






Why do students enrol in archaeology at Australian universities? Understanding pre-enrolment experiences, motivations, and career expectations

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ABSTRACT

This study presents the first data on a level one archaeology student cohort, exploring their demographic composition and motivations for enrolling, as well as external stressors such as health and caring responsibilities that may influence student study goals, retention, and needs. A survey of 107 students enrolled in introductory level archaeology units at 13 Australian universities was undertaken in Semester 1, 2021. The results show a diverse cohort by age, gender, and educational background. Consistent with the professional Australian archaeological community, there is little diversity in the ethnicity of enrolled students. Further, many respondents reported having caring responsibilities, and both physical and mental health concerns. Students were motivated to enrol both for general interest and future career pathways; however, there was a poor understanding within the cohort of Australian archaeological job opportunities. These results indicate that there is clearly much to be done in public archaeological engagement and outreach in Australia. What is required of the Australian archaeological community is a concerted effort to improve how the discipline is taught and learned across all levels of education, and a collaborative approach to designing teaching methods suitable for our modern student cohort.

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Introduction

The demographic profile of Australian professional working archaeologists, and how it compares internationally, is well understood thanks to nearly 20 years of longitudinal data in the ‘Australian Archaeology in Profile’ surveys (Mate and Ulm 2016, 2021; Ulm et al. 2005, 2013). The profession is, for example, trending strongly towards a young (average age 42 years), predominantly female workforce (57.4% compared to 47.8% in 2005; Mate and Ulm 2021:233), but with a persistent 18.8% pay gap between females and males largely because of career interruptions and insecure casual and contract employment (Mate and Ulm 2021:239). Most (73.4%) professional archaeologists in Australia are Australian-born, but Indigenous participation (1.9%) is much lower than the proportion of Aboriginal

and Torres Strait Islander people in the broader Australian population (~3%) (Mate and Ulm 2021:234). Similar trends in age, gender, remuneration and Indigenous participation have been identified in Europe, the United Kingdom, and North America (see Aitchison et al. 2014; Cobb and Croucher 2020; Lazar et al. 2014). At a professional level, Anglophone survey data indicates that archaeology lacks ethnic and cultural diversity (Cobb and Croucher 2020:101). Further, while there is numerical parity between females and males at a global scale, the limited data suggests that archaeologists with marginalised identities, including disabled and/or queer archaeologists, are underrepresented (Cobb and Croucher 2020).

We do not, however, have a similarly detailed profile of our incoming students. A stated aim of the ‘Australian Archaeology in Profile’ surveys was

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‘to inform curriculum development and the exploration of new archaeology teaching and learning models that are more attuned to the contemporary Australian archaeological workplace’ (Ulm et al. 2005:11). Their survey results have highlighted skills considered ‘most valuable’ within the workplace and identified perceived skill ‘gaps’ (Mate and Ulm 2016, 2021; Ulm et al. 2005, 2013). Thus, while we know a great deal about what employers want from graduates, we know much less about what students want from archaeology at Australian universities.

To meet this need, the aim of this survey was to develop a profile of incoming students enrolled in archaeology subjects in Australian universities, in order to capture baseline data, and to characterise student motivations and plans relating to future study of archaeology and cultural heritage. Through this, these data can be used to better align university training with both disciplinary and student expectations and needs.

There have been general surveys and discussion papers on the state of Australian university-based training in archaeology (see Beck and Clark 2008; Colley 2003, 2004, 2012; Colley and Ulm 2005; Cosgrove et al. 2013; Frankel 1980; Gibbs et al. 2005; Ireland et al. 2013; Lydon 2002; May et al. 2018; McBryde 1980; Wallis et al. 2013), but relatively few quantitative and interpretive datasets on the demographics and perceptions of archaeology students themselves (but see Balme and Wilson 2004; Colley 2005), especially in the last decade. Archaeologists engaged in higher education often anecdotally report high rates of participation by mature-age students, and low rates of participation by students from culturally and linguistically diverse backgrounds, but these observations have not been quantified or analysed. Furthermore, physical and financial accessibility of archaeological study is not often explicitly considered in andragogical (the learner-centric education of adult, self-directed learners) development, outreach, or student recruitment. These factors are, however, critical to student wellbeing and completion of study. Twenty years ago, most Australian archaeology students were drawn to the subject out of curiosity rather than career prospects (Balme and Wilson 2004; Colley 2003, 2005). How does this compare to current student motivations and the goals of the contemporary neoliberal university? It is these questions this survey has sought to answer by constructing a demographic profile of our incoming students that can then be updated and redeployed every four to five years to understand students’ needs and align these with the needs of our profession as well as societal imperatives.

Methods

The ‘Perceptions of Archaeology Students’ (PAST) survey was developed with the support of the Australian Archaeological Association, Inc. (AAA) and the Australian National Committee for Archaeology Teaching and Learning (ANCATL). It was designed to complement other longitudinal studies and andragogical initiatives led by groups such as the ‘Australian Archaeology in Profile’ survey series (Mate and Ulm 2016, 2021; Ulm et al. 2005, 2013), the *By Degrees* benchmarking document (Beck et al. 2020), and the *Australian Archaeology Skills Passport* (ANCATL et al. 2021). The survey instrument was approved by the University of Western Australia’s Human Research Ethics Committee (2021/ET000095).

In an age of audit cultures, where students often have multiple surveys to complete each semester, we wanted the survey to be relatively expedient to encourage high completion rates. To make the questions as inclusive as possible, wording and response options were adapted from Hughes et al. (2016) and open-ended response questions were used where appropriate. Recognising that many questions were potentially sensitive, all survey responses were anonymous, and all questions were optional. Survey responses were considered ‘complete’ where respondents had answered at least one question in each of the two sections of the survey. Some questions (for example, on ethnicity, previous qualifications, health and disability) allowed for respondents to select more than one response, so response totals sometimes marginally exceed 100%. A complete copy of the PAST survey questionnaire is available in the online [Supplementary Materials](#).

The survey instrument took the form of an online survey questionnaire delivered by SurveyMonkey[®], and comprised 21 questions in two sections. The first section focused on quantitative demographic information with questions on:

- age, gender identity, and ethnicity;
- personal and parental educational background, and;
- whether the student identifies as having a disability, impairment, or chronic medical condition.

The second part of the survey addressed student motivations and career goals relating to archaeology and cultural heritage, with questions on:

- pre-enrolment plans and experiences, including whether they had intended to study archaeology at university or had previously participated in archaeological outreach activities;
- what interests them about archaeology;
- where they obtained their archaeological knowledge, and;

- what are their perceptions about archaeology as a career path and the transferability of archaeological skills outside of university.

Descriptive statistical analyses were undertaken using R statistical software (v.4.2.1; R Core Team 2022), with qualitative analysis completed in NVivo. Responses to extended answers queried in NVivo, with related phrases collated and quantified.

