

Silo Busting: Equity and Inclusion as Drivers -- An Interdisciplinary Assessment Approach Using Transparency in Learning and Teaching (TILT)

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Objectives of this Presentation

- Provide an overview of a Narrative and Reflective Teaching model along with the TILT method
- Provide a list of TILT strategies
- Explain the TILT approach to a colleague or student
- Use the TILT approach to improve student learning

Higher education continues to welcome an increasingly diverse student body. It also faces historic opportunities to implement inclusive and transparent teaching practices.

A narrative and reflective model of continuous improvement engages faculty in assessment *for* learning. The TILT method strengthens that welcome.

Transparency in teaching and learning using the TILT method and inclusive assessment has been a powerful combination for assignment design and assessment.

Narrative and Reflective Teacher's Initiative (NT)

Narrative Teaching uses self-reflective practices to explore and assess one's teaching and to identify areas for growth.

Participation in this activity requires two mindsets:

1. the willingness to reflect at least once a week in writing on your teaching
2. the willingness to meet with other participants formally once a month as a group

Research has shown that the following features of narrative and reflective teaching connect to inclusive teaching using the TILT method:

- intentionally engaging student learning outcomes and TILT assignment design
- examining, framing, and attempting to solve dilemmas of the classroom
- frequent questioning of one's personal assumptions, values, and beliefs about teaching and learning.
- An understanding of the inclusive classroom, careful consideration to what is to be taught and how it is to be taught (rather than who is to learn)

•Tazin Daniels, Shana Schoem, Preparing Inclusive Educators Through Transformative Learning, *New Directions for Teaching and Learning*, 10.1002/tl.20418, 2020, 163, (83-90), (2020).

•Kristina R. Stefaniak, Merrie K. Winfrey, Anna C. Curtis, Sarah A. Kennedy, Implementing an Iterative and Collaborative Approach to Inclusive First-Semester General Chemistry Laboratory Redesign, *Journal of Chemical Education*, 10.1021/acs.jchemed.0c00487, (2020)

•Sarah A. Kennedy, Rachel M. Chapman, Green chemistry as the inspiration for impactful and inclusive teaching strategies, *Integrating Green and Sustainable Chemistry Principles into Education*, 10.1016/B978-0-12-817418-0.00001-2, (1-30), (2019).

What is TILT approach? Transparency in Learning and Teaching

Transparency and Problem Centered Learning Project has identified three criterion of assignment design and assessment:

Purpose – What Knowledge and Skills?

Task – What and How to do?

Criteria – What is/are the expectation(s)?

Enhancing students' success, especially that of first-generation, low-income, and underrepresented college students.

Transparency and Problem-Centered Learning project (www.aacu.org/problemcenteredlearning) (Tia McNair, Ashley Finley, and Mary-Ann Winkelmes as the coinvestigators)

Transparency for Learning

Transparency for **Learning** is achieved by

1. Using checklists that support student understanding of assignment benchmarks
2. Providing rubrics that support student understanding of how they will be evaluated and graded
3. Written specific student learning outcomes (SLOs)
4. Backward design alignment of these SLOs with each assignment.

Use one question as a driver asked by researcher Mary-Ann Winkelmes,” If I was to change one thing about my teaching, what would it be?”

More Transparent Assignment Example

Purpose: The eight steps involved in the scientific method makes us aware of how to approach everyday situations with this foundational scientific literacy.

