ComPAIR: A Flexible Teaching Technology for Facilitating Peer Evaluation

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Evaluation Strategies

Ido Roll
Firas Moosvi

(Some part of the project are much bigger than me now, so I'm likely missing people)
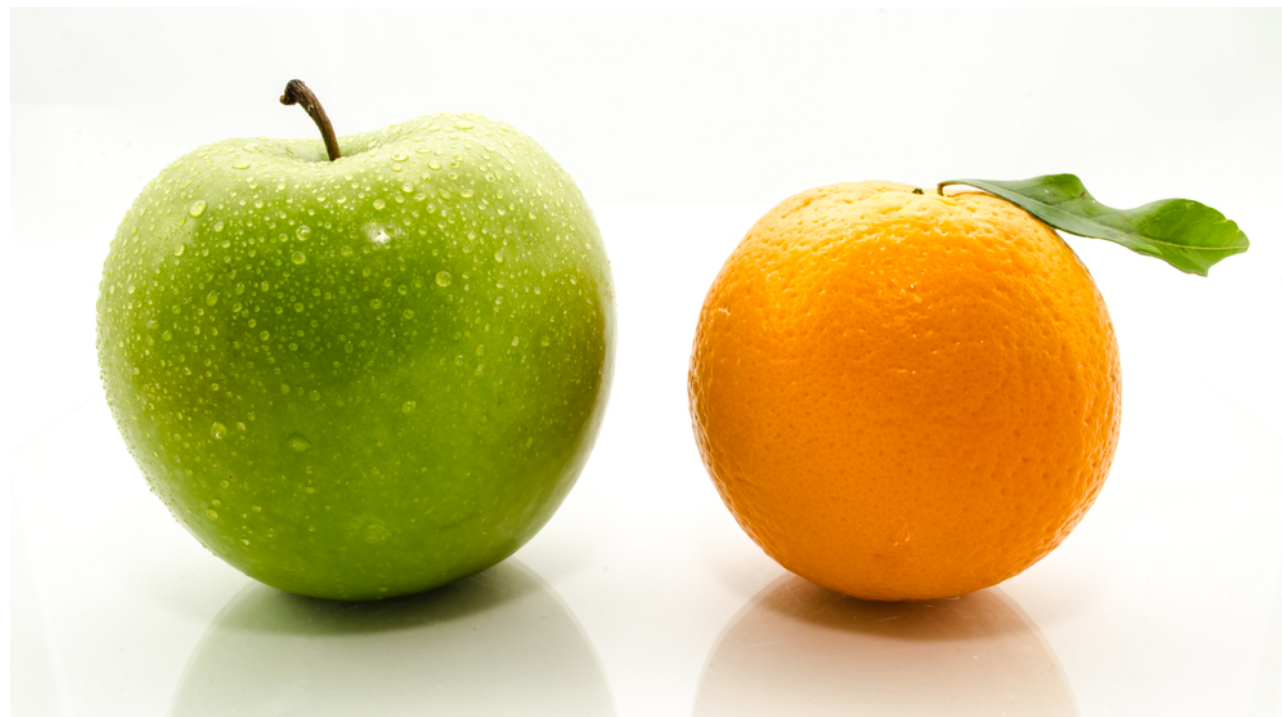
How would you describe this figure?

