DAY	ONE
8.30	-9:00

Continental Breakfast in the Panorama Room

9:00-9:15

The institutional context of the learning outcomes and assessment initiative at TRU

Kate Sutherland

9:15-10:30

The benefits and importance of outcomes-based curriculum Peter Wolf development

10:30-10:45 Nutrition break

10:45-11:00

Integration of the program review process with the curriculum development cycle

Gary Bunney

11:00-12:00

Defining the attributes of the ideal TRU graduate

Gary Hunt/Peter Wolf

12:00-1:00

Lunch

1:00-2:30

From attributes to learning outcomes: the structure and language of effective learning outcomes

Peter Wolf

· Examples from Nursing

Krista Lussier

2:30-2:45 Nutrition Break

2:45-3:30

Assessing learning outcomes: Developing an assessment plan

Peter Wolf

DAY TWO

8:30-9:00 Continental breakfast in the Panorama Room

9:00-10:30

Developing your assessment plan

Peter Wolf

10:30-10:45 Nutrition Break

10:45-12:00

Curriculum mapping

Peter Wolf

12:00-1:00 Lunch

1:00-2:30

The curriculum development cycle in the School of **Business and Economics**

Dan Thompson

The curriculum development cycle in Nursing

Krista Lussier

2:30-3:00

Closing the loop

Peter Wolf

3:00-3:30

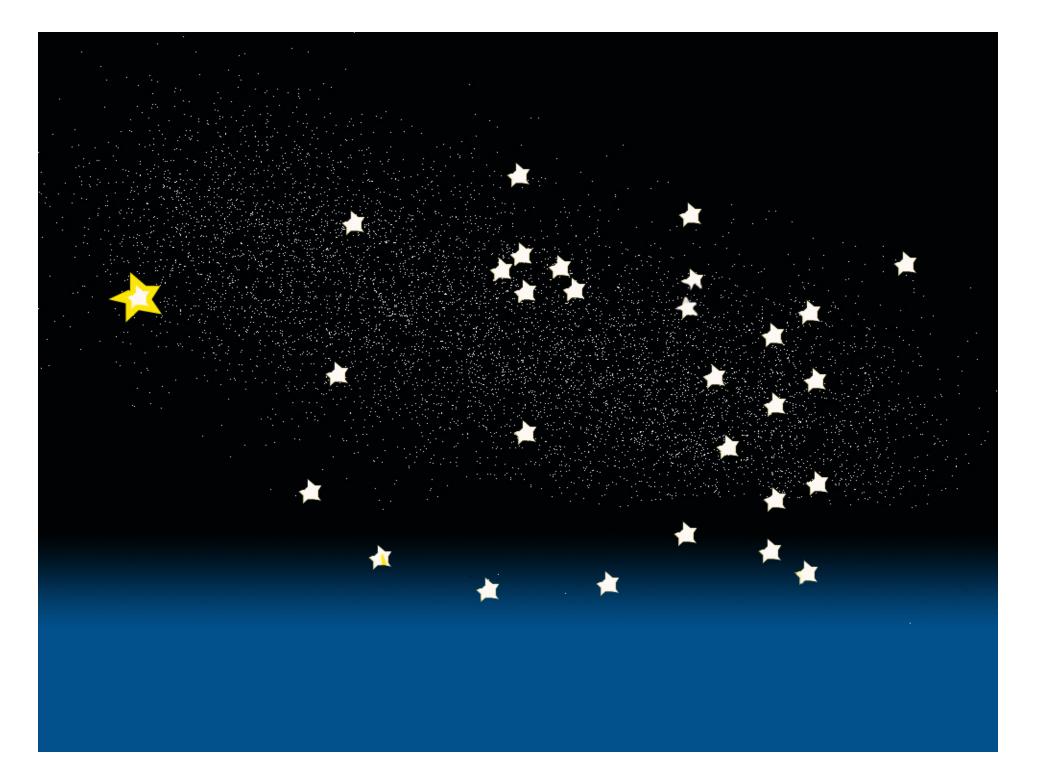
Conclusions and next steps

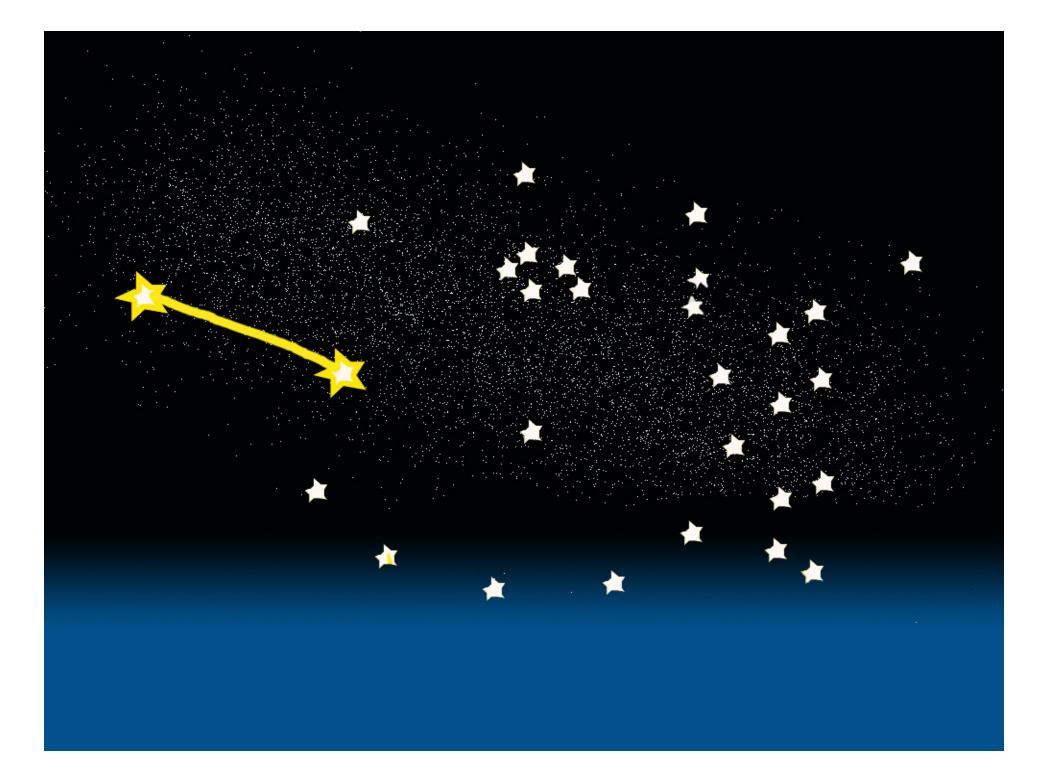
Gary Hunt

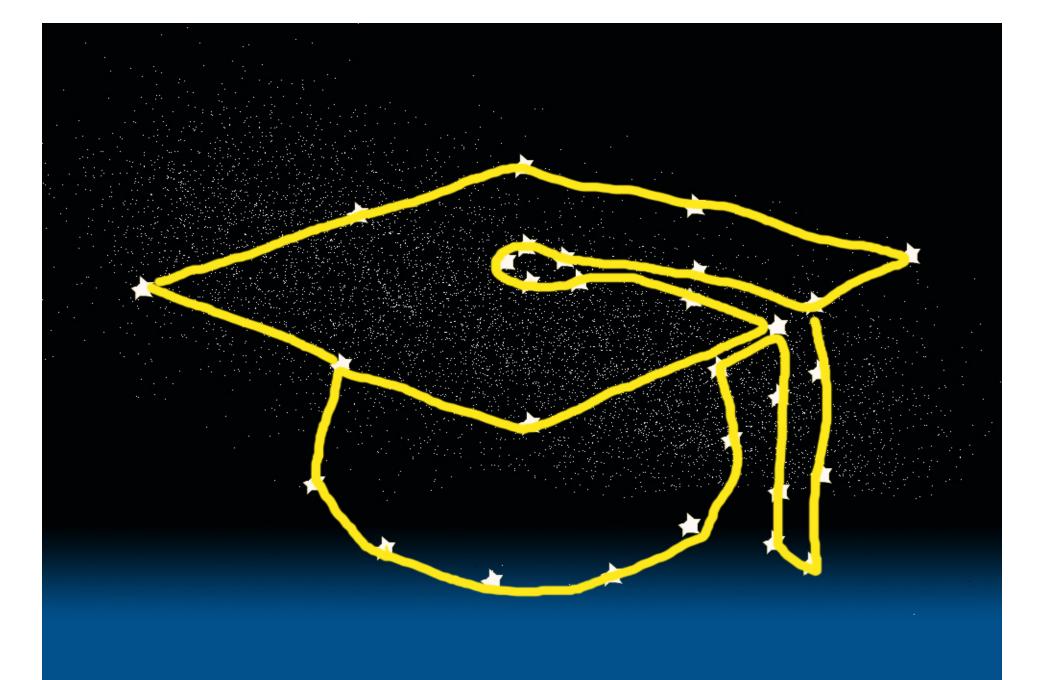
- Completion of survey on status of program-level learning outcomes, resources and assistance needed
- Planning for program-level learning outcomes workshops in fall

The benefits and importance of outcomes-based curriculum development

April 2014









Scholacticus Exemplaris

Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. How do we embed continuous improvement?