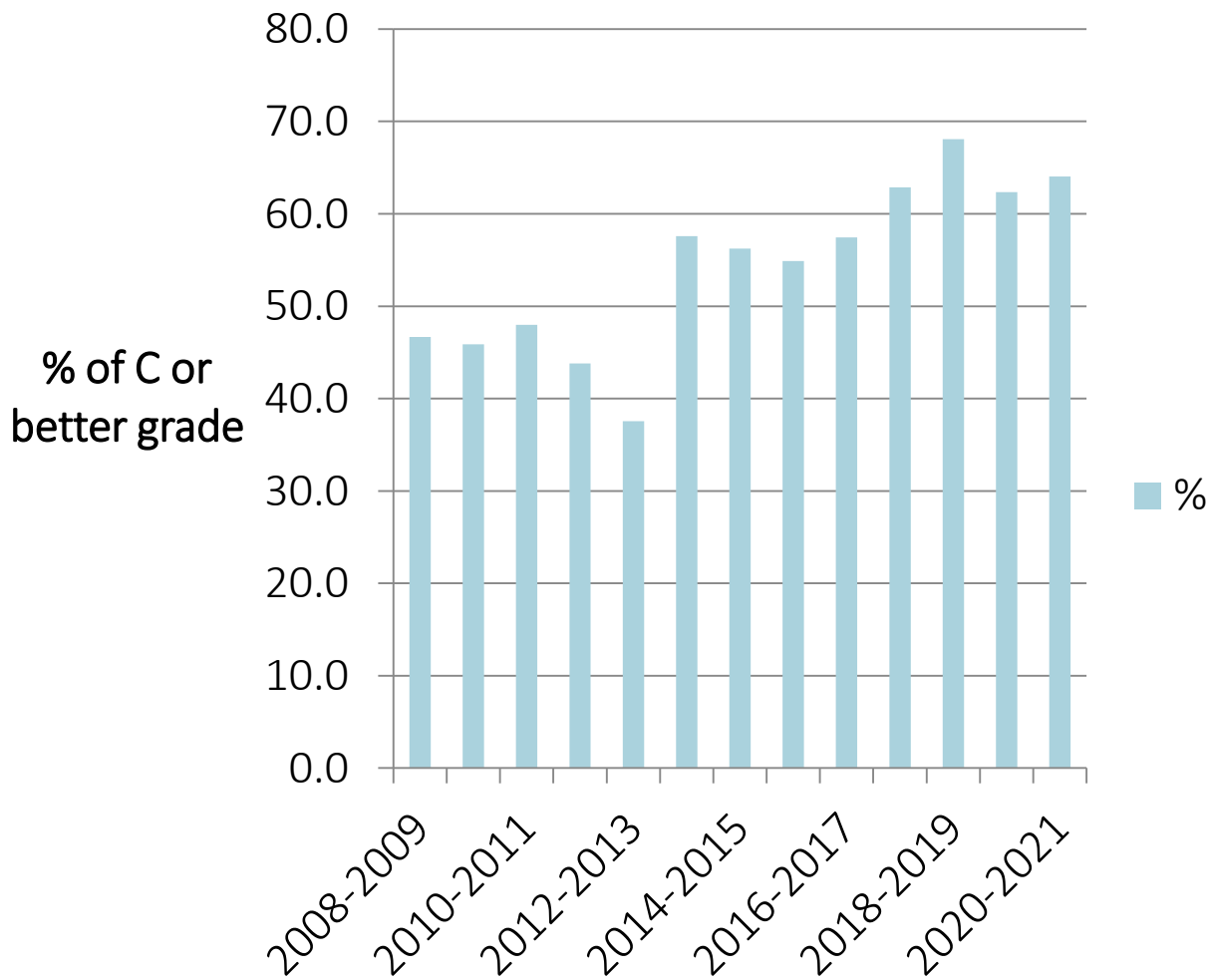
Task: Using an example from your day-to-day routine, apply and explain the eight steps involved in Scientific Method that we have studied from chapter 1 Section 1.1 in today's lecture session. (Total = 10 points)

Criteria: A checklist is provided as guide to complete this assignment. The attached rubric will be the basis to grade your assignment. This rubric will be the feedback after the assignment is graded.