How would you describe it now?
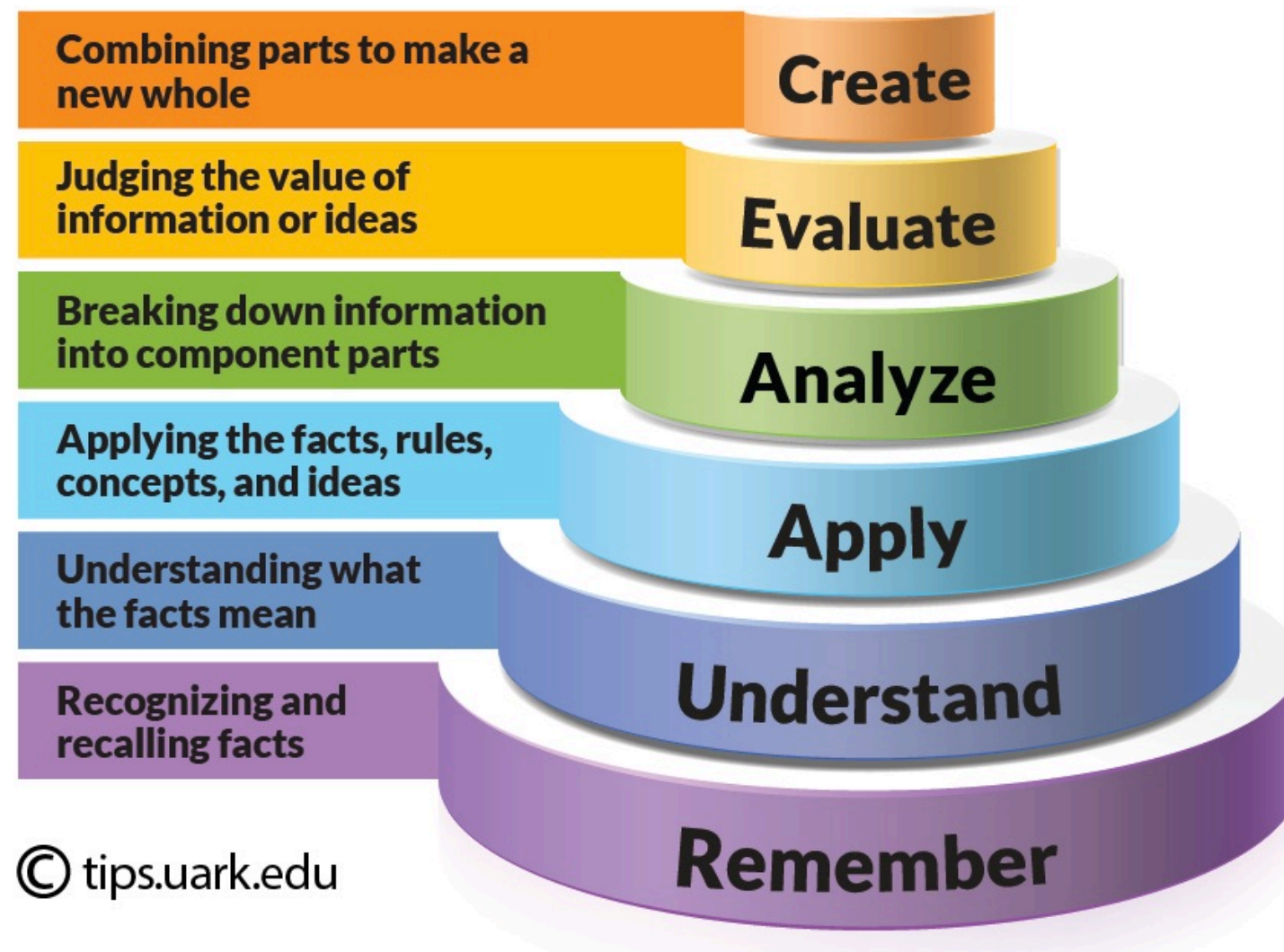
Comparisons Facilitate Learning

Contrasting cases allow us to **highlight features or concepts that students might otherwise miss**, and also "set the stage" for future noticing.

Bransford, J., & Schwartz, D. (1999). Rethinking Transfer: A Simple Proposal with Multiple Implications. Review of Research in Education, 24, 61-100.

Schwartz, D. L., & Bransford, J. D. (1998). A time for telling. Cognition and Instruction, 16(4), 475-522.

Comparisons are Easier for Novices

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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Thurstone's Law of Comparative Judgement (paraphrased):
It is much easier to say that A is better than B, than give each an absolute score or give an overall absolute rank of assignments (expert behaviour)

Thurstone, L.L. (1927). A law of comparative judgement. Psychological Review, 34, 273-286.

