

Experimental Archaeology: A teaching experiment

Jenna Walsh, Susan Arthure, Marc Fairhead, Simon Hoad, and Martin Polkinghorne (with contributions from Alice Gorman, Chantal Wight, and the students of ARCH1006 2022–2024)

Experimental Archaeology as a method for introducing first year, first semester students to core concepts

In 2022, we devised a university- and Australia- first experimental archaeology unit, using Neolithic-style pit fire techniques to produce ceramic objects. This was delivered to first-year students in the core Bachelor of Archaeology topic ARCH1006: Sex, Death and Ritual in the Ancient World, and aimed to investigate if methods and materials used in the northern hemisphere (after experiments by Sidoroff 2019) could be adapted effectively for an Australian context. The 'experiment' was a great success; but it became so much more when the team realised the value of using this unit as a vehicle to introduce new archaeology students to key concepts in a fun, inclusive and dynamic way.

All team members have an abiding interest in clay and its use as a medium for creation (practical, architectural, ritual, recreational, and artistic) in both the past and the present. We have run the unit for the past three years, and each time have endeavoured to fuse enquiry-based and experiential learning with integrated practical experience, thereby bridging a gap between theory and hands-on learning. Content is delivered in a carefully scaffolded program incorporating different communication media, so that information can be understood and retained by our diverse learners. Students with disability and diverse learning needs are particularly welcomed, with appropriate plans in place for their safe and effective participation.

Following the identification of wide gaps in graduate skillsets (Beck et al. 2020; Mate and Ulm 2016; Monks et al. 2023), the Australian National Council for Archaeological Teaching and Learning (ANCATL) developed an Archaeology Skills Passport (ANCATL 2019). Our unit consciously incorporates elements from that document to form a tangible record of student skill development, early in their degree.

Delivery

Week 1: Workshop with introduction to key theories in experimental archaeology (e.g. Coles 1979; O'Neill and O'Sullivan 2019; Reynolds 1979). Students 'play' with clay, becoming familiar with temper and foraged tools in a tactile and tangible way. We encourage open discussion, social interaction and creative freedom. In 2024, a visit to the Flinders Southeast Asian Ceramics Archaeology Lab (SEACAL) was added to the program.

Week 2: Workshop with introduction to case studies of ceramic objects in ritual contexts and phenomenology (e.g. Crown et al. 2012; Meskell 2015). Students make their own artefact, taking ritual contexts and the phenomenological experience into consideration.

Week 3: Students have their first experience of fieldwork, which takes place on campus but in a secluded location. We introduce spatial and survey methods (total station/RTK), work health and safety, geomorphology, and safe digging methods as students locate and dig the fire pits. This is entirely voluntary as it is outside of the formal semester timetable, but consistently 45-50% of students have attended each year, keen to get their hands dirty.

Week 4: The artefacts are fired in a replication of a Bronze-Age/Neolithic method. First, the pit base is baked off, then the objects are laid in the pit, and a fire is built using local blue gum, with a lattice of foraged bark and smaller branches for protection and aeration. The fire is maintained at >900 degrees Celsius for two hours (gauged according to flame and ember colour) and then covered with a thick 'blanket' of horse dung to retain heat and begin a reduction process. The following day, students excavate their artefacts using archaeological tools and methods to reveal their objects (to great excitement). We photograph the artefacts, then backfill the pits and tidy the site.

Later: In 2022, we created a special edition of the in-house student journal, *DigIt*, featuring student articles about their experience (Flinders ArchSoc 2022). In 2023 and 2024, the fired artefacts were exhibited in the university library, with museum-style labels written by the students.

Each year, at the start and end of the unit, we have collected data via student questionnaires to gauge knowledge improvement and learning experience. Students self-reported through these questionnaires a consistent 20-25% improvement in their knowledge of where ceramics might be found in archaeological contexts, and 30% improvement in understanding how EA might inform us about people's lives in the past. Students also demonstrated increased social engagement with peers and measurable improvements in field skills.



Images (L-R) Top: Flinders Guardian of EA, Sheeloh, Australia, supervising our 2024 fire. Artefacts being laid in the pre-warmed pit to be fired. Middle: 2022 students discuss concepts of ritual, including different uses for dug holes. Students sussed by their newly dug pit in 2022. Bottom: Some student-made artefacts prior to firing, and after.



Reflections

Several students who participated felt confident to pursue voluntary fieldwork experiences afterwards, or felt they were able to choose their degree/career path with more ease. One student who took the topic as an elective has since transferred into the Archaeology degree. The social aspect of the unit was vital in creating a sense of community and welcome, with friendships blossoming over clay and fire, and the relaxed interaction with staff facilitating a sense of safety for students to seek help and ask questions. One student with disability and social anxiety was one of the most enthusiastic and engaged when she realised she was able to participate safely in a meaningful way.

Our team received an Innovation in Teaching Award from the College of Humanities, Arts and Social Sciences at Flinders University for this project.

A new experiment is currently being designed for delivery in 2025, which will incorporate Indigenous knowledges and a new set of teachable skills for our future students.

Student Feedback

This class is great	Very interesting and fun!
Inspired by surrounding peeps	This was a beneficial project in learning the practical aspects of archaeology / applying theory in the field
It was a fun and wonderful experience which I wish could be done again. Thank you for everything	Proud because I'm displaying my culture. Emotional because other people liked something that represented my culture
Clay gives me sensory issues. However, it was a wonderful experience which put me out of my comfort zone	Fun, creative, connected
Felt completely focussed and engrossed by the process	Educational and interesting. Would do again
I absolutely loved working in the field... it was super informative	Very difficult, I don't think it's [artefact] going to survive, but really cool
This was super fun - thank you!!!	I want to thank Jenna and Susan for being wonderful and accommodating people. Thank you for everything!

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All authors may be contacted via the College of Humanities, Arts and Social Sciences, Flinders University, Bedford Park, South Australia. This research was undertaken on the traditional lands of the Kaurna people, and we acknowledge Kaurna Elders past, present and emerging.

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Images (L-R) Above: Library museum display 2024. Zanab: Tall speaks to students at Flinders University's Southeast Asian Ceramic Archaeology Lab (SEACAL) 2024. Susan Arthure explains concepts in the field in 2022. Bottom: Simon Hoad explaining the RTK and spatial concepts to students on site in 2024. Students (with Jenna Walsh and Susan Arthure) with newly fired and excavated artefacts after the 2024 experiment.



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