Results of the NT/TILT approach

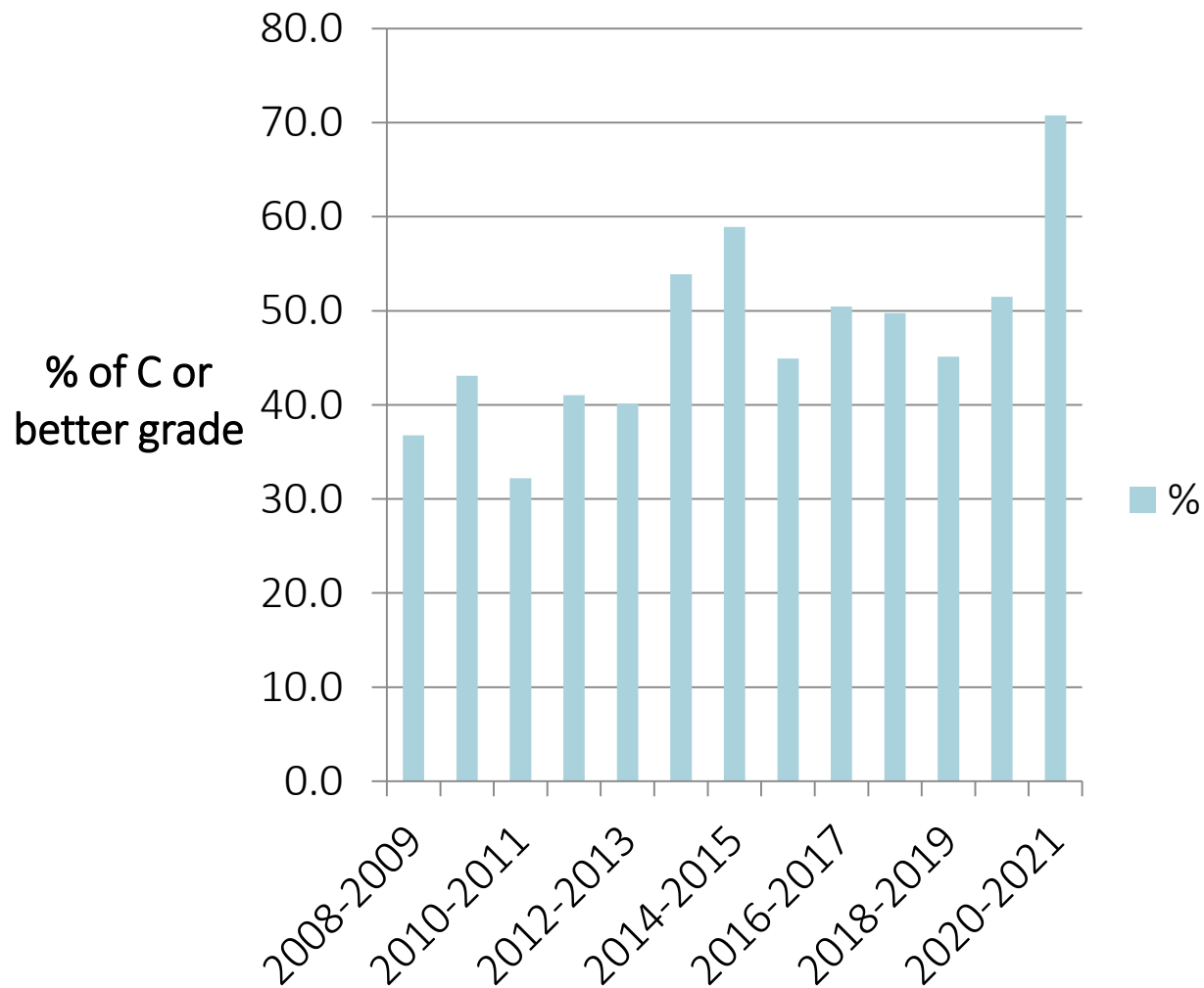
CHE 111 CONCEPTS OF CHEMISTRY

% of C or better grade



CHE 121 GENERAL CHEMISTRY-I

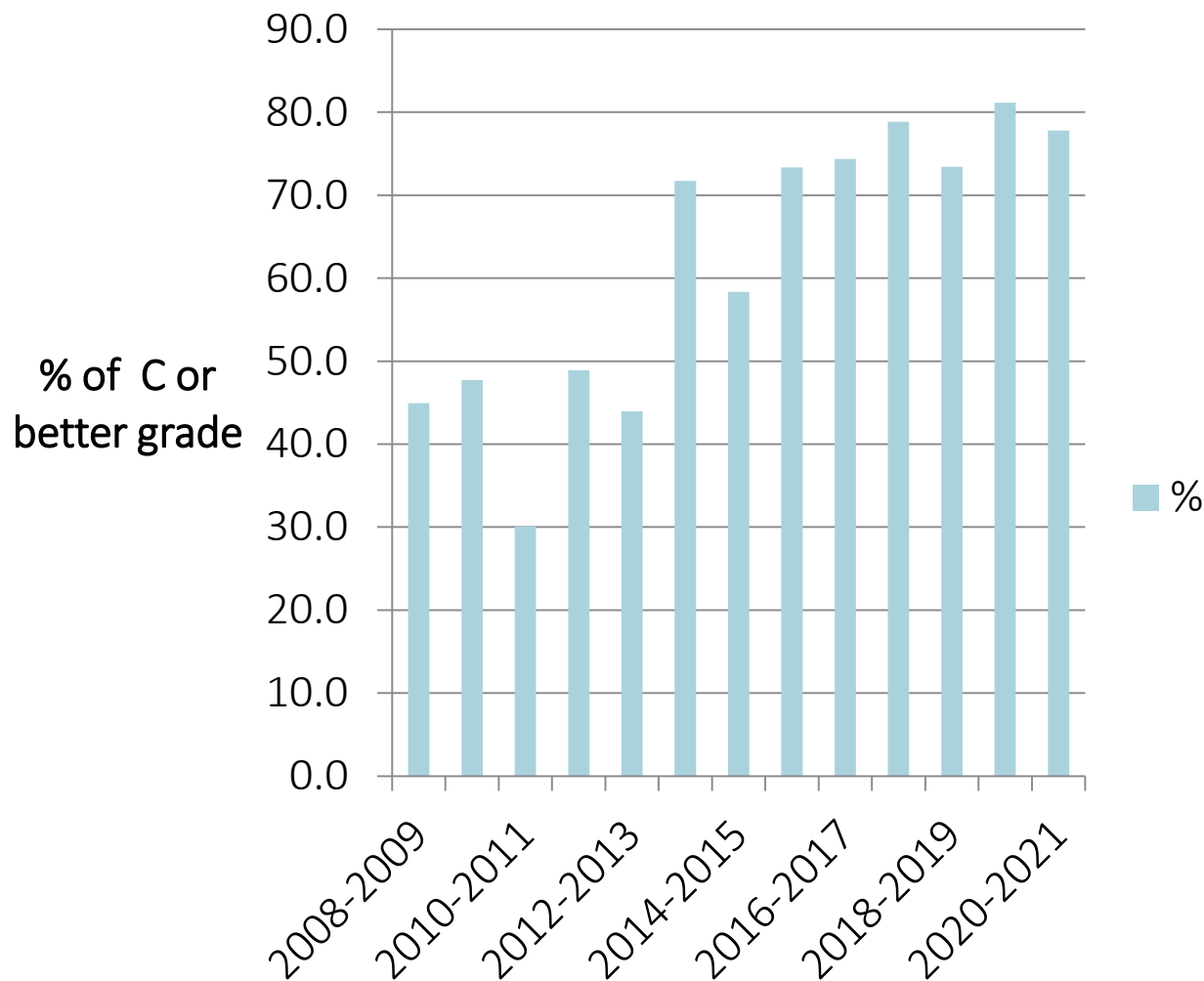
% of C or better grade



Results of the NT/TILT approach

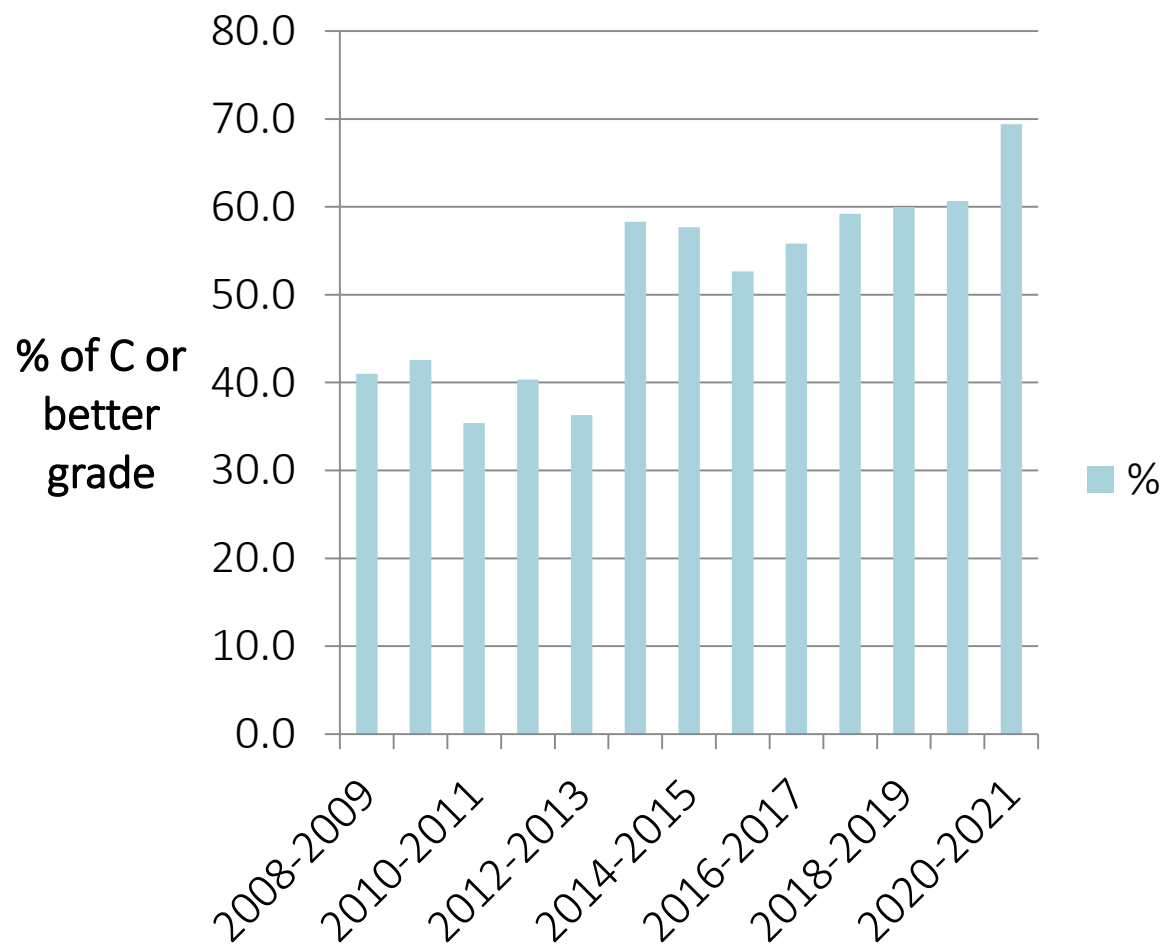
CHE 122 GENERAL CHEMISTRY-II

% of C or better grade



OVERALL RESULT OF ALL THE CHEMISTRY COURSES

% of C or better grade



Inclusive teaching, using the TILT method,
matches the teaching and learning
expectations of both students and teachers.

Transparency and Problem Centered Learning Project has identified three criterion of assignment design and assessment that demonstrably enhances students' success, especially that of first-generation and historically underrepresented college students in multiple ways at statistically significant levels, with a medium to large magnitude of effect.

Transparency and Problem-Centered Learning project
(www.aacu.org/problemcenteredlearning) (Tia McNair, Ashley Finley, and Mary-Ann Winkelmes as the coinvestigators)

Inclusive Assessment and Transparency in Learning and Teaching

The Humanities teach us to engage and respond critically and logically to subjective, complex, and imperfect information

