Cottrell Scholars Collaborative
New Faculty Workshop: Evaluation

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Goals of the Evaluation

• Provide the organizers with feedback on your satisfaction with the workshop and suggestions you may have for improvements.

• Characterize the short and long-term impacts of the workshop.
Evaluation Design

- Data collection:

  Pre survey → Workshop → Post survey → Classroom data → 1 yr Follow-up survey

  5 yr Follow-up survey & Classroom data

  3 yr Follow-up survey → Classroom data
Anonymity of Your Responses

- A code has been assigned to your last name.
- My research group will be the only one with the list of code/last name combinations.
- Data will be presented in aggregate form to the workshop organizers and during presentations at conferences and publications of results.
Classroom Observations

• We will assist you as much as possible.

• The videos will be viewed and analyzed in my research group; no one else will see them.

• They will not be posted on YouTube or Facebook.

• They will be analyzed using validated rubrics that are designed to capture the instructional practice (what is being done in the classroom) not to judge you as an instructor.

• We will conduct interviews around the observation time.

• Please talk to me if you have concerns.
Post Survey

• Even if you didn’t answer the pre, please answer the post.

• This will help us collect your feedback about the workshop to the organizers.
Connections between Research and Practice

Practitioners

Research in Chemical Education

Best Teaching Practices

Instructional Practices in Chemistry

Awareness $\rightarrow$ Innovation-Decision Process $\rightarrow$ Adoption

is disseminated to

are in charge of

Gap
THE WINDING ROADS TO EFFECTIVE TEACHING

General Context of Reform

Personal Factors
- Demographic profile
- Types and years of teaching experience
- Nature and extent of teachers’ preparation to teach
- Nature and extent of teachers’ continued learning efforts

Teacher’s Thinking
- Practical Theories
- Dissatisfaction
- Self-efficacy
- Evaluation of practicality

Faculty’s Instructional Practice

Contextual Factors
- Broader Cultural Context
- Institutional Context
- Departmental and Subject Area Context
- Classroom Context

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Contributions to PD Research

Cottrell Scholars Collaborative New Faculty Workshop: Professional Development for New Chemistry Faculty and Initial Assessment of Its Efficacy

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ABSTRACT: The Cottrell Scholars Collaborative New Faculty Workshop (CSC NFW) is a professional development program that was initiated in 2012 to address absences in the preparation of chemistry faculty at research universities as funded researchers and educators (i.e., teacher-scholars). The primary focus of the workshop is an introduction to evidence-based teaching methods; other topics including mentoring, work-life balance, time management, and grant writing are also addressed. A long-term aim of the workshop is to develop lifelong teacher-scholars by encouraging workshop participants to engage with teaching-focused faculty learning communities through the CSC NFW and at their institutions. The workshop also provides a platform to investigate the adoption of student-centered pedagogies among new faculty, and a study of that process was initiated concurrently. Thus, the aim of the workshop program is to address professional development needs as well as understand the efficacy of that effort.

KEYWORDS: General Education/Research, Upper-Division Undergraduate, Second-Year Undergraduate, First-Year Undergraduate/General, Curriculum

Short and Long-Term Impacts of the Cottrell Scholars Collaborative New Faculty Workshop

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ABSTRACT: Postsecondary chemistry instructors typically have received little pedagogical training as graduate students and postdoctoral research assistants. Moreover, professional development opportunities are often limited at their own institution. This lack of training has resulted in a gap between the instructional strategies enacted in chemistry courses and the results of discipline-based education research. Members of the Cottrell Scholars Collaborative initiated the New Faculty Workshop (CSC NFW) program in 2012 in order to address this gap. This annual, two-day workshop provides newly-hired chemistry assistant professors from research-intensive universities with training on evidence-based instructional practices. This article presents the results of a longitudinal, quasi-experimental design study that evaluates the short and long-term impacts of the workshop. Online surveys were collected immediately before and after the workshop, as well as one year later from CSC NFW participants and a control group that consisted of newly-hired chemistry faculty who did not participate in the workshop. Surveys measured faculty's awareness and use of evidence-based instructional practices, teaching self-efficacy, and beliefs about teaching. Classroom video recordings were also collected during the fall semester following the workshop and two years later. These data were triangulated with the Student Evaluation for Educational Quality (SEEQ) survey, which was collected from students in the observed classrooms. Findings indicate that, in the short-term, the CSC NFW was successful in raising workshop participants' self-efficacy, shifting their teaching beliefs toward student-centered teaching, and increasing their use of interactive teaching. Longitudinal data demonstrate that further pedagogical support is required in order for these impacts to be sustained.

KEYWORDS: General Public, Chemistry Education Research, Professional Development

FEATURE: Chemical Education Research
Minute Paper

1. Indicate if you are from an R1, a comprehensive or PUI.

2. What is the most important thing you learned during this workshop?

3. What is the burning question you have left unanswered?

4. Provide two suggestions for improvements for next year.