Evaluating Outcomes of University Outreach: What are your Needs and Opportunities?

**Type 1, teaching model:** Outreach based on faculty expertise but not strongly integrated with scholarship

- typically funded exclusively by OUO
- often involve K-12 audiences; often some depth of interaction with small numbers of people
- often teaching-centered, seeking to share subject matter expertise and technical resources with an external audience who is seen to need it or benefit from it
- desired outcomes center on audience learning, application, and affective outcomes
- outreach team generally not well versed in evaluation methods and skills
- common in sciences and languages

**Type 2, engagement model:** Outreach strongly integrated with faculty scholarship

- typically part of a larger project, may be supported by multiple funders
- often involve extensive interaction with small audiences
- reciprocity with audience: faculty offer service, experience or knowledge, gain something useful to their scholarly work (e.g. human subjects, site, structure, data set)
- desired outcomes are well characterized & documented, relevant to faculty scholarship:
  - for human subjects work, faculty already have relevant skills & methods
  - for other interactions, participant evaluation may not be a priority
- common in disciplines with traditions of applied work: clinical, education, engineering

**Type 3, performance model:** Outreach presented in one-time events or series with different audiences each time

- often funded exclusively by OUO
- typically performances & public events delivered to large audiences for short duration
- desired outcomes center on exposure to ideas/resources, affective outcomes – broad reach
- outreach team generally not well versed in evaluation methods and skills
- most common in the performing arts and sciences

The Outreach Evaluation Compass in Action

(a) A Type 2 project can address formative and summative questions through data gathered for research and is likely to generate scholarly products.

(b) A Type 1 project is less likely to generate scholarly products, and will likely need additional evaluation expertise to address formative and summative evaluation questions.


http://www.colorado.edu/eer/research/outreach.html#Evaluating
Possible Evaluation Strategies for Outreach Projects

Some are methods we have used as evaluators; some were suggested or implemented by outreach teams across various project types. While not all are scientific approaches, they may provide useful formative feedback and guide you in selecting approaches or outcomes of further interest.

Any type

- Contact hours, number and demographics of attendees/participants (outputs). OUO will ask you for contact hours and numbers of participants in different categories.
- Informal observation: it’s amazing what you can learn when you pay attention!
- Anecdotal evidence (thank-you notes, conversation): not systematic but a starting point to identify outcomes of importance to participants

Type 1, teaching model: Outreach based on faculty expertise but not strongly integrated with scholarship

- Document analysis (e.g., work produced by participants as part of the activity)
- Pre/post tests
- Surveys or questionnaires (pre/post/follow-up)
- Participant journals, reflections or debriefings (individual or group)
- Focus groups or interviews
- Formal observations or video (e.g., classroom observation)
- Web analytics (for online resource dissemination projects)

Type 2, engagement model: Outreach strongly integrated with faculty scholarship

- Quantitative or qualitative research methods appropriate to the project
- Abstract from scholarly works related to project
- Excerpts from annual report to other funders or from scholarly work related to project
- What outcomes can be best attributed to the outreach award, or what value was added—even if multiple sources of support contributed to the overall effort?

Type 3, performance model: Outreach presented in one-time events or series with different audiences each time

- Exit survey
- Postcard or internet-based survey
- Visitor observations or interviews

Some online “evaluation toolkits” address specific areas of work. We like the philosophy of the toolkit offered by the Evaluation Trust for community and volunteer organizations:

People tend to worry about methods—but getting the questions right, and thinking who you need to involve are more important. You are using everyday skills of making contact, getting people to speak, and listening and taking notes—only in a more planned and rigorous way.

The chart of methods appropriate under differing constraints seems useful for selecting evaluation methods for university outreach.

<table>
<thead>
<tr>
<th><strong>Brainstorming worksheet</strong></th>
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<tbody>
<tr>
<td><strong>Audience(s)</strong></td>
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<tr>
<td>Who is served by your outreach project—inside CU? outside CU?</td>
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EXECUTIVE SUMMARY

Approaches to Evaluating Faculty Outreach, Part II:
Demonstration Project—Evaluation of CU Contemporary Dance Works
Sandra Laursen and Melissa Arreola-Pena, Ethnography & Evaluation Research, with Peg Posnick, Theatre and Dance Department

In 2011 the University of Colorado Boulder Office of University Outreach (OUO) commissioned our research unit to explore the evaluation needs, opportunities, and interests of faculty who have received Faculty Outreach awards to carry their expertise to public audiences around the state. As part of this study, we conducted three “demonstration projects” to generate practical examples and to bring evaluation-related concerns, challenges, and possibilities to the fore.