What is the value of identifying learning outcomes?

A study synthesizing:

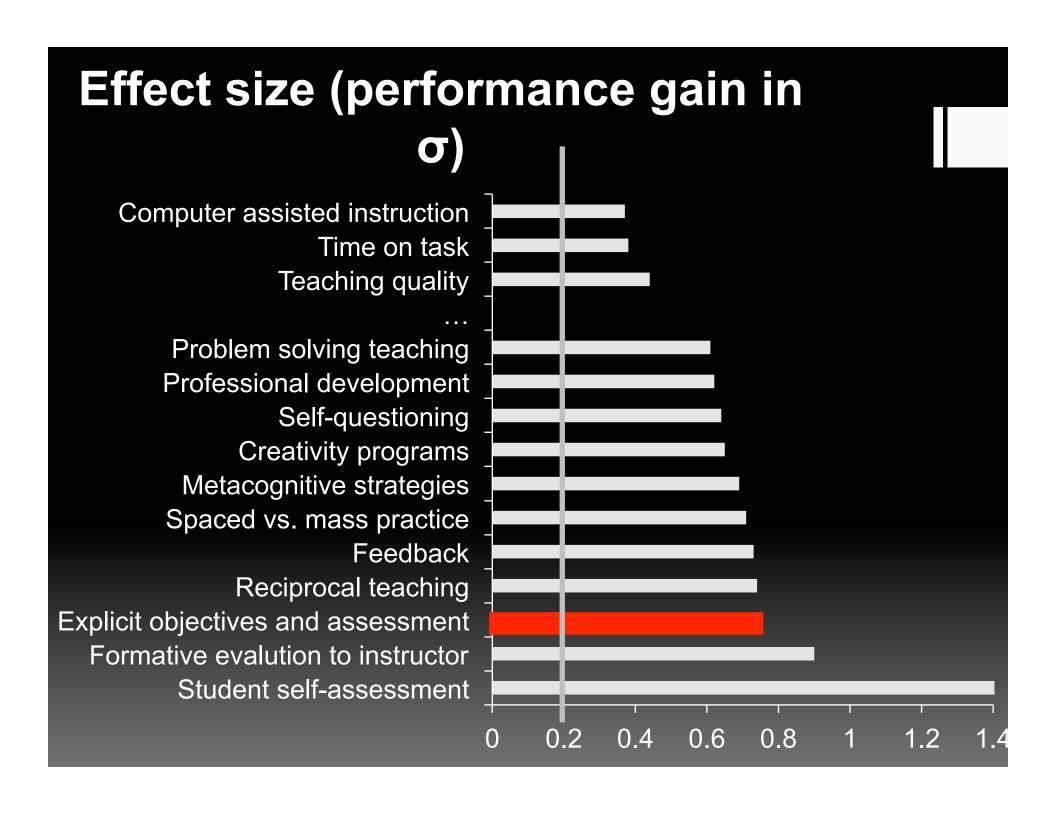
800 meta-analyses

50,000+ studies

200+ million students

found that explicit outcomes and assessment has one of the largest effects on learning...

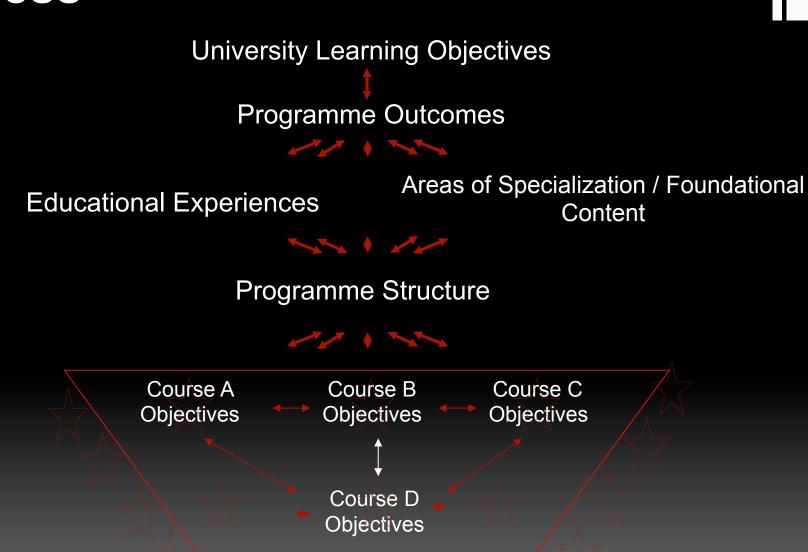
Hattie, J. (2009). The Black Box of Tertiary Assessment: An Impending Revolution. In L. H. Meyer, S. Davidson, H. Anderson, R. Fletcher, P.M. Johnston, & M. Rees (Eds.), Tertiary Assessment & Higher Education Student Outcomes: Policy, Practice & Research (pp.259-275). Wellington, New Zealand: Ako Aotearoa



Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. Where in the curriculum are students encouraged to develop the programme outcomes? How do we embed continuous improvement?

'Ideal' Curriculum Development Process







Assessment plan



What do you want to know about the

program?

Curriculum & process improvement



Analyze & interpret



Collecting evidence (including curriculum mapping)

Attributes of the 'Ideal Graduate'

- University Learning Outcomes
- Existing Program Outcomes
- Professional Organizations
- Accreditation
- Other Similar Programs

OCAV - Degree Level Expectations

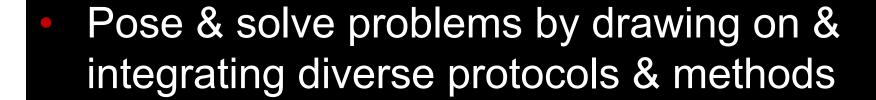
- Depth and Breadth of Knowledge
- Knowledge of Methodologies
- Application of Knowledge
- Communication Skills
- Awareness of Limits of Knowledge
- Autonomy and Professional Capacity

University of Guelph Learning Objectives (2013)

- Critical and Creative Thinking
 - Inquiry and Analysis, Problem Solving, Creativity, Depth and Breadth of Understanding
- Literacy
 - Information Literacy, Quantitative Literacy, Technological Literacy, Visual Literacy
- Global Understanding
 - Global Understanding, Sense of Historical Development, Civic Knowledge and Engagement, Intercultural Competence
- Communicating
 - Oral Communication, Written Communication, Reading Comprehension, Integrative Communication
- Professional and Ethical Behaviour
 - Teamwork, Ethical Reasoning, Leadership, Personal Organization and Time Management

Bachelors of Arts & Sciences

Sample Program Outcomes



Oral & written communications, for academic
 & general audiences

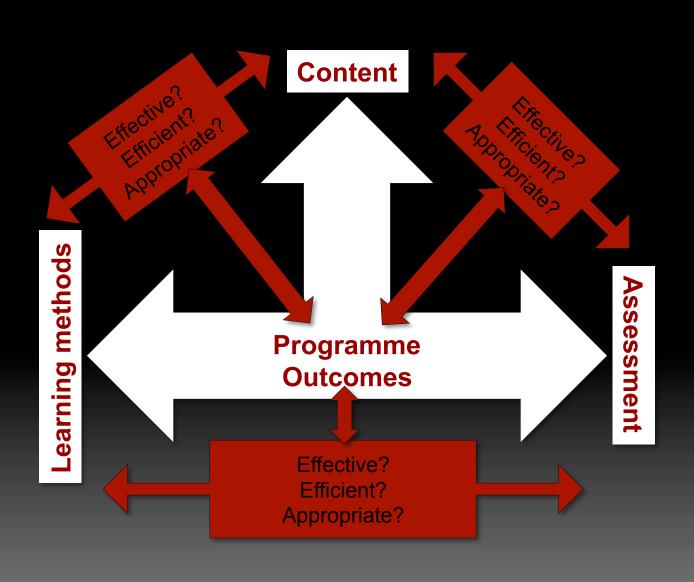
 Conduct traditional & electronic research, in humanities/social sciences & scientific contexts

Embedding Outcomes Autonomy & **Professional** OCAV DLE Capacity **Professional** & Ethical University Behaviour Outcome **Values** diversity of opinions & perspectives Degree Outcome Will utilize Canada's **Charter of Rights** and Freedom in Course determining resolution to Outcome case studies

Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. How do we embed continuous improvement?