The survey was deployed from 15 February to 28 March 2021 (Semester 1) and distributed to an estimated 500 students enrolled in 16 introductory-level (first year) archaeology units offered by the 13 Australian universities listed in the [Supplementary Materials](#). Students were informed of the online survey by their unit coordinators, who were encouraged to share the online survey with their students via their internal learning management platforms. This ensured that respondents provided responses based on the relevant unit in which they were enrolled, and minimised accidental participation by students who were not eligible to complete the survey.

Results

A total of 107 completed survey responses were returned. Response rates were generally high, ranging from 100 to 107 responses for each question.

Section 1 – Demographic data

Age and gender

The mean age of respondents was 30 years old, with a median of 20 years old (Figure 1 and Table 1). Women comprised the majority of survey respondents (70.75%, $n=75$), compared with men at 22.64% ($n=24$) and 3.77% ($n=4$) genderqueer or non-binary respondents. Three respondents chose not to answer these questions. The lower response rate by men may represent external and unknown variables, however it does resemble gendered enrolment trends observed elsewhere and addressed further in the Discussion.

Diversity and equity

All respondents but one completed this section (Table 2). Overwhelmingly, students self-identified as being of European heritage (>94%), followed by Asian (5%), Aboriginal/Torres Strait Islander (~2%), Middle Eastern/North African (~3%), and Māori/Pacific Islander (~1%).

Educational backgrounds of students and their parents

The educational and socio-economic background of students and their families is an important factor in understanding student participation in higher

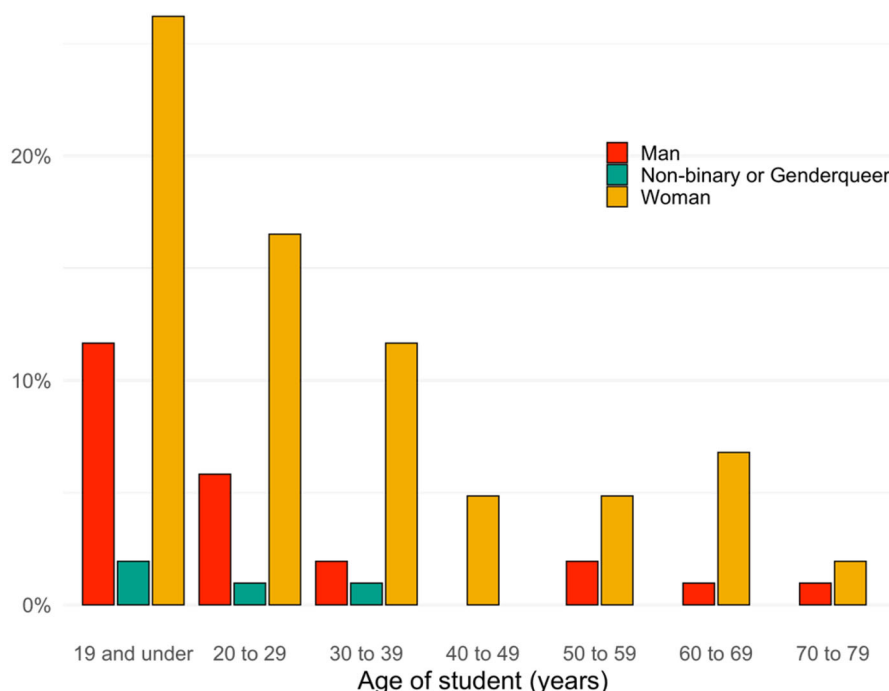


Figure 1. Age and gender profile of commencing Australian archaeology students.

Table 1. Summary age profile of commencing Australian archaeology students.

Gender	<i>n</i>	% of Total	Median age (years)	Mean age (years)	<i>sd</i>
Man	24	22.64	19.5	27.71	16.18
Non-binary or genderqueer	4	3.77	19.0	23.00	8.72
Woman	75	70.75	24.0	31.65	16.65
Prefer not to say	3	2.83	18.0	18.33	1.53
Total	106	100.00	20.0	30.06	16.25

Table 2. Ethnicity of commencing Australian archaeology students.

Ethnicity	Respondents	
	<i>n</i>	%
Aboriginal and/or Torres Strait Islander	2	1.89
Asian	5	4.72
European and/or White	100	94.34
Māori and/or Pacific Islander	1	0.94
Middle Eastern and/or North African	3	2.83

Note: a total of 106 responses were received for this question, but respondents were able to select more than one category, so the total exceeds 100%.

education and post-qualification career aspirations (Chesters and Watson 2013; Koshy et al. 2019; Patfield et al. 2022). Three questions therefore focused on the educational background of students and their parents or guardians. More than 93% of students completed their secondary school education at an Australian school (Table 3). Nearly half (49.53%) of respondents stated that they already had experience of university education, with 36 students having attempted, but not completed, a university qualification, and 17 students already having a degree. However, cross-checking responses against age data indicated that around one-third of the respondents who stated that they had already attempted a university qualification were only 17 or 18 years old, the earliest age at which most students will be eligible to commence university education. While some may have previously commenced university study, it seems likely that the question was unclear or confusing. We therefore suggest that while some of these data are useful – particularly regarding the number of students who have previously completed a university (15.89%) or TAFE qualification (16.82%) – the proportion of students attempting their first tertiary qualification is unclear.

It is worth considering a stark difference in parental educational background. On the one hand, Table 4 shows 67% of students’ parents have a post-secondary qualification, compared with the Australian average of 63% for people aged between 14 and 74 in 2018–2019 (Australian Bureau of Statistics 2021). Almost one quarter of respondents reported that at least one of their parents had a postgraduate qualification, including 10% who had a PhD or professional doctorate. But Table 4 also shows that half of students reported being ‘first generation’ university students, including one-third whose parents who did not continue formal education beyond high school (Table 4).

Student health

105 students completed this question, and just over one-third (36.19%, *n* = 38) reported a disability – defined as per national guidelines as a ‘limitation, restriction or impairment, which has lasted, or is

Table 3. Educational background of commencing Australian archaeology students.

Secondary education background of students	Respondents	
	<i>n</i>	%
Did not complete high school	1	0.95
Completed schooling outside of Australia	6	5.71
Home-schooled or non-traditional high school	3	2.86
Australian independent or selective school	5	4.76
Australian private school	38	36.19
Australian public school	52	49.52
Total number of respondents	105	

Previous post-secondary qualifications attempted or completed	Respondents	
	<i>n</i>	%
None	34	31.78
TAFE – attempted but not completed	2	1.87
TAFE – completed	18	16.82
University – attempted but not completed*	36	33.64
University – completed	17	15.89
Total number of respondents	107	

*See Discussion around limitations of data on previous post-secondary qualifications.

Table 4. Educational background of the parents of commencing Australian archaeology students (Highest parental education level).

Educational background	Respondents	
	<i>n</i>	%
Completed some school below Year 10 (or equivalent)	5	5.00
Completed at least Year 10 (or equivalent)	7	7.00
Completed secondary school	21	21.00
Trade certificate or diploma	17	17.00
Bachelor degree	20	20.00
Honours and/or graduate degree	7	7.00
Masters degree	13	13.00
Doctoral or professional degree	10	10.00
Total number of respondents	100	

Table 5. Mental and physical health of commencing Australian archaeology students.

