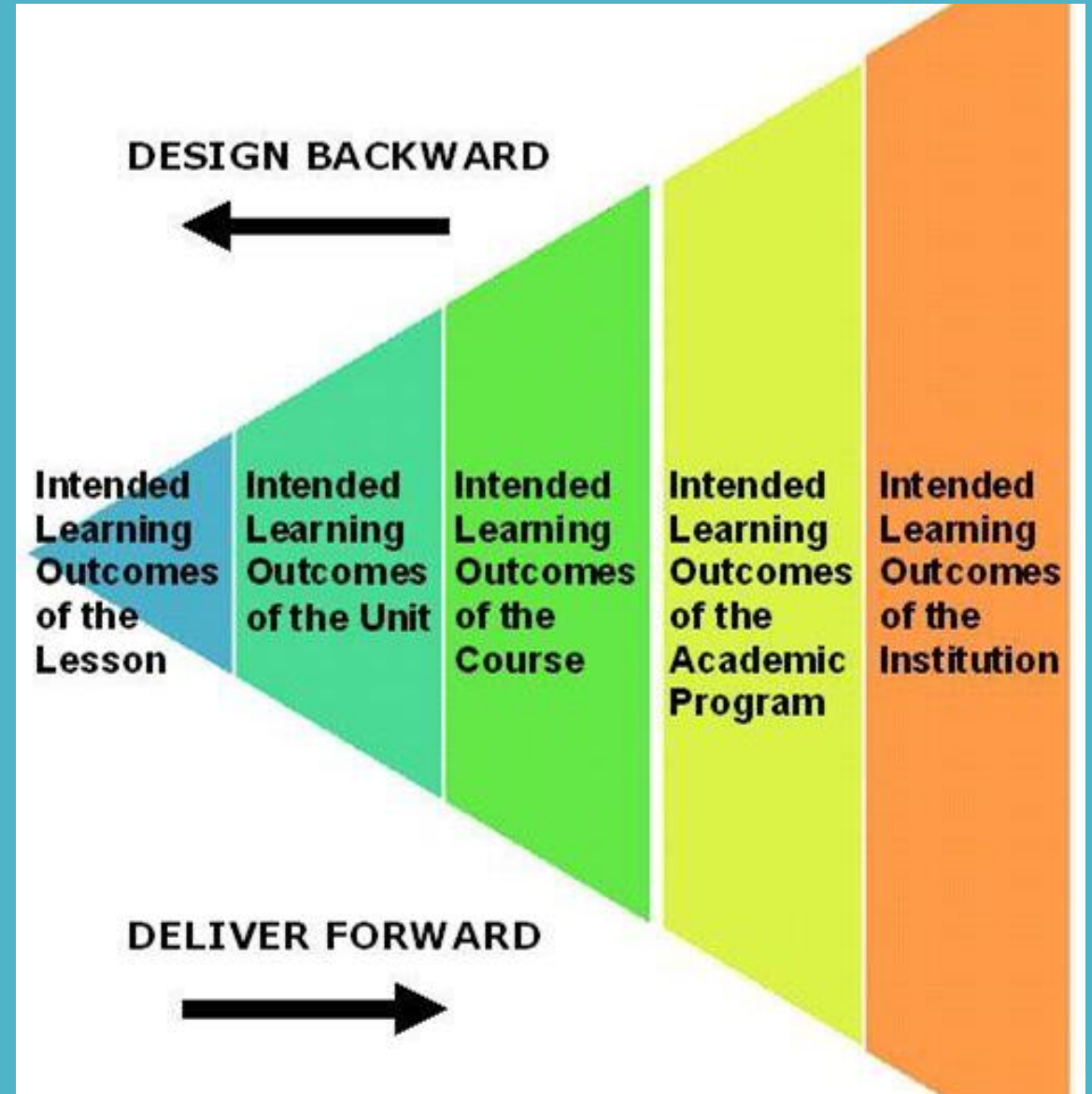
Please separate your next steps into discrete tasks. The table can accommodate as many rows as you need.

This section requires good thought and attention. The College will use this information to determine your departments readiness for additional support (e.g., funding for new innovations, initiatives, and faculty lines that support your preparedness to enhance undergraduate education excellence in the first two years).

What we plan to do in response to the findings from our study of SLO number 1...	This activity or adjustment is appropriate in light of this evidence because...

