QuarkNet Workshop Best Practices as of May 2020 (2025 updates)

Note: This now resides in Drupal:

Strategies to Model Good Teaching Practices

- Provide context for the workshop. Provide the "big picture" up front.
    - Ask participants what their goals are for the workshop.
- Lead as a facilitator rather than a lecturer.
- Focus on habits of mind and on the process of science. "Teach science as science is done."
- Focus on active engagement over slides.
- Use guided inquiry: Participants practice data collection, organization, interpretation as a scientific process.
- Provide opportunities for participants to support their claims with evidence (Claims - Evidence - Reasoning)
- Build community/relationships among participants.
- Ask participants what their

Workshop Characteristics

- Workshops include a balance of scientific content and process.
- Workshops have an agenda.
    - Prepare agenda in advance with participant prior experience in mind, if possible.
    - Build in agenda flexibility.
    - Leave time for reflection and discussion.
    - Place workshop agenda online.
- Participants are actively engaged.
- Participants work through activities as if they are students first ("student hat"), then talk about teacher strategies and implementation plans ("teacher hat").
- Activities progress from simple to complex.
- Gather feedback

Resources for further reading: *Criteria for Workshop Review* (Young & Associates, 2014); *Principles of Effective Professional Development for Mathematics and Science Education: A Synthesis of Standards* (Loucks-Horsley, Susan; et/ al., 1996)

Bibliography

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1993, The National Center for Improving Science Education, *Profiling Teacher Development Programs*, Washington, DC. [Note: developed for DOE teacher development programs]

2012, National Research Council, *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*, The National Academies Press, Washington, DC