Definition (VALUE Rubric -- Association of American Colleges and Universities)

Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas and consider the ramifications of alternative actions. Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues.

Introduction to the Humanities – HUM 101:

Making pedagogy visible: Why I chose the AAC&U VALUE rubric.

Teach and discuss the rubric with students.

Explain succinctly the principles of backward design – let's start with the rubric and then align the rubric with SLOs for this Humanities assignment – a case study.

Describe what benchmarks look like in action.

Making those benchmarks transparent using models and examples.

<https://www.aacu.org/sites/default/files/files/VALUE/EthicalReasoning.pdf>

	Capstone 4	Milestones 3	Milestone 2	Benchmark 1
Ethical Issue Recognition	Student can recognize ethical issues when presented in a complex, multilayered context AND can recognize cross-relationships among the issues.	Student can recognize ethical issues when issues are presented in a complex, multilayered (gray) context OR can grasp cross-relationships among the issues.	Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues	Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships

TILT's process --

Transparency in Teaching and Learning

PURPOSE: Communicate to students the knowledge and skills they will gain from completing the assignment and how that knowledge or skill will be valuable to students.

Knowledge:

1. What knowledge will students gain from completing the assignment?
2. How does that knowledge relate to other topics in your course or other courses?
3. How will the knowledge be relevant for students in their lives beyond your course or beyond college?

TILT's TASK: Communicate the steps that students should take to complete the assignment.

1. Are each of the steps needed to complete the assignment laid out clearly? If any steps are implied, consider making them more explicit.
2. What are the common pitfalls or bottlenecks that students encounter with this assignment? How can you help them avoid those pitfalls?
3. Are there opportunities for students to get feedback on parts of the assignment before the larger assignment is due? If not, provide such opportunities.

TILT's CRITERIA: Well before the assignment is due, share with students the rubrics or checklists that you will use to evaluate their work.

