

Reading through the pandemic: promoting active digital engagement with text-based resources

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Abstract

This small-scale study highlights some of the challenges faced teaching first-year undergraduate History students during the Covid-19 pandemic in the 2019-20 and 2020-21 academic years and outlines the strategies that were put in place to address them. The article describes how Talis Elevate, an online tool that enables students to engage actively and collaboratively with digitised readings, was deployed across a range of first-year modules in History at the University of Lincoln. Feedback from staff and students is analysed, alongside user data collected by the Talis Elevate tool. The article demonstrates that a structured approach to engaging students in online reading tasks in preparation for class functioned effectively as a driver for student learning, but that some of the issues associated with engaging students in face-to-face teaching spaces, such as the reluctance of some students to contribute to discussion, were replicated online.

Keywords

online reading, annotation, collaboration, digital texts, higher education, e-learning

Introduction

Little attention is generally paid to teaching students how to read actively in higher education, even though processing large quantities of written material is especially

important in disciplines such as History, and it has been recognised for some time that purposeful reading practices can enable students to engage in deep learning (Dubas and Santiago, 2015). The shift to the use of digital resources online has altered how we read (Cull, 2011), yet only recently has increased attention been paid to the need to develop pedagogies that enable students to become effective online readers. The rapid switch to online teaching and learning during the Covid-19 pandemic led to significantly increased use of digital texts by students, however, which also opened up opportunities for innovation in reading instruction (East, Williard, and Wood, 2021; East, Warriner-Wood, and Wood, 2022).

This article offers an overview of strategies that were developed for engaging students in active reading of digitised resources in the School of History and Heritage (since renamed Humanities and Heritage) at the University of Lincoln. This work was grounded in an ongoing collaboration between the educational technology company Talis and the teaching team in History and Heritage, dating back to 2018. During this time a number of colleagues experimented with the Talis Elevate (talis.com/elevate) collaborative annotation tool, which became a core element of the School's online offering during the first lockdown (March-May 2020), and witnessed a step change in usage. The core of this narrative draws on staff and student feedback evaluating the strategies that were used to encourage students to develop their skills in active online reading on a core first-year undergraduate module, *The Medieval World*, during a seven-week block of blended learning in October and November 2020. This is supported by further reference to two other core first-year modules, *Introduction to Visual and Material Culture* and *The Historian's Craft*. We close the paper with some suggestions about how the approach to active online reading that we developed on these large first-year undergraduate modules might be applied elsewhere.

From Early Adopters to Lockdown 1 (September 2018-June 2020)

History modules in the School of History and Heritage at Lincoln generally adopt a lecture-seminar format, with assigned preparatory reading feeding into in-class

discussion. In 2018-19, Talis Elevate, an online tool that facilitates the annotation of a range of media (e.g. text, images, audio, video), was adopted in a range of modules in the School to support student engagement with digitised preparatory readings. This basic approach continued into the 2019-20 academic year, with high levels of engagement on a small number of modules that were convened by 'early adopters' of the application (Roberts, 2008). The tool was predominantly used to develop undergraduate students' skills in reading text and to better connect independent learning with taught classroom sessions.

When Covid-19 restrictions were introduced in mid-March 2020, teaching in the School of History and Heritage shifted entirely online at short notice. Talis Elevate was used to engage students in 'deep reading' of a range of primary sources and secondary literature, a core disciplinary skill in all Humanities subjects that would normally be developed through a combination of independent engagement with readings and in-class discussion (Eppley, 2019). During the first lockdown in the spring and early summer of 2020, there was a significant increase in engagement with Talis Elevate: from seven active modules in March to sixteen by June. There was a threefold increase in the overall volume of annotation in March, easing off as the teaching term came to an end in April, while levels of student engagement as measured by other metrics increased considerably. Over 3000 comments were made on readings in Talis Elevate after the start of lockdown, during approximately four weeks of teaching, representing a 200% increase on the previous count in the School (September 2019-early March 2020; see Figure 1), while the number of minutes that students were active in Talis Elevate more than doubled between February and March 2020 (see Figure 2).

Figure 1: Total number of student annotations in Talis Elevate per month (academic year 2019-20)

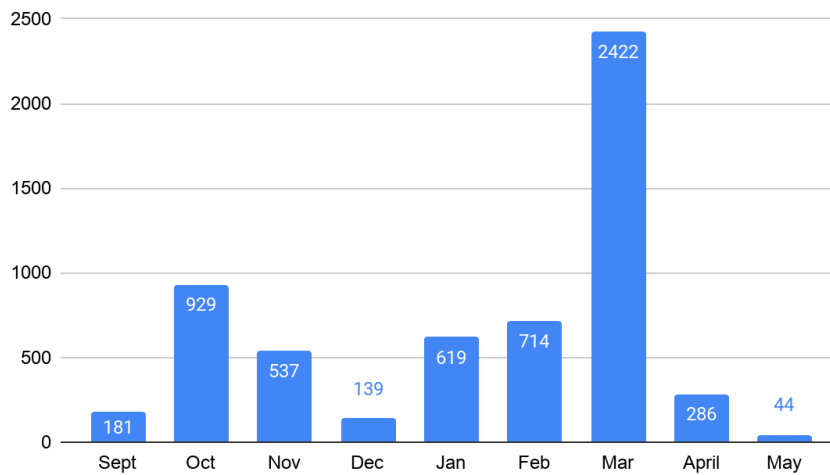
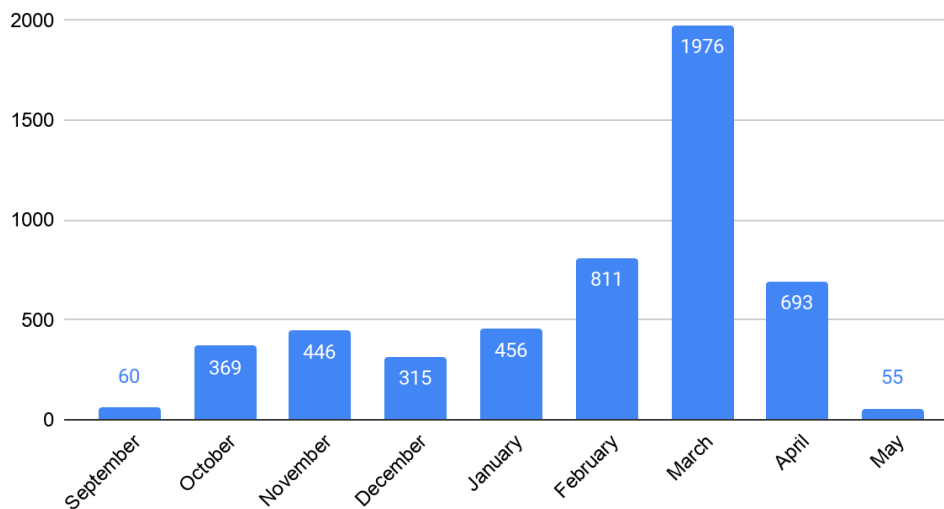


