CTSI ACUE-Certified Faculty Lunchtime Series: March 28, 2023

Engaging Students in Meaningful and Authentic Assignments
Linda Trinh, PhD
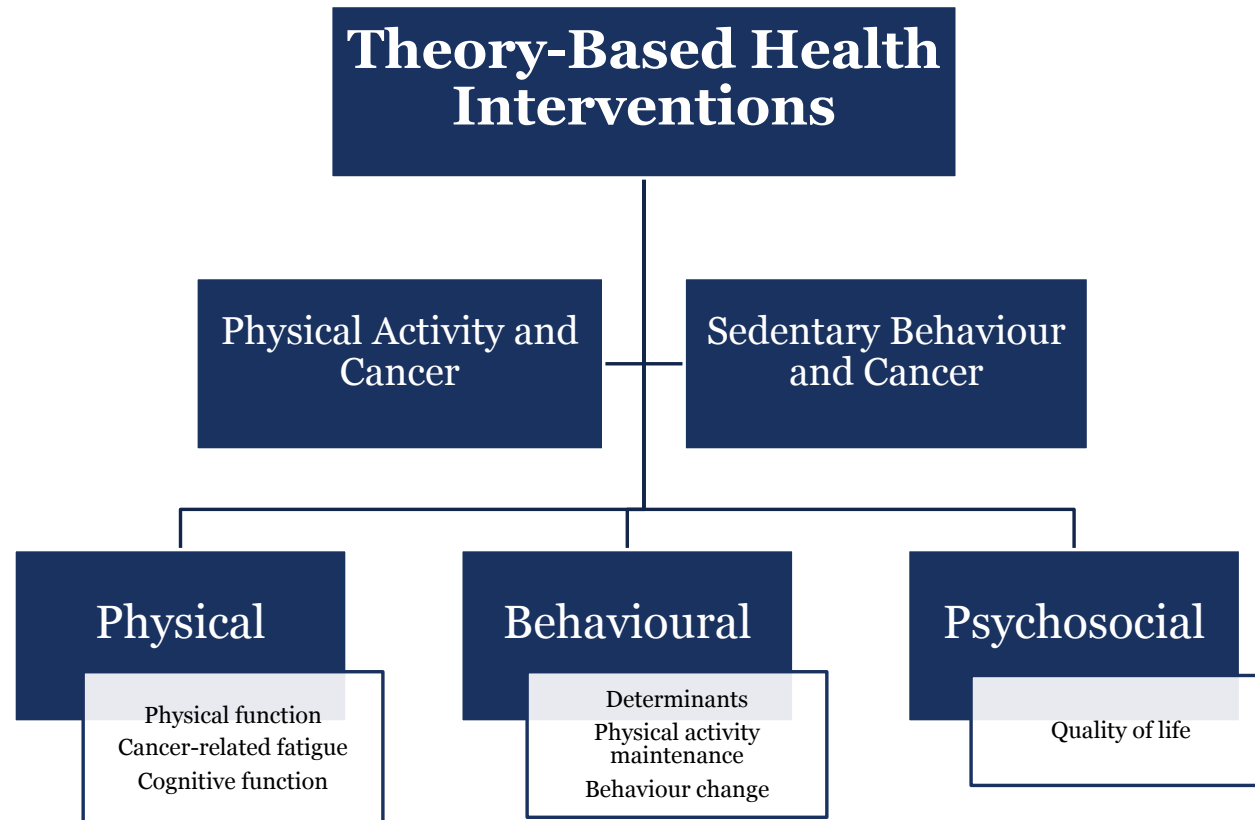Faculty of Kinesiology and Physical Education

UNIVERSITY OF TORONTO — CENTRE FOR TEACHING SUPPORT & INNOVATION

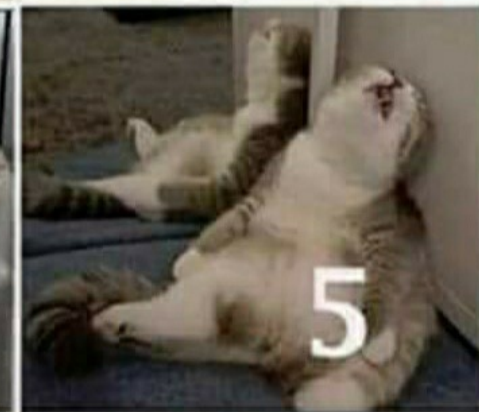ACUE — Association of College and University Educators

Courses

- **KPE 120 (hybrid):** Foundations of Sport, Exercise, and Health Psychology

- **KPE 330 (community-engaged learning):** Advanced Exercise Psychology

- **KIN 5538 (graduate course):** Special Topics in Exercise Oncology

EXERCISE ONCOLOGY LAB
UNIVERSITY OF TORONTO

Research Mission: To study physical activity as it relates to cancer control and survivorship

Theory-Based Health Interventions

Physical Activity and Cancer

Sedentary Behaviour and Cancer

Physical

Physical function
Cancer-related fatigue
Cognitive function

Behavioural

Determinants
Physical activity maintenance
Behaviour change

Psychosocial

Quality of life

On a scale of cat, how are you feeling today?