Programme Assessment



Four Levels of Evaluation



Consider:

- What do we want to know about our program
- Who are our stakeholders
- What can they tell us about the program
- How best to gather the needed evidence
- How often to collect

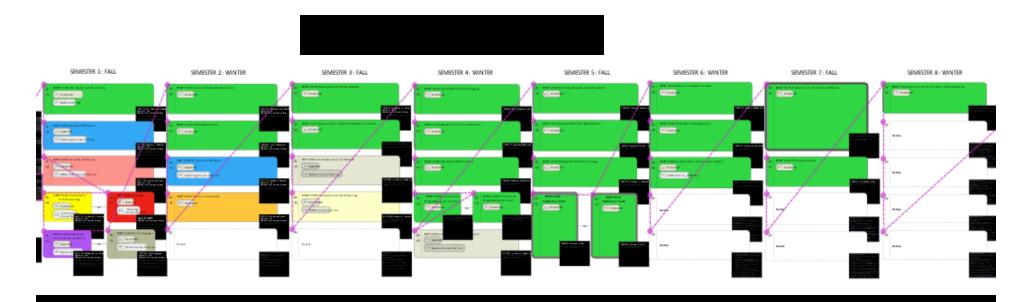
Is the curriculum:

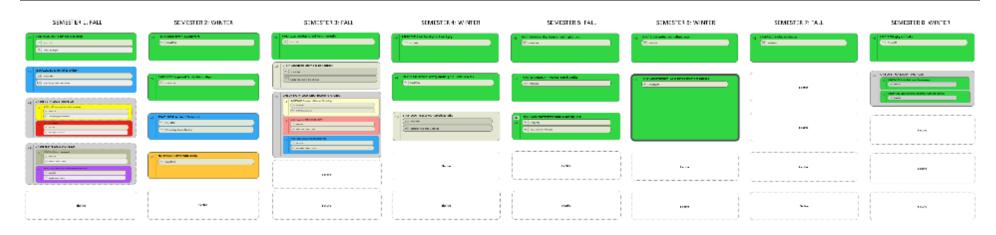
- 1. Effective?
- 2. Efficient?
- 3. Appropriate?

Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. How do we embed continuous improvement?

Semester Maps





CurricKit

Curriculum Mapping at the University of Guelph



Administration

Projects

Course Surveys

Logout

Currently logged in as: pwol

University of Guelph Demo

Main

Courses

Knowledge, Skills and Values

Instructional Methods

Assessments

Survey

Reports

Survey Questions:

- •Which instructional methods do you use in this course?
- Which assessment ap
- For each listed knowled
 intentionally foster in the
- •For those indicated, p assessed in this course?

Course-by-course info:

- Outcomes
- Assessment
- Learning methods

s course?

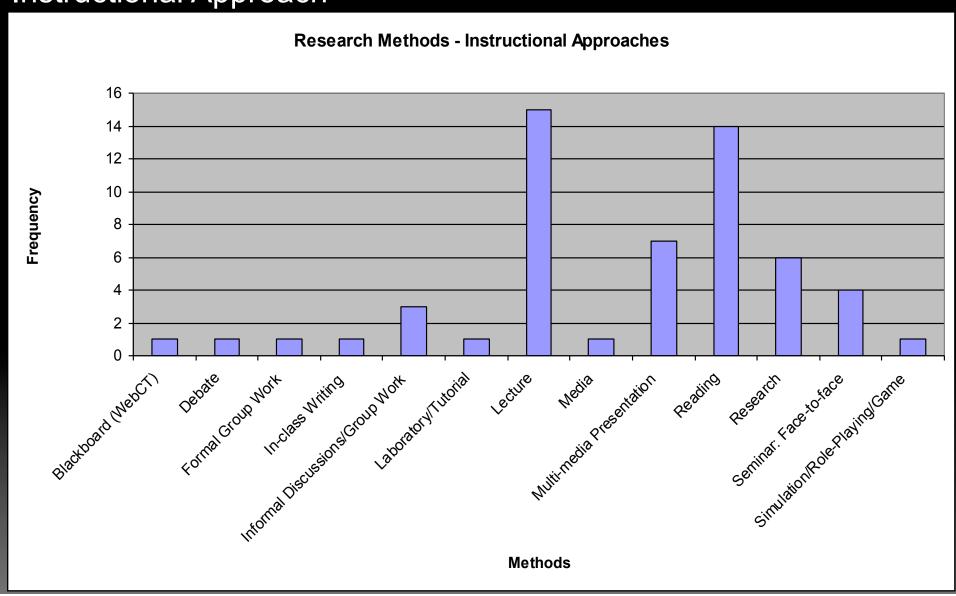
hich, if any, you on?

is taught and/or

•How are the total marks available to students distributed over the course of the semester?

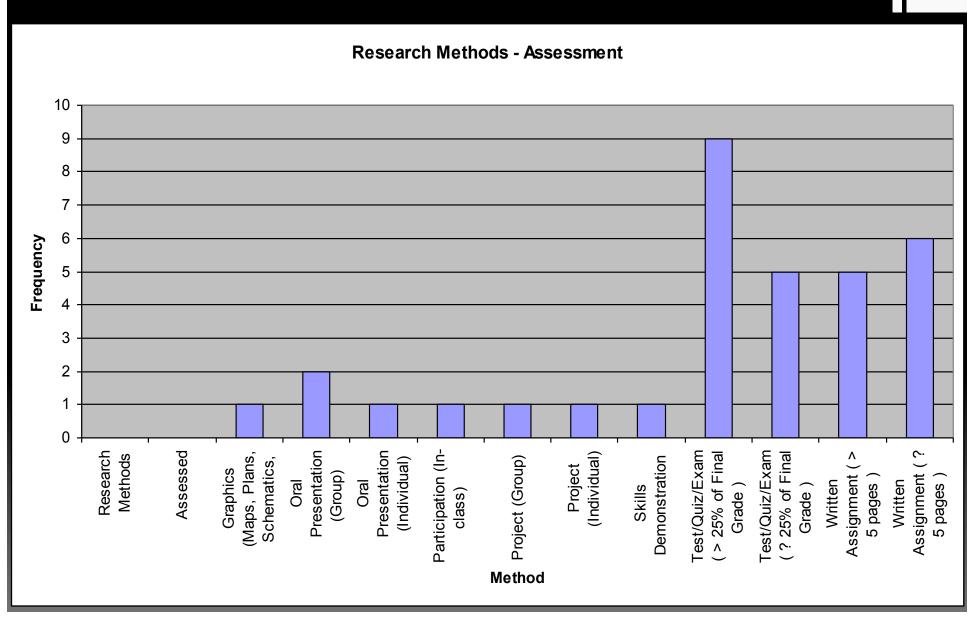
Research Methods

Instructional Approach



Research Methods

Assessments



Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. How do we embed continuous improvement?

Learning outcomes are not new...

They are embedded in:

Ontario's college sector

Professional programs in Canada (medicine, business)

Accreditation requirements in the US

Provincial IQAPs from COU

...but using learning outcomes is...

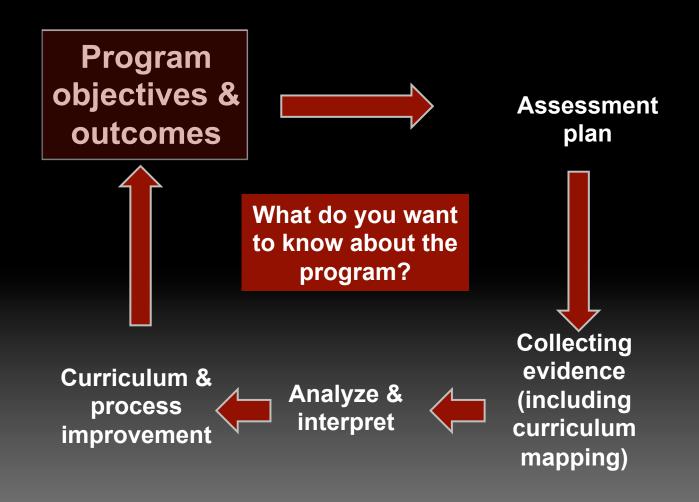
"Closing the loop"—using assessment evidence to improve student learning and inform curriculum decisions—is more difficult. In fact, among the 146 profiles of good practice submitted ...only six percent contained evidence that student learning had improved (Banta & Blaich, 2011)."

Baker, G. R., Jankowski, N. A., Provezis, S., & Kinzie, J. (2012). Using Assessment Results: Promising Practices of Institutions That Do It Well. Retrieved from http://www.tamiu.edu/adminis/iep/documents/NILOA-Promising-Practices-Report-July-2012.pdf

Wabash Study

- "...our assumptions concerning the importance of gathering additional high-quality data; of creating long, detailed reports; and of engaging the scholarly energies of faculty and staff proved to be completely wrong.
- •We had focused too much on gathering, analyzing, and reporting assessment evidence and not enough on helping institutions use it."

Defining the attributes of the ideal TRU graduate



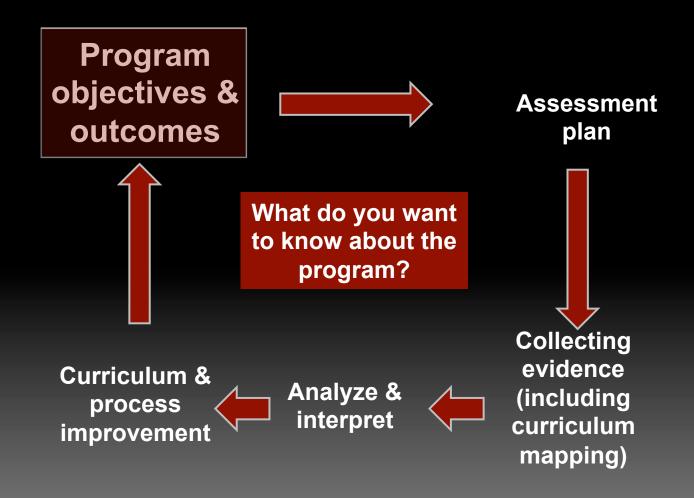
Brainstorming

What are the attributes/characteristics of an IDEAL Thompson Rivers University graduate?