1. Would a rubric or a checklist be most appropriate for evaluating your assignment?
2. If you use a rubric on this assignment, is it written in such a way as to be clear to a student? Have you taught and review the rubric with students?
3. Are there opportunities for students to evaluate their own work or other student work using the rubric or checklist that you have provided? If not, consider providing such opportunities

Less transparent assignment: Humanities Case Study 1

Is the universality of art a pernicious concept, a form of “cultural strip mining,” or is it an acknowledgment of art as part of our common humanity? Should works of art be repatriated to their countries of origin and is that always the right decision? These are big questions, and our answers depend on whether we believe a work’s original context is paramount.

Respond directly to this question and make it relevant to the controversy surrounding ownership of the Parthenon Frieze.

Be sure to include at least three perspectives from our course readings surrounding the controversy also known as The Elgin Marble debate.

Students should integrate a clear and engaging thesis, a central claim, that marks your position. Students should integrate two direct quotations from the OERs and/or course materials that are relevant to the controversy surrounding the Parthenon Frieze.

Humanities Case Study 1: More Transparent Assignment

Purpose:

To practice and demonstrate ethical reasoning complete with an ethical claim, a thesis.

Criterion: First, we'll review and discuss the AAC&U VALUE rubric definition of ethical reasoning.

Task: Is the universality of art a pernicious concept, a form of “cultural strip mining,” or is it an acknowledgment of art as part of our common humanity? Should works of art be repatriated to their countries of origin and is that always the right decision? These are big questions, and our answers depend on whether we believe a work's original context is paramount. [continued]

More transparent assignment: Humanities Case Study 1

Be sure to include at least three perspectives from our course readings surrounding the controversy also known as The Elgin Marble debate.

One source that is required are the UNESCO resolutions.

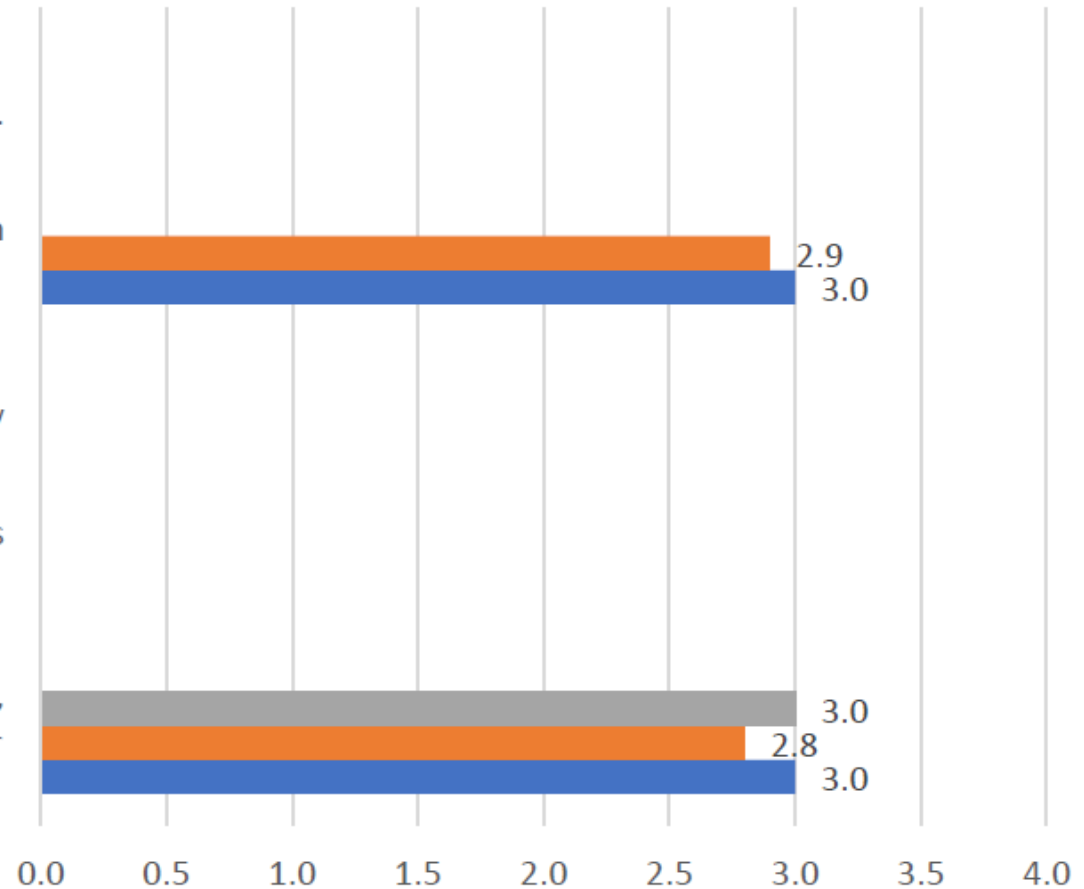
After the thesis workshop, students will put forth their strongest claim in the first paragraph of the assignment. The thesis is a central claim that marks your position.