What is ComPAIR?

Free, Open Source (GPL v3 licence) Software designed and built at UBC to facilitate assignments and peer evaluation/ feedback built around comparisons.

compairdemo.ctlt.ubc.ca

1. Go to the following link: **compairdemo.ctlt.ubc.ca**
2. Choose **Student** account
3. Click on the **ComPAIR Demo Course**
4. **Answer** the **"What is the best film of all time?"** question
5. When you're done answering, start comparing!

⚠ Please note this is a demo site. Any changes you make will reset at 3 a.m. Pacific Standard Time.

ComPAIR Learning Application

Welcome to the ComPAIR tool! With this tool, you will show your understanding of course content by answering the assignments posted by your instructor and then comparing pairs of your peers' answers and offering constructive feedback on how they can improve.

Your courses

If you don't see the course(s) you expect below: 1) check your registration in the course (for example, see if you have access to the course in Canvas) and contact UBC IT support to register, then 2) if your course has a Canvas site, click the ComPAIR link from there once. For further help, contact ComPAIR technical support.

📘 ComPAIR Demo Course »

See Assignments

2 assignments total | 2 assignments to do | 2019 W1

📖 ComPAIR Demo Course (2019 W1)

For each assignment below, you will first submit your own answer. Then you will compare pairs of anonymous peer answers. Try to make your answer as strong as possible, since your peers will also read and compare it anonymously with other answers.

All course assignments

Show: [All course assignments] Order by: [Assignment star…]

💬 **Start a short story »**   [**Compare Pairs**]

Answers not yet available | No feedback received | You missed answering | **3 comparisons needed**

Comparisons due Jun 9

💬 **What is the best film of all time? »**   [**Answer**]

Answers not yet available | No feedback received | **1 answer and 3 comparisons needed**

Answer due Sep 25

Answer

Answer the assignment with a file attachment and/or response in the text editor. Please note **answers are not automatically saved** as you type. However, you may manually save a draft of your answer below.

∨ Show description for assignment "What is the best film of all time?"
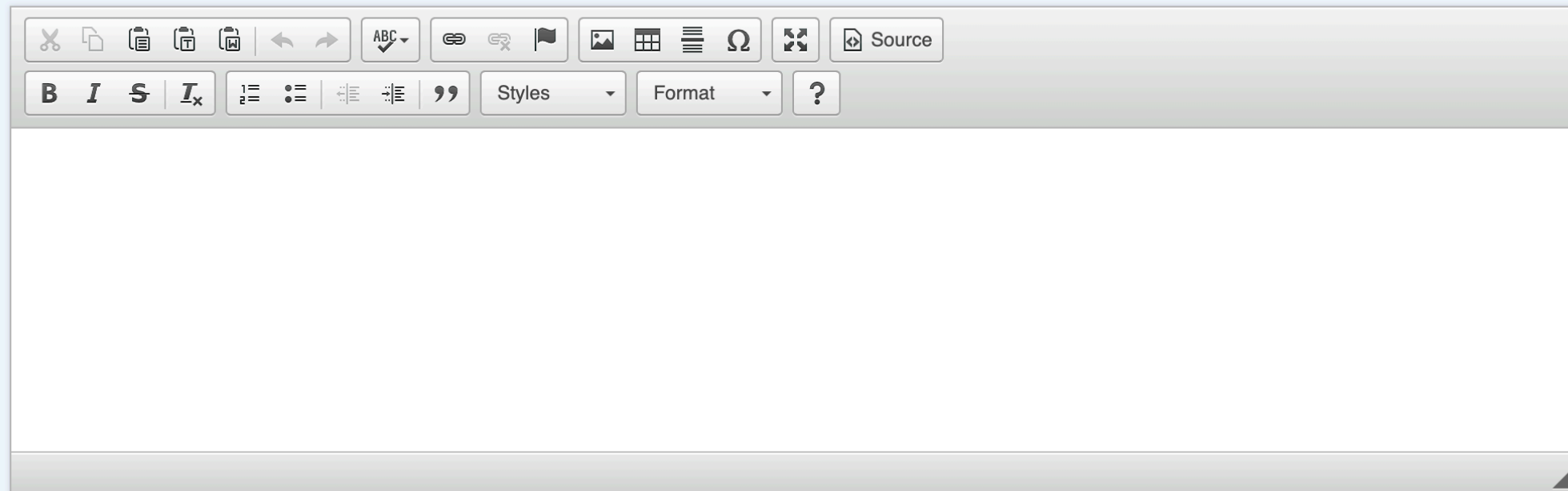
💬 What is the best film of all time?