What are the MOST IMPORTANT attributes/ characteristics of an IDEAL Thompson Rivers University graduate?

What are the MOST IMPORTANT attributes/ characteristics of an IDEAL Thompson Rivers University graduate in YOUR PROGRAM?

From attributes to learning outcomes: the structure and language of effective learning outcomes



Establishing learning outcomes (indicators)

Level of expectation ("describes", "compares", "applies", "creates")

Content area

Critically evaluates information for authority, currency, and objectivity in reports.

Context

Outcomes should be measureable and meaningful Outcomes should have: content, context and verb Outcomes should be useful to you and your students

Defining Learner-Centredness

"The perspective that couples a focus on individual learners (their heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs) with a focus on learning (the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners)."

Teaching-Centred or Learning-Centred???

You will learn

- fundamental mechanisms of biological information processing
- fundamental mechanisms of movement control
- interdisciplinary collaboration

Upon completion of this course, students should be able to:

- •Communicate in writing and verbally the results of a financial analysis pertaining to real-vorld business situation
 - •Use technology, especially spread sheet modeling, to an yze financial problems.

Teaching-Centred or Learning-Centred???

By the end of the course, you will be well-equipped to handle any intermediate programming problem using C and Unix.

By combining what you rned about program design and data street ures with useful al rithms and mathematics, you can design and implement non-trivial software with the knowledge from CMPUT 201.

The course provides students with an opportunity to critically examine traditional and contemporary theories of planning. Émphasis is on exploring the ways OR in which changing social, political, and historical contexts influence ideas about planning and the role of the planner.

Teaching-Centred or Learning-Centred???

The goal of this course is to lead to significant scholarship in the area. It also forms part of a growing cluster of courses related to the entertainment and communications industries.

OR

At the successful completion of this course the participants will be able to conduct normal and a normal operations of a simulated CANDU-9 Gencating Init, includin pc ver manoeuve responses o reactor, heat transport, steam and feedwater system malfunctions.

Establishing learning outcomes (indicators)

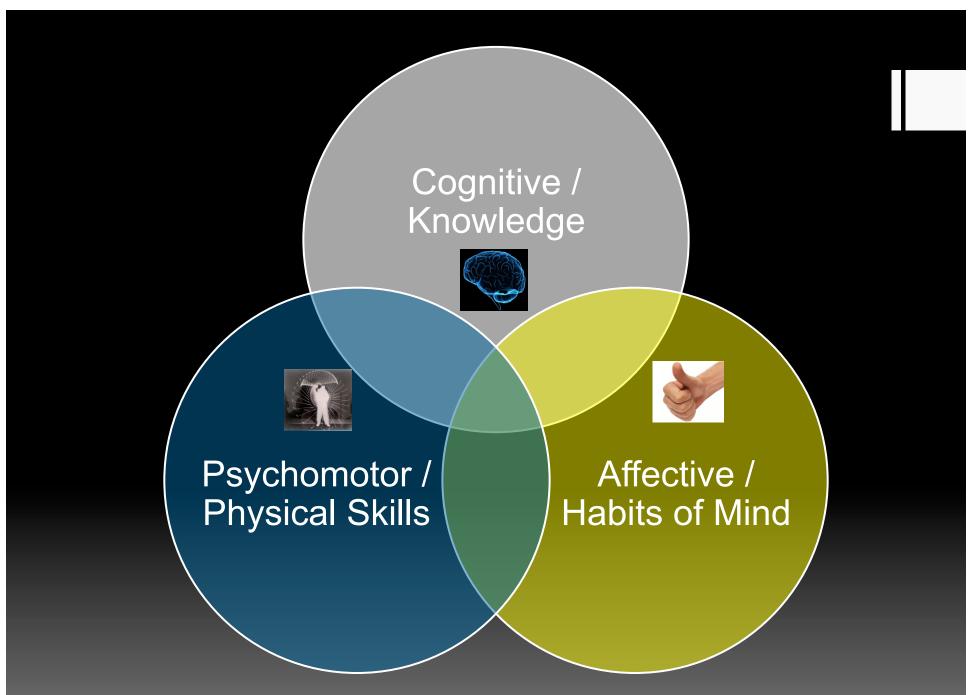
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(Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain New York, Longmans, Green, 1956.)

Domains of Learning

Domains of Learning

Cognitive (Knowledge, 'Head')

The cognitive domain involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties. That is, the first one must be mastered before the next one can take place.

combining elements into a pattern not clearly there before Verbs: combine, compose, construct, create, design, develop, formulate, hypothesize Evaluate according to some set of criteria, and state why Verbs: appraise, judge, criticize, defend, compare Analyze breaking down into parts, forms Verbs: break down, correlate, differentiates, discriminate, distinguish, infer, prioritize, separates, subdivide Apply Knowing when to apply; why to apply; and recognizing patterns of transfer to situations that are new or unfamiliar Verbs: compute, construct, determine, develop, implement, operationalize, predict, produce, relate, show, solve, use, utilize Understand translating, interpreting and extrapolating Verbs: summarize, describe, interpret, contrast, associate, distinguish, estimate, differentiate, discuss Remember shallow processing: drawing out factual answers, testing recall and recognition Verbs: list, arrange, define, describe, identify, show, label, name, who, when, where

Domains of Learning

Psychomotor (Skills, 'Hands')

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution.

Origination::

Creating new patterns to react to particular situations. Emphasis on creativity based on highly developed skills.

Verbs: Bullds, combines, composes.

Adaptation:

Skills are well-developed and the individual can modify to fit special requirements.

Verbs: adapts, alters, revises

Complex Overt Response:

Skillful performance that involves complex movement patterns. Proficient in speed and accuracy. Verbs: Same as Mechanism, but will have adverbs that indicate performance is quicker, more accurate and automatic

Mechanism:

Intermediate skill in Jéarning a complex skill. Includes habituation and proficiency.

Verbs: assembles, constructs, dismantles, displays

Guided Response:

Early stages in learning a complex skill. Involves imitation and trial & error.

Verbs: copies, traces, follows, reproduces, responds

Set:

Readiness to act Includes mental, physical and emotional sets.

Verbs: begins, displays, moves, proceeds

Domains of Learning

Affective (Attitudes, 'Heart')

This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes.

Internalizing (characterization):

A value system that controls behaviour. Behaviour is pervasive, consistent, predictable, and characteristic of the values held. Verbs: acts, proposes, discriminates

Organization:

Values organized into priorities. The emphasis is on comparing, relating, and synthesizing values.

Verbs: arranges, integrates, synthesizes, defends

Valuing:

Is based on the internalization of a set of values, and are expressed in overt and identifiable behaviour.

Verbs: Demonstrates, proposes, initiates, justifies

Responding:

Active participation. Attends to and demonstrates compliance, willingness or satisfaction in responding.

Verbs: complies, conforms, assists

Receiving:

Awareness. Willingness to hear. Selected Action.

Verbs: chooses, asks, replies, selects

Domain? Level of Learning?

- Understand how factor analysis works
- Communicate in writing and verbally the results of a financial analysis pertaining to real-world business situations
- Know the theory of evolution
- List the 10 provinces of Canada on a map
- Value a diversity of opinions
- Pipette a titrate solution in the lab

Establishing learning outcomes (indicators)

Level of expectation ("describes", "compares", "applies", "creates")

Content area

Critically evaluates information for authority, currency, and objectivity in reports.

Context

Outcomes should be measureable and meaningful Outcomes should have: content, context and verb Outcomes should be useful to you and your students

Smart

Specific

- •How can you make your objectives more focussed and specific?
- •How sophisticated will your objectives need to be in order to satisfy you?
- e.g. "describe" vs. "analyze" vs. "synthesize"

sMart

Measurable

- •What kinds of evidence will demonstrate achievement of your objective(s)?
- •How will you know you know? How will the students know they know?

<u>Vague</u> →	<u>Measurable</u>
"Know"	"Describe"
"Understand"	"Explain"

smArt

Achievable

- •Given where you are now, how can you make your objectives even more realistic?
- •Given the scope of this course, how can you make your objectives even more appropriate?