Finding A Need...

Building A Curriculum Map



Building A Curriculum Map



CAN BE VERY SIMPLE OR
EXTREMELY DETAILED



IT'S OK TO START SMALL



THE MORE DETAIL THE BETTER
– BUT RECOGNIZE TRADE OFFS

<i>Courses and Experiences</i>	<i>Program Learning Outcomes</i>			
	Outcome 1 - Foundational Knowledge	Outcome 2 - Research Methods	Outcome 3 - Writing in the Discipline	Outcome 4 - Critical Thinking
COURSE 101				
COURSE 202				
COURSE 303				
COURSE 404				
Other: Portfolio/Thesis/ Etc.				

Building A Curriculum Map

<i>Courses and Experiences</i>	<i>Program Learning Outcomes</i>			
	Outcome 1 - Foundational Knowledge	Outcome 2 - Research Methods	Outcome 3 - Writing in the Discipline	Outcome 4 - Critical Thinking
COURSE 101	X	X		
COURSE 202	X	X	X	
COURSE 303	X	X	X	
COURSE 404	X		X	X
Other: Portfolio/Thesis/				

Building A Curriculum Map

Building A Curriculum Map

Determine the scale you wish to use:

I - Introduce

R - Reinforce

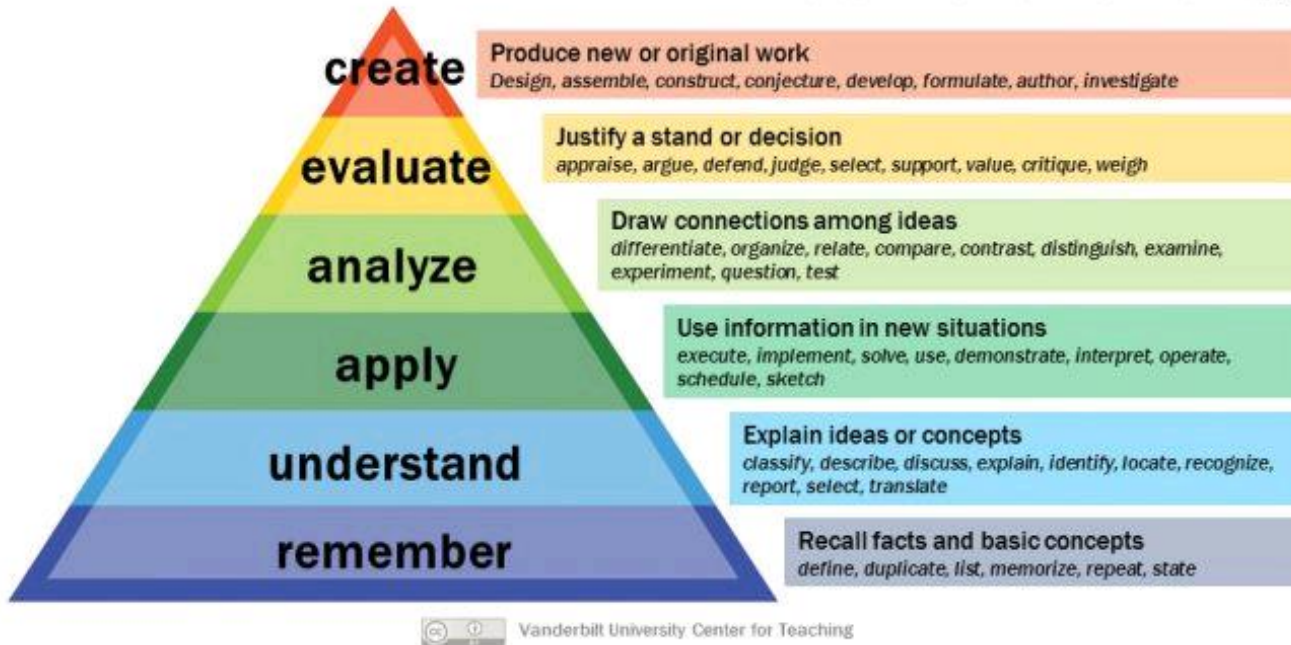
E - Emphasize

B - Beginner

I - Intermediate

A - Advanced

Bloom's Taxonomy



<i>Courses and Experiences</i>	<i>Program Learning Outcomes</i>			
	Outcome 1 - Foundational Knowledge	Outcome 2 - Research Methods	Outcome 3 - Writing in the Discipline	Outcome 4 - Critical Thinking
COURSE 101	I	I		
COURSE 202	R	R	I	
COURSE 303	R	E	R	
COURSE 404	E		E	I
Other: Portfolio/Thesis/				