Assignment after comparison period (with external links to images and videos)

Share the best film ever produced. Include a short summary (one sentence) and include a compelling clip or screen from the film. Then provide reviews and evaluations on three pairs of your peers' chosen film. (You will in turn receive peer feedback on your own chosen film.)

Answer Attachment and/or Text *

[Choose Files] no files selected

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* = required (please make sure these areas are filled in)

[Save Draft]   [Submit]

📓 ComPAIR Demo Course (2019 W1)

For each assignment below, you will first submit your own answer. Then you will compare pairs of anonymous peer answers. Try to make your answer as strong as possible, since your peers will also read and compare it anonymously with other answers.

All course assignments

Show: | All course assignments | **Order by:** | Assignment star…

💬 **Start a short story »**   **Compare Pairs**

Answers not yet available | No feedback received | You missed answering | 3 comparisons needed

Comparisons due Jun 9

💬 **What is the best film of all time? »**   **Compare Pairs**

Answers not yet available | No feedback received | You **answered** | 3 comparisons needed

Comparisons due Sep 25

Answer pair

⚖ Answer 1

Seven Samurai (1956). Arguably Akira Kurosawa's masterpiece, The Seven Samurai is an epic adventure classic with an engrossing story, memorable characters, and stunning action sequences that make it one of the most influential films ever made.

Trailer— **Open in Pop-up**

⚖ Answer 2

12 Years a Slave (2013). It's far from comfortable viewing, but 12 Years a Slave's unflinchingly brutal look at American slavery is also brilliant -- and quite possibly essential -- cinema.

Trailer— **Open in Pop-up**

1) Choose the answer that best meets the criteria below

Criterion #1

🔨 Which is better?

Select Your Choice *

👍 Answer 1   👍 Answer 2

Pick which film is overall better.

Peer Feedback

Your private feedback for Answer 1's author ⬇ *

Your private feedback for Answer 2's author ⬇ *

Which Courses Currently Use ComPAIR?

ComPAIR used by at least 50 courses and 5600 students across UBC. Instances are also being run at Capilano University, Western, Waterloo, St Johns high School, and University of New Brunswick.