Figure 2: Active student engagement (total minutes spent in Talis Elevate) per month (academic year 2019-20)



When reviewing the data above, it is important to note that the April reduction in use of Talis Elevate following the March 'boom' in engagement reflects the fortnight-long break for Easter in 2020, and thereafter an overall move in teaching away from introducing new material to revision in preparation for the final assessment.

To understand these changes, a survey was administered to staff users of Talis Elevate in June 2020, asking them to outline how they had employed it in the preceding months. In general, the tool was deployed to support asynchronous learning, although there was also some ‘live’ usage with students annotating sources during synchronous online classes. The following table (see Figure 3) summarises some of the main ways that staff and students – invariably having been prompted by staff – made use of the tool in asynchronous learning.

Figure 3: Student and staff uses of Talis Elevate

Students were asked (by staff) to use Talis Elevate to...	Staff used Talis Elevate to...
<ul style="list-style-type: none"> engage with videos and slides from lectures 	<ul style="list-style-type: none"> monitor student learning and engagement (e.g. through learner analytic data, such as the total minutes spent active in resources and the number of annotations made)
<ul style="list-style-type: none"> identify points of interest in preparatory readings 	<ul style="list-style-type: none"> check comprehension and/or correct misunderstandings of resources/topics
<ul style="list-style-type: none"> answer orientation questions set by lecturers 	<ul style="list-style-type: none"> answer questions
<ul style="list-style-type: none"> ask questions about readings 	<ul style="list-style-type: none"> provide feedback
<ul style="list-style-type: none"> find evidence in primary sources to support or challenge specific historical arguments 	<ul style="list-style-type: none"> guide reading and discussion (by posting questions)
<ul style="list-style-type: none"> engage in ‘close reading’ of primary sources (e.g. identifying 	<ul style="list-style-type: none"> prompt students (by posting instructions)

<p>how authors present themselves or write persuasively)</p>	
<ul style="list-style-type: none"> • share thoughts about readings (both secondary literature and primary sources) with peers 	<ul style="list-style-type: none"> • plan activities for seminars (by tailoring activities based on student engagement data/observable interests)

Talis Elevate was used by staff and students in a variety of ways to promote active engagement with texts and create opportunities for interaction amongst students and between staff and students. During the shift to entirely online delivery during lockdown, it became a core part of the School’s pedagogic offering and, as the next case study demonstrates, helped to replicate some of the features of in-person teaching in History, especially the collaborative discussion of set readings.

Emergency Online Reading: *The Historian’s Craft* (March-June 2020)

One of the key reasons for the significantly increased volume of annotation activity in Talis Elevate was the decision of one of the co-authors to introduce it on *The Historian’s Craft*, a core first-year module of over 150 students, making its use mandatory for three of the final four seminars of the semester (see Figures 4 and 5; note that in April student focus shifted to revision for assessment as described above).

Figure 4: *The Historian’s Craft* (first-year undergraduate module), active student engagement (total minutes spent in Talis Elevate) per week (semester 2, academic year 2019-20)