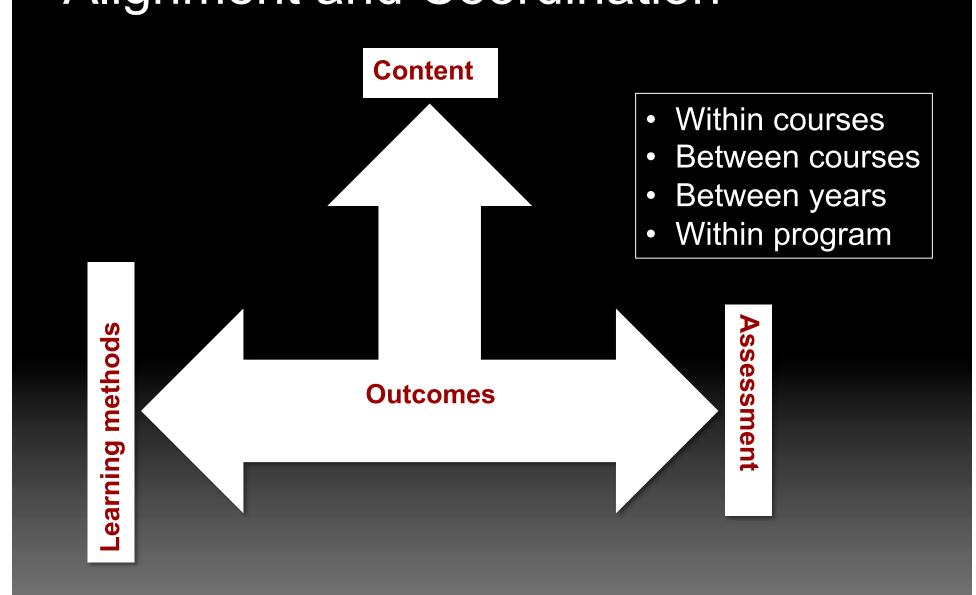
Relevant

•Given what you anticipate that you and your students hope to achieve, how can you make your objectives for this course more relevant? smar

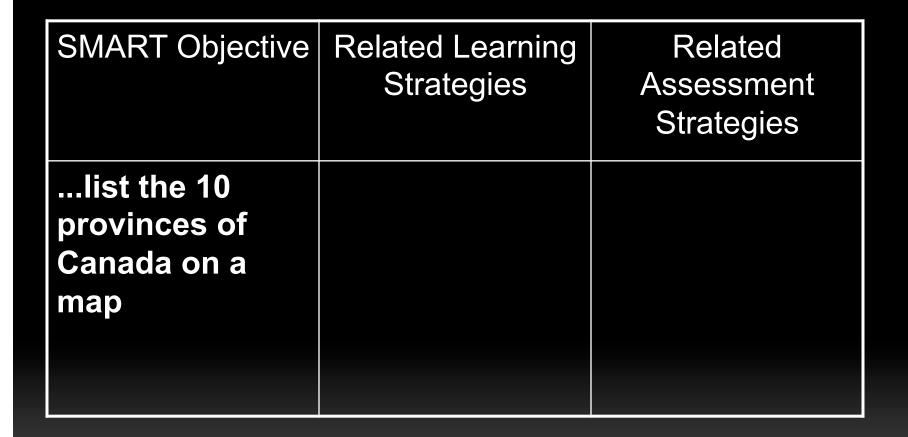
Timely

- •How can you make your objectives work within the time frame of this course and the related assignments?
- •Given where your students are in their studies/lives, are the course objectives well timed?

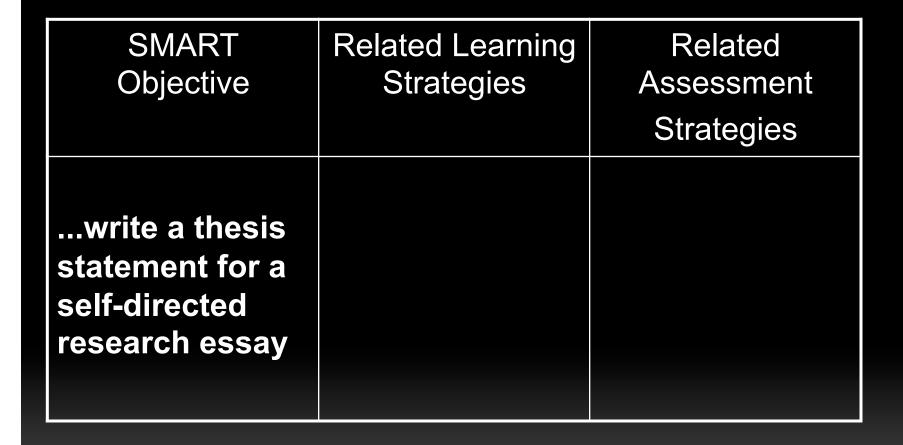
Curriculum Development Process – Alignment and Coordination



Learning Objective Triangulation



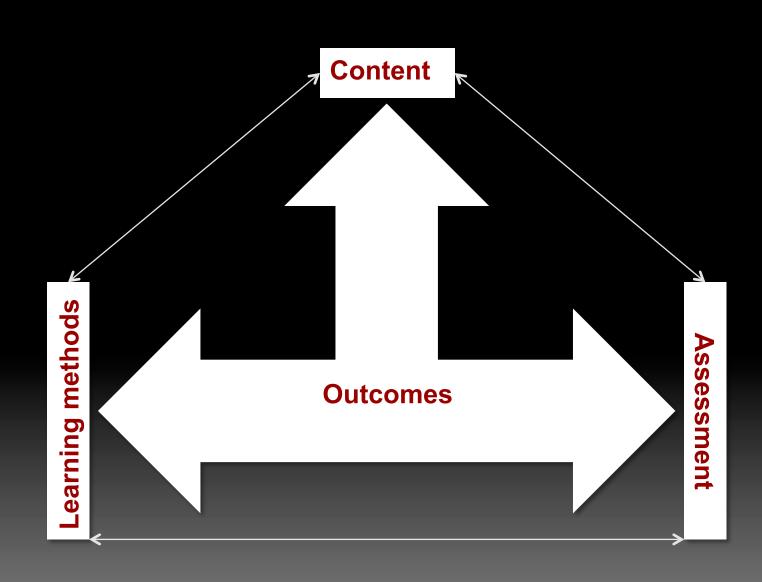
Learning Objective Triangulation



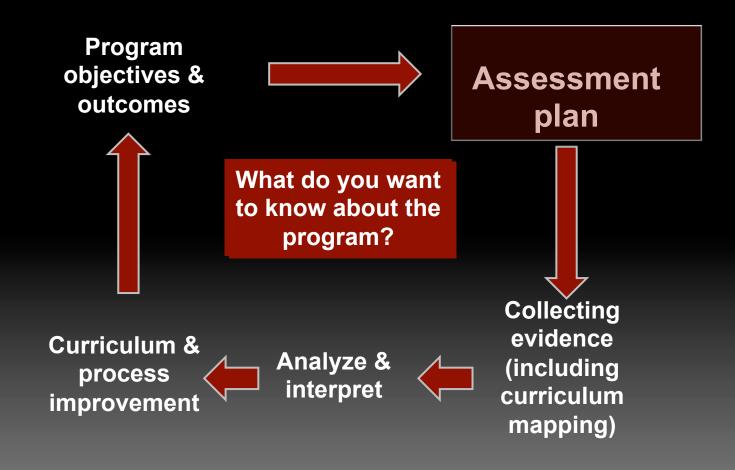
Learning Objective Triangulation

SMART Objective	Related Learning Strategies	Related Assessment Strategies
communicate in writing the results of a financial analysis pertaining to real-world business situations		

Write and align your outcome



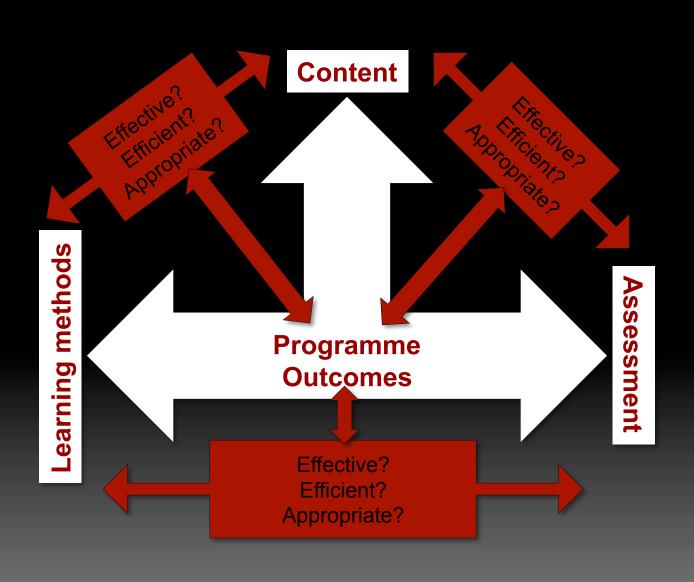
Assessing learning outcomes: Developing an assessment plan

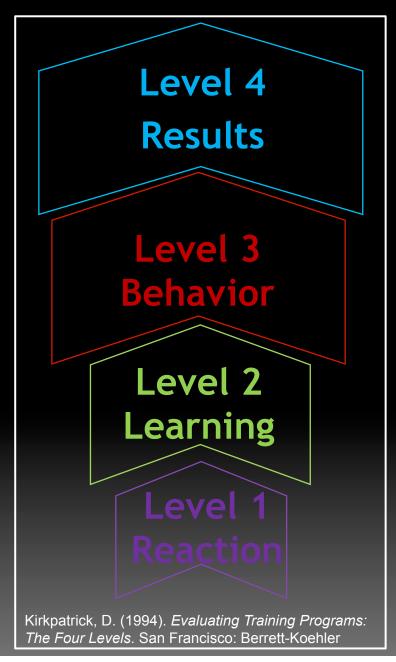


Key Questions

- 1. What are the programme outcomes that we want to foster in our students?
- 2. How do we know whether our programmes are successful?
- 3. Where in the curriculum are students encouraged to develop the programme outcomes?
- 4. How do we embed continuous improvement?