Students should integrate two direct quotations from the OERs and/or course materials that are relevant to the controversy surrounding the Parthenon Frieze.

Trends

HUM*101 AD Trends, 2017-2020

1. Apply key concepts, terminology, and methodologies in the analysis of literary, performing, visual, and other arts forms.
2. Identify works of visual, performing, or literary art within historical, social, political, cultural, and aesthetic contexts.
3. Articulate ways in which literature, performance, the visual arts and related forms respond to and influence society and culture.
4. Actively engage with the literary, performing or visual arts and other cultural forms through experience or creative expression.
5. Articulate the ethical dimensions surrounding the creation, circulation, and interpretation of works of visual, performing, or literary art.



1 is "Not competent" and 4 is "Highly competent"

■ 2017-18 ■ 2018-19 ■ 2019-20

Transparency: Teaching and Learning Expectations

Talk to your students about the norms of your discipline, even if they seem obvious to you.

For example:

- Formatting, research, and citation conventions
- Why word count or assignment length is important
- The role of the rubric in teaching and learning

We welcome your outreach and feedback! Please contact us by email.

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For power points and handouts of this presentation click on this link:

<https://assessmentinstitute.iupui.edu/>

Silo Busting: Equity and Inclusion as Drivers an Interdisciplinary Assessment Approach Using
TILT (Transparency in Learning and Teaching)

Abstract

When considered within an institutional framework of faculty development, the assessment of student learning with inclusion and equity as drivers position the TILT framework as an effective and sustainable method that optimizes both faculty engagement with semester assessment projects as well as improved student outcomes at the course and program level.

The two cornerstones of TILT are:

1. Promoting students' conscious understanding of how they learn
2. Enabling faculty to gather, share, and promptly benefit from current data about students' learning by coordinating their efforts across disciplines. [TILT Higher Ed](#)

Using the TILT method, an assignment's **purpose, task, and criteria** are made considerably more transparent, inclusive, and actionable.

Examples of less transparent and more transparent assignments

1. Less Transparent Assignment

Scientific Method

Using an example from your day to day routine/real life, write down and explain the eight steps involved in scientific method that we studied from Chapter 1 in today's lecture session. (10 points)

2. More Transparent Assignment Example

Using any example from your day to day routine write down a detailed report and explain the eight steps involved in Scientific Method that we have studied from our chapter 1 Section 1.1 in today's lecture session. (Total = 10 points)

Format: Use Microsoft Word or similar computer software to type your report. Use 1 inch space on all side of the page and double space, font size 12 and Times New Roman font. On the top right hand side of the page type the assignment name, number, today's date, your name, course number, section number, and semester.

Name _____

General Chemistry-1

Section 10082

Spring 2021

Please print your assignment on a white paper and staple all the pages in the top left hand corner.

Due Date: Next lecture on Wednesday at 8.00 am and submit it in the white bin on the instructors front desk. It is your responsibility to turn in this assignment on due date/time. There is a penalty of 10% per day for late submissions.

Estimated total time taken for this assignment: 2 hours.

1. Purpose of this assignment

Skills practiced

Reading carefully.

Writing down a report employing the eight steps involved in scientific method.

Evaluate a peer and self-assessment of this assignment.

Knowledge Gained

After answering this assignment you will be able to use the eight steps involved in scientific method to provide explanation to any question that comes to your mind after an observation of a phenomenon.

2. Task involved in completing this assignment

What to do?/How to do it?