Building A Curriculum Map

Building A Curriculum Map

	3 SH	3 SH	Course Cluster 1 (3 SH) (Students Select One Course)			3 SH	2 SH	Course Cluster 2 (3 SH) (Students Select One Course)		Course Cluster 3 (3 SH) (Students Select One Course)			4 SH
Program SLOs	XXX 2234 Course Title	XXX 3244 Course Title	XXX 3324 Course Title	XXX 3335 Course Title	XXX 3472 Course Title	XXX 3367 Course Title	XXX 4291 Course Title	XXX 4735 Course Title	XXX 4459 Course Title	XXX 3738 Course Title	XXX 4931 Course Title	XXX 4482 Course Title	XXX 4976 Course Title
Content													
Critical Thinking													
Communication													
Integrity / Values													
Department Name										Program Name: B.A. in XXXXX			
Department URL										Creation Date:			

Building A Curriculum Map

Columns in the Curriculum Map list <u>Required Courses</u> (do not list electives)	3 SH	3 SH	Course Cluster 1 (3 SH) (Students Select One Course)			3 SH	2 SH	Course Cluster 2 (3 SH) (Students Select One Course)		Course Cluster 3 (3 SH) (Students Select One Course)			4 SH
Enter one program-level SLO in each row of this column	XXX2234 Introductory Course	XXX3234 Research Methods	XXX3235 Cluster 1 Course A	XXX3246 Cluster 1 Course B	XXX3247 Cluster 1 Course C	XXX3348 Laboratory / Practicum Course	XXX4437 Laboratory / Practicum Course	XXX3398 Cluster 2 Course A	XXX4798 Cluster 2 Course B	XXX4234 Cluster 3 Course A	XXX4235 Cluster 3 Course B	XXX4236 Cluster 3 Course C	XXX4698 Capstone Course
Content	<div>Content of Cells Describes -</div> <div>How Course Supports Learning for this SLO (option 1):</div> <div>OR</div> <div>Embedded Assignment used to Assess the SLO (option 2):</div>												
Full program-level SLOs appear on the ALC or ALP document (do not abbreviate or truncate). Examples below represent SLOs from a hypothetical program.	Cell describes how course supports learning on this SLO	Leave Blank if Course has no SLO or assessed work		Introduced (example)	Reinforced / Practice (example)	Mastery / Assessed (example)		Exam Questions	Class Project	Term Paper	Lab Paper	Project Client Feedback	
Identify and describe key concepts, principles and themes of Discipline X.								Reflection Essay	Annotated Bibliography	Class Presentation	Poster Presentation	Supervisor Evaluation	
Describe the research methods used to investigate scholarly problems within the discipline.								IRB/ACUC Proposal	Peer Review of Team Skills	Capstone Project / Portfolio	Other Graded Work in Course (Describe)		
Describe the application of disciplinary research and theory for real-world problems.													
Critical Thinking													
Use scientific reasoning to interpret phenomena investigated in the discipline.													
Design, conduct, and interpret basic disciplinary research.													
Communication													
Produce clear, readable prose for a targeted audience that is free of problems with grammar, punctuation, or spelling.													
Spoken communication is professional and uses appropriate language for the targeted audience.													
Integrity / Values													
Articulate and adhere to ethical standards of the discipline.													
Articulate and adhere to ethical academic standards of the University of West Florida.													

