Providing Helpful Feedback Graduate Seminar
October 27, 2016

Minute Paper: Characteristics of Helpful and Unhelpful Feedback

1. *Think about a time when you received helpful feedback on your performance. What made that feedback effective or helpful? List the characteristics below.*
2. *Now imagine a time when you received unhelpful feedback on your performance. What made that feedback ineffective or unhelpful? List the characteristics below.*

Characteristics of Helpful Feedback	Characteristics of Unhelpful Feedback
-specific -suggest methods to improve - both negative and positive feedback - explains why incorrect method does not work -provides more resources for improvement --- -gives opportunity to reflect	-general - only highlights what should be improved but not how to improve them - not constructive --- -comparative

Characteristics of Effective Feedback

Specific	*Which aspect of the student's work are you focusing on?*
Constructive	*What are the strengths and weaknesses of the student's work?*
Prioritized	*Which aspects of the student's work are the most important?*
Actionable	*What can the student do to improve in the future?*
Timely	*Does the student receive this feedback soon after learning?*

Recognizing, Critiquing, and Improving Sample Feedback Activity

Identify others at your table who give feedback on the same type (quantitative or qualitative) of work that you do. Choose the example from the following pages that best reflects that kind of work, and answer the two questions below.

Note: We recognize that your disciplinary background may not match the examples provided. Don't be distracted by the content of the question or spend time trying to figure out the correct answer; rather, focus on your understanding of what makes for effective or ineffective feedback and answer the question as best you can.

1. *Identify two strengths of the feedback in the example. How would those strengths help student learning?*

2. *Suggest two specific ways one could enhance the quality of the feedback in the example.*

Example 1 – Quantitative

Please examine the image below, which shows a quantitative test question, a student's answer, and the written feedback provided by a TA.

- A population of N = 50 salamanders (*Desmognathus fuscus*) lives in a stream with a limited food supply (insects). The maximum number of salamanders (K) the stream can support is 200. Last year, there were 20 births and 10 deaths. Based on these data, what is the maximum possible population growth rate for this population? (5 points).

✓ $\frac{dN}{dt} = rN\left(1 - \frac{N}{K}\right)$

YES! LOGISTIC GROWTH EQUATION.

K = carrying capacity = 200

N = 50 = pop size

r = 0.2 = per capita reproductive rate

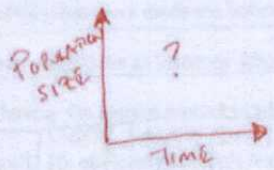
How do you know? SIGNIFICANT DIGITS?!

$\frac{dN}{dt} = (.2)(50)\left(1 - \frac{50}{200}\right)$

$\frac{dN}{dt} = 8$ Units?!

(-3)

HINT: GRAPH IT.
WHERE IS FASTEST GROWTH?



Example 2 – Qualitative

Please examine the image below, which shows a student's answer to a pre-class assignment and the written feedback provided by a TA. The assignment was:

- After completing the assigned reading, please write a 1-page argument on whether Christopher Columbus viewed Native Americans as inferior or superior. Clearly take a position and support your thesis statement with at least 2 pieces of evidence based on the reading.

needs better title

Essay #1

~~One of the discussion questions is to describe Columbus's attitudes towards the natives, and how he himself views them~~. One could argue that he views them as inferior because they aren't very educated, but one could also argue that they could be considered superior because of the fact that they know the land better than someone else does, and could be used for personal gain. Is this your thesis statement? If so, tell me what you will argue rather than what one could argue.

On his first voyage, Columbus ~~comes~~ encounters two types of foreign groups, the locals of Taino, and Canary Islanders. These groups are completely opposite, one showing absolutely no signs of "material and cultural backwardness" (p. 97). These people would serve as a good guide for him as far as interpretation and he picked up a few locals on his voyage. The Taino locals viewed him as a "semi-divine" (p.97) and were obviously excited to do the things ~~the~~ that Columbus was doing ~~and~~ He made the assumption that they "would make excellent servants and laborers" (p. 97). Christopher regarded the Tainos as "idolaters, ripe for conversion to the superior truths of his own faith" (p. 97) and this statement made me believe that he thought of the natives as inferior for the fact that he was using them as someone who can speak the language as someone else in the area, and having the natives around to where they know the land better than Columbus did was a factor as well. He obviously couldn't learn the language of the people so with all of the gestures, he learned how everyone else would learn. He uttered what he thought they were trying to say, just for his personal gain. If he could mimic what he thought they were saying, he could get anything he wanted, and I think it got to his head.

