UC Santa Cruz

Moment-to-moment teaching moves or "facilitation"

Title
ISEE Inquiry Activity Shadowing Guide

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ISEE Inquiry Activity Shadowing Guide
Institute for Scientist and Engineer Educators (ISEE)

This paper was written and produced by the developers of the Professional Development Program (PDP) at the Institute for Scientist & Engineer Educators (ISEE) at University of California, Santa Cruz. The PDP was a flexible, multi-year program which trained participants to teach STEM effectively and inclusively at the post-secondary level. Participants were primarily graduate students and postdocs pursuing a broad range of science and engineering careers. Participants received training through two in-person multi-day workshops, worked on a team to collaboratively design an authentic, inclusive STEM learning experience (an "inquiry" lab), and then put their new teaching skills into practice in programs or courses, mostly at the college level. Throughout their experience, PDP participants used an array of online tools and received coaching and feedback from PDP instructors. The overall PDP experience was approximately 90 hours and was framed around three major themes: inquiry, assessment, and equity & inclusion. Leadership emerged as a fourth theme to support PDP teams, which were each led by a participant returning to the PDP for a second or third time, who gained training and a practical experience in team leadership. ISEE ran the PDP from 2001-2020, and there are more than 600 alumni.

CONTEXT FOR THIS PAPER WITHIN THE PDP
This guide was used in the PDP to help participants productively observe ("shadow") an inquiry activity, in order to learn about "facilitation," or the small, in-the-moment moves an instructor makes to accomplish specific goals.

ISEE Inquiry Activity Shadowing Guide

There are numerous strategies for "shadowing" (unobtrusively observing) an inquiry. This document outlines a protocol for shadowing structured around typical scenarios. The shadower looks for scenarios (below), then records the moves made by a facilitator, and how it worked.

Starters:
S1. Learners don't notice what needs to be noticed
S2. Learners don't ask questions
S3. Learners try to explain, rather than ask questions
S4. Learners don't seem engaged

Group formation:
G1. Learner standing alone, and seems to have a question, but can't find a group
G2. Learner doesn't seem to have a particular question, or seems pulled back
G3. A team that is too large appears to be forming
G4. A facilitator knows from the starters that learner(s) has very little background in the content
G5. A facilitator knows from starters that learner(s) has very strong background in the content

Early Investigation:
I1. Learners don't have an investigable question
I2. Learners launch into too quickly into collecting data without a plan or investigable question
I3. Learners are having a hard time getting started

Investigations (any time during investigations):
Social:
I4. A team member is taking too dominant of a role
I5. A team member is not engaging
I6. A team member is getting excluded
I7. The team is fractured and working separately
I8. A team member has taken the role of instructor and is explaining to the others
I9. Facilitator perceives learner with an important contribution is not contributing

Assessing:
I10. Facilitator wants to learn about how learner(s) is thinking about something
I11. Facilitator believes learner(s) has a misunderstanding
I12. Facilitator is trying to confirm that learners understand as they claim they do

Intervening related to content and practices:
I13. It's early and facilitator needs to gently nudge students toward a different path
I14. It's late, learners are struggling, and facilitator needs to get them to a good point soon
I15. Learners believe that they are done, but there is plenty of time left
I16. Learners are stating observations or a pattern, but not explaining it
I17. Facilitator wants learners to see the flaw in their thinking, or their incomplete understanding
I18. Learners are stuck and don't know what to do next
I19. Learner is resistant to drawing or showing their thinking
I20. Facilitator sees that the team needs to revise the way they are investigating
I21. Facilitator sees that learner(s) needs help with a STEM practice

Preparing for culminating assessment task (e.g. poster or jigsaw):
P1. Learners preparing too much, or low priority, information for reporting
P2. Learners do not feel that they have enough to report
P3. A misconception is revealed to the facilitator

Scenario (code or describe)	Move made by facilitator, and how it worked

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