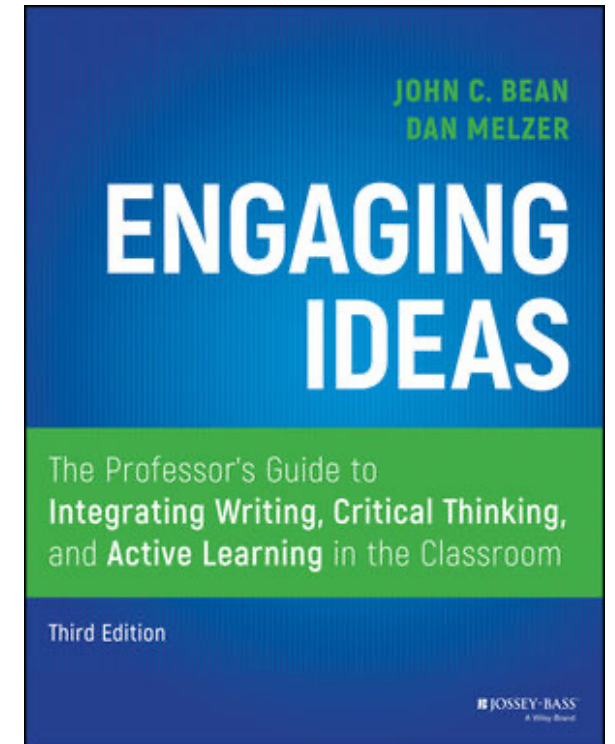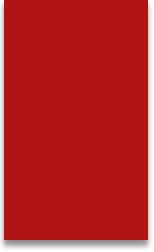# Learning Outcomes

▶ To *understand and apply* the Cognitive Levels of Learning to assignment design

▶ To motivate students using the Self-Determination Theory

  ▶ Sample Assignment from Kinesiology and Physical Education

▶ To *understand and apply the* principles of transparent assignment assessment

Assignment Design:
Questions to Think About

▶ 1. What are the main units in my course?

▶ 2. What are my main learning objectives for each unit and for the course?

▶ 3. What thinking skills am I trying to develop within each unit and throughout the course?

▶ 4. What are the most difficult aspects of my course for students?

▶ 5. If I could change my students' study habits, what would I most like to change?

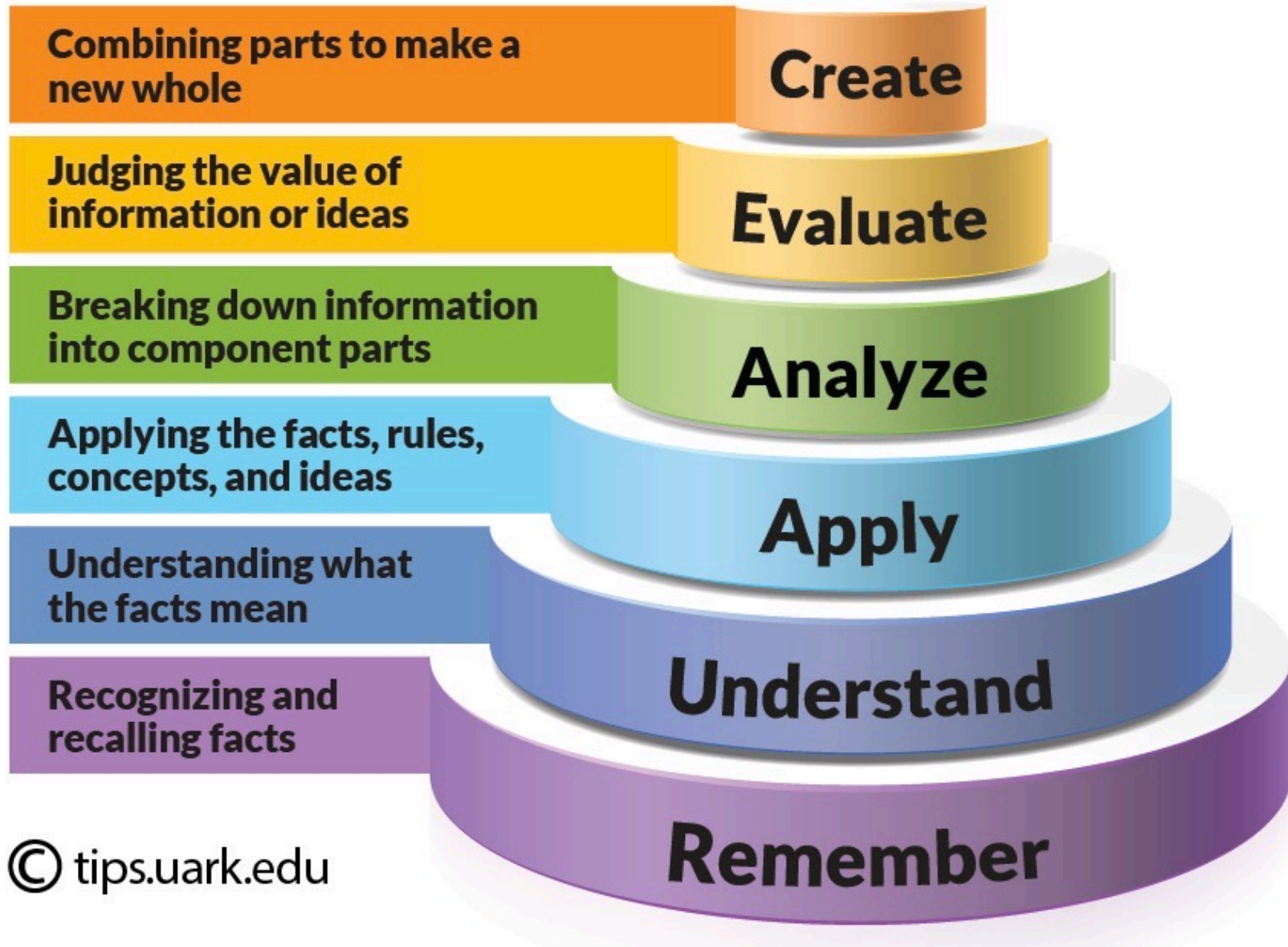▶ 6. What difference do I want my course to make in my students' lives?

