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Recurring, informal workshops for undergraduates can dramatically improve perceptions of the dissertation writing process

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ABSTRACT

This study examines the impact of a pilot project wherein undergraduates attended eight weekly workshops with peers and a dissertation supervisor. Surveys of supervisors indicated the dissertation workshops had several positive effects, particularly regarding students' time management and peer learning. Students also reported high levels of satisfaction, with an overwhelming belief the workshops helped them improve the quality of their dissertation. Despite these positive perceptions, there was no statistical difference in dissertation marks compared to previous years. Overall, the evidence suggests that dissertation workshops are an effective tool to increase staff-student contact hours, manage anxiety in some students, and improve perceptions of the final year of study, but they are unlikely to substantially change dissertation marks for most students.

INTRODUCTION

Researching and writing an extended essay – known as a “dissertation” in the UK Higher Education (HE) context – is a final step in many undergraduate programs. Educators frequently refer to dissertations as “the culmination” of undergraduate study (e.g. Todd et al., 2006), and many view these projects as a way for students to develop intellectual maturity. However, the HE landscape is evolving, and academics like Rowley and Slack (2004) have argued that programs must reevaluate how dissertations are undertaken. A reanalysis is particularly timely given growing concerns about mental health issues in the student population (Brogliola et al., 2018). Considering the diversity of challenges, it is unsurprising that dissertations pose a significant hurdle for many undergraduate students (Devonport and Lane, 2006), and there is some urgency for educators to identify ways to help students cope with large independent projects that disproportionately impact their final marks.

The Department of Archaeology at the University of York has been committed to developing innovative approaches to improve learning outcomes. One of its most renowned undergraduate modules, Assessed Seminars, provides a unique opportunity for student-led learning and the development of transferable skills like chairing a seminar (Alexander et al., 2015). In 2019, the Department trialled a new strategy to support undergraduate dissertations, consisting of weekly workshops toward the end of the dissertation process. Workshops were embedded within an existing structure of dissertation-related modules and supervision (Figure 1). The modules guide students in planning a research study, with assessments focused on acquiring ethics approval, exploring literature, drafting a methodology, and completing a supervision agreement contract. Following the modules, students independently work on their projects, while providing intermittent updates to a supervisor. One structured workshop is scheduled in the autumn term, giving students a chance to receive feedback from another staff member in a classroom setting. The

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workshops were organized in the spring term of the third year, a phase in which students previously needed to request guidance in the months preceding submission.

| Year of study | Year two | | Year three | | |
|-----------------------|-----------------|--------------------------------------|-----------------------|--|--|
| | Spring | Summer | Autumn | Spring | Summer |
| Teaching term | | | | | |
| Dissertation modules | Research skills | Research design | | | |
| Dissertation timeline | ↑ Title due | ↑ Aims due ↑ References & methods | ↑ Structured workshop | ↑↑↑↑↑↑↑↑ Informal dissertation workshops | ↑ Dissertation due ↑ Assessed lecture |

Figure 1. Timeline for undergraduate dissertations in the Department of Archaeology. In the second year of study, students complete two modules to develop skills to research and write a dissertation. The newly implemented dissertation workshops (in blue) start three months before the dissertation is due for submission. Note: courses include additional modules which are not shown in this diagram.

The departmental Board of Studies instructed supervisors to organize eight workshops covering a standard set of topics, with the following recommended schedule:

1. Introduction and update on progress
2. Writing the abstract
3. Review of the literature review
4. Review of the introduction
5. Review of the methodology, including ethics
6. Preparing the bibliography
7. Writing the conclusion
8. Formatting, imagery, and final questions

Supervisors organized workshops according to the availability of their supervisees, but with the expectation that all students attend a single session to discuss the theme of the week. With this approach, supervisors did not need to develop study materials and could adapt content according to students' needs. This format had the added benefit of requiring only eight additional hours of the supervisor's time. The workshops were generally held in supervisors' offices and the meetings were not automatically timetabled into students' academic calendars, further emphasizing the casual nature of the workshops.