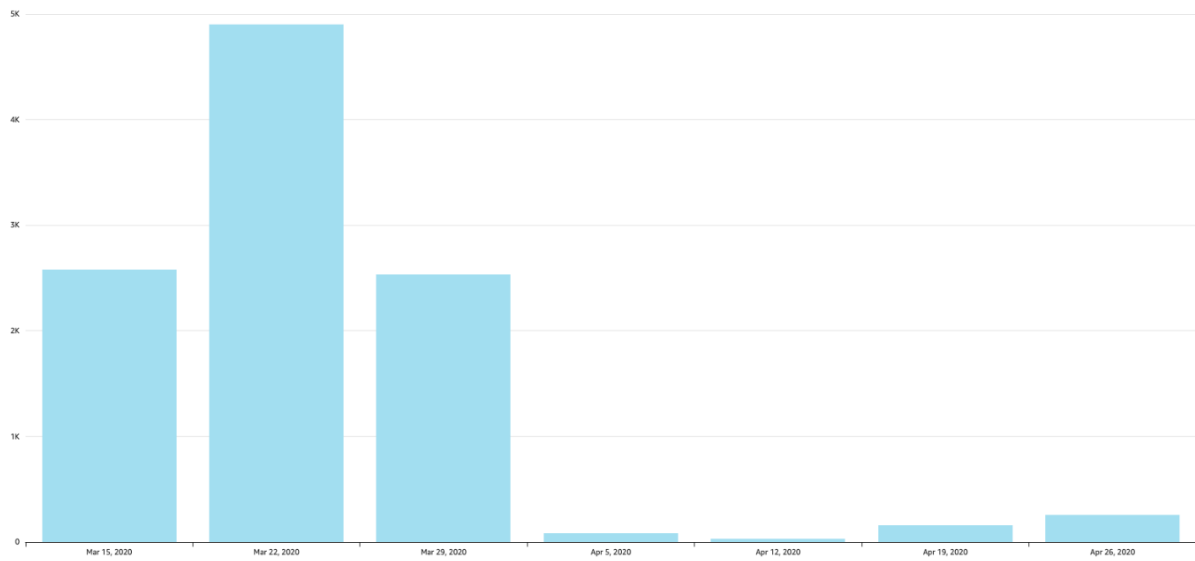
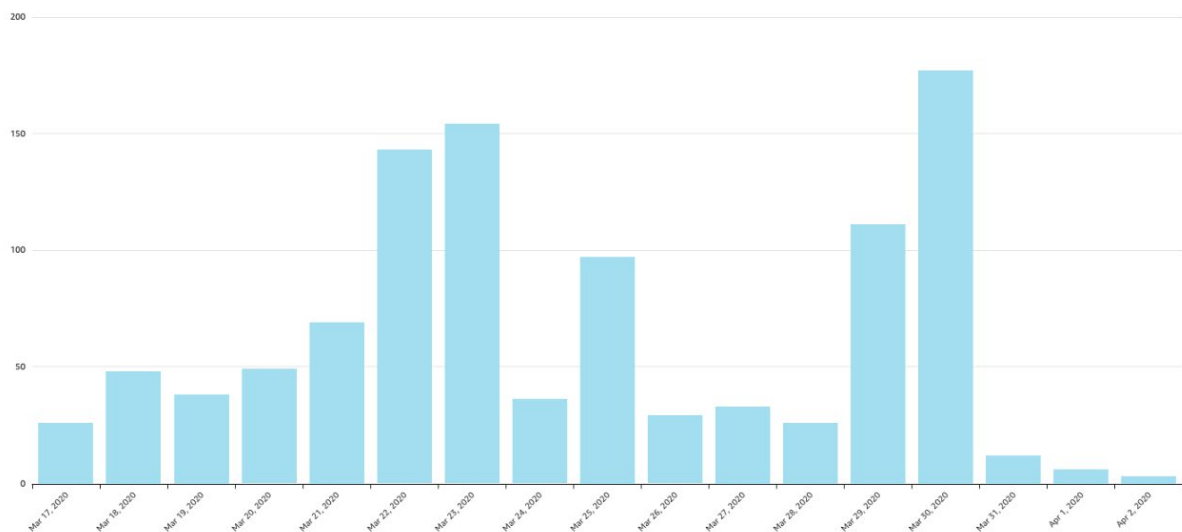


Figure 5: *The Historian's Craft* (first-year undergraduate module), total number of student annotations per day (semester 2, academic year 2019-20)



Prior to lockdown, students were given weekly worksheets containing guiding questions and extracts from primary sources: they completed these in preparation for class, where they then reviewed and discussed their responses with the tutor. During lockdown, one worksheet was uploaded to Talis Elevate for each seminar group on a weekly basis, and students were asked to post two or three comments on the

extracts in response to the questions. At the end of each week, the tutor typically engaged by responding to each comment and, if necessary, asking questions that the student could respond to, thereby opening up a dialogue more in keeping with a live seminar. The tutor also provided general feedback for the entire seminar group to sum up the key points raised by the students and to reinforce the learning outcomes for the week. This feedback generally involved summarising essential ideas and topics with reference to student contributions on Talis Elevate while also highlighting aspects of the readings that they did not consider. During the following semester, in the autumn of 2020, module coordinators and seminar tutors tested other techniques for providing feedback to students, such as recording short videos responding to tasks or providing further guidelines and reflections on activities. The overall workflow of online seminars (set activity, student engagement, tutor responses), facilitated by Talis Elevate, mirrored classroom interaction, creating a seminar 'feel' despite the asynchronous mode of delivery.

Feedback was gathered from students at the end of the 2019-20 academic year (May 2020) on their overall experience of learning online during lockdown. A small number (seven) of the 117 responses (6%) across the School made explicit mention of Talis Elevate:

A useful way of viewing others' thoughts on readings.

We could still access sources and comment directly on them and our seminar leader replied. This allowed us to have a more detailed discussion and it gave an opportunity for people who are less inclined to speak in front of others to get engaged with the sources more thoroughly.

These comments suggest that Talis Elevate functioned effectively as a tool to facilitate students engaging with one another and their tutors in order to develop their understanding of readings collaboratively. In this sense, it replicated to some extent the practice of group discussion of texts – whether primary sources or secondary literature – that is characteristic of in-person History teaching in academia.

In addition to the general survey of all students in the School, a questionnaire was sent to students on those modules that had made use of Talis Elevate. Twelve responses were received (7%) from the 184 students who had taken *The Historian's Craft*. Students were generally positive about the opportunity that they had been given to annotate readings online collaboratively using Talis Elevate. Ten (83%) said that the tool was useful in the context of being taught entirely online during lockdown. The same number said that Talis Elevate had affected their learning on the module, and when asked to rate the usefulness of the tool for their learning awarded an average score of 7.6 out of 10 (the lowest score awarded was 5). In qualitative feedback, several students noted that it operated as an effective proxy for face-to-face seminar activities: 'we went to a digital version of the set reading and annotated the parts we thought were relevant to the questions and gave our thoughts as we would if we were in a seminar.' Several other students also noted that, despite being effective, Talis Elevate was not the same as an in-person seminar, but it is important to note that it was not intended to function as a direct replacement for class discussion. The pedagogical value of the tool and its use lies in the provision of a forum for students to share their ideas about readings collectively, whether synchronously or asynchronously, and to learn from one another by doing so.