Programme Assessment





Consider:

- What do we want to know about our program
- Who are our stakeholders
- What can they tell us about the program
- How best to gather the needed evidence
- How often to collect

Is the curriculum:

- 1. Effective?
- 2. Efficient?
- 3. Appropriate?



Key Question: What was the student reaction to learning environment?

Timing: Usually done immediately or soon after the learning event(s)



Key Question: Did students achieve desired learning objective(s)?

Timing: Usually done immediately or soon after learning



Key Question: Are newly acquired skills, knowledge, or attitude used by learner after learning event is completed?

Timing: Usually done 1-3 months after learning



Key Question: Did students achieve desired outcomes of program of study?

Timing: Usually done 3 months – 2 years after learning experience

Programme Assessment

- Student work Tests, assignments, etc.
- 360° consultations
- Curriculum mapping
- External reviews, accreditations, etc.
- Existing institutionally-held data (NSSE, alumni surveys, etc.)
- Benchmarks, research, literature, etc.
- Student reflection (e)Portfolios, journals, etc
- Analytics

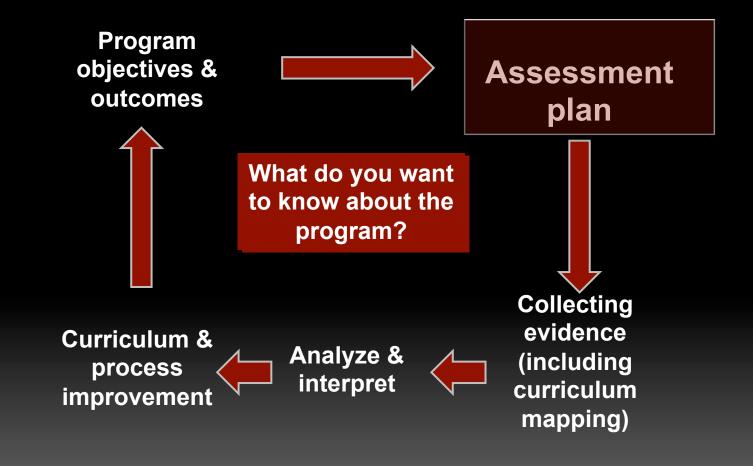
Assessment Plan Sample

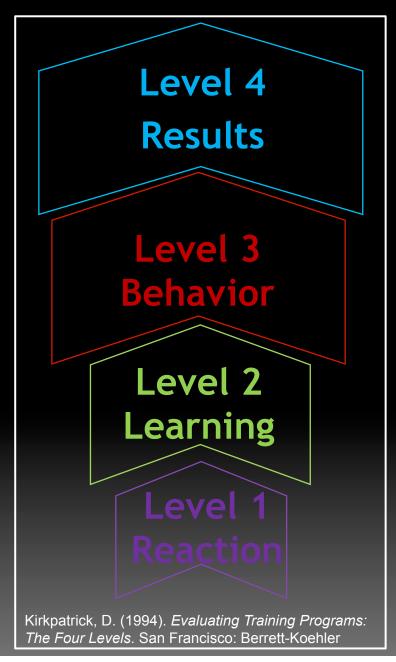
Stakeholder/ Evidence	Activity	How often	Questions
Current Students	Focus Groups	Annual	 •What knowledge, skills and values do you think are most important to graduates of the programme? (compare with the current outcomes) •Describe your most enjoyable learning experiences at Guelph to date. •Comments on other aspects of your Guelph experience (e.g. awards, academic support)? •What would you change about the curriculum? •Please suggest changes to help us improve the program: what would you add/drop from the curriculum? Other changes? •What advice would you give to an incoming student?
Alumni/ Employers	Focus Groups	Bi-annual	 What knowledge, skills and values do you look for when hiring? How well do our graduates meet those KSAs What kinds of work would someone with an undergraduate degree be doing in your organization? What advise would you give a student coming into this program regarding their educational options? Where do you see new employees in 5 years? What are their opportunities for advancement?

Assessment Plan Sample

Stakeholder /Evidence	Activity	When	Questions
Secondary Documents	Previous Review, Other programs	5 years	 To provide an overview of "where we are" in relation to experiential insights gained from faculty and students.
Faculty	Web survey followed by faculty retreat	Every 2 years	 Web survey – Solicit feedback on current programme outcomes by faculty Retreat – review results of survey Based on faculty perspectives, develop a list of programme (a) strengths (b) weaknesses (c) opportunities (d) limitations? Compare faculty SWOT with the other stakeholder SWOT Develop an action plan

Developing your assessment plan





Consider:

- What do we want to know about our program
- Who are our stakeholders
- What can they tell us about the program
- How best to gather the needed evidence
- How often to collect

Is the curriculum:

- 1. Effective?
- 2. Efficient?
- 3. Appropriate?

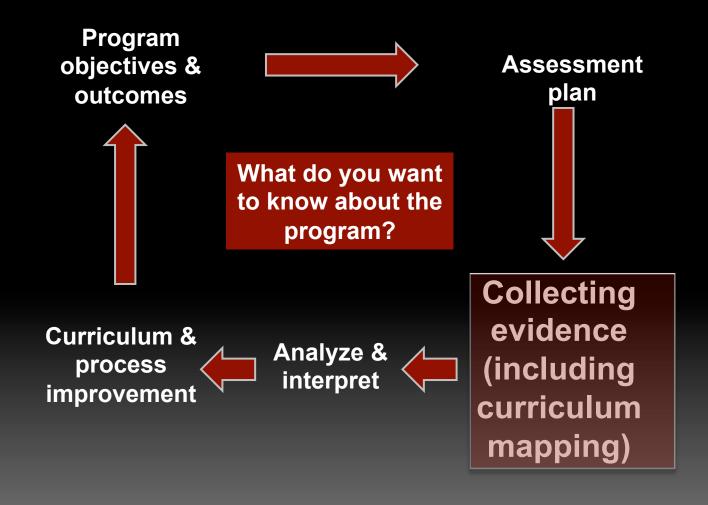
Programme Assessment

- Student work Tests, assignments, etc.
- 360° consultations
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- External reviews, accreditations, etc.
- Existing institutionally-held data (NSSE, alumni surveys, etc.)
- Benchmarks, research, literature, etc.
- Student reflection (e)Portfolios, journals, etc
- Analytics

Assessment Plan

Stakeholder	Activity	How often	Questions

Curriculum mapping



Course Progression Maps

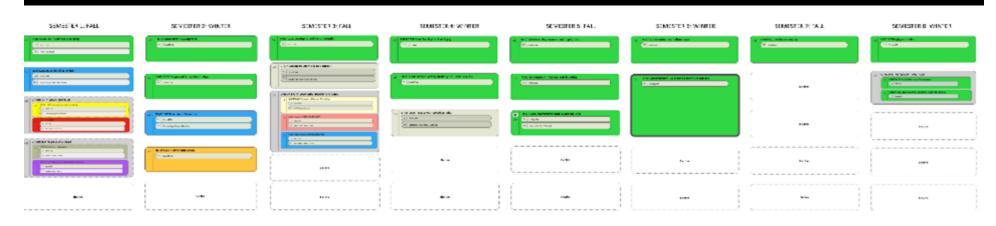
Goal – Create a visual representation of student progression through the curriculum to explore curriculum flow, balance of required core programme delivered courses, required and recommended electives, etc.

Data collected from:

- Calendars
- Course outlines
- Curriculum committees

Course Progression Maps





Programme Outcomes Map

Goal: To match programme outcomes with individual courses that intentionally foster the development of selected outcomes.

Data collected from:

- Faculty
- Course outlines
- Curriculum committees

Curriculum Mapping at the University of Guelph



Administration

Projects

Course Surveys

Logout

Currently logged in as: pwolf

University of Guelph Demo

Main Courses

Knowledge, Skills and Values

Instructional Methods

Assessments

Survey



Course					Action		
UNIV1100 Intro to University Learning					REMOVE ADD COMPONENT		
COMPONENT TYPE	COMPONENT NAME	INSTRUCTOR	SURVEY TYPE	SEMESTER			
Lecture Section	01	Peter Wolf(pwolf)	Instructor		Ø EDIT ☐ DELETE		
UNIV2200 Problem-Posing				REMOVE ADD COMPONENT			
COMPONENT TYPE	COMPONENT NAME	INSTRUCTOR	SURVEY TYPE	SEMESTER			
Seminar	01	Peter Wolf(pwolf)	Instructor	fall	Ø EDIT ☐ DELETE		
UNIV3300 Experiential Learning					REMOVE ADD COMPONENT		
COMPONENT TYPE	COMPONENT NAME	INSTRUCTOR	SURVEY TYPE	SEMESTER			
Lab	01	Peter Wolf(pwolf)	Instructor		Ø EDIT Ø DELETE		

Curriculum Mapping at the University of Guelph



Administration Projects Course Surveys Logout

Currently logged in as: pwo

University of Guelph Demo

Main Courses K	(nowledge, Skills and Values	Instructional Methods	Assessments	Survey	
					♠ ADD
	Knowledge	, Skills, and Values			Action
Civic Responsibility					REMOVE
Information Literacy					REMOVE
Numeracy					REMOVE
Oral and Graphic Communicat	tion				REMOVE
Professional Issues/Ethics					REMOVE
scientific and critical Thinking					REMOVE

6 associated Knowledge, Skills and Value

Curriculum Mapping at the University of Guelph



Administration

Projects

Course Surveys

Logou

Currently logged in as: pwo.