JOHN C. BEAN
DAN MELZER

ENGAGING
IDEAS

The Professor's Guide to
Integrating Writing, Critical Thinking,
and Active Learning in the Classroom

Third Edition

JOSSEY-BASS
A Wiley Brand

"The _very purpose_ of classroom assessment is to measure students' progress toward achieving course outcomes. Designing assessments that are aligned to course outcomes and explicitly sharing assessment details with students help to create a more effective learning experience."

Angelo, 2012; Biggs & Tang, 2007; Wiggins & McTighe, 2005

Creating a Course Assessment Plan

▶ Look at the "big picture" to ensure that your learning outcomes are given the appropriate "weight" across the entire course

▶ Includes a list of all course assessments, the points assigned to each assessment, and the total weight assigned to each learning outcome/cognitive level

Combining parts to make a new whole — **Create**

Judging the value of information or ideas — **Evaluate**

Breaking down information into component parts — **Analyze**

Applying the facts, rules, concepts, and ideas — **Apply**

Understanding what the facts mean — **Understand**

Recognizing and recalling facts — **Remember**

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https://tips.uark.edu/using-blooms-taxonomy/

Determining the Cognitive Levels of Your Learning Outcomes

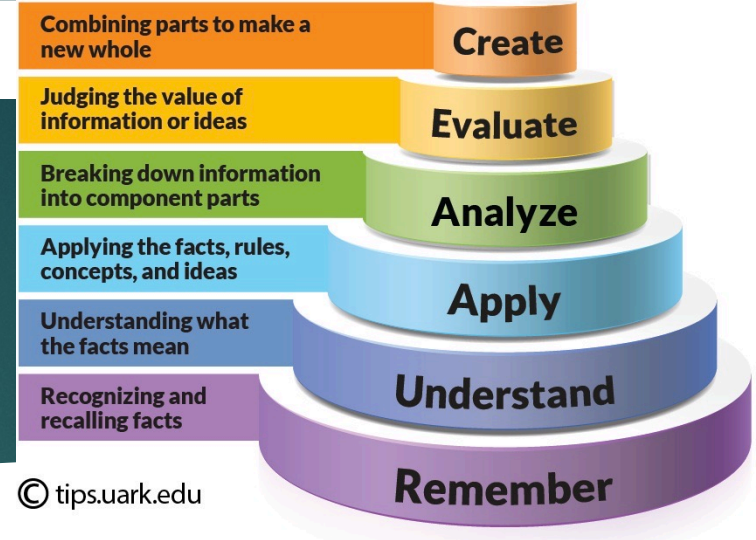|				
Remember	Arrange Choose Copy Define Describe Duplicate Find	Identify Label List Locate Match Memorize Name	Omit Order Quote Recall Recite Recognize Relate	Repeat Reproduce Select Spell State Tell
Understand	Arrange Associate Clarify Classify Compare Contrast Defend Describe Differentiate	Discuss Exemplify Explain Express Grasp Identify Illustrate Indicate Infer	Interpret Locate Paraphrase Organize Outline Recognize Reorganize Rephrase Report	Restate Review Rewrite Select Summarize Transform Translate Visualize
Apply	Apply Appraise Break down Calculate Choose Classify Compute Construct Contrast	Criticize Demonstrate Determine Develop Diagnose Dramatize Employ Estimate Examine	Execute Formulate Give examples Identify Illustrate Implement Interpret Make use of Manipulate	Modify Operate Practice Schedule Sketch Solve Use Utilize
Analyze	Analyze Break down Calculate Categorize Change Classify Combine Compare Contrast Criticize Debate	Deduce Derive Diagram Differentiate Discriminate Discuss Dissect Distill Distinguish Divide Examine	Experiment Extrapolate Formulate Identify assumptions Illustrate Induce Inspect Investigate Figure Find Model	Modify Organize Predict Probe Question Simplify Sketch Solve Survey Test
Evaluate	Agree Appraise Argue Assess Award Challenge Check Choose Conclude Convince Criticize	Critique Debate Decide Defend Detect Discount Discredit Disprove Dispute Estimate	Evaluate Judge Justify Monitor Predict Prioritize Persuade Qualify Rank Rate	Recommend Rule on Score Select Support Test Validate Value Verify Weigh
Create	Adapt Arrange Assemble Build Change Collect Compose Conclude Construct Create	Design Develop Devise Discover Estimate Extend Formulate Forward Generalize Imagine	Infer Integrate Invent Make up Manage Modify Organize Originate Plan Posit	Predict Prepare Produce Propose Rearrange Set up Suppose Theorize Transform Verify

Source: Adapted from Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass. Reproduced by permission.

Level 1: Remember

Combining parts to make a new whole — **Create**
Judging the value of information or ideas — **Evaluate**
Breaking down information into component parts — **Analyze**
Applying the facts, rules, concepts, and ideas — **Apply**
Understanding what the facts mean — **Understand**
Recognizing and recalling facts — **Remember**

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▶ **Level Definition and Attributes**: Students are able to exhibit memory of previously learned materials by recalling facts, terms, basic concepts, and answers.

▶ **Active Verbs:** choose, define, find, how, label, list, match, name, omit, recall, relate, select, show, spell, tell, identify, describe, copy, locate, recognize, memorize, quote, reproduce, tabulate, discover, duplicate, listen, enumerate

▶ **Example of Learning Outcomes:** Physics: By the end of this course, students will be able to recite Newton's three laws of motion.