Disabilities and chronic health conditions	Respondents	
	<i>n</i>	%
No	67	63.81
Yes	38	36.19
Autoimmune and/or connective tissue disorder	3	2.86
Learning disability or form of neurodiversity	11	10.48
Mental health condition	22	20.95
Mobility impairment	1	0.95
Neurological impairment	0	0.00
Sensory impairment (vision or hearing)	4	3.81
A disability or condition not otherwise listed	6	5.71

Note: Numbers add to more than the total number of responses (*n* = 105) as respondents could select all options that applied.

likely to last, for at least six months and restricts everyday activities’ (APSC 2021) – or a chronic condition. Table 5 shows that mental health (20.95%, *n* = 22) was the most prominent health issue, followed by a learning disability (10.48%, *n* = 11). Almost one-quarter of those respondents with a disability or chronic condition reported more than one type. It is worth noting that Covid will have exacerbated and added to these conditions, influencing the survey.

Student caring responsibilities

While most (70.75%, *n* = 75) students did not currently have responsibility of caring for a child or

Table 6. Caring responsibilities of commencing Australian archaeology students.

Do you have caring responsibilities?	Respondents	
	<i>n</i>	%
No	74	69.81
Not currently, but I expect this to change in the next 12 months	1	0.94
Yes, for at least one person who normally lives with me full time	21	19.81
Yes, for at least one person who regularly lives with me	3	2.83
Yes, for at least one person who does not live with me	7	6.60
Total	106	100.00

Table 7. Caring responsibilities of commencing Australian archaeology students, shown by age group.

	Yes		No		Overall	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
19 yrs and under	5	4.72	38	35.85	43	40.57
20–29 yrs	3	2.83	22	20.75	25	23.58
30–39 yrs	10	9.43	4	3.77	14	13.21
40–49 yrs	5	4.72	0	0.00	5	4.72
50–59 yrs	5	4.72	2	1.89	7	6.60
60 yrs+	3	2.83	8	7.55	11	10.38
Total	31	29.25	75	70.75	106	100.00

other family member (Table 6), almost 30% of respondents report caring for at least one person, including most students aged over 30 years (60%) (Table 7). Caring responsibilities might be for dependent children, parents, siblings, or others, but in all cases is likely to influence students' workload management and financial situation (Andrewartha et al. 2022), and is a consideration for access to fieldwork and unpaid work experience.

Section 2 – Motivations for study and career goals

Enrolment type

About three-quarters of respondents were enrolled in full-time study (75.2%, $n = 79$), and the overwhelming majority were Domestic students (98.1%, $n = 104$; Table 8), defined broadly as a student who is an Australian or New Zealand citizen or permanent resident.

Most (60.2%, $n = 53$) respondents were enrolled in non-specialised degrees (Bachelor of Arts and Bachelor of Science), followed by a large group – almost a third – enrolled in a specialist archaeology degree (either a Bachelor of Archaeology or Bachelor of Archaeological Practice). Only four Australian universities offered these specialist degrees in 2021 (see Supplementary Materials), compared to Archaeology Major sequences offered within the more generalist Bachelor of Arts or Bachelor of Science degrees. A small number of respondents ($n = 9$) were enrolled in other specialised degrees, with a roughly equal proportion classified as HASS (Humanities and Social Sciences) or STEM (Science, Technology, Engineering, Mathematics) degrees.

Study expectations and interests

Slightly more than half (58.9%; $n = 63$) of respondents had planned to study archaeology at university before enrolling in the archaeology unit they were currently taking. When asked to rank the five most important factors (out of a possible 12) influencing their decision to enrol in the unit (Figure 2), the most frequent responses were:

- 'I thought it sounded interesting';
- 'I thought archaeology sounded adventurous';
- 'I thought it would help me understand global issues';
- 'I like the idea that it might involve or lead to more practical/physical work'; and
- 'I am interested in pursuing a career in archaeology.'

Perceptions of archaeology's contribution to understanding global/social issues, or personal reasons relating to culture and heritage were also frequently identified as a factor influencing enrolment. Another set of influences were degree-related factors where the unit was either a required part of the qualification, a prerequisite for a unit the student planned to study later in their degree, or appealed as a complementary unit of study.

Introductory level archaeology units are generally broad in scope, taking a global perspective to introduce the study of material culture, including the types of evidence used by archaeologists, the history of the discipline, and an appreciation of regional and temporal cultural diversity. When asked to indicate which area(s) of archaeology most interested them, students provided free text responses that covered a range of geographic regions and disciplinary areas. Geographic interest was dominated by non-Australian regions, typically linked by 66% of respondents to areas such as Egypt, Greece, and Rome. In contrast, only 13% of respondents expressed that their primary area of interest lay in Australian archaeology, and of these, most specified an interest in Aboriginal archaeology. Disciplinary interests, where mentioned, were predominantly in STEM subject areas (73%), and overwhelmingly linked to bioanthropology and human remains (i.e. mortuary archaeology, physical anthropology, human evolution, and forensic anthropology).

Table 8. Enrolment characteristics of commencing Australian archaeology students.

Enrolment characteristics	Respondents	
	<i>n</i>	%
Enrolment status		
Full time	79	75.24
Part time	25	23.81
Non-award	1	0.95
Student status		
Domestic	104	98.11
International	2	1.87
Degree type		
Bachelor of Arts	41	46.59
Bachelor of Science	12	13.64
Bachelor of Archaeology/Bachelor of Archaeological Practice	26	29.55
Other specialised HASS degree	5	5.68
Other specialised STEM degree	4	4.55