APSC 366 - The Art of the Possible
ASIA 354 - Introduction to Japanese Cinema
ASTU 204 - Topics in Interdisciplinary Studies in the Humanities
BIOL 200 - Fundamentals of Cell Biology
BIOL 463 - Gene Regulation in Development
COMM 462 - Integrated Marketing Communication
CONS 330 - Conservation Science and Sustainability
ENGL 110 - Approaches to Literature
ENGL 489 - Language Majors Seminar
ENPH 352 - Laboratory Techniques in Physics
ISCI 360 - Systems Approaches to Regional Sustainability
ISCI 422 - Models in Science
PHYS 333 - Climate and Energy
MATH 110 - Differential Calculus
MATH 104 - Differential Calculus with Applications to Commerce and Social Sciences
MATH 317 - Calculus IV
POLI 380 - Quantitative Methods in Political Science
SCIE 001 - Science One
VISA 110 - Foundation Digital Visual Arts
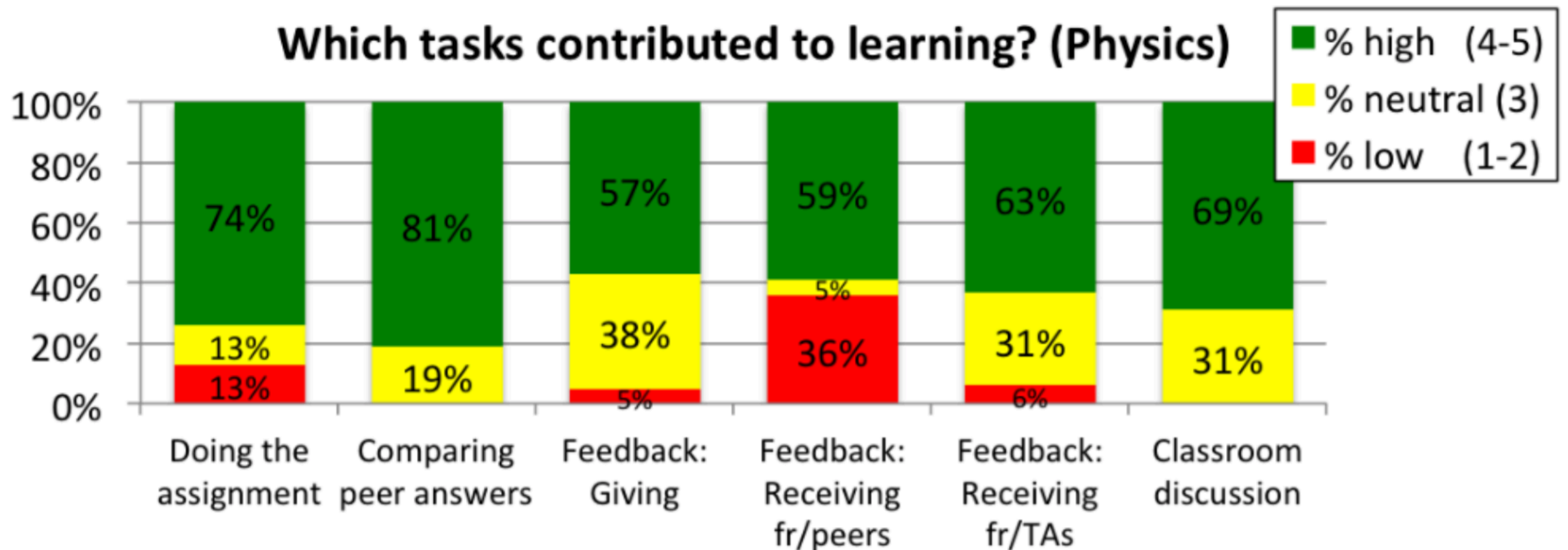WRDS 150 - Research and Writing in the Humanities and Social Sciences
WRDS 350 - Interdisciplinary Studies in Arts

An Example in PHYS 333

1. **Students generate questions** in ComPAIR
   - What would you like this course to answer?
   - *"If we changed all the gasoline transmission in Vancouver to electric transmissions, what would be the change int he atmosphere after 1 year?"*

2. **Students work on problem in Piazza** facilitated by instructor
   - Understand the Problem (week 1)
   - Make a Plan (week 2)
   - Individually write up and submit problem to ComPAIR (week 3)

3. **Students do comparisons** in ComPAIR with self reflection (week 4)