Students were further asked to reflect on whether the collaborative ways that they were asked to use Talis Elevate had affected their engagement with resources. Seven (58%) responded positively, with variable qualitative elaboration, such as: 'I didn't feel comfortable having my written work on show for everyone to see.' In general, responses were positive on the issue of collaboration and visibility of work, noting that being able to see the comments of others aided discussion, provided a venue for interaction with seminar tutors, and as noted above replicated the 'normal' in-person seminar experience to some degree. Even the more negative response quoted here replicates the reticence of some students to contribute to in-person seminar discussion because they do not want to talk in front of their peers (Macfarlane, 2015; Chanock, 2010). Importantly, however, one student noted that being able to see others' comments impacted their confidence positively: 'By viewing

what others had already written it allowed me to grasp the work quicker and made me feel more confident in my answers.’ Another reflected on the challenge of adapting to working online, before going on to note how it was useful to be able to return to annotations – including those of other students – after the fact for review and reflection:

It was strange to change at first but I liked the different approach to learning and being able to go back to points other people made as well because you can’t always get everything down in a seminar. It affected my learning in a positive way.

We will return to some of these themes in our analysis of modules taught in the autumn of the 2020-21 academic year, but overall, student and staff feedback collected in the summer of 2020 suggests that Talis Elevate was particularly effective when deployed in a structured way to support active student engagement with readings.

Active Online Reading: *The Medieval World* and *Introduction to Visual and Material Culture* (October-November 2020)

When planning for the 2020-21 academic year, we were tasked with devising an approach to the delivery of teaching that would support a blend of online and in-person lessons and could reliably be deployed in the case of another shift to fully online delivery. We naturally turned to Talis Elevate again, as our earlier usage had demonstrated its potential to support collaborative engagement in reading. The next step was to consider how we could apply what we had learnt in a more structured manner. We focussed on the pedagogic approaches that had been developed to structure student engagement in reading online over the previous two years. The relatively small-scale activity of asking students to add comments to readings made explicit many hidden aspects of their academic reading practices. Encouraging them to complete tasks such as ‘think of a question after you’ve done the reading’ or ‘annotate things you don’t understand’ is a seemingly minor intervention that significantly helps students engage with and therefore understand the material (Chandler et al., 2022). In this context, social annotation – a ‘technology which allows

students to process, discuss, and collaborate on information they have collected for their learning' (Chan and Pow, 2020) – had at least two positive benefits. The process starts with students writing a short comment of reflection on their reading, which they perceived as deepening their engagement with and understanding of the text. Secondly, the collaborative element in the process (i.e. the sharing and visibility of comments) was generally viewed positively by students, and seen to validate perspectives and open up new interpretative possibilities.

We began to develop the concept of 'active online reading' to help to frame our thinking about what students were being asked to do. The positive impact of a structured approach is underscored by the work of Kalir et al. (2020) and Cohn (2021) on annotation exercises, which demonstrably enhance the ability of students to engage constructively, both individually and collaboratively, with reading. Providing students with specific reading tasks further gives them greater motivation to complete their assigned work and helps them gain a better understanding of its significance for their learning (Miller and Meridian 2020). Research from Lei et al. (2010) shows that students who engage with regular readings do better in assessed tasks, and are able to contribute more to discussion and collaboration, increasing their levels of knowledge. By building collaborative annotation activity into courses, Kalir et al. (2020) outline, such practices can help learners to curate resources, develop effective information-seeking behaviours, and make sense of the materials that they encounter collectively. Di Iorio and Rossi (2018) detail how this practice may in addition enable learners to articulate knowledge derived from both text and their interactions with others in the context of a shared resource. Such approaches, as has been observed of active reading in general, assist students to work through material at their own pace and revisit content they do not understand (Dubas and Toledo, 2015).

In response to the ongoing pandemic and in line with many other institutions, the University of Lincoln adopted a blended learning approach to teaching and learning from October-November 2020 in response to the Covid-19 restrictions imposed by

the UK Government. At Lincoln, this blended approach was the solution to the challenge of balancing social distancing requirements with the drive to retain as much in-class teaching as possible. The University adopted what it termed an 'A/B model' for the delivery of small-group teaching: each seminar group was divided into two sub-groups, which alternated weekly between a synchronous, on-campus, one-hour seminar and an asynchronous, online version addressing the same material. Seminars were accompanied by one or two hours of weekly online lectures, which were pre-recorded using Panopto and made available to students via the Blackboard virtual learning environment.

To learn from this experience, we focussed our evaluative efforts on the period from October to November, before teaching shifted entirely online due to another period of Government-mandated lockdown. We targeted two first-year undergraduate modules, *The Medieval World* and *Introduction to Visual and Material Culture*, for several reasons:

- the students had not used Talis Elevate before, and therefore had few preconceptions about it;
- the large size of the cohort meant that, even if (as we anticipated) student response rates were low, large amounts of quantitative data would be available from the Talis Elevate system;
- multiple colleagues teach on these modules, broadening the scope for collecting staff reflections;
- such modules adopt a standard lecture-seminar format for teaching, limiting variables in terms of pedagogic structure and delivery;
- analysis of first-year modules would enable us to build on insights gained from our analysis of *The Historian's Craft* during the first lockdown.

In addition to analysing quantitative user data collected in Talis Elevate, surveys were administered to students on *The Medieval World* and teaching staff on both modules at the end of the week commencing on 22 November 2020, prior to the Government-imposed shift to fully online delivery for the rest of the semester. We

surveyed students on *The Medieval World* alone because most were taking both modules and we sought to avoid survey fatigue. Drawing on our prior analysis, we asked students and staff to reflect on the extent to which (and how) they had engaged with active online reading (see Appendices 1 and 2 below for the question sets). Our aim was to gather data on student perceptions of the impact of engaging in active online reading, on how staff thought that students had been reading online, and on the strategies they had adopted to support students in doing so.

The Medieval World is a core first-year undergraduate module for students on programmes in History and Art History. It offers an introduction to medieval history and is taught in a standard lecture-seminar format (two hours of lecture per week, one hour of seminar) over twelve weeks, including a Reading Week. In 2020-21, the module had 161 students. Each week, students were provided with a worksheet comprised of guiding questions and extracts from primary sources. They were also encouraged to read at least one item of supporting secondary literature per week (this was optional, and not part of the formal commentary exercise in Talis Elevate). The weekly worksheet was uploaded to Talis Elevate for each seminar group (seven in total, of roughly 20 students each), and students were asked to post responses to the guiding questions and to annotate specific passages of the primary sources in support of their interpretations (see Figures 6 and 7, noting the break for Reading Week at 15 November 2020, and the beginning of the shift to entirely online learning from 29 November 2020).