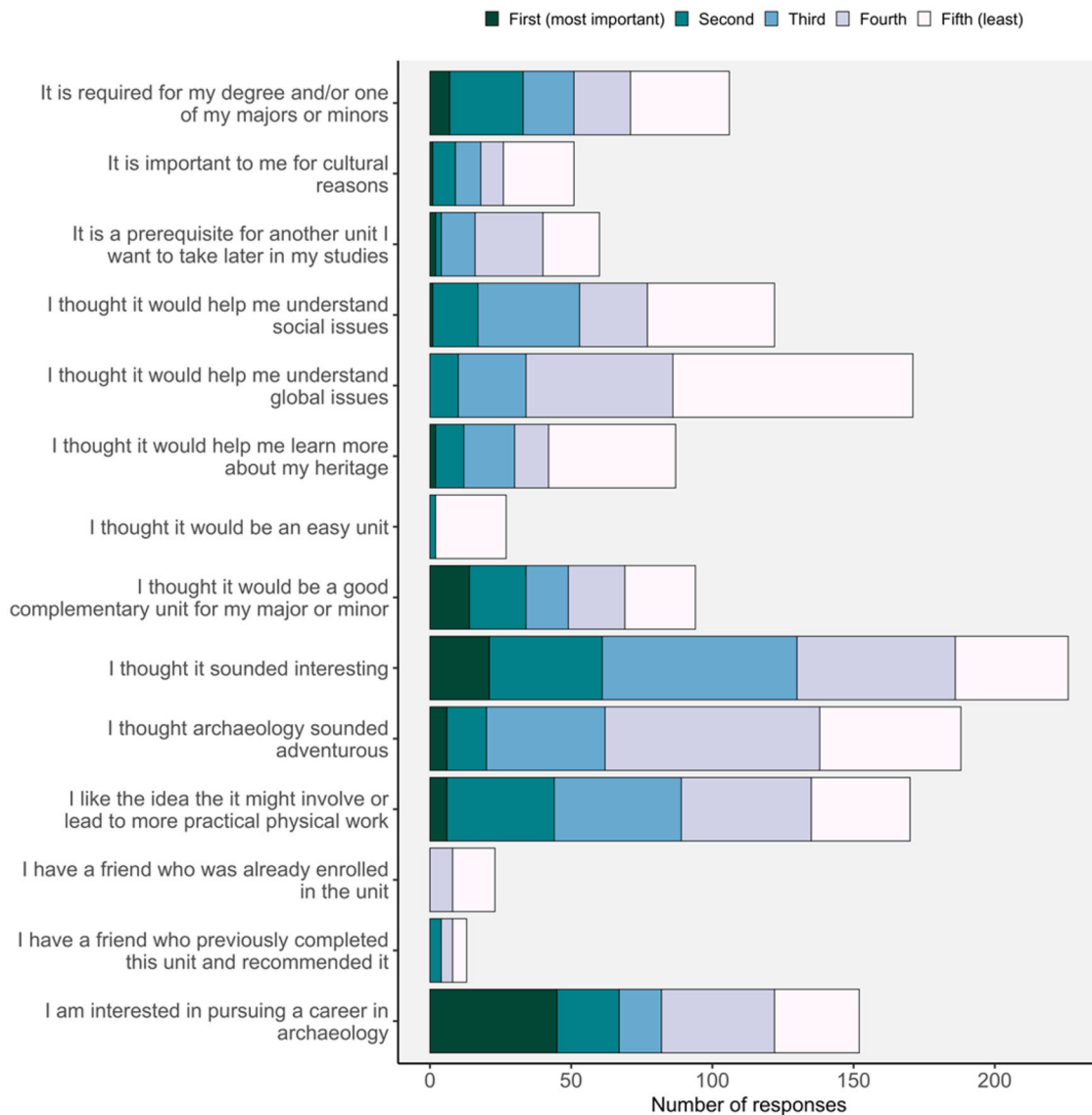


Figure 2. Most important factors influencing enrolment in archaeology by commencing Australian archaeology students.

Previous experiences with archaeology and Aboriginal and Torres Strait Islander cultural heritage

30.8% of respondents stated that they had participated in hands-on or in-person archaeological or heritage-related activities prior to enrolling in the current course. The most common form of participation was through school excursions (27.5%).

Work experience, observation, and participation in excavations and other fieldwork were also commonly cited (Figure 3).

Students were, contrary to common perception, quite well-informed about archaeology, albeit from a wide range of sources (Figure 4; see also George 2016). Film and television documentaries (72%) were the most cited sources of archaeological

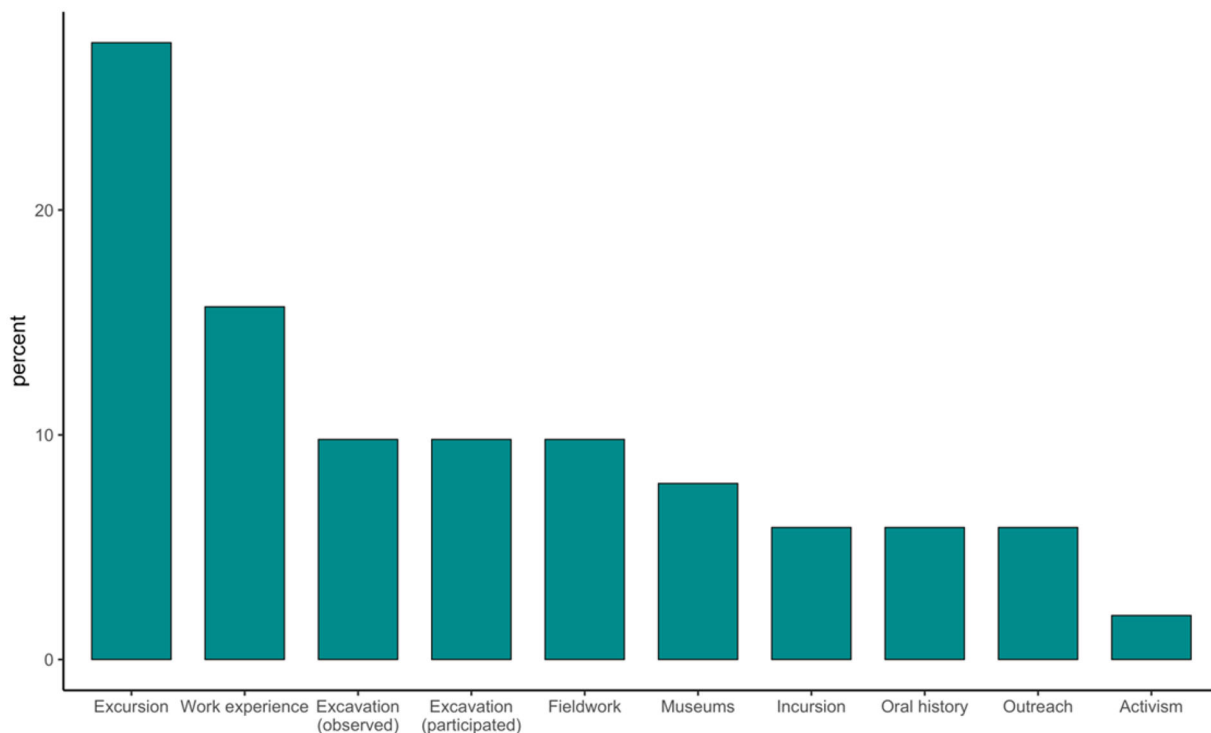


Figure 3. Type of previous participation in archaeological or heritage activity reported by commencing Australian archaeology students.