Checklist - Please put a check mark [✓] next to each item as you finish studying them each day

Task	
	Review lecture notes on Scientific Method
	Review Chapter 1 Section 1.1 on Scientific Method
	Read and Understand the assignment
	Read and Understand the checklist
	Read and Understand the grading rubric
	Read and Understand the given sample example of a student
	Start writing a draft of the assignment
	Use the draft to write a detailed report of the assignment
	Total time to answer this assignment 1.5 hours

3. Criteria used to grade this assignment

Rubric

MCC Designated Competency Outcomes Scientific Reasoning	Highly Competent A 1	Competent B 0.8	Minimally Competent C 0.7	Not Competent D 0.6
Step 1 Question	Question is accurately written	Question is partially written	Question is poorly written	Question is not written
Step 2 Hypothesis	Tentative explanation is formed and written	Tentative explanation is partially formed and written	Tentative explanation is incorrect	Hypothesis is not written
Step 3 Prediction	Prediction of the experiment is given using if and then statement	Prediction of the experiment is given poorly using if and then statement	Prediction of the experiment is given without using if and then statement	No prediction
Step 4 Testing	Step by step testing is done and documented	Step by step testing is partially done and documented	Step by step testing is incomplete and poorly documented	No explanation given to perform testing
Step 5 Results	Results are published in tabular form with correct sig figs and units	Results are published in tabular form with incorrect sig figs and units	Results are not published in tabular form with incorrect sig figs and units	Results not shown
Step 6 Further Testing	If hypothesis is false then further test is recommended	If hypothesis is false then further test is partially recommended	If hypothesis is false then further test is poorly recommended	No further testing done
Step 7 Publishing	Ways to publish results are suggested	Ways to publish results are incomplete	Ways to publish results are sketchy	Results not published
Step 8 Chemist using your results	Ways chemists will use the results are completely explained	Ways chemists will use the results are partially explained	Ways chemists will use the results are poorly explained	Others not using the results
Formatting	Perfect formatting following all the rules	Minor omissions in formatting	Serious omissions in formatting	No formatting
Conclusion	Sound logic in explanation/conclusion	Minor flaws in logic in explanation/conclusion	Serious flaws in logic in explanation/conclusion	No explanation/conclusion
Total				
Total of all four columns/10 points	_____/10 points			

Provide an Excellent example

Scientific Method

Assignment # 2

Date 7/23/21

Name Mary Jane/John Doe

General Chemistry-1

Section 10082

Summer 2021

Step 1 Question: Why is my flashlight not lighting up when the switch is moved to the on position?

Step 2 Hypothesis: The AA size batteries are dead therefore the flashlight does not light up. This could be True/False.

Step 3 Prediction: If I change the batteries then it will light up and help me see after dark. Here dependent variable lighting up of flashlight, independent variable are the AA size batteries, and controlled variables are the flashlight, switch and the bulb.

Step 4 Testing: Let me get three AA batteries. Remove and discard the old one properly and replace them with the new one. Properly insert the batteries with correct polarity. Now slide the switch on the flash light to see if it lights up.

Step 5 Result: Flashlight does not light up. This means that our initial hypothesis is false. Now another hypothesis is formed.

New hypothesis: The bulb of flashlight is fused therefore the flashlight is not turning on. This could be True/False.

New Prediction: If we change the bulb then the flashlight will light up.

Step 6 Further Testing: Now we change the bulb and turn on the switch and the flashlight lights up. This proves our hypothesis and prediction is true. We will perform the test again to make sure our results are valid and reproducible.

Step 7 Publishing: We can use YouTube, Facebook or other social media to publish our results so that our others can learn from our experience and experiment. In case of actual Chemistry research we would use peer reviewed Chemistry journals to publish our results.

Step 8 Chemist using your results: Other experimenters, scientists, and chemists will use our experiment to help them solve similar question(s).

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Milestones: The Milestone Framework in the AAC&U VALUE Rubric on Ethical Reasoning Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues. (3)

Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships.

Application of Ethical Perspectives/Concepts Student can independently apply ethical perspectives/concepts to an ethical question, accurately, and is able to consider full implications of the application.

Student can apply ethical perspectives/concepts to an ethical question, independently (to a new example) and the application is inaccurate.

Introduction to the Humanities – HUM 101: Use the principles of backward design -- let's start with the rubric and then align the rubric with SLOs

The VALUE Rubric on Ethical Reasoning, the Assignment, and Student Learning Outcomes

Making pedagogy visible: Why I chose the AAC&U VALUE rubric. Explain to students.

What the benchmarks look like in action. Making those benchmarks transparent using models and by examples

<https://www.aacu.org/sites/default/files/files/VALUE/EthicalReasoning.pdf>

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