University of Guelph Demo

Main Courses Knowledge, Skills and Values Instructional Methods Assessments Survey Reports	
	♠ ADD
Instructional Method	Action
Blackboard (WebCT)	REMOVE
Demonstration	REMOVE
Field Trip	REMOVE
Formal Group Work	REMOVE
In-class Writing	REMOVE
Laboratory/Tutorial	REMOVE
Media	REMOVE
Practicum	REMOVE
Problem-based Learning Modules	REMOVE
Reading	REMOVE
Research	REMOVE
Self-reflection/Journal	REMOVE
Seminar	REMOVE
Student Presentation	REMOVE

Curriculum Mapping at the University of Guelph



Administration Projects Course Surveys Logout

Currently logged in as: pwolf

University of Guelph Demo

Main Courses Knowledge, Skills and Values Instructional Methods Assessments Survey Reports					
	ADD				
Assessment	Action				
Case Analysis	REMOVE				
Externship/Field Placement/Co-op	REMOVE				
Graphics (Maps, Plans, Schematics, Blueprints)	REMOVE				
Oral Presentation (Individual)	REMOVE				
Participation (In-class)	REMOVE				
Participation (On-line Discussions)					
Portfolio/Journal/Reflective Writing	REMOVE				
Poster	REMOVE				
Project (Group)	REMOVE				
Self/Peer Evaluation	REMOVE				
Test/Quiz/Exam (> 25% of Final Grade)	REMOVE				
Written Assignment (≤ 5 pages)	REMOVE				

12 associated Assessments

Curriculum Mapping at the University of Guelph



Administration

Projects

Course Surveys

Logout

Currently logged in as: pwol

University of Guelph Demo

Main

Courses

Knowledge, Skills and Values

Instructional Methods

Assessments

Survey

Reports

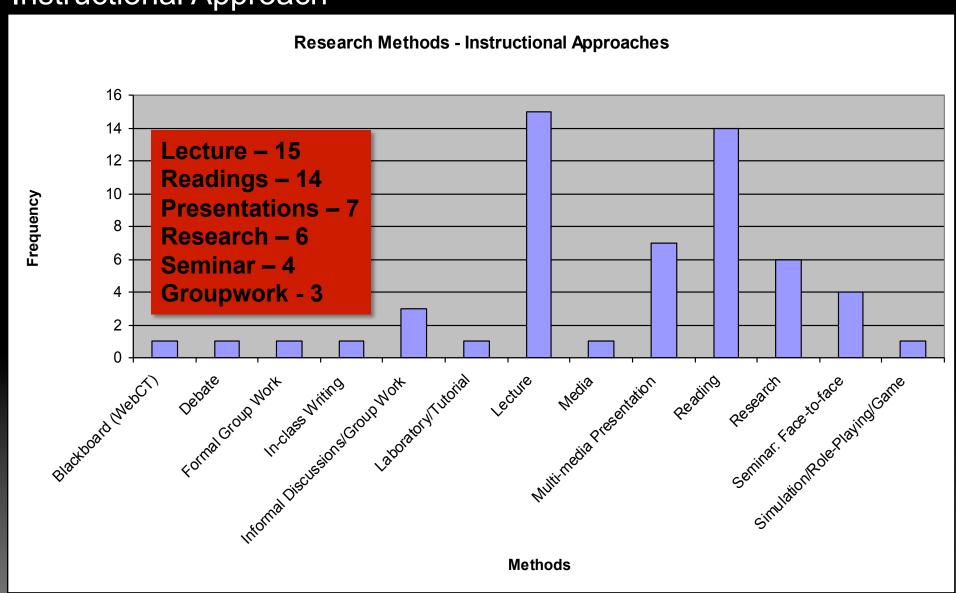
Survey Questions:

- •Which instructional methods do you use in this course?
- •Which assessment approaches do students engage in for this course?
- •For each listed Knowledge, Skill and Value, please indicate which, if any, you intentionally foster in this course? At what level of sophistication?
- •For those indicated, please specify how /whether each KSV is taught and/or assessed in this course?
- •How are the total marks available to students distributed over the course of the semester?
- •Comments?