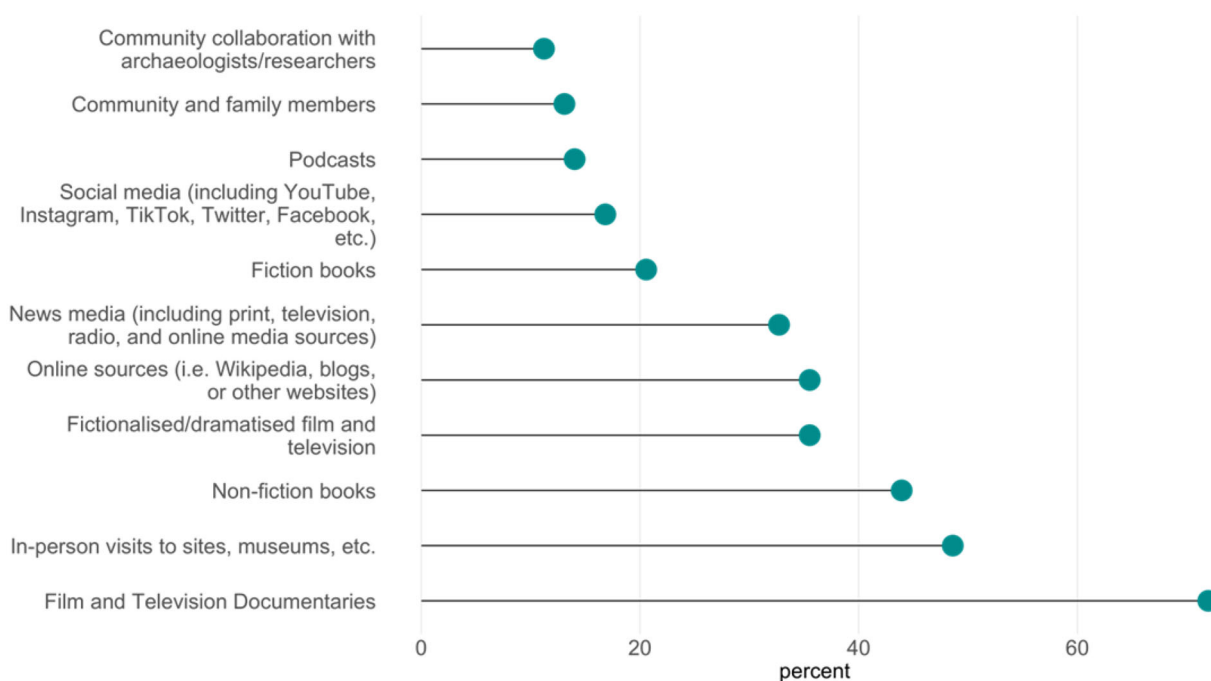


Figure 4. Sources of archaeological information reported by commencing Australian archaeology students.

information accessed by students prior to enrolling in study, followed by in-person visits to museums or sites (48.6%) and non-fiction books (43.9%). Media (32.7%) and online sources (35.5%) also ranked highly.

While 11.3% of respondents stated that they had no previous knowledge or understanding of Aboriginal and Torres Strait Islander heritage (Figure 5), school curricula were a primary source of information for most students. Just over half

(50.47%) of the respondents stated that they had been taught some content by non-Indigenous school teachers. One-third (32.1%) had participated in school visits (incursions or excursions) facilitated by Indigenous people, and 17% recalled content taught by Indigenous teachers. The inclusion of Aboriginal and Torres Strait Islander culture and heritage in school history curricula was only required with the publication of the Australian National Curriculum in 2012 (Zarmati 2015). Most older students thus

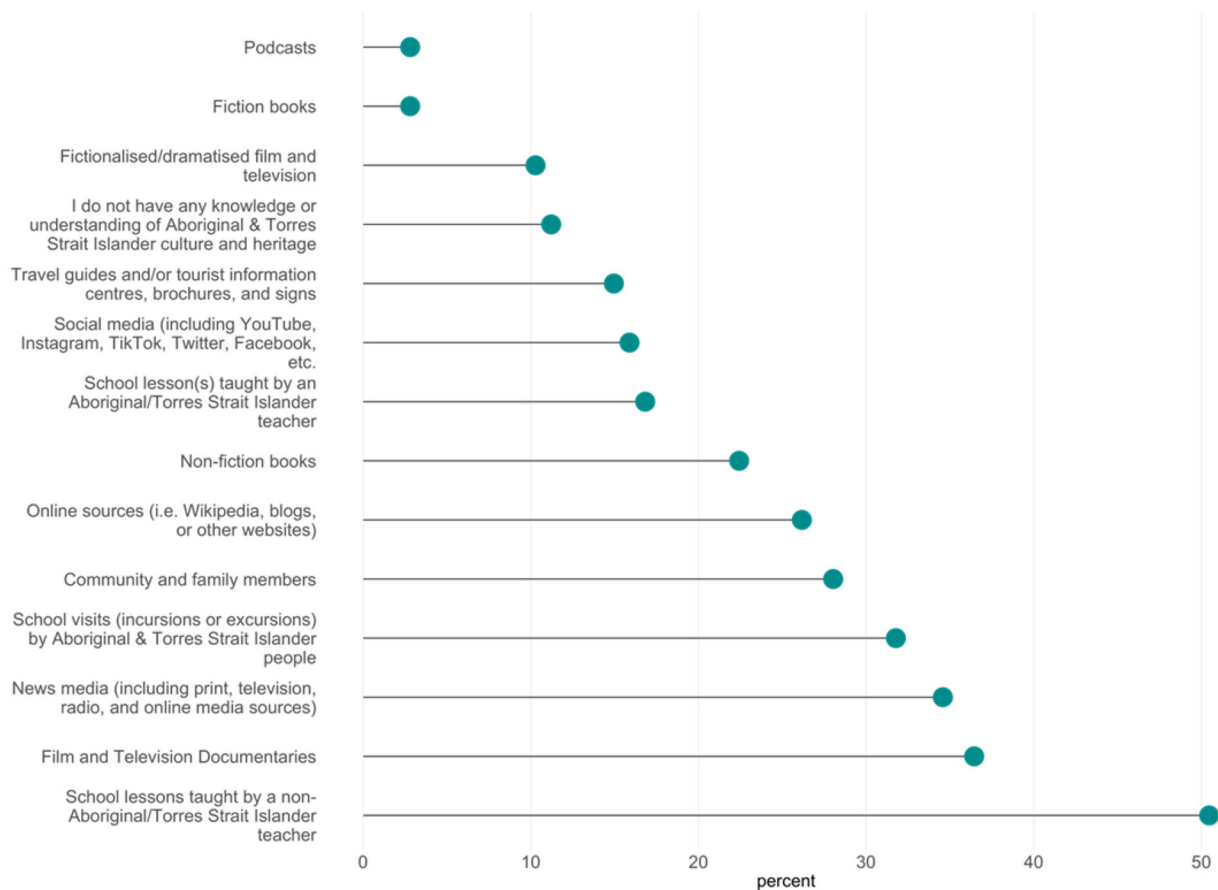


Figure 5. Sources of information about Aboriginal and Torres Strait Islander culture and heritage reported by commencing Australian archaeology students.

Table 9. Responses to questions relating to the post-qualification career plans of commencing Australian archaeology students.