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).
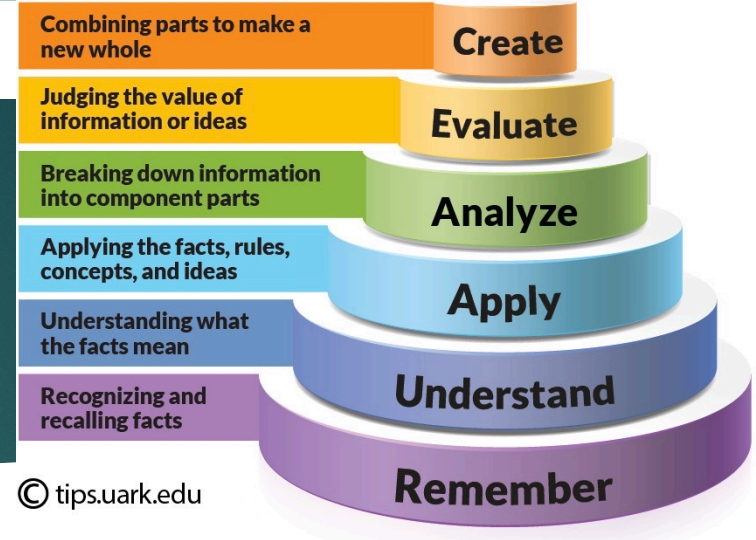
Level 2: Understand

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Combining parts to make a new whole — **Create**
Judging the value of information or ideas — **Evaluate**
Breaking down information into component parts — **Analyze**
Applying the facts, rules, concepts, and ideas — **Apply**
Understanding what the facts mean — **Understand**
Recognizing and recalling facts — **Remember**

▶ **Level Definition and Attributes:** Students are able to demonstrate understanding of facts and ideas by interpreting, exemplifying, classifying, summarizing, inferring, comparing and explaining main ideas.

▶ **Active Verbs:** classify, compare, contrast, extend, demonstrate, explain, illustrate, infer, interpret, outline, relate, rephrase, show, summarize, select, translate, describe, paraphrase, ask, differentiate, discuss, express, distinguish, restate, group

▶ **Example of Learning Outcomes:** History: By the end of this course, students will be able to explain the causes of the French Revolution.

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).

Level 3: Apply

Combining parts to make a new whole — **Create**

Judging the value of information or ideas — **Evaluate**

Breaking down information into component parts — **Analyze**

Applying the facts, rules, concepts, and ideas — **Apply**

Understanding what the facts mean — **Understand**

Recognizing and recalling facts — **Remember**

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▶ **Level Definition and Attributes:** Students are able to solve problems in new situations by applying acquired knowledge, facts, techniques and rules in a different way.

▶ **Active Verbs:** calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, build, construct, develop, experiment with, identify, make use of, organize, plan, select, solve, utilize

▶ **Example of Learning Outcomes:** Engineering: By the end of this course, students will be able to calculate the kinetic energy of a projectile.

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).

Level 4: Analyze

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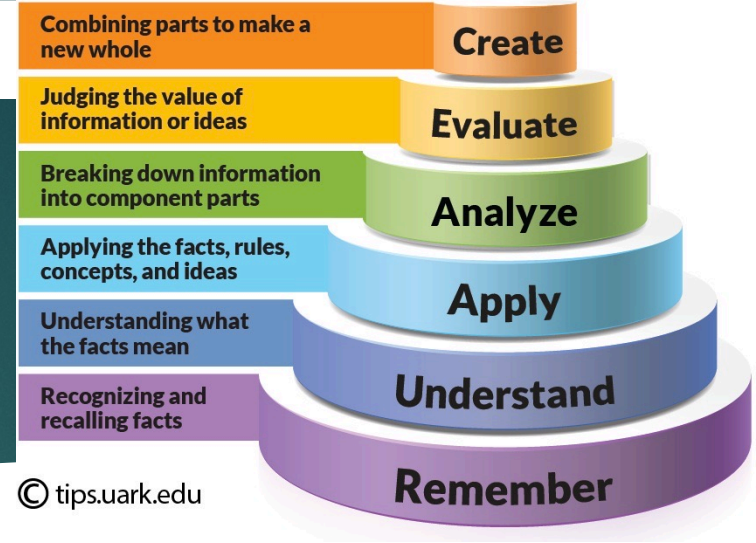
▶ **Level Definition and Attributes:** Students are able to examine and break information into parts by identifying motives, causes and relationships. They can make inferences and find evidence to support generalization.

▶ **Active Verbs:** classify, outline, break down, categorize, analyze, diagram, illustrate, assume, compare, conclusion, contrast, discover, dissect, distinguish, divide, examine, function, inference, inspect, list, motive, relationships, simplify, survey, take part in, test for

▶ **Example of Learning Outcomes:** English: By the end of this course, students will be able to determine William Shakespeare's point of view in terms of his political perspective.

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).

