

Title: NSF Noyce Phase II: Empowering Scholars and STEM Teachers

Abstract:

The CSU Noyce program was supported by the National Science Foundation Noyce Program. Funding supported undergraduate majors in science, technology, engineering, and mathematics majors who were also enrolled in CSU's licensure program to become public school teachers in STEM disciplines. Noyce Scholars (those receiving financial and professional development support) committed to teaching at least one year in a high-need public school district for every semester they received funding. High-need school districts, defined by the NSF, are those in which one or more schools has high levels of students who receive free or reduced lunch, have high teacher turnover, or significant numbers of teachers who teach outside of their disciplinary expertise. CSU Noyce Scholars could receive up to 2 years of financial support in the form of stipends. They committed to maintaining contact with the CSU PI for up to eight years after graduation, so we could track their professional persistence and ensure that they have fulfilled their teaching obligations. A supplementary award from NSF allowed our team to administer three surveys to Noyce Scholars spread out across 12 other STEM teacher licensure programs that received NSF Noyce funding. The surveys were administered soon after the COVID-19 pandemic prompted school districts to shift their instructional delivery methods. These 12 other programs were spread out across six states listed below.

Contact: Meena Balgopal, Professor, Department of Biology.

Email and/or phone number for contact person Meena.Balgopal@colostate.edu; (970) 491-4277

License information or restrictions placed on the data – The material is open access and distributed under the terms and conditions of the Creative Commons Public Domain "No rights reserved" (<https://creativecommons.org/share-your-work/public-domain/cc0/>).

Recommended data citation – Balgopal, M., Sample McMeeking, L., & Weinberg, A. 2021. Dataset associated with "NSF Noyce Phase II: Empowering Scholars and STEM Teachers" project. Colorado State University. Libraries. <http://dx.doi.org/10.25675/10217/232378>

Associated publications –

Weinberg, A.E., Balgopal, M.M. & Sample McMeeking, L.B. Professional Growth and Identity Development of STEM Teacher Educators in a Community of Practice. *Int J of Sci and Math Educ* (2021). <https://doi.org/10.1007/s10763-020-10148-9>

Wright, D. S., Balgopal, M. M., Sample McMeeking, L. B., & Weinberg, A. E. (2019). Developing Resilient K-12 STEM Teachers. *Advances in Developing Human Resources*, 21(1), 16–34. <https://doi.org/10.1177/1523422318814483>

Format of data files – pdf, xlsx, csv

Location where data were collected – Data were collected from STEM teachers who graduated from 13 institutions of higher education in Mountain and Plains states (Arizona, Colorado, Wyoming, Nebraska, North Dakota, and Minnesota).

Time period during which data were collected – 2016-03-01 until 2021-03-01

File Information -

- Data_PD Attendance Record.pdf (information on which Noyce Scholars attended PD workshops at CSU)
- Data_Recruitment and Selection.csv (information on recruitment strategies and selection strategies for new Noyce Scholars at CSU)
- Data_Mentor Cohort.csv (information about the participation of mentor teachers who supported Noyce Scholars as CSU students and as early-career teachers)
- COVID Data (these data were collected in 2020 from Noyce teachers who graduated from public institutions across 6 states as the COVID-19 pandemic began)
 - CSU COVID Survey Round 1.pdf: items administered in May 2020
 - CSU COVID Survey Round 2.pdf: items administered in August 2020

- CSU COVID Survey Round 3.pdf: items administered in November 2020
- Survey Data for Repository.xlsx: collated data from all three COVID surveys 2020
- Round 1 Survey Responses.csv: data for items administered in May 2020
- Round 2 Survey Responses.csv: data for items administered in August 2020
- Round 3 Survey Responses.csv: data for items administered in November 2020
- README.pdf: this file, providing data documentation

Definitions of acronyms, site abbreviations, or other project-specific designations used in the data file names or documentation files:

- COVID refers to coronavirus disease
- CSU refers to Colorado State University
- NSF refers to National Science Foundation
- Noyce refers to the National Science Foundation funding program to support pre-service science, technology, engineering, and math majors who complete the coursework necessary to become licensed in the state to teach secondary STEM education.
- PBE refers to place based education
- PD refers to professional development workshop
- STEM refers to science, technology, engineering, and math

Method(s) –Describe the methods for collecting, creating, or compiling the submitted data, as well as the methods for processing data, if data other than raw data are being contributed

- Surveys (open and closed response items) were administered through Qualtrics Survey software (survey prompts included)
- Deidentification methods:
 - Names of states, school districts, and schools were removed.
 - Original ID values (based on the last four digits of participants' phone numbers) were replaced by generic IDs (001, 002, 003, etc.).

Software – To collect survey data, Qualtrics Survey software was used. To collate and analyze the open-response items, Dedoose Qualitative Analysis Program was used. However, no specialized software is needed to read the dataset.

Quality assurance and quality control that have been applied

- Inter-rater coding was used to ensure trustworthiness of the data in the dataset.

Limitations to reuse - Known problems or caveats that would limit reuse of the data or other caveats (e.g., uncertainty, sampling problems, blanks, QC samples) that future users should know

- None known