

Report from Scientific Teaching-seminar GEO May 2020

Summary by Åsmund H. Eikenes, KURT, UiO

Aim of the seminar: Provide participants with a solid foundation to develop their teaching as part of a geoscience community (iEarth).

Learning outcomes: After completing the Scientific Teaching seminar, you should be able to:

- Reflect on the roles of student, teacher and environment for learning in higher education
- Use backwards design to align learning outcomes, assessment and activities
- Implement the Scholarship of Teaching and Learning-principles in your teaching
- Contribute to a local community of practice

Dates: From Monday May 25 through Thursday May 28, each day from 09.00 to 12.00.

Teaching: Interactive workshops on Zoom. Short intros, individual work with exercises and group discussions. Regular breaks, clear structure and goals.

Organizers: Karianne Lilleøren (Head of teaching at the Department of geosciences, UiO, and iEarth), Mattias Lundmark (iEarth at UiO), Anniken R. Birkelund, (DEEP research school), Åse Hestnes (iEarth at UiB). From KURT – Centre for teaching and learning in science: Åsmund H. Eikenes, Victoria Haynes, Tone F. Gregers, and Cathrine W. Tellefsen.

Preparation: Participants were asked to read the article “What the student does” by John Biggs (2012) and write a short essay in response.

Framework: The course uses *constructive alignment* as a framework for course design, and the four-day course is organized according to a backwards design principle.

Participants: 30 signed up, 23 showed up on Zoom, from Oslo, Bergen, Tromsø, Australia and USA. At the end of the course, participants received a certificate of attendance. After the course, participants were invited to submit a 2-3-page essay with their course plans and reflections to receive a short feedback on their essay. The essay can become part of a teaching portfolio.

Evaluation: At the end of the course, the 23 participants completed an online, anonymous evaluation form. The overall score was 5.65 (score 1-6), and the course received an overwhelmingly positive response. The participants clearly responded to the learning activities, the exercises and the group discussion, and commented that they had developed new and relevant skills to improve and change their teaching. Many noted how they had changed their perspective to become more student-centered, and how the small activities were especially useful to their own teaching.

The comments for improvement concerned time allocated to discussion in groups, where some wanted to continue the conversations after 15 minutes of group discussion. Part of this can be mitigated by a physical seminar, where it is easier to coordinate small changes to the group work. In addition, participants also commented that they wanted to participate in additional courses on teaching and contributing to a community of teachers in the future.

Key success factors:

1. Limited number of participants, voluntary participation, mixed group within the same field
2. Reflective essay before first day, an invitation to read and think about teaching
3. Clear roles in planning and execution, limited number of people involved
4. Good exercises, a positive learning environment and relevant examples from the field

Content of the four days:

Day 1

- Introduction and getting to know each other.
- Discussion: What does it mean to be a geoscientist?
- Sharing reflections on the reading assignments
- Introduction to backwards design and using constructive alignment
- Exercise: Step 1A - What should the students learn?
- Exercise: Step 1B - From learning outcome to learning goal
- Reflections and brief discussion.

Day 2

- Discussion: Evidence for learning.
- Exercise: Step 2 - How to observe student learning?
- Sharing the progress so far. Group discussions about the big picture.
- Introduction to learning activities.
- Reflection and brief discussion.

Day 3

- Discussion: the role of the learning environment
- Examples of learning activities.
- Exercise: Step 3A - What to learn when?
- Exercise: Step 3B - Planning learning activities
- Reflection and brief discussion.

Day 4

- Exercise: Step 4 - Get an overview
- Introduction to The Scholarship of teaching and learning (SoTL)
- Exercise: Step 5 - Join a community
- Documenting development and writing a teaching portfolio
- Reflection, discussion and summary.

Additional resources:

- KURT website: Develop your teaching
- Exercises for backwards design
- Article: What the student does, Biggs 2012
- Book: Scientific Teaching, Handelsmann 2007