Level 5: Evaluate

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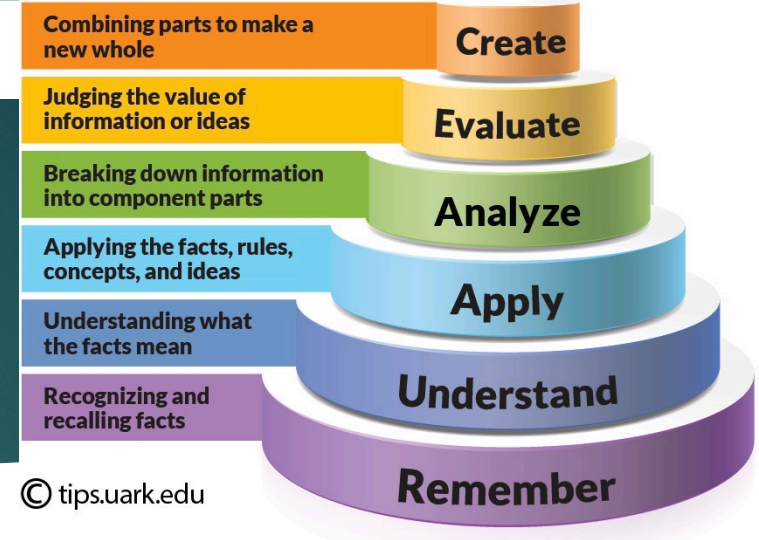
▶ **Level Definition and Attributes:** Students are able to present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. They can justify a decision or course of action.

▶ **Active Verbs:** design, formulate, build, invent, create, compose, generate, derive, modify, develop, agree, appraise, assess, award, choose, compare, conclude, criteria, criticize, decide, deduct, defend, determine, disprove, estimate, evaluate, explain, influence, judge, interpret, justify, mark, measure, perceive, prioritize, rate, recommend, rule on, select, support, value

▶ **Example of Learning Outcomes:** Kinesiology: By the end of the course, students will be able to apply behaviour change theories to different populations to increase physical activity and to *evaluate the the success of these programs once implemented in the community.*

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).

Level 6: Create

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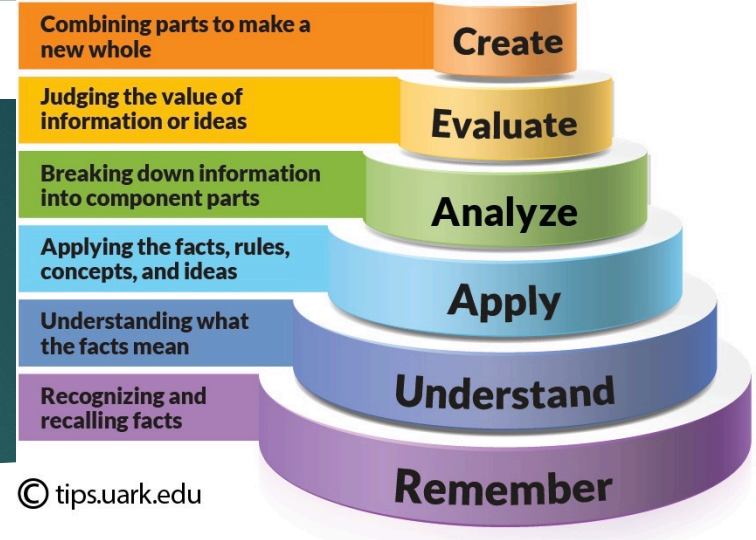
Level Definition and Attributes: Students are able to compile, generate or view information, ideas or products together in a different way by combining elements in a new pattern or by proposing alternative solutions.

▶ **Active Verbs:** adapt, build, change, choose, combine, compile, compose, construct, create, delete, design, develop, discuss, elaborate, estimate, formulate, happen, imagine, improve, invent, make up, maximize, modify, originate, plan, predict, propose, solve, suppose, test, hypothesize, substitute, compile, develop, rearrange, anticipate, assemble, collaborate, collect, devise, imagine, intervene

▶ **Example of Learning Outcomes:** Chemistry: By the end of this course, students will be able to design and execute synthetic and analytical experimental procedures found in the scientific literature in physical and inorganic chemistry.

Adapted from: L.W. Anderson and D.R. Krathwohl (2001), A taxonomy of learning , teaching, and assessing (Boston: Allyn and Bacon); Center for Teaching and Innovation, University of Toronto).

Which of the following cognitive levels have you used in your assignments (select all that apply)?

Mentimeter

0	0	0	0	0	0
Remember	Understand	Apply	Analyze	Evaluate	Create
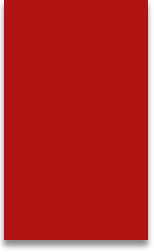
Course Assessment	LO1 (Remember)	LO2 (Understand)	LO3 (Create)	LO4 (Create)	LO4 (Evaluate)	Number of points
Assignment #1	25 pts					25 pts
Midterm Exam	25 pts	25 pts				50 pts
Assignment #2		25 pts				25 pts
Teaching Philosophy	10 pts	10 pts	50 pts			70 pts
Final Assignment: Design Plan				25 pts	15 pts	40 pts
Final Assignment: Curriculum				50 pts	25 pts	75 pts
Total Points	60 pts	60 pts	50 pts	75 pts	40 pts	285 pts
% of Assessment Points	21%	21%	18%	26%	14%	

1. Are all of the course learning outcomes "weighted" in alignment to the importance of each outcome?

2. Do the course assessments address the variety of cognitive levels appropriate to the course and represented in the course outcomes?