While these dissertation workshops were developed to address departmental goals, the pilot study complements other pedagogical approaches to teach and support students in small groups. For instance, Springer, Stanne, and Donovan's (1999) meta-analysis of published studies demonstrates small group learning has measurable benefits for undergraduate students in STEM courses. Despite the importance of undergraduate dissertations in UK HE, dissertation-related workshops have mostly been explored for masters and doctoral students. In one such study, Russell-Pinson and Harris (2019) showed that dissertation support groups, a combination of counseling and writing support, reduced student stress by acknowledging and addressing emotional distress. DeLyser (2003) has taken another

approach by running "Social-Science Writing" seminars, with the aim of first ensuring all postgraduate students are properly trained to write.

In order to understand how newly implemented dissertation workshops might augment the existing strategies to support students, this study was developed to explore qualitative and quantitative data on perceptions and potential impacts on dissertation marks.

METHODOLOGY

Supervisor survey

Following the dissertation workshops, an online questionnaire was created for supervisors using the Qualtrics XM (Qualtrics, Provo, Utah) software platform. Supervisors were asked to report the number of supervisees, the average number of attendees in the dissertation workshops, whether they followed the suggested weekly structure, and their preferred number of supervisees in a workshop. Supervisors also gauged their agreement with seven statements on the challenges and perceived benefits of the dissertation workshops. Open-response questions allowed supervisors to provide further feedback. The questionnaire was circulated in a departmental email, with an introductory statement that stated participation was optional, responses would be anonymously recorded, and that data would be used for this project. Quantitative data were analyzed in R 3.6.0 (R Core Team, 2019) and figures were produced using the ggplot2 library (Wickham, 2016). Written responses were examined for common elements and individual quotations were selected as representative examples.

Student survey

As is routine for all modules, the departmental administration team surveyed students at the conclusion of the dissertation workshops using a Qualtrics XM online questionnaire. This anonymous survey has two standardized questions as well as open-response boxes to share opinions on what students liked and what they thought could be improved. While the student questionnaire is less detailed than the bespoke supervisor survey, the administration team decided a second survey would be cumbersome and might reduce response rates. Quantitative data and written responses were analyzed as previously described.

Dissertation mark analysis

To determine if workshops had a measurable impact on dissertation marks, scores awarded in 2019 were compared to the four preceding years. The departmental administration team provided anonymous dissertation marks organized by year and course. As there are four courses of study in the department – Archaeology, Archaeology & Heritage, Archaeological Science, and Historical Archaeology – it is plausible that individual programs follow different trajectories in dissertation marks. Marks were examined in R 3.6.0 (R Core Team, 2019) to determine if they were normally distributed, and an analysis of variance (ANOVA) test was implemented to check for statistical differences across year and course of study.

RESULTS

Supervisor responsibility and adherence to schedule

Supervisors had a high level of engagement with the solicited questionnaire, with 23 of the 25 main supervisors completing the survey (92% response rate). There was a highly variable number of students overseen by a single supervisor, ranging from one to eight (median=3, mean=3.52). This range is not unexpected as some staff are asked to supervise more students, based on allocations in the departmental workload management plan, as well as compatibility between supervisor expertise and selected dissertation topics. Supervisors reported variable attendance levels (Figure 2), with some supervisors not meeting any students in an average week, and other supervisors leading six or seven students at once.

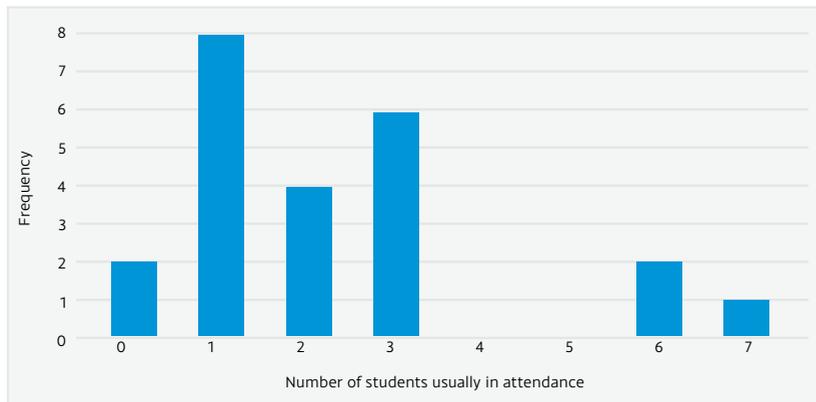


Figure 2. Number of students usually in attendance at dissertation workshops. Most supervisors led workshops with one, two, or three students in attendance, but a few supervisors directed workshops twice as large. Two supervisors reported no attendees in an average week.