Post-qualification plans	Respondents	
	n	%
Do you plan to seek work as an archaeologist?		
Yes	55	51.40
No	13	12.15
Unsure	37	34.58
Volunteering only	2	1.87
Did you consider employability when enrolling in this degree?		
Yes, it is relevant to my planned career path	28	26.17
No, I am just interested in it	68	63.55
No, I have not considered employability at all	8	7.48
Other (written comment)	3	2.80
Do you think there are enough employment opportunities for archaeologists?		
Yes, in Australia	7	6.50
Yes, in Australia and overseas	21	19.60
Yes, but not in Australia	12	11.20
No	7	6.50
I do not know	60	56.10

received no or limited instruction on Indigenous Australian heritage. Comparing responses between two age cohorts provides an illuminating contrast; of the younger group (29 years and under), 85.3% ($n = 58$) identified school teachers or visits as a primary source of information about Aboriginal and Torres Strait Islander culture and history, compared to only 21.1% ($n = 8$) of those aged 30 years and older.

Student post-degree plans

The data collected on post-degree plans suggests that there is confusion on both employment prospects and requirements for qualification. While 51.4% (Table 9) – 61.0% (Figure 6) of respondents reported that they intended to seek work as an archaeologist or in the heritage space more broadly, only one-quarter (26.2%) reported that they had enrolled in their course due to its relevance for their

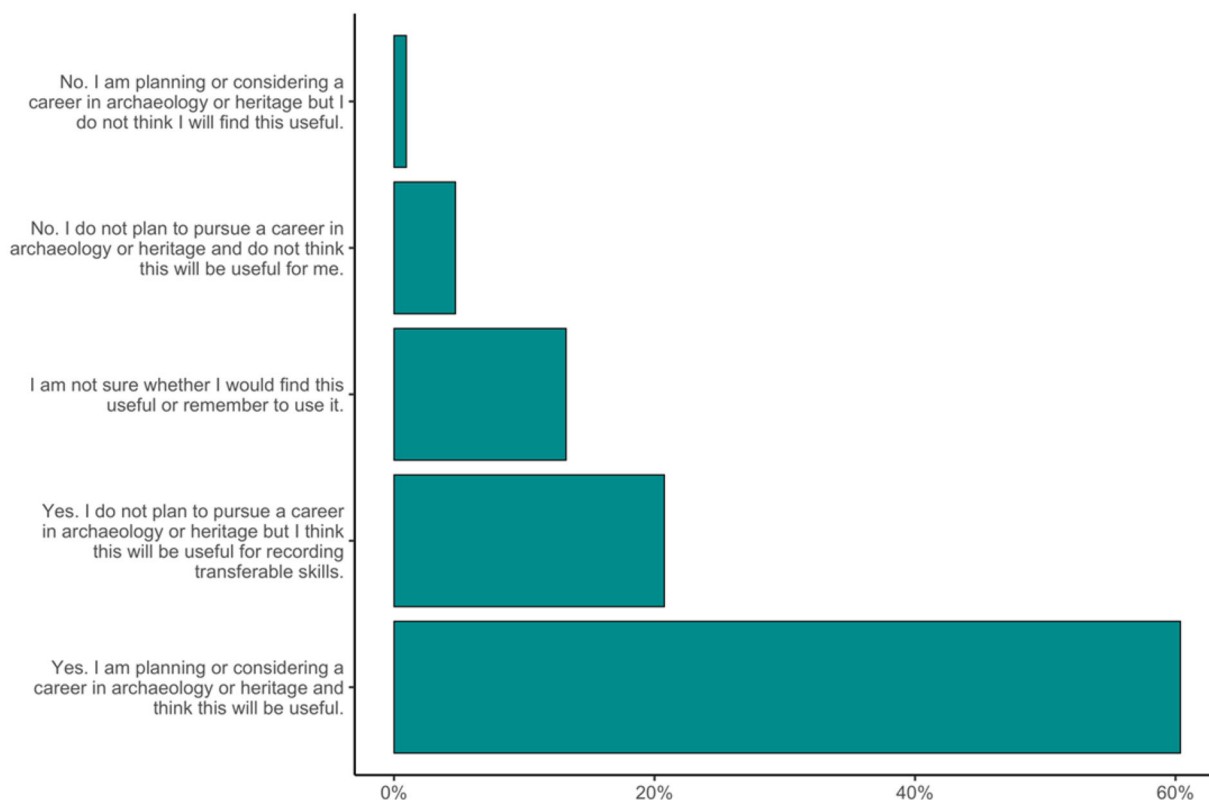


Figure 6. Responses to the perceived value of the AAA Skills Passport for future employment by commencing Australian archaeology students.

career. Further, 56.1% responded that they did not know the employment prospects for someone qualified in archaeology, either domestically or internationally (Table 9). A further point of note is the considerable proportion of respondents (18.7%) who reported believing jobs within the Australian archaeology sector were either unavailable (7.5%) or only available overseas (11.2%). This is despite the job market in Australia being robust while that in Europe, especially the United Kingdom, is currently very challenging (e.g. BAJR 2022).

Our results confirm that the study of archaeology is not just for those who intend to pursue a career in the discipline. Most respondents (63.6%) reported that they had enrolled in the subject for interest only (Table 9), supporting previous studies of student perceptions and motivations (Colley 2003, 2004). Archaeology is widely recognised for its interdisciplinary nature (Kerr 2020) and this is supported by the results of the most recent 'Australian Archaeology in Profile' survey where the most valuable skills identified were those which are transferable and non-archaeology-specific, such as the ability to work in groups, problem-solve and communicate (Mate and Ulm 2021:17). A significant proportion of respondents (34.6%) reported that they were unsure whether they would seek work in archaeology, reflecting their willingness to explore the possibility of working within the archaeological

discipline, but which is hampered by lack of clear vocational information.

Discussion

Who studies archaeology in Australia?

Australian undergraduate archaeology students – like those already working in the profession – are far from a homogeneous group in all respects other than ethnicity, which should trigger a consideration of course content, how content is delivered, and by whom, taking, for example, issues like cultural safety into consideration. The student cohort is characterised by considerable gender diversity and a broad adult age range, with similar demographic trends to those in both wider professional and student populations. For example, women represented 57.7% of all commencing students in Australian higher education in 2020, and 63.4% of those commencing study in either the Natural and Physical Sciences or Society and Culture broad Fields of Education (Department of Education, Skills and Employment 2022a). Women now account for 58.4% of the Australian archaeological workforce, following a general trend of increasing female participation from at least 2005 (Mate and Ulm 2021). Our results are consistent with Mate and Ulm's findings and predict a strong continuation of this trend. This

trend is also seen in an international context, with anthropology students in the USA dominated by white (73%) females (73%) from 2003 – 2016 (Ginsberg 2017:8–10).

The inclusion of genderqueer, non-binary and cognate respondents correlates with increasing evidence of gender dysphoria among Australian youth (e.g. Kozłowska et al. 2021). The same applies to the mixed ages of students, making andragogy complex as it is not a homogenous group by age nor gender. We use ‘andragogy’ here in place of pedagogy simply as defined by Knowles (1970) as “the art and science of helping adults learn”, and of particular significance to entry level university students; debates around the term notwithstanding.