3. Do I offer students a variety of opportunities to demonstrate their learning?

Concern	Action
My learning outcomes are not weighted in alignment to the importance of each outcome.	Review the value you have placed on each individual assessment. You may want to adjust the weight of certain assessments to ensure that you are putting more weight on the assessments aligned to learning outcomes that are most important to the course.
My course assessments do not address the variety of cognitive levels appropriate to the course and represented in the course outcomes.	You may want to revisit your learning outcomes to ensure that they represent the lower and higher cognitive levels that are most appropriate for your course. If you see that your course outcomes are aligned to only one or two cognitive levels, you might consider revising your learning outcomes and, therefore, your assessments to address the variety of cognitive levels that will help students achieve your goals for the course.
I may need to offer students a greater variety of opportunities to demonstrate their learning.	Review the number of opportunities that students have to earn course points for each learning outcome. If you determine that students do not have enough opportunities, you might consider breaking an assessment into multiple parts (e.g., requiring drafts for a paper that allow students to apply instructor and peer feedback) or creating additional assessments that will allow students to demonstrate their learning.

"It is best to include a wide variety of activities and assignments aligned to your learning outcomes, especially those at the cognitive level "analysis," because this will *prepare students to apply their knowledge in non-academic contexts as well*" (T. Angelo, personal interview, December 2015)

Motivating Students with Meaningful and Authentic Assignments

▶ **Inspire students about your topic**

  ▶ Share your interest and background in the discipline and encourage students to do the same

  ▶ Share how course learning is relevant to students' interests and goals
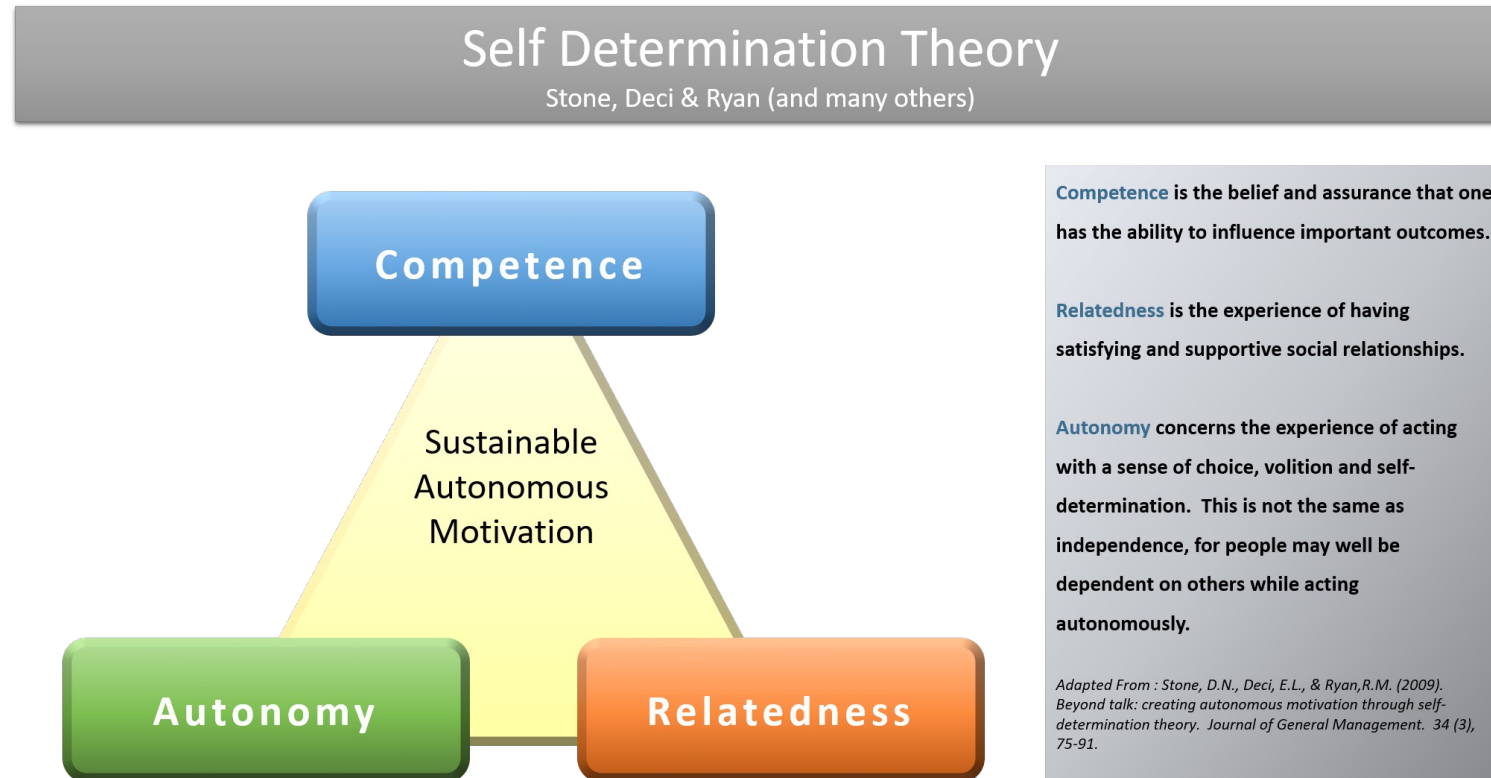
▶ **Capture and sustain student attention**

  ▶ Provide varied resources

  ▶ Provide a rationale for assignment and assessment modalities

▶ **Support student success by making progress visible**

  ▶ Teach students to set productive goals, monitor their progress, and adjust when necessary

# Self-Determination Theory (SDT) (Deci & Ryan, 2000)

People seek challenges to satisfy 3 basic psychological needs:

Self Determination Theory
Stone, Deci & Ryan (and many others)

Competence

Sustainable Autonomous Motivation

Autonomy

Relatedness

Competence is the belief and assurance that one has the ability to influence important outcomes.

Relatedness is the experience of having satisfying and supportive social relationships.