One of these demo projects examined CU Contemporary Dance Works (CUCDW), a week-long residency where dancers perform and work with young people in a rural Colorado community. We gathered data during the May 2012 residency in Trinidad, CO, the fourth year CUCDW has visited this area. We used a short questionnaire to gather perspectives on personal and community outcomes from local residents who participated in dance events, and their perceptions of any value added by the multi-year residency model. We also gathered both formative feedback and summative outcomes data by surveying the graduate student dancers. Both questionnaires used short-answer formats to invite text responses that were then coded using standard methods for analyzing qualitative data.

Analysis of the dancer survey (7 responses) identified 69 distinct ideas coded under three main themes. Dancers’ formative feedback identified scheduling and preparation issues that the company could address in the future and highlighted successes and problems that planners can use to improve the residency in the future. As benefits to themselves, dancers emphasized the professional preparation they received in teaching, directing, planning, and advocating for dance. Finally, they reported perceptions of the benefit they brought to the community, emphasizing new experiences and exposures for local residents and new perspectives on dance as an art form.

Responses to the community survey (42 usable responses) suggest the CUCDW has some reach within the region. Among respondents, 70% had attended 2 or more events during the week, and 73% had attended in past years. They were broadly distributed by age and regional geography.

Community respondents identified three main types of benefits to individuals in 65 coded statements: new experiences and exposures; affective gains such as enjoyment, motivation, and self-expression; and transferable benefits such as fitness and teamwork. These individual benefits also accounted for two thirds of respondents’ 96 coded statements about benefits to the community. These statements suggest a “rising tide” view of community benefit. Importantly, a third of community-related statements asserted specific benefits from the residency model: anticipation; audience growth over time; and individual development over time.

Overall, the data provide evidence of value from the CUCDW’s work in Trinidad. Benefits to individuals are magnified when they accrue to many members of the community. Dancers’ perceptions were consistent with community members’ self-report, and the dancers themselves reported a positive and collaborative learning experience and identified several outcomes that they expect to be valuable in their future professional lives. It is noteworthy that community members cited benefits that derive from the focus on a particular, rural community for multiple years. The main limitation of this study is the small sample size; we do not know if the responses are representative of community perspectives in general.

For the full report, see http://www.colorado.edu/eer/research/outreach.html#Evaluating
EXECUTIVE SUMMARY

Approaches to Evaluating Faculty Outreach, Part III:
Demonstration Project—Evaluation of Teacher Professional Development Workshops on Sound and Hearing Health

Sandra Laursen, Ethnography & Evaluation Research

We have studied the evaluation needs, opportunities, and interests of faculty who have received Faculty Outreach awards to carry their expertise to public audiences around the state. As part of this study, we conducted three “demonstration projects” to generate practical examples and to bring evaluation-related concerns, challenges, and possibilities to the fore.

One of these demo projects examined a workshop for K-12 educators on sound and hearing health (SHH) led by Associate Professor Kathryn Arehart of Speech, Language and Hearing Sciences and her colleagues. The workshop addresses the physics of sound, the physiological basis of hearing, sound-induced hearing damage, and ways to prevent it, aiming to help teachers teach these ideas to schoolchildren and prevent sound-induced hearing damage. We developed pre-, post-, and follow-up surveys and collected data at the March 2012 workshop; additional pre/post data were gathered from an October 2012 workshop led collaboratively by Arehart and the Biological Sciences Initiative (BSI). Using Guskey’s (2000) model of evaluating teacher professional development (TPD), the surveys explored several levels of outcomes from the workshop: teacher satisfaction (Level 1), teacher learning (Level 2), organizational barriers to implementation (Level 3), and classroom implementation (Level 4). Student learning (Level 5) was not assessed, due to the complexity of this task and the small sample size.