Figure 6: *The Medieval World* (first-year undergraduate module), active student engagement, average minutes spent in Talis Elevate per student per week, excluding inactive students (semester 1, academic year 2020-21)

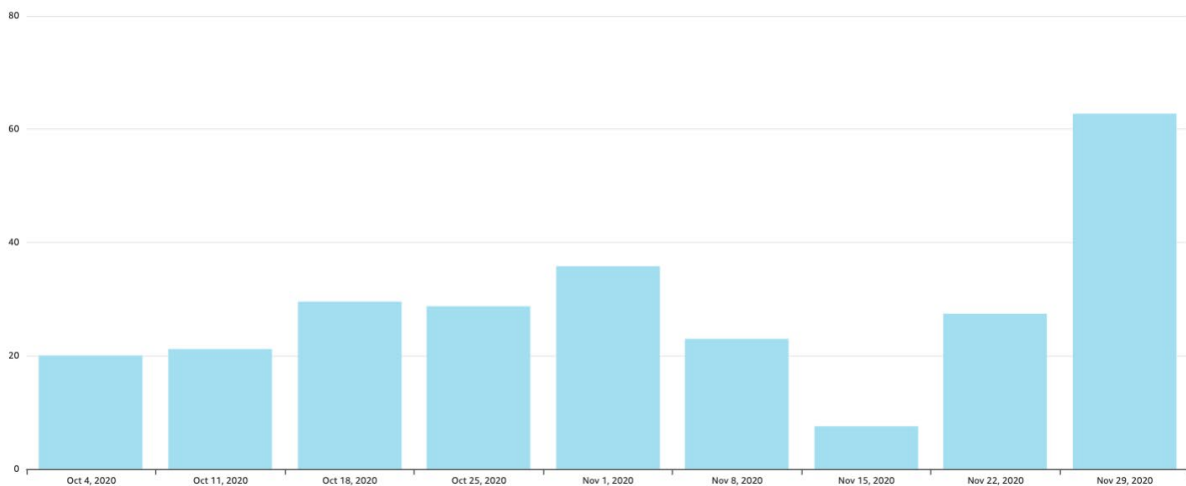
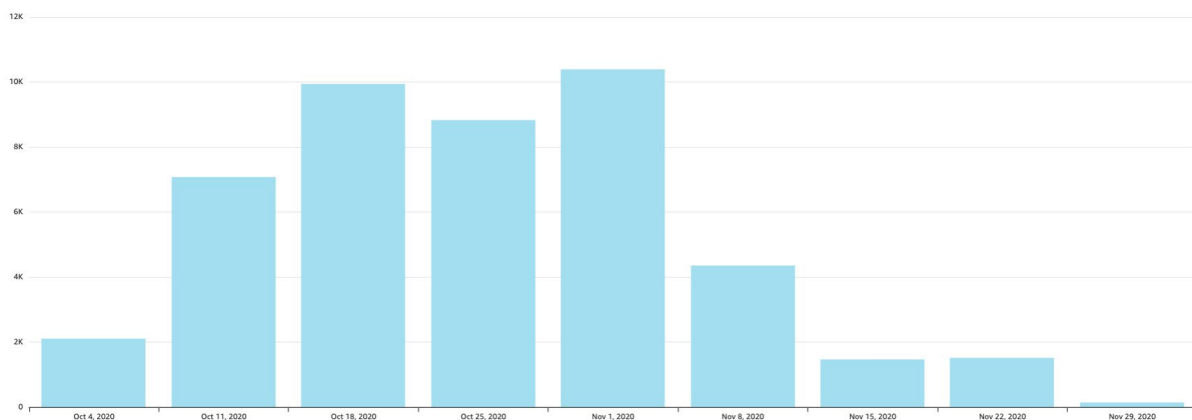


Figure 7: *The Medieval World* (first-year undergraduate module), active student engagement, total minutes spent in Talis Elevate for whole cohort per week (semester 1, academic year 2020-21)



Introduction to Visual and Material Culture is similarly a core first-year module for students of History and Art History. It offers a broad methodological introduction to the use of visual and material sources for the study of the past from Antiquity to Modernity and is delivered in lecture-seminar format (generally two hours of lectures per week, one hour of seminar) over 12 weeks, with a break for Reading Week. In 2020-21, there were 167 students enrolled on the module. Talis Elevate was used as a platform for students to add responses to guiding questions that lecturers had

included on weekly worksheets, which featured images as well as written primary sources (see Figures 8 and 9, noting the same constraints for 15 November 2020 and 29 November 2020 as above).

Figure 8: *Introduction to Visual and Material Culture* (first-year undergraduate module), active student engagement, average minutes spent in Talis Elevate per student per week, excluding inactive students (semester 1, academic year 2020-21)