Autonomy concerns the experience of acting with a sense of choice, volition and self-determination. This is not the same as independence, for people may well be dependent on others while acting autonomously.

Adapted From : Stone, D.N., Deci, E.L., & Ryan,R.M. (2009). Beyond talk: creating autonomous motivation through self-determination theory. Journal of General Management. 34 (3), 75-91.

Supporting Autonomy
"I can make choices that matter"

▶ Give students choices wherever possible
  ▶ Assignment topics
  ▶ Choosing partners for group project
  ▶ Peer evaluations in group projects

▶ All students will feel more self-determined and therefore more motivated if they have some choices

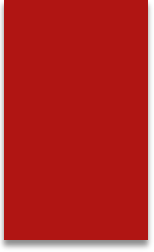▶ One of the strategies for creating and assessing assignments inclusively

Inclusive Teaching

Strategies for Promoting Equity in the College Classroom

Kelly A. Hogan
Viji Sathy
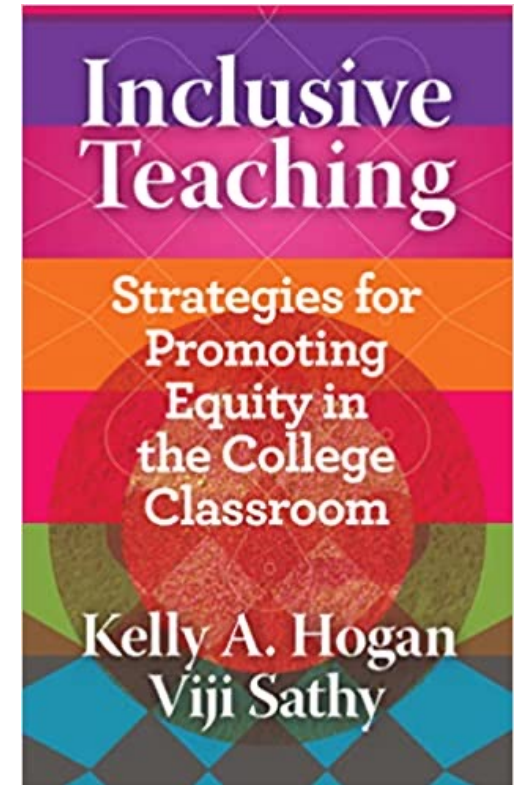
Cultivate Competence
"I feel like I can effectively succeed"

- Selecting activities that are challenging but achievable with reasonable effort and assistance

- Consider breaking large assignments into smaller chunks
  - small group or independent activities
  - Use early, ungraded assignments and preassessments to identify student's prior knowledge

- Transparent assessments

- Respond and give feedback as immediately as possible

Encourage Relatedness
"I feel connected to other students"

▶ Need to relate to others

▶ Arrange activities in which students work together in ways that are mutually supportive, that recognize students' diversity, and minimize competition among individuals

▶ Group work does not automatically lead to relatedness

  ▶ Provide opportunities to build relatedness

  ▶ Group contracts

"By definition, more motivated students want to learn more, so they achieve more. But it is also true that better teaching generates more rewarding learning experiences, which begets more motivation to learn"

(Nilson, 2010, p. 55)

Discussion

What are you currently doing in your assignments that support autonomy, competence, and relatedness?

Sample Assignment from Kinesiology and Physical Education

Community-Engaged Learning (KPE 330)

Call to Action!

Develop and present a remotely-delivered exercise intervention/program for the community partner chosen

Access Alliance
Multicultural Health and Community Services

- **Newcomers to Canada**
  - Racial Ethnic Groups include Black African (22%), Latin American (21%) & South Asian (20%)
  - *Top Languages spoken include:* English, Portuguese, Spanish, Arabic, Tigrinya, and Bengali

UNIVERSITY OF TORONTO
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION

About Us

We have **3** locations across the city

College

Danforth

Jane

Target Population

- **Population**: Newcomers to Canada
- **Chronic Disease:** 1 of 7 priority listed
- **Outcome Measures:** Increased PA + One outcome related to the chronic disease chosen
- **Final Product:** One Page Handout (organization) + Promotional Brochure (community members)

Prevalence of 7 Priority Chronic Diseases

Disease	Total # issues (burden)	Total # unique clients (prevalence)
Cardiovascular Diseases (incl. ischemic/ pulmonary/ pulmonary circulation diseases)	1,274	460
Depression (recurrent depressive disorders)	689	286
Diabetes (diabetes mellitus)	800	249
Anxiety Disorders (incl. phobic anxiety disorders)	212	118
Asthma	161	107
Osteoarthritis (arthrosis)	120	76
Chronic Obstructive Pulmonary Disease	53	30

Access Alliance
Multicultural Health and Community Services

UNIVERSITY OF TORONTO
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION

Deliverable method:

- Sample video of intervention
- Pamphlet for community members (act as a promotional material, hypothetical client experience quotes and realistic photos*)
  - **Think representation and accessibility***

Reflection Assignment

- Reflect on the following using concepts from the course and the scientific literature to support your ideas:
- What are the benefits of physical activity for the target population **(2 marks)**. Use evidence from the course/literature to support your answer.

- Suggest some evidence-based recommendations (from course concepts/principles) that might enhance physical activity in the target population **(4 marks)**

- What is the value of including community partners in the process of developing of physical activity programming? Were there noticeable gaps in the literature regarding the programming needs for the target population and the priorities stated by the community partner **(5 marks)?** Use evidence from the course/literature to support your answer.