Despite the wide range in group size, this set of supervisors had a relatively consistent perception of the ideal number of students in a dissertation workshop, with 74% preferring three to five students in one session (Figure 3). There was essentially no correlation between the preferred number of students and actual students supervised ($r=0.053$), indicating that the experience of the workshops had little bearing on supervisors' preferences. Overall, supervisors most commonly listed four students as optimal group size (median=4 and mode=4). However, it should be noted that a few supervisors had distinctly different impressions of the ideal workshop size, with one supervisor preferring to engage a group of eight students, and two supervisors preferring to meet students individually (Figure 3).

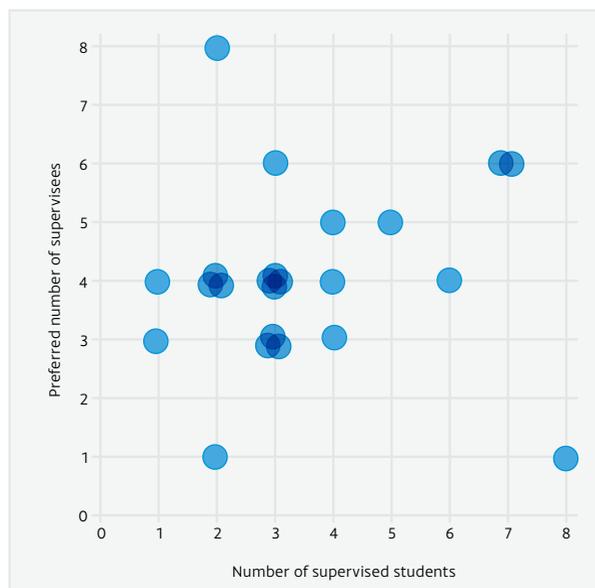


Figure 3. Relationship between a supervisor's preferred number of students in a dissertation workshop and the actual number of students supervised. On average, supervisors preferred to lead four students. Note: overlapping points have been adjusted to make each response visible.

While the departmental Board of Studies suggested a series of topics for the workshops, only nine supervisors reported following the prescribed schedule (39.1%). Written responses clarified that several supervisors introduced only minor changes to the schedule, such as discussing abstracts in the penultimate session. For supervisors with a single attendee, a common strategy was tailoring the discussion to the student's immediate needs. Other supervisors took a more thematic approach, with individual workshops focused on time management, grammar errors, and constructing an argument.

Supervisor perspectives on dissertation workshops

Seven surveyed statements revealed some consistent impressions on the benefits and challenges of the dissertation workshops (Figure 4). Nearly all supervisors felt the students were in different stages in the dissertation writing process, and 62% felt this complication diminished the workshop experience. Despite the challenge, a majority of supervisors believed the workshops helped students to learn from each other on the dissertation writing process, encouraged students to use their time more effectively, and increased the amount of contact hours.