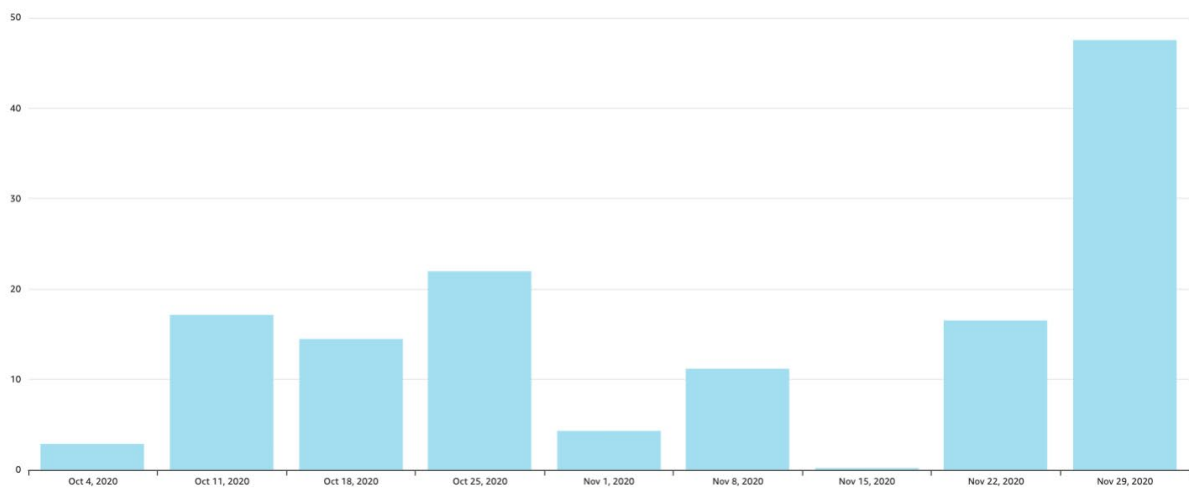
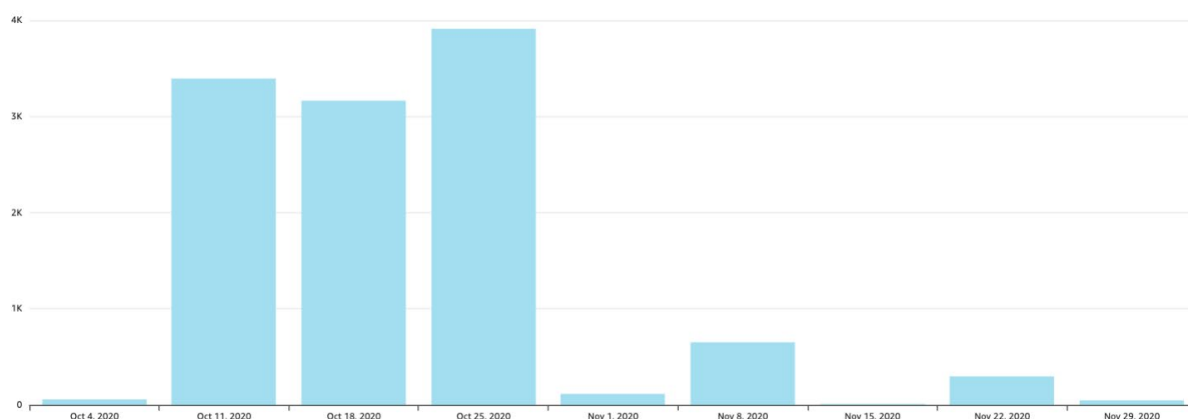


Figure 9: *Introduction to Visual and Material Culture* (first-year undergraduate module), active student engagement, total minutes spent in Talis Elevate for whole cohort per week (semester 1, academic year 2020-21)



Comparison of user data for *The Medieval World* and *Introduction to Visual and Material Culture* reveals several noteworthy trends. First, in the 2020-21 academic year teaching began in the week commencing on 11 October, indicating that a small number of students started reading ahead of time in the previous week; engagement with online activities was otherwise broadly sustained over the course of the modules for actively engaged students, though not for the whole cohort. Secondly, the noticeable and significant dips in usage that are the exception to this rule can be attributed to the delivery patterns of individual modules or the programme as a whole: *Introduction to Visual and Material Culture* did not have a Talis Elevate activity in Week 4 (1 November), while Week 6 (15 November) was Reading Week, with no timetabled classes and hence little to no engagement with Talis Elevate. Finally, engagement with Talis Elevate resources peaked in the first few weeks, but as the semester progressed it gradually dropped off on both modules, with less time spent on average per student and in total by the whole cohort. This suggests that an element of user fatigue set in, attributable to a number of factors: the move to fully online delivery that was imposed in Week 8 of the semester (29 November) and anticipated from the week before, which meant that many students went home early for the Christmas break and disengaged, coupled with a shift – regularly observable across modules – in student focus away from seminar preparation and towards the summative assessments due in the latter half of the semester. This disengagement was thus driven by a combination of specific contextual factors associated with the pandemic and the well-established tendency of some students to step back from

online learning as courses progress (Muir et al., 2019), since assessment can encourage students to adopt instrumental approaches to the time that they devote to such activity (Ecclestone, 2009).

In late November 2020 we administered a survey to students on *The Medieval World* (see Appendix 1), receiving responses from 15 or approximately 10% of the cohort. The low response rate probably reflects survey fatigue among the student body; while it cannot be considered representative, it is in line with the number of responses to our survey on *The Historian's Craft* in the summer of 2020. When coupled with this and the staff survey, the data for *The Medieval World* reveal some key elements of student engagement with active online reading that can inform further research and analysis. To begin with, 14 respondents (93%) said that annotation activities had helped their studies. Even the single 'no' commented that it was useful to be able to see the opinions of others. When asked to elaborate, responses focussed on analytical practice, collaboration, and the diversification of opinion on the subject matter resulting from the 'public' nature of discussion:

They have enabled me to practice analysing primary sources, and allows me to see what other people on the source think of certain primary sources.

(Question: 'Do you think that these annotation activities have helped you in your studies on this module? Why (or why not)?')

Students were then asked to categorise how they had engaged with resources in Talis Elevate, selecting up to three responses from a list (see Figure 10). The most popular choice related to analysis, followed by those that involved building narrative within the content (supplying additional information and describing) and interacting (with peers and/or tutors).

Figure 10: Which of these terms best describes your annotation activities in Talis Elevate (pick 3 at most)?

