

Educator Engagement Survey

To evaluate the collective impacts of the COSEE Network, COSEE needed to collect common data across all of the Centers. The Evaluation Working Group (EWG) was tasked with creating a systematic form of data collection to investigate the engagement of scientists and educators with the COSEE Network. This document summarizes the 2009 Educator Engagement Survey.

Members of the EWG include three COSEE Principal Investigators (PIs), seven COSEE Center Evaluators, one National Advisory Council member, the National Coordinating Office (NCO), National Network Evaluator (NNE) and NSF. Each Center's evaluator provides vital input to EWG activities and works with their PIs and Centers to ensure high-quality data collection.

In early 2009, the EWG tackled the task of collecting common, cross-COSEE data on scientists and educators involved with COSEE. After a year of almost weekly conference calls dedicated to establishing definitions for scientists, educators and the types of activities that COSEE is engaged in, the EWG finalized in December 2009 a document entitled, Recommended Scheme for Cross-Center Data Gathering (known internally as the Bins Document). The Bins Document was designed to facilitate cross-COSEE data collection that could be gathered easily, generate credible information, result in compelling findings, and be cost effective. Part I of the Bins Document defines scientists and educators and establishes demographic data to be collected.

Using the Bins Document, the EWG developed a Scientist Engagement Survey, which was launched in 2010. This was COSEE's first cross-Center data collection effort. In January 2011, COSEE launched a second scientist survey building on lessons learned and insights gained from 2009 survey efforts. *(For more on these, see the appendices in this Decadal Review package.)*

In May 2010 we launched an Educator Engagement Survey focused on educators engaged with COSEE during 2009 (<https://www.surveymonkey.com/s/X525JRG>). Based on the experience with the scientist survey, the Educator Engagement Survey expanded to 40 core questions about educators' backgrounds plus the form and results of their engagement. Final results from this survey became available in July 2010.

Results Summary

Respondents

Of the 1,982 individuals invited to take the Educator Engagement Survey, 904 responses were received for a 46% response rate (good for this kind of survey). Of those respondents, 770 were identified as educator/teacher/etc., and were involved with COSEE in 2009. We view the 770 as an educator baseline number and anticipate that changes can now be tracked over time.

Demographics

From the results, we found that our educators are an accomplished group. The majority holds master's degrees (55%) and 8% had doctoral degrees. Fifty-three percent hold degrees in science or consider it their specialty. Of those who taught at the postsecondary level, 35% are tenured. The educators worked for schools, districts, agencies, institutions and others in 37 states and nine foreign countries.

Nearly two-thirds (64%) taught in or worked for a formal education setting, while 36% worked in or for informal education institutions. Those who worked directly with students/learners (n = 500) taught approximately 889,020 learners—preschoolers through adults—during 2009.

Most are mid-career professionals (40%), followed by early-career (23%) and advanced-career (18%) professionals. Eight percent identified themselves as volunteers. The majority of respondents are female (75%) and the racial background is predominantly white (86%).

Educators engaged with COSEE tend to do so over the course of several years: 30% of the respondents had been involved with COSEE for only one year, 40% of the educators have been involved with COSEE for at least three years and 14% have been involved five years or more.

Most educators were engaged with COSEE as participants (89%). Sixty-six percent participated in person, 20% participated both in person and virtually, and 14% participated virtually only. In addition to being participants, educators provided resources (27%), were advocates/advisors (12%) and/or partners (13%), and 4% considered themselves leaders within COSEE. *(Use survey link for details regarding the categories.)*

Benefits and Impacts

From their engagement with COSEE, most educators gained resources (80%), a network of new colleagues (57%) and ongoing support from COSEE staff (45%).

Educators reported that they had, on average, gained two or three different opportunities as a result of engaging with COSEE. The number one opportunity educators cited that resulted from working with COSEE was the opportunity to learn from science researchers (80%). When asked how they engaged with scientists, 70% reported that they interacted with researchers in one or more ways. By far, the most common way was by learning about a scientist's research during a lecture or in the field (60%).

Educators reported that they had gained, on average, five skills/abilities as a result of working with COSEE. Most had obtained a better understanding and knowledge about the ocean (72%) and new ocean content to teach or share (73%). Others gained a greater understanding of how science works (40%) and confidence working with science researchers (30%). They were also more able to mentor colleagues and volunteers about ocean science education (36%), work with varied and diverse audiences (29%), and help other organizations undertake new ocean science learning/sharing opportunities (29%).

In terms of impact on their teaching settings, 40% indicated they had gained an ability to effect change in how science was taught where they teach, and 28% said they could effect change in what topics were taught. Most educators gained techniques for teaching about the ocean (62%) and getting others interested in learning about the ocean (55%).

The survey asked what teachers had shared from COSEE with others. Most educators (81%) indicated they had shared COSEE information/materials informally with others and 72% had shared with their students/learners. Forty-three percent formally presented COSEE materials to students/learners and the same percentage said they presented to colleagues.

COSEE's engagement surveys have generated reliable, consistent and coherent network-wide data about audience participation in COSEE efforts. Based on the results, and from future surveys, COSEE will continue to track and improve the Networks' delivery of professional services to and support of the formal and informal science education community.

More detailed reports for these surveys are available in the appendices of this Decadal Review package.