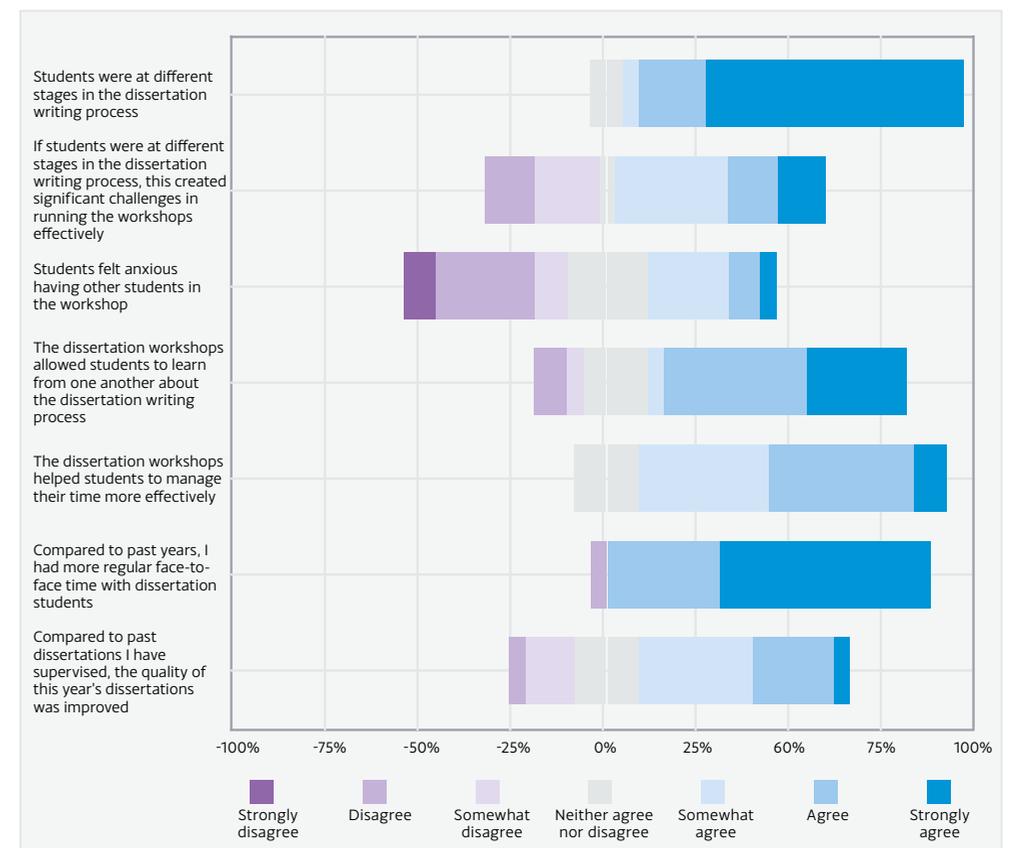


Figure 4. Supervisor feedback on dissertation workshops. To make trends more apparent, disagreeing responses are placed to the left of the centerline and agreeing responses to the right. Two respondents did not provide answers for the second, sixth, and seventh questions, so those statements do not sum to 100%.

Supervisors had mixed impressions on whether the workshops were a source of student anxiety, and written feedback is instructive on the viewpoints. One supervisor worried workshops “could lead to disengagement and a degree of anxiety amongst the students as the course progresses and they realize some students are much further ahead.” Conversely, another supervisor stated:

All my students this year had SSPs [Student Support Plans] and all were struggling with their dissertations... The workshops gave them an opportunity to come and talk to me, and to do it in a way that wasn't so high-pressure because it wasn't specifically about their project.

The quality of the final dissertation was another topic for which supervisors had diverging opinions. Of those who responded to the prompt, 62% thought dissertations were better than previous years, 19% found the quality unchanged, and 19% believed dissertations were worse.

STUDENT PERSPECTIVES ON DISSERTATION WORKSHOPS

A total of 58 of 80 students responded to the questionnaire (72.5% response rate). On the two standardized questions of the survey, students overwhelmingly reported feeling motivated and that the workshops helped them improve the quality of their dissertation (Figure 5).

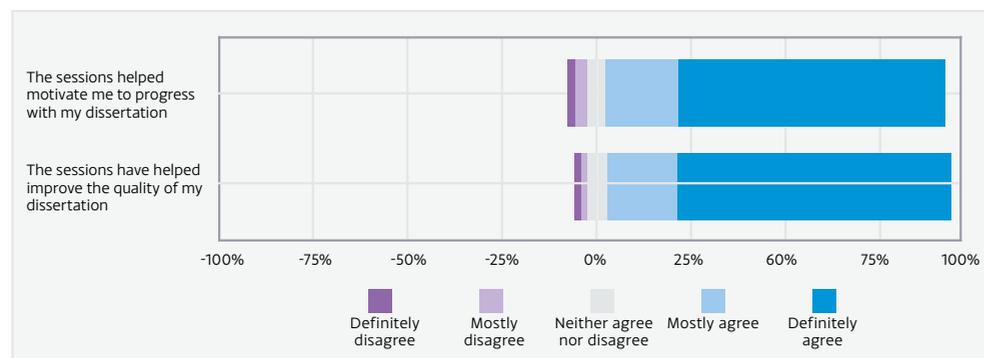


Figure 5. Student feedback on dissertation workshops. Approximately 90% of students stated they “mostly agreed” or “definitely agreed” with the statements.