Ethnic diversity within the student cohort is worryingly low, as is international student participation. The relative percentage of 1.89% Aboriginal/Torres Strait Islander participation strongly reflects the 1.9% reported for professional practitioners (Mate and Ulm 2021:232). While this could indicate a high rate of retention, it is also a concerning trend, falling well below the 3.2% of Australians who identified as Aboriginal or Torres Strait Islander in the 2021 national Census (Australian Bureau of Statistics 2022a). While it is also less than the 2.6% reported for 2020 commencing students in ‘Society and Culture’ courses, it sits above the 1.2% reported for Aboriginal and Torres Strait Islander students commencing ‘Natural and Physical Science’ courses (Department of Education, Skills and Employment 2022a, 2022b).

Archaeology departments are situated within both Arts and Science faculties at Australian universities, and this bridge between the STEM (Science, Technology, Engineering and Mathematics) and HASS (Humanities, Arts and Social Sciences) fields can offer a ‘softer’ entry into a science-aligned discipline. One limitation of our survey is that it focuses on ethnicity, rather than nationality or place of birth, which would likely add further diversity given that 27.6% of Australians are born overseas (Australian Bureau of Statistics 2022b; compare with Mate and Ulm’s finding of 26.6% of archaeologists born overseas).

Across all disciplines Australia-wide, international students comprised approximately 24.6% of the general commencing student population in 2020, and 11.2% and 18.7% of the commencing student cohort in the Society and Culture and Natural and Physical Sciences Fields of Education respectively (Department of Education, Skills and Employment 2022a), yet make up <2% of PAST survey respondents. This discrepancy suggests that while international students are studying courses in broadly

aligned fields of education, they are not electing to study archaeology specifically.

The results of this survey reflect a long-term and well-documented issue in global archaeology; as a profession, archaeology is largely white (Aitchison et al. 2021; Cobb and Croucher 2016, 2020; Cramb et al. 2022; Mate and Ulm 2021), and often perceived as a colonial discipline and/or one without job prospects, culturally dangerous, or simply not important right now to Indigenous communities who have more pressing needs.

Socio-economic background (as measured by student and familial education), disability status, and caring responsibilities shows considerable diversity. Over one third of students reported a disability or chronic health condition, with one fifth of those reporting a mental health condition; figures in line with national and international studies (Auerbach et al. 2016). Nationally, just under half of all Australians report living with at least one chronic health and/or mental health issue (Australian Institute of Health and Welfare 2022), with the most common being mental or behavioural problems (~20% of the overall population, and 25% of the youth population). This suggests that incoming archaeology students are broadly representative of the general Australian population in terms of chronic conditions and disabilities, reinforcing the need for inclusive approaches to student learning and wellbeing to account for diverse accessibility needs.

An Australian archaeology student is as likely to be a recent school leaver with parents who did not attend university as they are to be a mature-age student with a previous degree and significant career experience. While this diversity may not be reflected at every university, it is essential that it is considered in our teaching approaches and course design. Diverse student backgrounds and motivations create a challenge for educators attempting to develop inclusive learner-centred learning, especially for older students, who tend to be more self-directed, have a greater foundation of life experience on which to scaffold new knowledge, and are more focused towards problem-centred learning. Developing appropriate models for this type of learning is essential in archaeology, particularly when considering technical skills training and integrated work experience, both subjects of extensive debate in the archaeological community over the last few decades (Cobb and Croucher 2020; Colley 2003, 2004; Gibbs et al. 2005; Hamilakis 2004; Mate and Ulm 2021; Ulm et al. 2013).

Archaeology is often stereotyped as a fieldwork-focussed discipline populated by able-bodied, travel-ready people. Results of this survey demonstrate

that this stereotype has contributed towards enrolments. This stereotypic view is also linked to professions such as journalism, where creative, dynamic lifestyles strongly motivated enrolments (Hanusch et al. 2016). With many students reporting health conditions and caring responsibilities, we should be careful not to lean into these stereotypes at the expense of the varied activities, subject matters, and pathways available to Australian archaeologists, now and in the future.

This is an important consideration not only for the content we teach in universities, but also where and what we emphasise in outreach efforts. Fieldwork is a critical component of archaeological training – an invaluable learning experience that helps students develop technical, methodological, and subject matter expertise – but can also form a barrier for many students for financial, health, bodily, cultural or other reasons (Heath-Stout 2022; Heath-Stout and Hannigan 2020). Heath-Stout (2022:12) notes, ‘any group of archaeologists is likely to include some colleagues with disabilities.’ Inclusive, accessible fieldwork is possible (Greene et al. 2021; O’Mahoney 2015) and, as indicated by the results of this survey, increasingly important, given that approximately 30% of level one archaeology students have a disability or long-term health issue and 36% have caring responsibilities. Universally accessible design has the potential to provide stronger and more diverse skills development opportunities, improve field safety, and help increase the diversity of the profession.

Previous experiences with archaeology and cultural heritage

An encouraging result of this survey is that, in a field with notoriously variable information (see Balme and Wilson 2005, Colley 2005, George 2016), most commencing students have accessed reliable information about archaeology. However, archaeology is also clearly seen as entertainment, with fictionalised or dramatised accounts also reported as sources of archaeological information. Teaching archaeology thus must negotiate a cohort that has a mix of reliable and sensationalised prior archaeological knowledge, including pseudoarchaeology (a recent example being ‘*Ancient Apocalypse*’ on Netflix, 2023).

Most work undertaken by Australian archaeologists involves Indigenous communities and heritage (Mate and Ulm 2021), with courses and research areas focused on Indigenous archaeology offered in most Australian archaeology departments. Our survey results indicated a strong generational divide between students aged under 30 years, who had

been exposed to Indigenous content at school through the Australian National Curriculum (85.3%), and older students who were not (21.1%). In addition to school education (primarily taught by non-Indigenous teachers), the most cited sources of previous information about Aboriginal and Torres Strait Islander culture and heritage came from film and television documentaries and news media. This exposure – or more precisely, its relative absence – appears to be reflected in students’ interests; fewer than 13% of respondents stated that they were specifically interested in Australian Indigenous archaeology; instead, the overwhelming majority were drawn to classical archaeology and regions around the Mediterranean, or to forensic applications of the discipline.

These results are striking, not only for their enrolment implications, but also considering that the National Skills Commission (2021) recognised archaeology as an industry with strong future growth. There has been more than a decade of intensifying demand for qualified and skilled graduates to work with Aboriginal and Torres Strait Islander communities across the Australian cultural heritage sector. Domestic survey data of the archaeological profession demonstrates strong and consistent wage growth, with the majority ($n = 517$, 88.5%) of archaeologists working domestically (Mate and Ulm 2021:7) on median salaries between \$90 and \$100,000 (Mate and Ulm 2021:11). So why are incoming archaeology students so focused elsewhere? Is it simply the result of a lack of familiarity with Indigenous heritage, compared with the more readily available and heavily romanticised images of archaeology outside of Australia? A reflection of a school syllabus that has not yet fully decolonised? A general, non-vocational interest and desire to look beyond Australia and gain a global perspective on human history?