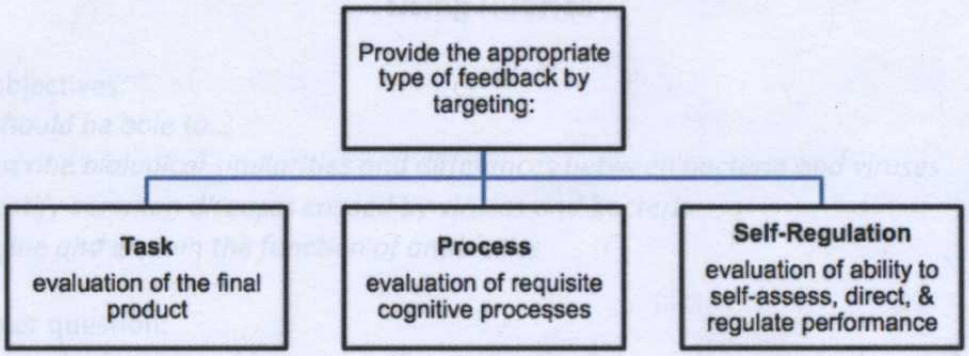
WAW
WAW
WAW
WAW

which one?

beginning of statement talks about religious beliefs, but you did not discuss of native as interpreter.

very long sentence

Please review the sample essay posted on Blackboard before composing your next essay. Your essay should include a clear thesis statement at the beginning of your paper + 2 pieces of supporting evidence.



Types of Feedback Practice Activity

Problem: Frankie and Tony sell pierogis. They split the profit each day. If Frankie makes $52 in sales, and they both take home $44, what did Tony make in sales?

Student Response:
(52 + X)/2 = 44
(52 + X) = 86
X=34

Feedback about Task	
Feedback about Process	
Feedback for Self-Regulation	

Scenario – Grading Strategies Brainstorm

What are three specific grading/feedback strategies would you use and why?

Using Rubrics

Learning objectives:
Students should be able to...

- *Describe biological similarities and differences between bacteria and viruses*
- *Identify common diseases caused by viruses and bacteria*
- *Define and explain the function of antibiotics*

Short answer question:
If you were a physician, would you prescribe antibiotics for a patient who had a cold? Why/not? Include biological evidence to support your answer based on your knowledge of bacteria and viruses.

Rubric:

	Excellent	***Needs some revision***	***Unsatisfactory***
Correct decision	*Clearly states "no."*	*"No" is apparent, but not clearly stated.*	*States "yes" or does not clearly state "no."*
Factual accuracy of answer	*All information provided is correct.*	*Majority of information is correct. Minor omissions or errors in factual accuracy.*	*All, or majority of, information is incorrect.*
Use of supporting evidence	*Rationale is complete and logical, clearly identifies viruses as the cause of the "common cold" and states that antibiotics typically do not affect viruses. No superfluous or incorrect information provided.*	*Rationale is incomplete or must be inferred from partial evidence. Some superfluous information is provided.*	*Rationale is illogical or lacking. Copious superfluous information provided.*

www.cmu.edu/teaching
eberly-ctr@andrew.cmu.edu
412-268-2896

With a partner, use the rubric to grade the following student answers:

Student 1: *"Yes. Bacteria are small, single celled organisms and when there is an overgrowth of them they make you to feel sick. Viruses are also microorganisms and these must tear away at other tissue to make you feel sick. Viruses are communicable, bacteria I don't think are communicable. Antibiotics are natural chemicals produced by molds that that are toxic to other competing microorganisms, like bacteria and viruses."*

Category	Grade (e.g., excellent, needs some revision, or unsatisfactory)
Correct decision	unsatisfactory
Factual accuracy of answer	unsatisfactory
Use of supporting evidence	unsatisfactory

Student 2: *"Absolutely not. Colds are caused by viruses. You'd be a dope to prescribe antibiotics."*

Category	Grade (e.g., excellent, needs some revision, or unsatisfactory)
Correct decision	Excellent
Factual accuracy of answer	Excellent
Use of supporting evidence	unsatisfactory

Student 3: "Me, personally, no, but I could understand why people would want to, depending on what type of cold they had, because antibiotics would kill the bacteria off."

Category	Grade (e.g., excellent, needs some revision, or unsatisfactory)
Correct decision	NSR
Factual accuracy of answer	NSR
Use of supporting evidence	NSR

Rubric Examples: Easy, Medium, Complex

This series of rubrics from page 63 of "Scientific Teaching"

Table 3.3a. Instead of:

Criteria	Excellent	Good	Poor	Unacceptable
Accuracy of information	No errors were made	1-3 errors were made	4-6 errors were made	More than 6 errors were made

Table 3.3b. Try:

