Transformative Computational Models of Narrative to Support Teaching Indigenous Perspectives in K-12 Classrooms

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Collaborative Research: Transformative Computational Models of Narrative to Support Teaching Indigenous Perspectives in K-12 Classrooms

Data Management Plan

Expected Data Types & Format

This work will produce research data and methods relating to designing digital learning experiences and computational modeling. This includes qualitative and software data.

Qualitative Data. These include: ethnographic field notes (.docx and .txt), audio recordings (.mp3), video-recordings (.mp4), and transcripts of interviews (.docx and .txt), partnership-building artifacts including meeting notes and records (in the form they are generated), and design artifacts (in the form they are created) from creating place-based storytelling experiences. Where appropriate physical data will be digitized (e.g., a written storyboard) and saved in the appropriate file format.

Software Data. This refers to the diverse research artifacts we will develop. Models on story, discourse, and narration will be implemented in software code, executable by artificial intelligence software. This software code will exist in the form of text files containing the appropriate code and as binary execution files.

Standards and Policies for Access and Sharing within Research Team

Data will be ethically managed according to standards set by University and Tribally-approved IRB and MOU. PI Tehee will oversee the creation of a central data repository for data collection, so that the proposed analyses of data can be coordinated between Utah State University (USU), University of Utah, and the Northwestern Band of the Shoshone Nation (NWBSN). This data repository (likely Box.com through USU) will be accessible only to the research team, their graduate and undergraduate assistants, and the NWBSN as outlined in an MOU. All digital data will be stored in the data repository, will be backed up daily and have version control, and an additional backup will be kept on an external hard drive. Any physical data that cannot be digitized will be stored in a locked filing cabinet in a locked office.

No data with direct participant identifiers will be released. Both a paper file and an electronic file will be maintained linking participant pseudonyms/nicknames with their actual names; this list of identifiers will be kept apart from the rest of the research materials and will be exchanged only among the IRB or MOU approved personnel. Analyses will be completed using a cloud-based qualitative analysis software (e.g., Dedoose).

At the outset of the study, the entire research team will review the protocol for maintaining participant confidentiality according to IRB and MOU. Throughout the study, the PIs, research assistants, and partners named on this grant will closely monitor participants to ensure both their safety and privacy. Data collection will be shared regularly via the central repository, so that the proposed analyses of data can be consistently carried out. Research updates will be circulated weekly among researchers and tribal members. Finally, research meetings with the PIs and student researchers will be scheduled weekly, in which data integrity and participant safety will regularly be two of the focal points.

Policies/Provisions for Re-use/Redistribution of Data Outside the Research Team

Throughout the study and as appropriate, the PIs will publish findings. For the protection of the vulnerable populations of Indigenous peoples and youth in the study, the PIs will not make locally collected field notes, interview transcripts, and photographs available to researchers outside this project. Requests for access to specific data items must be approved by the PIs or their designate. Access approval will be consistent with the project's approved IRB and MOU, and any applicable tribal, federal, and state laws.

Plans for Archiving Data, Other Research Products, and Preservation of Access

At the conclusion of the study, data will be retained by the PIs for potential future research; however, all data—including potentially identifiable data such as audio recordings—will be kept entirely confidential. The PIs will have an external hard drive backup of all research data, which will be securely kept in the PI's office. Any further research based on the dataset will continue to use pseudonyms, first name only, and/or nicknames to ensure participants' confidentiality is maintained. Given this strict level of confidentiality, it is highly unlikely that the data become part of the subject's permanent record.

As outlined in the Dissemination section of the proposal, the PIs will make research, design, and education outputs and findings accessible through a variety of means such as websites, conference presentations, and journal articles. The prototypes and resulting computational model will be made publicly available and disseminated widely. These will be owned and maintained by the NWBSN.