Department Name
Department URL

Curriculum Map Example Based on Template
Center for University Teaching, Learning, and Assessment

Program Name: B.A. in XXXXX
Date Created: November 2016

<http://uwf.edu/offices/cutla/>

Building A Curriculum Map



Identifying and reflecting on goals

Course
Department
Program
College



Identifying student learning opportunities



Identifying moments in which assessment can and should take place (both formative and summative)



Clarifying the desired level of comprehension and mastery for relevant knowledge and skills

Building A Curriculum Map

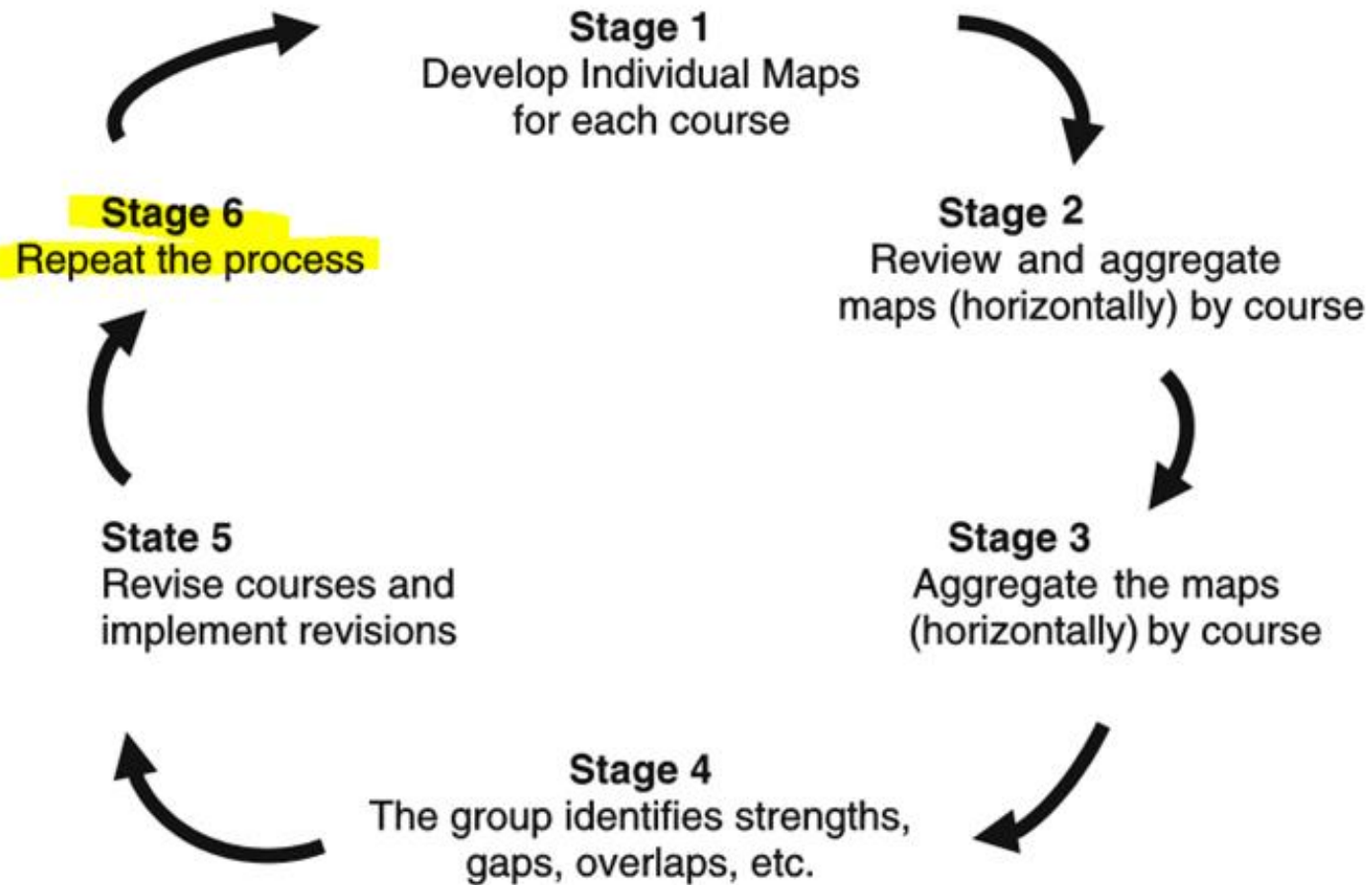
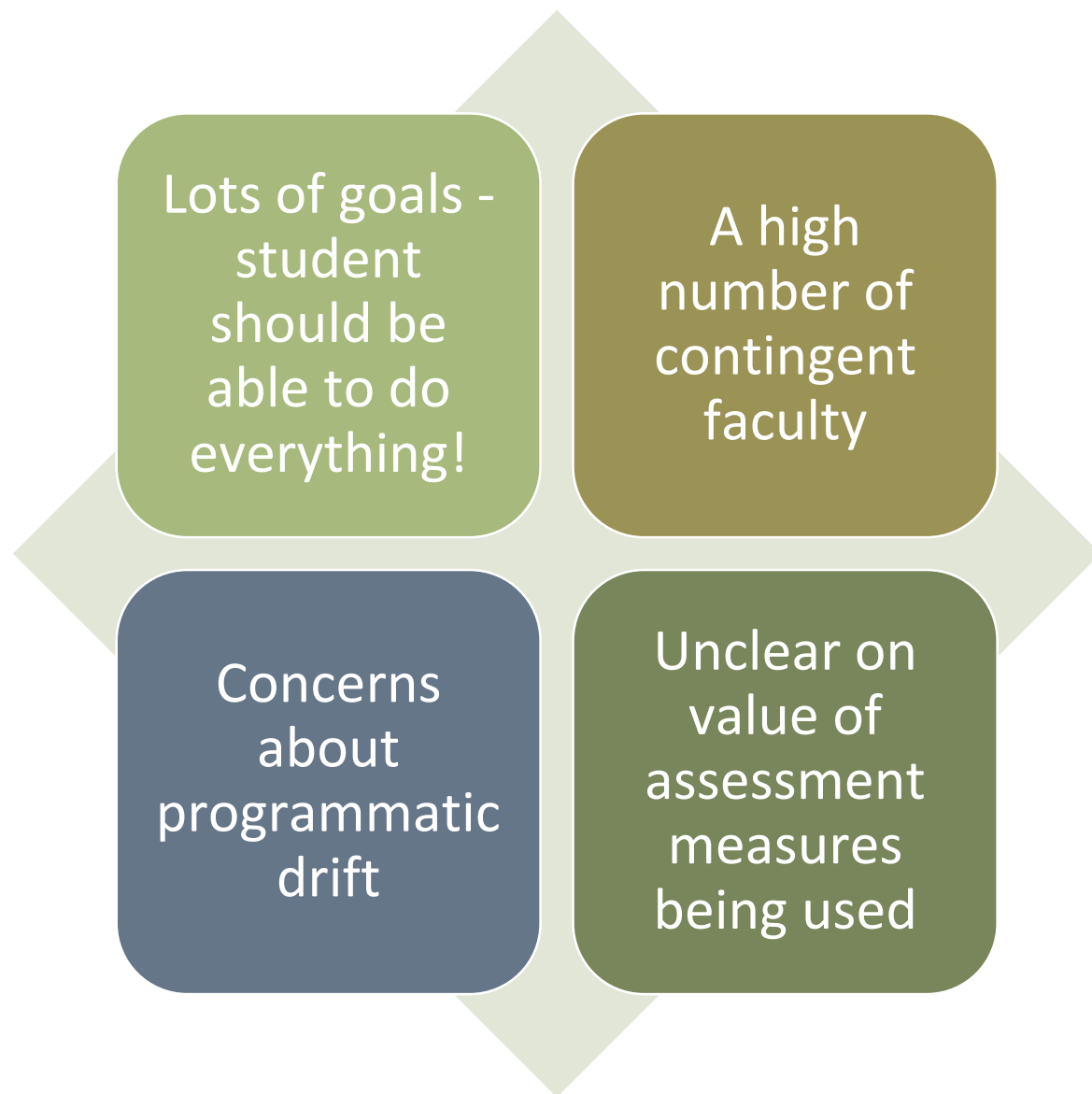


