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Using Digitally-Based Recording Techniques to Manage Large Datasets in Real Time

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Archeology, Digital Data, & Training

Archeologists generate large datasets, both in the field and in the laboratory. These datasets include qualitative and quantitative information on archaeological site setting, location, soils, stratigraphy, features, and artifacts among many others kinds of data.

Archeologists have created a number of digital solutions to manage large datasets, and students benefit from learning data management skills, a critical aspect of an archeological project.

Archeology students learn best by doing. In other words, archeological training is akin to on-the-job training. When students conduct original research as part of a research team, they learn how to do archeology, and that process includes learning how to manage and interpret large digital data-sets.

Watts Farm Archeological Field School

In the Summer of 2021, 16 students enrolled in the University of Arkansas Summer Field School at Watts Farm (SWA/0006), ANTH 4256/5256. Watts Farm is an archeological site located on the White River southeast of Fayetteville, Arkansas. Students spent four weeks conducting excavations and one week processing artifacts in the laboratory.

Students used iPads to record information about their excavation contexts using the Arkansas Archeological Survey Digital Inventorying System. These data were uploaded in real-time to a central server at the Arkansas Archeological Survey. This database was designed by Dr. John Samuelson, an archivist with the Arkansas Archeological Survey, using MySQL and deployed to rugged iPads using FileMaker Pro. Additionally, LiDAR-equipped iPads were used to create three-dimensional photogrammetric models of features in the field.

Students engaged in original field research while recording and managing digital data synchronically. In traditional archeological settings, these tasks could be separated by a significant amount of time. Often, students do not experience the data analysis aspect of a project until they pursue graduate research.

Serving as part of a research team, students can acquire the skills they will need to pursue careers in archeology. Archeology is a growing profession in the United States, and the industry is projected to grow significantly in the next years with the need for well-trained workforce (Altschul and Klein 2022). Data management is a critical part of archeology, and providing students the opportunity for hands-on experience with these aspects of archeological projects will benefit them on the job market.

Teaching Outcomes

Students engaged in original field research while recording and managing digital data synchronically. In traditional archeological settings, these tasks could be separated by a significant amount of time. Often, students do not experience the data analysis aspect of a project until they pursue graduate research.

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Citations