Written responses were largely positive, with many students stating they found the workshops helpful. Some individuals provided perspectives on key themes like anxiety and peer learning. One student stated, “it was reassuring to have sessions with students doing comparable dissertations so that I didn't feel isolated and had some measure of my own progress”. On the other hand, one student opposed the workshops, writing:

I was more behind than the others in my group so the sessions became a source of stress and anxiety. They moved at a fast pace and I wasn't keeping up with it well. I'm dyslexic and struggle with time management/anxiety so I stopped attending the sessions part way through.

This critique is a valuable viewpoint because many of the non-attendees may not have responded to the questionnaire.

Impact on dissertation marks

The dissertation marks for 2019 were highly consistent with the previous four years, when dissertation workshops were not offered (Figure 6A). In 2019 dissertation marks had a mean (\pm standard deviation) of 63.6 ± 8.0 , which is nearly identical to the value of 63.4 ± 9.2 for 2015-2018.

Mark distributions were found to be slightly skewed higher than the mean value, indicating they do not follow a classic normal distribution (Shapiro-Wilk normality test, $W = 0.985$, $p = 0.0006$). Regardless, histograms revealed a generally normal distribution, which is compatible with ANOVA testing. One-way ANOVA failed to find evidence for statistical differences in marks by year ($F(4, 367) = 0.227$, $p = 0.923$) or course ($F(3, 368) = 0.1295$, $p = 0.276$).

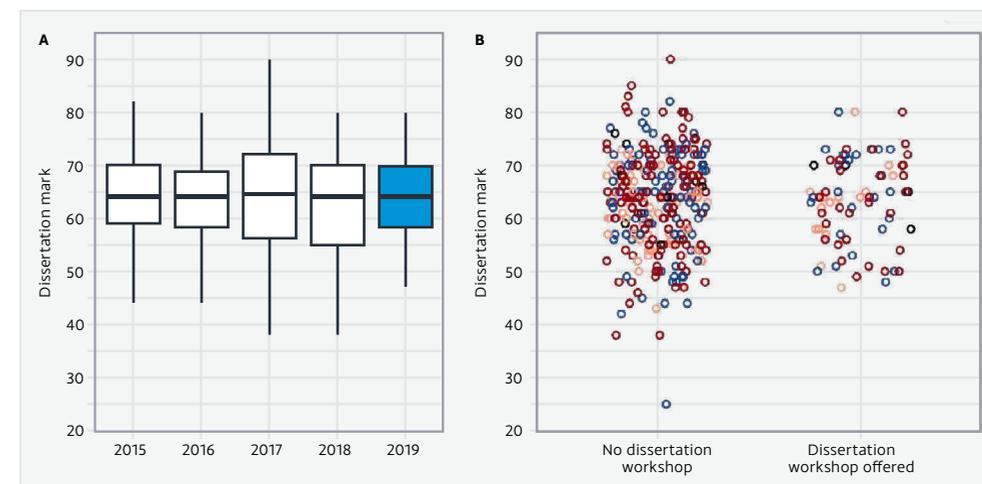


Figure 6. Relationship between dissertation marks and availability of dissertation workshops. A) Boxplot of marks by year, with boxes showing interquartile ranges (IQR) and median values, and whiskers showing mark distributions as 1.5 times the IQR. Dissertation workshops were only offered in 2019, highlighted in blue. Two outlier points have been hidden to protect student anonymity. B) Individual dissertation marks colored by course. Students in the four courses achieve a wide range of marks, and the 2019 workshops are not associated with mark improvements in specific courses. The identity of the four courses is not specified for anonymity reasons.