Fig. 1 The process of curriculum mapping.









Examples & Challenges:

Program A

Enter one program-level SLO in each row of this column	XXXX234 Introduction Course	XXXX234 Rese Methods	XXXX3235 Clust Course A	XXXX3246 Clust Course B	XXXX3247 Clust Course C	XXXX3348 Laboratory Practicum Cou	XXXX4437 Laboratory Practicum Cou	XXXX3398 Clust Course A	XXXX4798 Clust Course B	XXXX4234 Clust Course A	XXXX4235 Clust Course B	XXXX4236 Clust Course C	XXXX4698 Capst Course
Content	<div>Content of Cells Describes -</div> <div>How Course Supports Learning for this SLO (option 1):</div> <div>OR</div> <div>Embedded Assignment used to Assess the SLO (option 2):</div>												
Full program-level SLOs is appears on the ALC or ALP document (do not abbreviate or truncate). Examples below represents SLOs from a hypothetical program.	Cell describes how course supports learning on this SLO	Leave Blank if Course has no SLO or assessed work		Introduced (example)	Reinforced / Practice (example)	Mastery / Assessed (example)		Exam Questions	Class Project	Term Paper	Lab Paper	Project Client Feedback	
Identify and describe key concepts, principles and themes of Discipline X.								Reflection Essay	Annotated Bibliography	Class Presentation	Poster Presentation	Supervisor Evaluation	
Describe the research methods used to investigate scholarly problems within the discipline.								IRB/ACUC Proposal	Peer Review of Team Skills	Capstone Project / Portfolio	Other Graded Work in Course (Describe)		
Describe the application of disciplinary research and theory for real-world problems.													
Critical Thinking													
Use scientific reasoning to interpret phenomena investigated in the discipline.													
Design, conduct, and interpret basic disciplinary research.													
Communication													
Produce clear, readable prose for a targeted audience that is free of problems with grammar, punctuation, or spelling.													
Spoken communication is professional and uses appropriate language for the targeted audience.													
Integrity / Values													
Articulate and adhere to ethical standards of the discipline.													
Articulate and adhere to ethical academic standards of the University of West Florida.													

Program A’s Actions Included:
Document analysis of course syllabi

Activities	Gateway					
						
Only one(s) tied to	E	R	E	R	R	A
Innovations) to fied	R	E	E	R	R	R
Realistic ion(s)	R	E	E	R	R	R
Search project, entre tie						

Program A

Curriculum Map

To provide a visual accounting of how the program's learning objectives are covered across the core courses (gateways, keystone, and capstone), a curriculum map, shown below, was developed. The ranking system for depth of coverage is as follows:

- A** = Addressed – Concepts related to learning are explored in a general manner.
- R** = Reinforced – Learning goal is explored in a more specific context.
- E** = Emphasized – Learning goal is explored in depth.

Examples & Challenges:

Program B



Courses aren't scaffolded – flattened curriculum



Wide variety of available electives credited towards major



Many niche courses representing faculty expertise



Faculty leadership in transition

For which course are you completing this questionnaire? Please return to the questionnaire to complete it on behalf of multiple courses.

Please indicate the level to which each Departmental Student Learning Outcome (SLO) is applicable to this course.

	This SLO is not applicable to this course	Elementary Level	Intermediary Level	Mastery Level
[Placeholder] SLO 1. Students will identify relevant assumptions underlying an argument in a scholarly paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[Placeholder] SLO 2. Students will be able to deliver a persuasive argument in an oral presentation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[Placeholder] SLO 3: Students are able to identify and evaluate multiple strategies for solving a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What (if any) additional student learning outcomes does this course address?

Program B’s Actions Included: A survey of instructors

How does their course support the learning outcomes of the program?

Program B

Scale:

Elementary

Intermediary

Mastery

The map shows a general rise in expected SLO from 100 to 500-level courses (lower level courses having more elementary-level SLO, higher levels having more mastery-level). Despite this, some SLO do not appear to follow the expected progression. SLO 6 appears not particularly well-represented in 100-399 level courses. SLO 8 does not appear to be well-represented either – nearly half of the 100-399 level courses have this marked as N/A.