Term	Count
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Analysing	13
Adding additional information	8
Interacting with other students	7
Describing	7
Interacting with tutors	4
Outlining alternative interpretations	3
Annotating images	3
Asking questions	2
Taking personal notes	1
No annotations	1

These responses are in keeping with the fact that the tasks students were set on *The Medieval World* and *Introduction to Visual and Material Culture* focussed on reading texts (and in the case of the latter images) closely and answering questions set by the module leaders. The aim of such activities is to encourage students to start analysing readings for themselves and sharing their thoughts with others, in doing so building up their skills and confidence for future study. From the data, respondents to the survey recognised that the activities they were being asked to complete were developing these necessary skills.

The survey then asked students to reflect on the collaborative nature of the annotation activity ('What do you feel that you've learned from reading and engaging with other students' comments, and from tutors' feedback?'). As with respondents to the earlier survey on *The Historian's Craft*, they reported valuing being able to see peer annotations on resources. Reference to 'crowdsourcing' in seven responses (47%) indicates that students recognised the visibility of comments by others as helping them to diversify their thinking about the material and its interpretation:

I have learnt how other people choose to interpret and analyse primary sources, which has consequently improved my own ability on how to analyse them too.

Confidence and reassurance emerged as recurrent themes in responses to this question, with students reflecting positively on being able to check that they were 'on the right track' by observing what their peers had done. As noted above, this can be related to the experience of a normal, in-person seminar in which students have the opportunity to check in with tutors to gauge their progress. Affirmation was a related key theme, as established in studies of collaborative annotation (Kalir et al., 2020), with feedback from fellow students having a positive impact on the learning experience:

I feel like I have learnt other people's views and ways of understanding the text, which allow you to see a different thought process. It is also really nice to get individual feedback, so you know if you are on the right track and where to expand from that.

When asked directly about being required to post comments 'publicly', so that they could be viewed by the group as a whole, thirteen (87%) responded positively (with one not responding at all). Students who expressed reservations cited stress and anxiety, primarily related to fear of potential criticism from peers. One student also felt anxious because their contributions were being assessed. Such negative comments closely track how some students feel about contributing to in-person seminar discussion (Ahmad, 2021; Liu and Littlewood, 1997). While three students (20%) reported feeling apprehensive at the start of the process, however, they recognised the value and positive impact of such activity:

I prefer it more than I thought I would, you can take ideas off someone else's work or their view gets you thinking.

Indeed, other themes that emerged from student reflections on sharing annotations with peers include: confidence and encouragement ('I think if anything it can be seen as encouraging me to do better. Also, if I am struggling, I can read other people's work for inspiration and to get me on track'), expansion of knowledge, understanding others' interpretations, and peer support and collaboration. There was also a feeling that such activity filled a gap, enabling collaboration and conversation that would otherwise have taken place face-to-face in the classroom:

I think this is a good thing because it allows us to communicate with one another in the group. This is what we would be doing anyway in a face-to-face session, so I do not have a problem with it.

Results: Staff Feedback

Eight members of staff leading seminars on *The Medieval World* and *Introduction to Visual and Material Culture* responded to a separate survey (see Appendix 2 for the question set). This includes three tutors from the former and five from the latter; none led seminars on both modules. The survey focussed primarily on learning design, teaching goals, student use of Talis Elevate, and its impact on student learning. Staff perceptions of student engagement in online reading activities varied amongst respondents, with some indicating that 70% of the group played an active role in conversation and reporting very high levels of enthusiasm. Others, however, described a sharp drop as the module progressed, which corresponds to the reduction in student usage of Talis Elevate as discussed above. One respondent noted that levels of engagement varied by seminar group: 'variable, some groups have hundreds of comments and others have a handful'. Another member of staff, relatedly, cited a continuous need to encourage participation from most students, while a 'vocal minority were particularly active':

Keen students are fine with online activities, I can see that they are engaging with the material and many of them told me that they felt they learned through the online activities.

To some extent, this replicates the efforts needed to guide and motivate many first-year students under 'normal' conditions (i.e. weekly opportunities for face-to-face interaction), with a minority of 'self-starters' requiring less attention. Much the same pattern was observed in the case of *The Historian's Craft* in 2019-20: a tail-off towards the end of the module once students began to focus on assessments, a reduction in engagement in formal teaching sessions that parallels a drop in attendance.

When academic staff were asked about the impact of annotation activities on student learning, the average score was 7 (where 1 = none, 10 = a key role). We also asked staff to categorise the types of annotation activity that they observed across their cohorts (choosing up to three categories). Analytical and informational categories scored highest ('commenting' and 'answering questions' were both chosen seven times, while 'explaining' and 'analysing' were selected on five and four occasions respectively); 'discussing' was chosen on only one occasion, 'debating' not at all. Several staff respondents noted that, although students were encouraged to interact with one another, it was challenging to generate discussion between students beyond answering questions and expressing agreement with ('liking') their posts. These results align with student responses (and findings from *The Historian's Craft*), which while noting some interaction when using Talis Elevate (with both peers and tutors) do not mention debate. The use of Talis Elevate thus functioned effectively to encourage individual engagement with reading by some students and to help a smaller group to interact, but it did not serve to facilitate proper discussion. We elaborate on this finding in the next section.

Student Engagement, Discussion, and Interaction

Both staff and student respondents perceived that there was considerable value in the collective knowledge gained through collaborative annotation activities, in terms of subject knowledge and awareness of alternative interpretations. While we did not ask respondents to reflect on the skills that had been gained through such activities, several students reported gaining in confidence through reading actively online, and engagement in sustained analysis through commenting, explaining, and answering questions is likely to have developed their core skills. In future such gains from collaborative annotation activities should be foregrounded at the beginning of modules to ensure buy-in from students. More concerning is the challenge of dealing with disengagement by some students. This phenomenon aligns with the quantitative data outlined earlier in the article, which illustrate a divergence between total cohort engagement with Talis Elevate tailing off drastically across the semester and average individual engagement (excluding non-participants) holding steady or even rising.