79

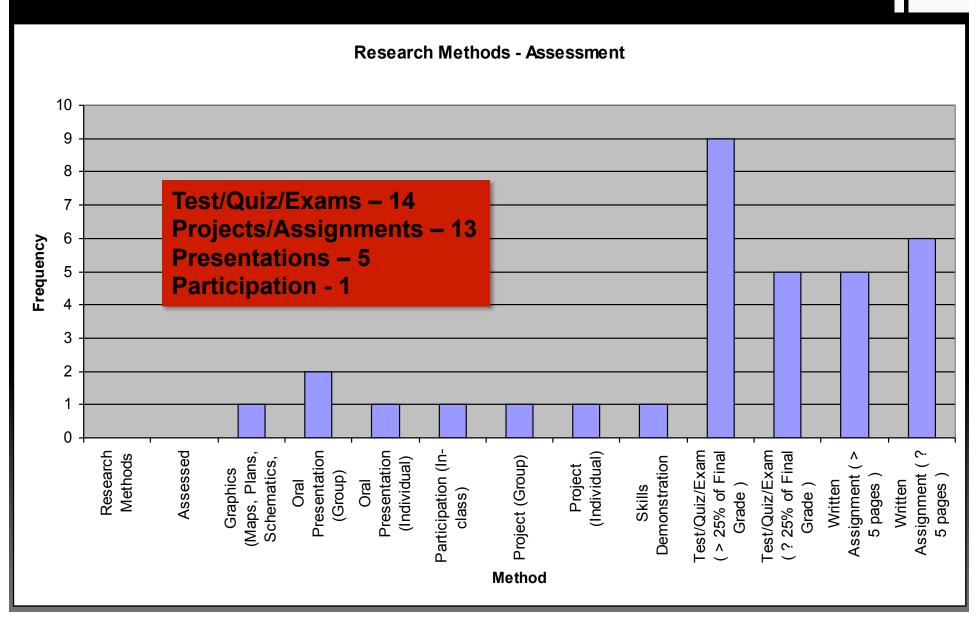
Instructional Approach

Research Methods

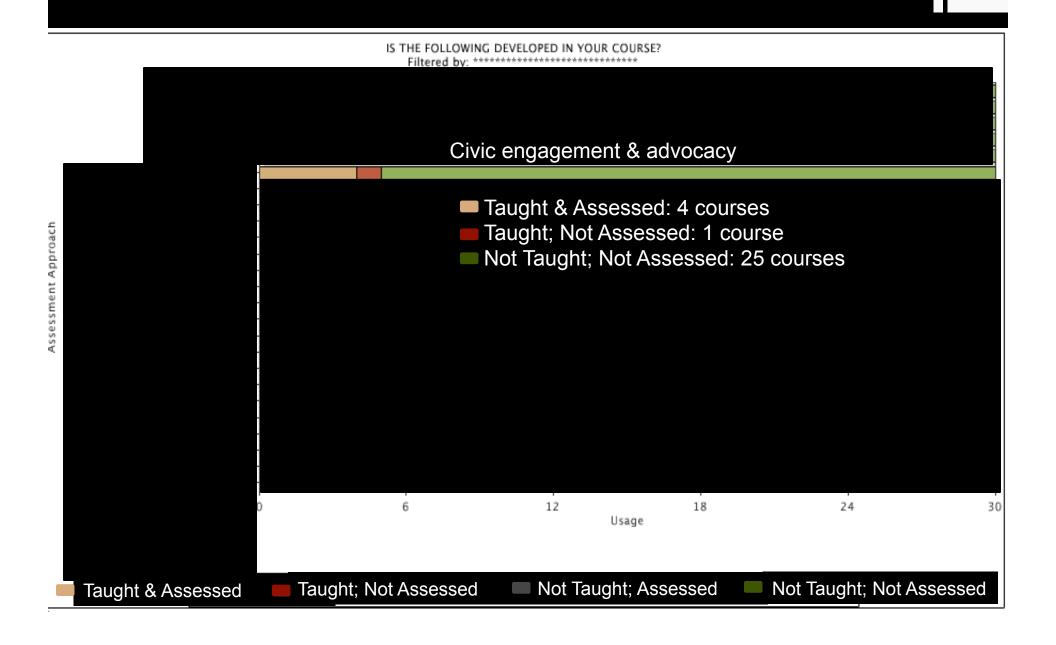


Research Methods

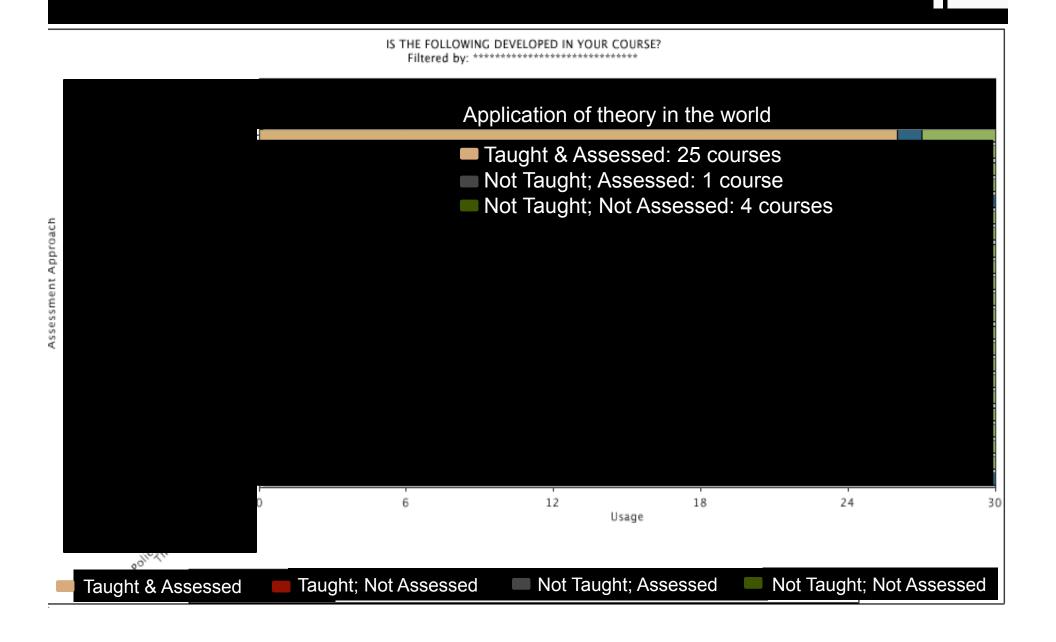
Assessments



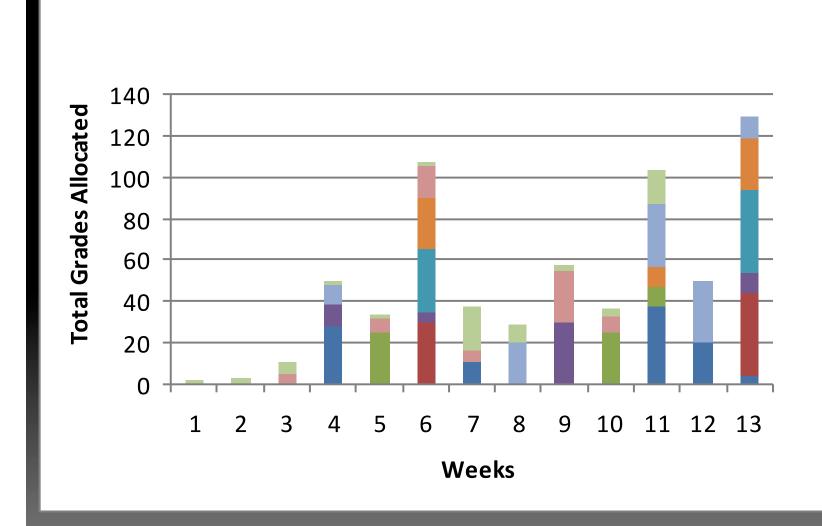
Outcome Focus



Outcome Focus



Mapping example



CRITICAL AND CREATIVE THINKING RUBRIC

Adapted from the AACU LEAP rubrics, the Bases of Competence skills, and the University of Guelph Learning Outcomes

Definition

Critical and creative thinking is a concept in which one applies logical principles, after much inquiry and analysis, to solve problems in with a high degree of innovation, divergent thinking and risk taking. Those mastering this outcome show evidence of integrating knowledge across disciplinary boundaries. Depth and breadth of understanding of disciplines is essential to this outcome.



	Introduce	Reinforce	Master
	1	2	3
Inquiry and Analysis A systematic process of exploring issues, objects and works through the collection and analysis of evidence that result in informed conclusions or judgments	Asks appropriate questions and finds evidence related to inquiry of material with a critical eye.	Asks in-depth and specific questions regarding the material, including reliability of the source, and evaluates it critically. Includes evidence to back up statements.	Not only asks specific and in-depth questions, but also explores further possibilities with the aid of quality research. Asks and attempts to answer many questions from a critical perspective.
Problem Solving Is a process in which one works through a series of operations to come to a conclusion	Identifies issues and creates a plan to manage the problem.	Identifies and solve issues in a creative manner. Considers and rejects less acceptable approaches to solving the problem and creates and follows a plan.	Sets out to solve issues in creative ways that will not only solve a current issue, but also looks to the future to prevent similar problems. Evaluates the appropriateness of different approaches to solving problems; devises arguments using these methods and articulates reasons for choosing the solution
Creativity Involves the ability to adapt to situations of change, to initiate change and to take intellectual risks	Recognizes creative solutions to problems and seeks for beneficial future changes.	Shows a creative mind that is also able to look at long-terms goals. Considers change in an innovative way.	Exemplifies the capacity to think in untested and innovative directions and take intellectual risks.
Depth and Breadth of Understanding Demonstrates detailed knowledge in one or more disciplines and integrates knowledge across disciplinary boundaries	Applies basic concepts to specific disciplines.	Extracts and integrates information and perspectives from a variety of disciplines.	Gathers, reviews, evaluates and interprets information; compares the merits of alternate hypotheses in many different disciplines. Demonstrates mastery of a body of knowledge and critically evaluates the limits of their own knowledge and how these limits influence analyses.

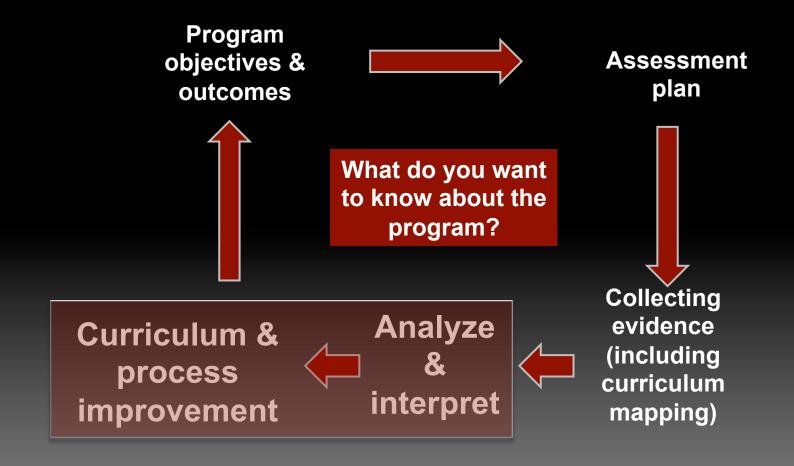
Sample Map

I – Introduce R – Reinforce M - Master

Outcome/ Course	Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
Depth and Breadth of Knowledge	I	I	I	I	I	I		R
Knowledge of Methodologies		Ī						
Application of Knowledge	I	R	R	R	R	M		M
Communication Skills	M	M	I	I	I	M		М
Awareness of Limits of Knowledge		I						R
Autonomy and Professional Capacity		I	R	R	R	R		M

What observations do you make of this map?

Closing the curriculum development loop



4 approaches to facilitating change

environmental 🗢 individual

Disseminating

(good for knowledge, poor for long term change)

Supporting individual innovators

Enacting Policy

Developing shared vision

prescribed ←

emergent

Effective strategies: are aligned with or seek to change beliefs, long-term interventions, understand university as a complex system, honest about issues and problems.

Long term Leadership required

"The next step in developing the necessary scholarship and expertise for assessment is to create mechanisms to systematically train campus assessment leaders in the political skills and organizational knowledge they need to more fully utilize their assessment data."

-Blaich & Wise (2011)

Change...

People

Culture Shift Hiring

Recognition & Rewards

Curriculum

Courses

Assessment

Methods

Infrastructure

Teaching Space

Scheduling

Tools

People directly involved

Administration

Provost

Dean

Chair

Operations

Educational developers eLearning Instructors Support staff

Researchers

Institutional research office Assessment & evaluation specialist

Students

stakeholders

Graduate
Undergraduate
Student government

Leadership drivers

•A scholarly approach to curriculum development includes processes that are faculty-driven, data-informed and evidencebased. The process is further supported by a scholarly approach to analysis, application, teaching and assessment

Leadership drivers

- Focus on continuous improvement of sustainable practices
- Embed a culture of autonomy and academic freedom within courses and curriculum in higher education
- Outcomes achievement is a responsibility shared by faculty and students
- Culture- & context-specific
- Resourced & recognized

Keep Momentum!



Worth the Effort!

- Superior graduating students
- Evidence of graduating student quality
- Opportunity for individual student & programme autonomy
- •The promise of enhanced time & resource usage