Examples & Challenges: Program C

1

Shifting landscape –
fewer students and
faculty

2

Meeting their goals
but also needed to
adapt to current
climate

3

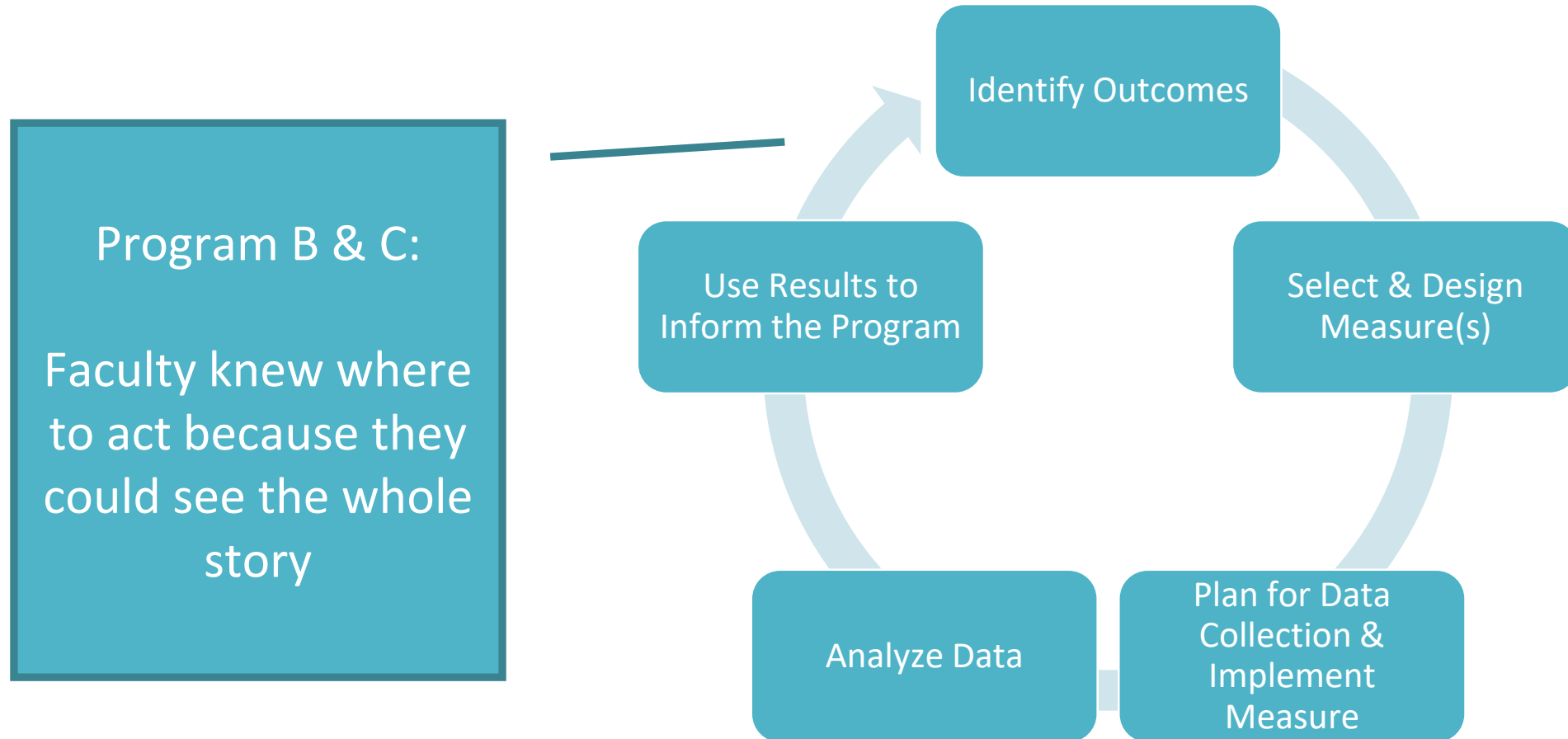
Recognizing an over
emphasis of certain
core concepts and
skills

Program C's Actions Included:

Document analysis of course syllabi

<i>Courses and Experiences</i>	<i>Program Learning Outcomes</i>			
	Outcome 1 - Foundational Knowledge	Outcome 2 - Research Methods	Outcome 3 - Writing in the Discipline	Outcome 4 - Critical Thinking
COURSE 101	I	I		
COURSE 202	R	R	I	
COURSE 303	R	E	R	
COURSE 404	E		E	I
Other: Portfolio/Thesis/ Etc.				

The Map Mattered...



Remember...



Meeting student learning outcomes shouldn't be a gamble.

By effectively mapping learning outcomes to specific student experiences we know how the story of student learning should unfold.

Remember: How do curriculum maps support our work?



Improve communication about curriculum among faculty



Improve curricular coherence



Increase the likelihood that students achieve intended outcomes



Encourage reflective practice



Increased sense of collaboration and collegiality amongst department

Questions & Comments

Contact:

Alessandra Dinin, Ph.D:
alessandra.dinin@duke.edu

Evan Widney:
evan.Widney@duke.edu

Slides available:

<https://assessment.trinity.duke.edu/general-presentations>