Analysis of these data indicates quite positive results at Levels 1 (teacher satisfaction) and 2 (teacher learning). Clearly the SHH workshop is well planned, well executed and well received by teachers. This is particularly noteworthy given the mixed teacher audience by subject and grade level. Moreover, the findings were useful as formative feedback. In particular, teachers’ advice to offer more hands-on activities was explicitly incorporated into the October 2012 BSI-cosponsored workshop, by adding several new demos and activities, providing take-home handouts and materials, and building in time for teachers to experience the activities first-hand.

At Levels 3 (organizational barriers) and 4 (classroom implementation), the results reveal some challenges that are typical of one-day TPD activities. The extent of implementation has been moderate so far. With most teachers’ implementation necessarily delayed to the subsequent academic year, it can be challenging for teachers to retain their interest, learning and ideas for implementation over several months before they can apply it in their own classroom.

Overall, the data and our discussions with the outreach team highlight several quite general tradeoffs related to the utility and value of evidence about outcomes of TPD projects on this scale. The Guskey framework helped to shape our thinking about gathering evidence, yet TPD projects of this scope will seldom be able to gather student-level data. With respect to using evidence to guide TPD design, this workshop borrowed effectively from a prior, tested model of hearing health education, but was less well aligned with system-level features of effective TPD that have been identified from educational research studies. In addition to reporting on the SHH workshops, the report details these broader issues for consideration by University Outreach.

For the full report, see http://www.colorado.edu/eer/research/outreach.html#Evaluating
EXECUTIVE SUMMARY

Approaches to Evaluating Faculty Outreach, Part IV: Demonstration Project—Girls at the Museum Exploring Science, GAMES

Sandra Laursen, Ethnography & Evaluation Research, and Sarah Snow, Museum Studies, with Cathy Regan, Museum of Natural History

At the request of the University of Colorado Boulder Office of University Outreach (OUO), we carried out a study of the evaluation needs, opportunities, and interests of faculty who had been awarded Faculty Outreach awards by the OUO. As part of this study, we conducted three “demonstration projects” to generate practical examples of how outreach might be evaluated and what might be learned, and to bring evaluation-related challenges and possibilities to the fore.

As one demo project, we studied Girls At the Museum Exploring Science (GAMES), an afterschool program that seeks to encourage interest in science among preadolescent girls. Fourth- and fifth-grade girls come to the CU Museum of Natural History to explore science through hands-on activities using real museum specimens and direct interaction with scientists and museum professionals. To examine short-term outcomes, we analyzed data from post-surveys completed in past years by 93 girls at the end of their 7-week program. To examine longer-term outcomes, we conducted a retrospective study. Data came from 30 survey respondents and 8 focus group participants who had participated in GAMES 3-7 years earlier, and from five teachers who had chaperoned girls from their school to attend the program.

Analysis of the data revealed multiple lines of evidence addressing three key outcomes: confidence in their ability to participate in and contribute to scientific work; positive attitude toward science; and pursuit of science as an academic, personal, or career interest.

Evidence about confidence came from the retrospective studies. Over 70% of follow-up survey respondents felt they were good at science. Five of eight focus group participants were high in confidence, and two moderate. Thus girls’ confidence in their science abilities remained high.

Evidence about attitudes came from both immediate and retrospective data. After the program, 84% of respondents liked science more than before the program. In retrospect, clear majorities of girls continued to report liking science more or the same. Few reported declines in attitude.

Evidence about academic and career aspirations was mixed. Girls did not report high participation in out-of-school science programs but many did cite science as a favorite school subject. They had high educational aspirations for college and beyond. From each of the three immediate and retrospective data sources, half or more indicated interest in science careers.

Teachers’ observations largely corroborated girls’ self-report. Teachers had noticed growth in confidence, interest, and pursuit of science, such as GAMES-related science fair projects. They also felt it was important for girls to be exposed to higher education and to female role models.

Without a comparison group, we cannot show that these outcomes are caused (or not) by GAMES, but in focus groups, girls were able to link their current perceptions to their GAMES participation. Girls’ strong memories of GAMES make clear that they can remember and assign value to their participation, and they highlight program elements that align with research-based best practices for out-of-school science programming.

Overall, the findings are strengthened by the use of multiple methods, but they are limited in generalizability by small sample sizes. The findings reveal some good outcomes that do appear to result from girls’ participation in GAMES, but not how widespread these outcomes are.

For the full report, see http://www.colorado.edu/eer/research/outreach.html#Evaluating