A more detailed analysis demonstrated that marks in different degree programs were distributed across the range (Figure 6B). The average marks within these programs differ by a few points, but the dissertation workshops were not associated with any statistically significant trends. Despite the lack of large-scale impacts, there is a potentially interesting – albeit weakly supported – observation on the lower distribution of the marks. In 2019, no student scored less than 47, yet in 2015-2018, ten dissertations were awarded lower marks. While this could represent sampling bias from a single year, it could also be a demonstration that the workshops help some struggling students increase the quality of their dissertations.

DISCUSSION

Scholarly research on the supervision of undergraduate dissertations has been relatively limited, especially compared to masters and doctoral dissertation supervision (Greenbank et al., 2008). Of the research that has been conducted, much has focused on qualitative interpretations of targeted interviews (e.g. Todd et al., 2004, 2006). This project took a more quantitative approach, exploring how informal dissertation workshops can play a supportive role in undergraduate supervision.

Supervisor issues: balancing curriculum, group size, and independence

The workshops introduced in the pilot program were intended to be a relaxed discussion on writing strategies between students and their supervisor. Overall, this approach was successful (Figure 4 and 5), with positive outcomes related to issues like time management,

a major challenge in undergraduate dissertations (Harrison and Whalley, 2006). Still, there are areas for improvement. One of the biggest challenges in the current format is that supervisors may have just one or as many as eight students in a workshop. This scenario causes some students to have eight hours of individualized feedback while other students grapple for a supervisor's attention. Unsurprisingly, students reported negative feelings about this inequality, with one writing:

I think I was massively hindered by being one of eight students. This is no fault of [the supervisor]... but in comparison to my friends who were one of two or the only supervisee seeing the level of input they were getting... it doesn't even compare.

Several students and supervisors suggested that future workshops should include a consistent number of students. Based on the preferences of supervisors (Figure 3), four students appears to be optimal, a number which is consistent with recommendations for peer assessment in HE (Van den Berg et al., 2006).

For some supervisors, the informality of the dissertation workshops provided significant latitude in what to cover. This flexibility could be seen as advantageous for senior academics, as they can readily adapt the material according to challenges they recognize. In these cases, students benefit by focusing on issues that would otherwise be deducted in assessments. In other cases, supervisors may inordinately diverge from the planned format. For example, in this pilot program, one supervisor exclusively held individual appointments and another supervisor thought weekly 15-minute updates could accomplish the same goals as group workshops. While these approaches are undoubtedly well-meaning, it is important to recognize that peer learning can provide different benefits than one-on-one feedback.

One significant issue not investigated in this study, due to data anonymity, is the gender of the supervisor. Hammick and Acker (1998) have argued that male and female supervisors take different approaches with undergraduate research students. It would be useful for future projects to include limited personal data to determine how gender might impact dissertation workshops.

Maximizing peer learning

The Department of Archaeology disseminates course content through lectures, seminars, hands-on practicals, and one-on-one supervision, but small group workshops are less common. The dissertation workshops therefore provided a different way to support students. Many students reported positive feelings about the format, including one who felt relieved "talking to the other students about their worries with the work and realizing I wasn't alone in this!" Still, the workshops did not specifically emphasize learning from other students, and future iterations could implement some of the best practices in peer learning (Topping, 2005). For example, peer assessment can promote self-reflection (Boud et al., 1999), and some students would likely benefit from critiquing peers' drafts. However, students may provide superficial and uncritical comments (Nilson, 2003), limiting the effectiveness of the peer assessments. Other group-based activities, such as assessing an exemplar essay, could provide benefits of peer learning without the complications of assessing a peer's work.

Student engagement and anxiety

As succinctly summarized by one supervisor, "the big flaw here is that this works only with those students who engage. Those who didn't engage, produced work of the same quality as they always do." Understanding why some students avoid dissertation workshops could help educators devise better support strategies in the long run. A central concern shared by many supervisors was that students might feel anxious discussing their progress in an individualized research project. For example, one supervisor wrote:

I worry about the stress that this causes underperforming students, and in the end, my workload was increased because I had to meet my students separately in order to reduce the stress for one of them.

Given academics' many responsibilities, it is unrealistic for most supervisors to expand their schedules in this way.