Students are **graded on the quality of feedback and self reflection** they give while doing comparisons.
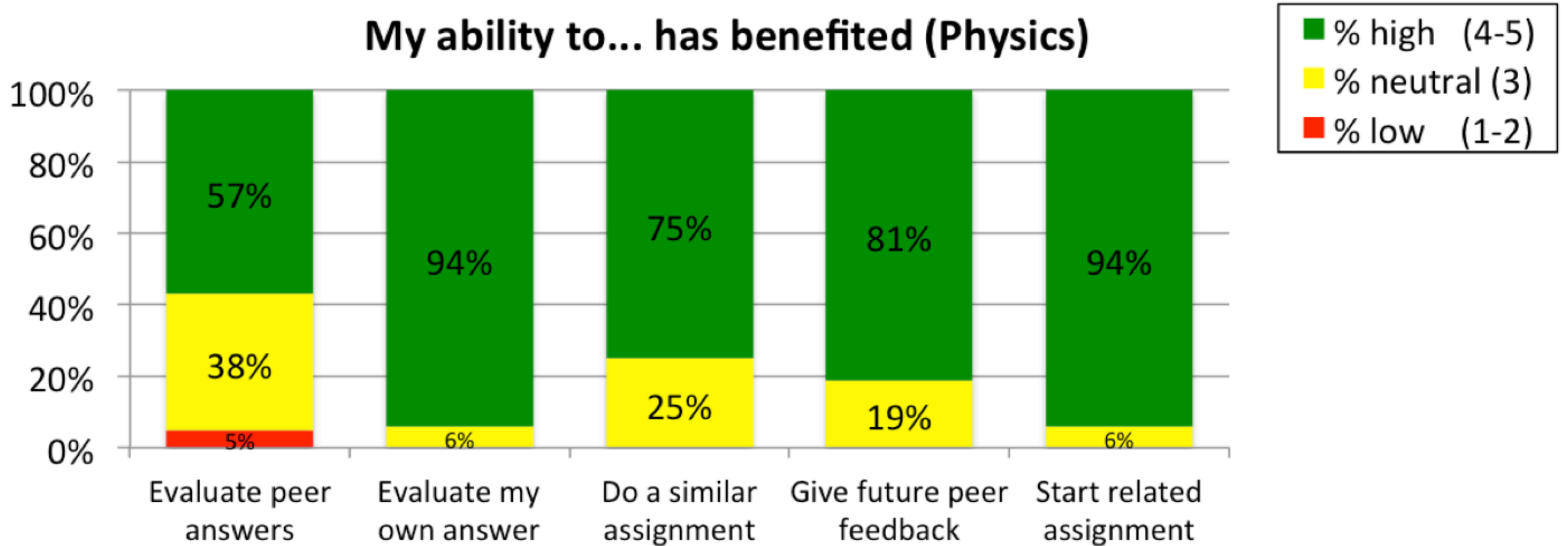
Learning Happens While Comparing

Which tasks contributed to learning? (Physics)

Legend:
- % high (4-5) — green
- % neutral (3) — yellow
- % low (1-2) — red

Task	% high	% neutral	% low
Doing the assignment	74%	13%	13%
Comparing peer answers	81%	19%	
Feedback: Giving	57%	38%	5%
Feedback: Receiving fr/peers	59%	5%	36%
Feedback: Receiving fr/TAs	63%	31%	6%
Classroom discussion	69%	31%	

Students report that **doing the comparisons** is where they felt the most learning occurred.

POTTER, Tiffany et al. ComPAIR: A New Online Tool Using Adaptive Comparative Judgement to Support Learning with Peer Feedback. **Teaching & Learning Inquiry**, [S.l.], v. 5, n. 2, p. 89-113, sep. 2017. ISSN 2167-4787.

Students Think it's Useful

My ability to... has benefited (Physics)

Legend:
- % high (4-5)
- % neutral (3)
- % low (1-2)

Evaluate peer answers: 57% high, 38% neutral, 5% low
Evaluate my own answer: 94% high, 6% neutral
Do a similar assignment: 75% high, 25% neutral
Give future peer feedback: 81% high, 19% neutral
Start related assignment: 94% high, 6% neutral

Student's enjoy using the tool and **self report that it's useful for learning**. We're still trying to evaluate learning directly (it turns out this is tricky).

Thanks for listening!

Email/Post on Google Group <compair@googlegroups.com> if you're interested in how to set up an installation at your university or high school or asking questions about ComPAIR. Also join Google group for latest update on ComPAIR.

(If you're at UBC it's already in Canvas!)

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Arts Guide: isit.arts.ubc.ca/compair/
LTH Guide:  lthub.ubc.ca/guides/compair
ComPAIR Demo:  compairdemo.ctlt.ubc.ca
ComPAIR Code:  github.com/ubc/compair
```