Student study motivations and goals

Despite the rhetoric of a desire for ‘job ready graduates’ and forecasts of strong future industry demand, previous studies (e.g. Balme and Wilson 2004; Colley 2004; McBryde 1980) have shown that most archaeology students are motivated by curiosity and a desire for critical understanding of the human past, rather than as a pipeline into a professional archaeological career. This is consistent with related disciplines like anthropology, where in the USA, 59% of anthropology students reported having no plans to pursue a career in the discipline (Choy and Bradburn 2008).

Contributing to this trend is that most students consider ‘archaeology’ to be something located in

Egypt, Europe and other overseas locations, while Australian university teaching focuses for the most part on general theory and method, as well as Australian examples, especially Indigenous case studies. Emphasis on ancient history in secondary school curricula is also likely to be influential, masking the deep and diverse Australian archaeological record that has only recently started to percolate through the school syllabus, in addition to more familiar international case studies from the ancient world. Lack of content and low teacher confidence also need to be addressed, not only to increase general interest in Australian archaeology but also to promote greater participation by Aboriginal and Torres Strait Islander students. This disjunct continues into perceptions of employment, with most students unaware archaeologists can work in Native Title, museums, industry, research, consulting and heritage advocacy – all in Australia, generally well-paid, and in a profession likely to continue to experience workplace growth in the coming decades. This trend is also seen in the related discipline of geography, a field which is often seen as needing greater vocational relevance (Hanusch et al. 2016:382).

The high percentage of the surveyed cohort who enrolled out of interest presents interesting challenges and opportunities for educators. The effective balancing of professional archaeological training with the education and training (and, perhaps from a slightly cynical point of view, entertainment) of elective students has been a long-running discussion within Australian archaeology (e.g. Colley 2003; McBryde 1980). In many cases, this has been circumvented by placing prerequisites on more in-depth courses in upper-level undergraduate degrees, facilitating comprehensive discussion of more complex practical and theoretical challenges than would be possible with a student cohort just getting to know archaeology; especially when our version of it challenges their perceived knowledge on the subject. However, where suitable to do so, opening units up as electives can be valuable, actively contributing to the wide dissemination of archaeological practices such as collaborative archaeological theory and approaches to the interpretation of the past to other disciplines. Courses on Indigenous Australian archaeology can introduce, for example, natural scientists to new ways of working with Traditional Custodians, and new ways of seeing, understanding, and interpreting landscapes and objects. Further, promoting archaeology to elective students facilitates deeper understanding of archaeology in a greater range of professions. Some of these students may go on to be, for example, teachers, public servants, or politicians, roles where the understanding and

promotion of local, national and international heritage can play a vital role in the long-term sustainability of the discipline while also contributing to nation-building, reconciliation, and public education about archaeology.

The challenge of striking a balance between teaching students with a general interest in archaeology and training the next generation of professional archaeologists has long been discussed in Australian archaeology (e.g. Colley and Ulm 2005; Frankel 1980; Pate 2005). The success of the *Australian Archaeology Skills Passport* (ANCATL et al. 2021) has demonstrated a shift within the discipline away from training exclusively at universities, moving towards a more formal shared approach with a range of cultural heritage practitioners. This diversification is, anecdotally, well-liked by students, who feel that they can access skills and experience directly applicable to successful future careers while also maintaining a strong grounding in the underpinning theory and methods of archaeology. This partnership also supplements postgraduate education, where archaeologists are training in specific skills deficit areas linked to their professional niche. In some universities, this shift to apprenticeship is reflected in a move away from the traditional fourth (Honours) year of an undergraduate degree and instead encouraging specialised taught Masters programs, although many continue to emphasise the Honours qualification which remains the industry standard.

Conclusion

The PAST survey has shown for the first time the scope of demographic diversity and motivations for study by incoming first year archaeology students. This study has demonstrated that students are enrolling within university archaeology units for a broad range of reasons: for career opportunities, for complementary skills related to their discipline of study, and for general interest and/or fun. Overall, the demographic data are closely aligned to national and international trends and those reported in Mate and Ulm (2021) for professional practitioners. However, the range of age, gender, and reported disability and caring responsibilities suggests an increasingly diverse cohort, with a strong grounding in Australian education but no clear distinction to determine a 'typical' student educational background.

The recently approved new Australian National Curriculum (Version 9.0) contains a much stronger emphasis on both the diversity and longevity of the Australia archaeological record (Australian Curriculum, Assessment and Reporting Authority

[ACARA] 2022). ‘Deep Time’, and the implications for its interpretation, appear across multiple Learning Areas, both reflecting the importance of this record for our national story and the interdisciplinary nature of archaeology. While this is likely to foster greater appreciation of archaeology and its role in Australia over the next decade, a significant bottleneck exists in how it is to be taught. Archaeological analysis and interpretation linked to the ‘Deep Time’ record is, understandably, not included as part of training programs for new teachers and as a result, teachers from Foundation to leaving certificate level are shying away from including it in their classrooms (Beale 2022). The Australian archaeological community has an opportunity to play a key role in addressing these concerns by providing engagement, outreach and Professional Development opportunities for primary and secondary teachers, as well as by identifying the goals of improved public education (Colley 2000). Through such opportunities we can actively shift the way that the public learns about archaeology, moving away from film and fiction and towards a more holistic vision of archaeology for students entering first year archaeology courses.

While our survey has provided a strong platform for future modelling of first year archaeology students, it was limited in being restricted to students entering university in Semester 1. Future iterations will aim to include students starting through mid-year entry, as well as those in universities on a trimester system. It is anticipated that this survey will be repeated on a four-year rotation, allowing for continued comparison with the Australian Archaeology in Profile surveys and updates to the *Australian Archaeology Skills Passport* so that the broader professional data and identified skills gaps might inform our questions.

Our findings have implications for other national archaeology benchmarking tools, including *By Degrees* (Beck et al. 2020) and the ‘Australian Archaeology in Profile’ survey, and could be used to inform discussion on the role of HASS degrees in Australia. These data can be used to better model effective approaches to learning and teaching archaeology for students with a general or professional interest in the subject. In short, our students come from diverse backgrounds and experiences but are still dominantly ‘European’ and the discipline remains relatively unattractive to Aboriginal students. Also, students are likely to dip in and out of university throughout their careers as they retrain, so we must consider some units as stand-alone sufficient rather than as part of a course of study.

Australian archaeology is overall in good health but still has significant challenges in attracting

Indigenous students, who will help decolonise the discipline from within, and to counter lingering Eurocentric notions of heritage and archaeology that hinder the visibility of Australian archaeology to students. Most Australians know little about Australian archaeology, so having more students from diverse backgrounds ‘out there’ in multiple walks of life, can contribute to broader knowledge, truth-telling, reconciliation and forging a 21st century Australian identity.

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