CORE ELEMENTS

A. **Overarching Goal:** Summer Institute participants will be inspired and empowered to transform learning and teaching through evidence-based iterative practice.

B. **Objectives**: By the end of Summer Institutes, participants will be able to**…**

Knowledge

Articulate elements of scientific teaching
Improve their ability to use education literature to support teaching practices
Apply evidence-based teaching practices
Address/confront misconceptions about teaching and learning

Attitude

Be **inspired** to implement scientific teaching
Appreciate evidence-based practices
Recognize that diversity influences teaching and learning
Commit to incorporating scientific teaching practices
Be **empowered** to transform their students' learning

Practice

Implement backwards design when developing courses and/or curricula
Employ inclusive teaching strategies that value diversity in the classroom
Use a variety of assessments to measure student learning
Incorporate active learning exercises to engage students

Leadership/Community

Develop short-term and long-term plans for implementation and dissemination
Become part of a national community of scientific teachers
Advocate for scientific teaching on their home campuses
Consider opportunities to lead scientific teaching initiatives regionally and/or nationally

C. The curriculum will enable participants to answer the following questions:

1) What is scientific teaching? What are some challenges I might need to address in implementing scientific teaching strategies?
2) How can I create and sustain a more inclusive learning environment for my students through scientific teaching?
3) How can scientific evidence inform the teaching practices that I implement?
4) How can I use backward design to align learning objectives, assessments, and active learning strategies?
5) What modes of assessment can I use to promote student learning and inform instruction?
6) How does cognitive science research lay the foundation for the scientific teaching approaches and practices to use in my classroom?
7) How can I implement and disseminate scientific teaching in my community?

D. Expectations for session content and format:

a. Sessions will model scientific teaching and provide opportunities for metacognitive reflection.
b. Each session will include supporting evidence from the literature and discussions of inclusivity.
c. Sessions will include broad and/or multiple examples to be inclusive of all faculty from a variety of backgrounds.
d. Each session will be set in the context of the entire SI and explicit connections between sessions will be made for or by the participants.
e. Program design will take advantage of, and give credit to, contributions of previous SI participants, speakers and facilitators.

E. Session leaders (our “speakers”) will meet the following criteria:

a. Speakers will be oriented by program leaders to understand the big picture and goals of the SI.
b. Speakers will collaborate with SI leaders to prepare session materials and share them with all SI participants.

F. Groups of participants led by a trained facilitator will develop a set of instructional materials during group work time.

G. All program leaders and facilitators will be trained before the institute begins. New program leaders or facilitators are encouraged to enter mentoring relationships with experienced program leaders or facilitators as part of their training.

H. Participants will have ample time for practice and peer review as well as final revisions for dissemination of educational materials where appropriate.

I. All SI program leaders are expected to collaborate with the Yale evaluation team to meet evaluation and research requirements.

J. A follow-up meeting will be led by regional SI leaders for participants from that year's SI. The meeting will provide an opportunity for participants to reconnect and report back on their implementation and advocacy of scientific teaching.

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