Despite supervisors' concerns about anxiety, only one student mentioned anxiety in a negative context in the written feedback (see Results section). Another student stated the workshops reduced anxiety by giving a venue to informally talk in a group setting rather than in a one-on-one meeting. In fact, many students felt the workshops acted like a small community where they could discuss common struggles. A major caveat in the student feedback is that one fourth of the cohort did not respond to the questionnaire, likely many of the same who rarely attended the workshops. Based on this pilot study, it is difficult to pinpoint why some students failed to engage with the workshops. To better serve the needs of all students, future projects can explore whether social anxiety, embarrassment for procrastinating (Klassen et al., 2009), or other issues might impact attendance.

A few supervisors and one student suggested timetabling the workshops in students' academic calendars. This would presumably improve attendance in the dissertation workshops, however, it could detract from the informal nature of the workshops, so further consideration is necessary.

Unshakable dissertation marks

The Department did not specifically aim to increase dissertation marks through the workshops, but this was one potential outcome as students were given more tools to develop their projects. Despite that possibility, dissertation marks were effectively unchanged from previous years (Figure 6). As discussed in the results section, there is some evidence that the lowest marks might improve with workshops, but the data is too limited for a statistical assessment. Thus, the evidence suggests the workshops had no quantifiable impact on the final marks. One potential hypothesis for the lack of impact is that dissertations were improved, but the assessments were equally more stringent, perhaps due to supervisors' expanded knowledge of the projects. However, this seems unlikely because dissertations are blindly marked by two members of staff, one of which has no knowledge of the project. Another possible explanation is that most students ultimately reach an achievement plateau as they develop independent study skills. Future research can try to untangle these hypotheses, but for now it is useful to recognize that workshops seem to encourage students to stay motivated, thereby reducing pressure near the deadline.

The importance of perceptions

While dissertation marks did not have an appreciable increase in 2019, both students and supervisors had a positive impression of the implemented dissertation workshops. Surprisingly, 62% of supervisors thought dissertations were better than previous years and 91% of students thought the workshops helped improve dissertation quality. Whatever improvements may have been made, they did not translate into better marks. Even if the perceptions are wrong, it is important to emphasize the perceptions themselves are paramount. The UK National Student Survey (NSS) carries great weight in university league tables and is largely built on the impressions of the outgoing cohort of students, and these scores can impact future student applications (Gibbons et al., 2015). While this system has been critiqued by many (e.g. Bótas and Brown, 2013), programs' futures may depend on the satisfaction of third year students. Developing simple ways to increase staff-student contact hours and develop bonds between small groups of students may be an effective way to keep students engaged and content in their last months of undergraduate study.

CONCLUSIONS

This study explored whether a set of newly introduced dissertation workshops could augment students' academic skills and improve satisfaction. Survey data from students and supervisors demonstrate that implementation of just eight workshops is a practical way to increase staff-student contact hours and provide additional resources for students to complete their dissertations. Both students and supervisors had positive impressions of many aspects of the dissertation workshops, including key elements like student motivation and peer learning. Interaction between students may be a source of anxiety for some students, but on the whole, most students expressed positive opinions. Even though the workshops had no appreciable effect on dissertation marks, students' positive perceptions may be significant for improving overall student satisfaction.

In the short term, the Department of Archaeology is encouraged to use dissertation workshops in the coming years, although a few changes would be advised. First, a standard size of four students in a workshop would equalize contact hours and ensure all students benefit from peer learning. Supervisors should continue meetings individually with students, but supervisors may need to be reminded that meetings supplement the workshops, not replace them. Expanded use of peer learning is also encouraged, either through peer assessment of drafts or group assessment of an exemplar essay. The department may consider timetabling workshops to improve attendance, as it would at least ensure rooms of appropriate size are available. Last, future surveying of students and supervisors could be expanded to explore themes like the impact of a supervisors' gender and why some students fail to engage with the workshops.

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STATEMENT OF ETHICS

The Ethics Board of the Department of Archaeology was involved in the development of the project. Module feedback forms and dissertation marks were fully anonymized by the administration team to comply with regulations. The Departmental administration team permitted the anonymous survey for staff members.

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