CREATING COMPELLING AND EFFECTIVE TEACHING ACTIVITIES FOR TEACH THE EARTH

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OUTLINE

- Introduction to TTE
- Review Process and Rubric
- Activity Development
POLL QUESTION 1

- Which of the following have you done from the Teach the Earth or SERC website?
  a) Used a teaching activity or two
  b) Used several teaching activities
  c) Shared one of my own teaching activities
  d) Shared several of my own teaching activities
  e) None of the above
TEACH THE EARTH

- Resources for Teachers from administrative guidance to pedagogical philosophy
- Heavily weighted to content and undergraduate education
- Searchable database
  - Activity Type
  - Subject
  - Theme
  - “Location”

https://serc.carleton.edu/teacheart/index.html
What is your primary teaching discipline?

a) Geology
b) Environmental Science
c) Atmospheric Sciences
d) Geography/GIS
e) Other
REVIEW PROCESS

- Teaching activity collection including new submissions are scheduled for review once per year at the Earth Educators’ Rendezvous Review Camp (https://serc.carleton.edu/earth_rendezvous/2020/program/sunday/activity_rc.html)
  - 20-25 reviewers, stipend-supported, competitive application process
- Reviewers receive “training” (https://serc.carleton.edu/.../activity_rc.html#webinar)
- Activities are assigned by the editor, 2 reviewers per activity
  - Editor completes score reconciliation and final review
- Evaluation Rubric (https://d32ogoqmyaldw8.cloudfront.net/files/NAGTWorkshops/cutting_edge_activity_review_v2.pdf)
  - Scored on a 20-point scale
  - 5 categories, 4 points each equally weighted
  - Guiding questions and auto-scoring from radio buttons
RUBRIC

• Categories
  • Scientific Accuracy
  • Alignment of Goals, Activity, Assessment
  • Pedagogic Effectiveness
  • Robustness
  • Activity Description

• Guiding questions answers → “definitely, somewhat, a little, no, not applicable”

• Overall category score selection
  • Exemplary (4 points), Very Good (3), Adequate (2), Problematic (1 point)
  • Comment sections

• “Changes Needed to Qualify as Exemplary” summary comments

• Automatic final score calculation out of 20
POLL QUESTION 3

Where would published, peer-reviewed teaching activities “count” toward your evaluation (promotion, tenure, etc.) at your institution?

a) Teaching
b) Scholarship, important
c) Scholarship, trivial
d) Service
e) It wouldn’t. I wouldn’t even bother including it in my dossier/package of materials.
CREATING EFFECTIVE ACTIVITIES

• Reviewer Priorities
  • Goals/Assessment alignment
    • Begin with the end in mind when creating activities
    • Align with COURSE goals
    • Measurable goals: Assessments that actually measure
  • Bloom’s Taxonomy
  • Consider content goals AND higher-level goals
  • Include “soft skills” and serendipity

Combining parts to make a new whole
Judging the value of information or ideas
Breaking down information into component parts
Applying the facts, rules, concepts, and ideas
Understanding what the facts mean
Recognizing and recalling facts

Create
Evaluate
Analyze
Apply
Understand
Remember

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  - Solutions, Answer keys, scoring rubrics
  - Teaching Tips → misconceptions, modifications for online, “be careful of…”
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• Accessibility and Unconscious Bias
  • Project Implicit (https://implicit.harvard.edu/implicit/)
  • Sight, Hearing challenges
  • Physical limitations
  • Universal Design
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• Accessibility and Unconscious Bias

• Functionality → Availability (software, freeware, platforms, etc.); “Robustness” can be an all-or-nothing score

• Persistence
  • Websites
  • Software/Updates
  • Currency
LET’S TALK ABOUT YOUR NEEDS/WANTS…

• What do you most need from term to term in course development and refining your teaching and activities?
• What are your pet peeves about adopting/adapting others’ activities?
• What do you wish you did better in developing activities?
• How can we encourage or incentivize more sharing of good teaching?

• Would you like to be a reviewer?

THANK YOU FOR YOUR PARTICIPATION!