

## Plan Overview

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*A Data Management Plan created using DMPTool*

**Title:** CERTAIN STEM

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### **Copyright information:**

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## CERTAIN STEM

### Data generated by the project

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The Data Management Plan should describe the types of data, samples, physical collections, software, curriculum materials, or other materials generated by your project. Any data collection required by the program announcement should be incorporated into the proposal's Data Management Plan. For example, the management of assessment, evaluation, or monitoring data required for all projects within a given program should be addressed in the data management plan. Describe your plan for managing the data.

The following is the plan we have developed to maintain the integrity, security, access and organization of the data collection and storage during the course of the proposed research project.

***Data description:*** The data that will be collected for this project will be a combination of qualitative and quantitative information gathered from human subjects. A variety of cognitive, affective, and developmental data will be collected using a combination of extant instruments, newly developed instruments, interviews, observations, and internet correspondence.

***Metadata:*** The metadata we are likely to use will be extracted from the 3 states' offices of education which may include accessing publically available data such as aggregate student tracking system data and therefore, will be stripped of identifiers prior to our access and use.

***Existing data:*** We will rely on state and federal government data as well as data from organizations such as Change the Equation, for STEM education and workforce data.

***Data organization:*** For the project Louis Nadelson (PI), Kate Muir-Welsh (CO-PI) and Donna Llewellyn (CO-PI) will be responsible for managing the data collection, maintaining the storage of the data, and assuring it is secure. Data will be named according to the source of the data, the nature of the data, and the date the data was collected. This is close to the procedure that the researchers currently use in conducting their research. The data will be stored on password protected office computers and their personal portable USB storage devices. Paper versions of data will be stored in PI/CO-PI office in their locked file cabinets. The procedures they use are in compliance with the

Utah State University of Sponsored Projects Office of Research Compliance and acceptable for satisfying the oversight by the campus Institutional Review Board.

**Quality Assurance:** All data will be collected and maintained to assure continuity and integrity of the information. We will follow the protocols submitted with our IRB applications and adhere to the standards consistent with quality research.

**Responsibility:** PI - Louis Nadelson, Co-PI Kate Muir-Welsh, and Co-PI Donna LLewellyn will all be involved in the collection of data, each taking responsibility for data management in the research project. Our external evaluators will be responsible for collecting the evaluation data for the program, will do so under the Utah State IRB oversight with cooperation from University of Wyoming and Boise State University, thus, each state will maintain responsibility for managing their data.

**Audience:** – We will use the data we collect to draft manuscripts and reports which will be shared at the annual NSF conferences (regional and national), AERA, NARST, NSTA, NCTM, ASEE, and the associated (or related) peer review publications.

### **Period of data retention**

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EHR is committed to timely and rapid data distribution. However, it recognizes that types of data can vary widely and that acceptable norms also vary by scientific discipline. It is strongly committed, however, to the underlying principle of timely access, and applicants should address how this will be met in their Data Management Plan.

### **Data format and dissemination**

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The Data Management Plan should describe data formats, media, and dissemination approaches that will be used to make data and metadata available to others. Policies for public access and sharing should be described, including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements. Research centers and major partnerships with industry or other user communities must also address how data are to be shared and managed with partners,

center members, and other major stakeholders. Data on EHR projects involving human subjects should be made available to the public subject to constraints imposed by IRB decisions. Other data, such as software, publications, and curricula, should be made available subject to intellectual property rights.

Question not answered.

### **Data storage and preservation of access**

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The Data Management Plan should describe physical and cyber resources and facilities that will be used for the effective preservation and storage of research data. These can include third party facilities and repositories.

Question not answered.

### **Additional possible data management requirements**

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More stringent data management requirements may be specified in particular NSF solicitations or result from local policies and best practices at the PI's home institution. Additional requirements will be specified in the program solicitation and award conditions. Principal Investigators to be supported by such programs must discuss how they will meet these additional requirements in their Data Management Plans.

Question not answered.

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