Criteria	Level of performance			
	Sophisticated	**Good**	**Needs improvement**	**Unacceptable**
Accuracy of information	No factual errors were made. Your work will be very useful in aiding the reader make a decision about whether this genetic engineering technology would be a significant contribution as an alternative method to pesticide use in agriculture.	No significant errors were made. The reader recognizes any errors as the result of hasty conclusions or oversights. Your work is usable for making decisions about employing this technology, but would be considered more reliable if you were more careful in proofreading your work.	Enough errors were made to distract the reader, but the reader is able to use the information to make judgments. The technology will appear more useful if the reader is able to decide what evidence is reliable.	Your proposed technology is highly improbable because there are too many factual errors. The reader cannot depend on this report as a source of accurate information, or you have included so little information that the reader is not sure what the technology is about. It will not be approved by the FDA.

www.cmu.edu/teaching
eberly-ctr@andrew.cmu.edu
412-268-2896

This rubric taken from the M-STEM class "Crossing the Boundary" (designed by David Lorch)

Criteria	Full Credit (2 points)	Partial Credit (1 point)	No Credit (0 points)
1	Chose the correct equation and calculated its constants correctly.	Chose the right equation or near to it, but made incorrect calculations or assumptions.	Did not choose the correct equation to use.
2	Correct number and units.	Some calculations correct, but not enough to end up with a correct answer.	Final answer off by orders of magnitude.
3	Explained all necessary material for understanding relevant issues.	Gave an incomplete or partially incorrect explanation.	Only showed unclear or incorrect guesses at the answer.
4	Chose and executed the calculations correctly based on the data.	Chose the correct calculations to make, but executed them incorrectly.	Made incorrect calculations that were irrelevant and/or ignored the data given.

This rubric taken from an ABET Faculty Workshop (2009)

	Ability to work effectively in teams			
	Unsatisfactory 1	**Developing 2**	**Satisfactory 3**	**Exemplary 4**
Research & Gather Information	Does not collect any relevant information.	Collects some information related to the topic but incomplete.	Collects basic information related the topic.	Collects a great deal of information which goes beyond the basics.
Fulfill duties of assigned role	Does not perform any duties of assigned team role.	Inconsistently performs duties that are assigned.	Performs duties that are assigned.	Performs all duties assigned and actively assists others.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work-- often needs reminding.	Usually does the assigned work-- rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to Other Teammates	Is always talking and never allows anyone else to speak.	Usually does most of the talking and rarely allows others to speak.	Listens most of the time.	Consistently listens and responds to others appropriately.

Carnegie Mellon
www.cmu.edu/teaching
eberly-ctr@andrew.cmu.edu
412-268-2896

Philosophy Department: Paper Grading Rubric
by Mara Harrell, Carnegie Mellon University

	Excellent	Good	Needs Improvement	Unacceptable
CONTENT				
Argument				
Thesis	A clear statement of the main conclusion of the paper.	The thesis is obvious, but there is no single clear statement of it.	The thesis is present, but must be uncovered or reconstructed from the text of the paper.	There is no thesis.
Premises	Each reason for believing the thesis is made clear, and as much as possible, presented in single statements. It is also clear which premises are to be taken as given, and which will be supported by sub-arguments. The paper provides sub-arguments for controversial premises. If there are sub-arguments, the premises for these are clear, and made in single statements. The premises which are taken as given are at least plausibly true.	The premises are all clear, although each may not be presented in a single statement. It is also pretty clear which premises are to be taken as given, and which will be supported by sub-arguments. The paper provides sub-arguments for controversial premises. If there are sub-arguments, the premises for these are clear. The premises which are taken as given are at least plausibly true.	The premises must be reconstructed from the text of the paper. It is not made clear which premises are to be taken as given, and which will be supported by sub-arguments. There are no sub-arguments, or, if there are sub-arguments, the premises for these are not made clear. The paper does not provide sub-arguments for controversial premises. The plausibility of the premises which are taken as given is questionable.	There are no premises—the paper merely restates the thesis. Or, if there are premises, they are much more likely to be false than true.
Support	The premises clearly support the thesis, and the author is aware of exactly the kind of support they provide. The argument is either valid as it stands, or, if invalid, the thesis, based on the premises, is likely to be or plausibly true.	The premises support the thesis, and the author is aware of the general kind of support they provide. The argument is either valid as it stands, or, if invalid, the thesis, based on the premises, is likely to be or plausibly true.	The premises somewhat support the thesis, but the author is not aware of the kind of support they provide. The argument is invalid, and the thesis, based on the premises, is not likely to be or plausibly true.	The premises do not support the thesis.
Counter-Arguments	The paper considers both obvious and unobvious counter-examples, counter-arguments, and/or opposing positions, and provides original and/or thoughtful responses.	The paper considers obvious counter-examples, counter-arguments, and/or opposing positions, and provides responses.	The paper may consider some obvious counter-examples, counter-arguments, and/or opposing positions, but some obvious ones are missed. Responses are non-existent or mere claims of refutation.	No counter-examples, counter-arguments, or opposing positions are considered.