- What challenges do you face when delivering physical activity programming during the COVID-19 pandemic to this population. What would you do to overcome them? **(3 marks)**

- What don't you yet understand about promoting physical activity in your target population? What do you need to find out more about? **(2 marks)**

24 Hour Movement Guidelines for Adults and Seniors aged 50+

150 Minutes of Moderate to Vigorous Exercise a Week

2 Muscle Strength Training Sessions a Week

Balance Training Exercises

Standing Exercises

https://csepguidelines.ca/

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https://accessalliance.ca/

Out of all Canadians...

26% meet muscle strengthening guidelines*
25% meet balance training guidelines*
50% meet light, moderate, and vigorous exercise guidelines*

20% are living with anxiety (StatsCan, 2022)

Canadian Newcomers are more likely to not satisfy these needs, while also reporting higher rates and symptoms of anxiety

*as seen on https://www.participaction.com/en-ca/

Exercise More Worry Less

Preocúpate menos has mas ejercicio

多运动 少焦虑

اتمرن أكثر و اقلق أقل

Access Alliance
Multicultural Health and Community Services

Free
8 week
Anxiety Reduction Exercise Program

Monday•Wednesday•Friday
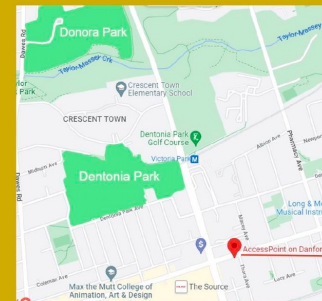08:00-09:00

Acompáñanos y Desestrésate   Come Join Us and Destress!   اتمرن معانا و استفيد نفسيا

Program Goal

The goal of this program is to utilize outdoor physical activity to increase physical activity levels and decrease feelings of anxiety in senior newcomers (ages 50 and over) to Canada.

Looking For New Ways to Exercise?

This program uses a various cardio forms like, hiking, zumba, dance, and mini games, that will not only help discover joy in exercise, but also help to address the 24 hour movement guidelines. The circuit and weight

training exercises will also provide new ways for you to get active at home helping you meet the 24 hour guidelines.

Exercising Outdoors

Exercise outdoors has been proven to provide a happier and more beneficial experience.

Tai Chi Session. August 2020

Pedometers

Ever wanted to use a pedometer to track your steps? Well with Exercise More, Worry Less, Access Alliance will provide you with the opportunity (for free!). Register for the program and see how your step count changes between days and weeks.

Program Calendar

Weeks 1 & 2
working in pairs
20 Minutes Paired Resistance Band Strength Training
10 Minute Break
30 Minute Cardio Session

Weeks 3 & 4
working in groups of 4
20 Minute Circuit Strength Training with Resistance Bands and Free Weights
5 Minute Break
20 Minute Cardio
15 Minute Instructor Lead Yoga, Meditation and Mindfulness

Weeks 4-8
One group
20 Minute Group Strength Training
5 Minute Break
20 Minute Cardio Session
15 Minute Instructor Lead Yoga, Meditation and Mindfulness

加入我们一起减少压力吧   Halika Dito   Pahinga ka Muna

Transparent Assessment

▶ How assignment will help students meet course outcomes and/or building skills in discipline

▶ How knowledge and skills are learned may be helpful for course and future career/personal goals

▶ Specific steps the assignment requires and how

▶ How will assignment be evaluated

▶ Where to submit assignment and what format

▶ Consider implementing a class-reaction survey

Provide opportunities for students to ask questions or gain clarification

Class–Reaction Survey

Purpose: This survey is designed for you to provide feedback on key information presented during today's class. It offers me an opportunity to respond to questions or clarify misunderstandings and offers you the opportunity to self-reflect on your own learning.

Scale: Please use the following scale to rank each of the statements below.
- 1 = Agree
- 2 = Somewhat agree*
- 3 = Disagree

*If you select "2" or "3" for any of the items, please offer an explanation or question related to the area of confusion. This will allow me to provide clarity and adjust my instruction for future classes.

Directions:

Statement				Explanation/Question
1. The purpose of the activity or assignment is clear.	1	2	3	
2. The connection between the activity or assignment and course learning outcomes is clear.	1	2	3	
3. I understand each step and can work to complete the activity or assignment.	1	2	3	

Explanations:

Statement				Explanation/Question
1. I understand the key concept(s) explained during today's class.	1	2	3	
2. The instructor presented the material at a good pace.	1	2	3	
3. I understand all vocabulary the instructor used and defined.	1	2	3	

Open Forum

Share some meaningful assignments that you have done in the past or what you plan on doing for your future assignments?

Summary

▶ Include a variety of assignments and align them with the cognitive levels of learning

▶ When possible, support autonomy, competence, and relatedness to enhance intrinsic motivation among students

▶ Use transparent assignment assessments to increase the quality of student work

▶ Consider enrolling in the ACUE course as it provides ample opportunities to reflect on your own teaching and join a community of passionate educators

Resources to Share

▶ Types of Assessments by Cognitive Levels

▶ Course Assessment Plan

▶ Transparent Assignment Template

Contact Information:

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Learn More About ACUE and if it's the right PD for you!

COURSE IN EFFECTIVE TEACHING PRACTICES (ETP)

- **9-month online course**

- **25 self-paced online modules** (each module takes up to 3 hours to complete and involves both application and reflection)

- Learn a **range of practices** that can be applied in teaching both in-person and online courses

- **Cohort based -** meet at key points in the year with facilitators and colleagues to discuss their experiences implementing strategies and approaches learned through the modules in their own classrooms.

Interested? email ctsi.teaching@utoronto.ca with your questions.

ACUE Association of College and University Educators