Seemingly a similar proportion of students who we might expect to improve over time through classroom-based engagement did so on Talis Elevate, while the subset of students who would tune out over time did so at a comparable rate as well. Here we see online engagement mirroring patterns that we have collectively observed in standard teaching conditions, although it would be interesting to know how this plays out in terms of individual student engagement: even if the proportions remain unchanged, are the same or different students (dis)engaging with online learning as compared with face-to-face classes? The risk therefore lies in assuming that a large number of high-quality comments from enthusiastic students, which masks non-participation by many more, actually reflects a high level of overall engagement by the cohort.

While some students reported trepidation at the start of annotation activities, there was a minority who felt ongoing anxiety about posting their thoughts in sight of peers. The majority were positive about the collaborative element and being able to view comments by others, as this gave them confidence and was perceived to open up alternative avenues for interpretation of material. In future the fact that initial anxiety is to be expected, but that sharing views is ultimately helpful to learning, should again be made explicit to students at the beginning of modules (and in early in-person seminars too, especially at first-year level: Ahmad, 2021). Anxious students could be advised to make use of the ability to post anonymously on Talis Elevate, with the hope that practice would make them more likely to share their perspectives openly over time, or a graduated programme could be put in place to help them do so. Interestingly, but unsurprisingly, staff perceptions of the level of discussion were very different to those of students, although it is important to note that only 10% of the student cohort responded to the survey whereas the seminar tutor response rate was 100% on *Introduction to Visual and Material Culture* and 75% on *The Medieval World*. Teaching staff thought that very little discussion occurred within resources, in contrast to students who were acutely aware that they were in a 'public' collaborative space and reported learning a great deal and gaining confidence from being able to see peer annotations. As such, while it is clear that some students see Talis Elevate

as a way of engaging with each other, the survey suggests that the majority do not engage in peer-to-peer discussion of reading in this context. Here we think it is useful to consider what students actually do within resources, where there is a striking absence of direct responses to annotations by other students, even when they are demonstrably examining the same passage of the source. This topic of student understandings of discussion and interaction merits further research.

There is occasional implicit evidence within what appear to be discrete comments that students have read one another's annotations, but ordinarily the tendency is for comments to cluster around a point of interest within the text, a process that might be described as 'indirect discussion'. Here we might draw a connection to discussion in classroom-based teaching, where direct debate between students is not frequent (at least in our collective experience) but students will talk 'around' a topic in response to prompts given by the tutor and, sometimes, by peer follow-up. To an extent this phenomenon is determined by the prompting questions on the seminar worksheets, which are likely to direct student comment to specific points in the text, especially in the first-year undergraduate modules that call for focussed questions to be set. Relatedly, we have also noted that the first annotations to be posted often concentrate the attention of peers. This pattern is also apparent when tutors respond to student comments or ask questions in Talis Elevate, suggesting that students think we are more likely to 'see' comments responding to our own and thus are trying to guide our reading of the source and their responses to it. Finally, it is worth recalling that 'direct discussion', unless explicitly framed as such by tutors (e.g. as a 'debate'), is quite rare in face-to-face seminars, especially at lower undergraduate levels (Garrett, 2020). As in classroom-based sessions, if discussion is a desirable element or outcome of the learning process, staff could devote time to framing such activities for students in online spaces. For instance, more explicit instruction could be provided on worksheets or within questions (e.g. 'try to respond to at least one comment by your peers').

Framing Active Online Reading

The preceding section has noted the importance of framing active online reading activities for students. Such framing should be done succinctly at the start of the module and be reiterated regularly, making clear the respective roles of staff and students. Academics play a key role in engaging students in active online reading by guiding and rewarding contributions, not only through assessment and feedback but also by using student annotations to inform activities during synchronous classes (whether face-to-face or online). Although the benefits to student learning of prompt and tailored online feedback are many (Leibold and Schwarz, 2015), it is important to note that responding to individual student comments can be extremely time-consuming for staff (Holmes and Prieto-Rodriguez, 2018), especially when coupled with the need to prepare for and run seminars (whether online or face-to-face). Colleagues adopted a number of strategies to manage this workload challenge, including limiting themselves to one response per student and offering more detailed group-level feedback on important or recurrent comments. The related issue of 'vocal minorities' dominating online spaces was identified by a number of staff respondents. Here we might draw an analogy with face-to-face seminars, where tutors have developed a range of strategies for managing such participants, and for encouraging quieter students to contribute (Howard, 2015). Student over-engagement may be the result of the relatively hands-off approach that most seminar tutors described themselves as taking in Talis Elevate: further research and practice development in this area should seek to investigate the impact of academic engagement in spaces for active online reading. It would be particularly interesting to understand more about what impact specific framing and intervention strategies have on the level of student engagement (both with the reading and with one another).

Finally, as noted above, user data demonstrate a drop in engagement in the latter half of the semester on both *Introduction to Visual and Material Culture* and *The Medieval World* and suggest that this was connected to students refocussing their attention on upcoming assessments as well as on returning home when teaching shifted entirely online. There may also have been some level of fatigue amongst elements of the student body, however, due to the repetitive nature of the tasks that

they were being asked to complete on Talis Elevate. Module evaluation feedback from one student who took *The Medieval World* indicates that even engaged students found it challenging to maintain engagement over the course of a full semester:

It's a really clever and useful concept. It's easy to use and useful for organising notes etc., sharing and learning from other people's notes.

However, I think using the same program every seminar causes me to lose a bit of enthusiasm towards the final few weeks. Having said that, I think in moderation and combination with other methods of seminar work it is a really useful tool for aiding my studies.

Adopting a more varied suite of online tasks for students to complete in advance of their classes might be one way to improve and sustain engagement, as might introducing some level of reward for carrying out the tasks or requiring a measure of student collaboration when reading (Khan et al., 2017; Bouchrika et al., 2021).

Conclusion

On each of the three modules discussed in this article, Talis Elevate was used to enable students to annotate primary sources collaboratively and to answer guiding questions set by tutors on worksheets. Student feedback indicates that the collaborative annotation of these texts had a positive impact on their independent learning, confidence, and ability to engage critically with sources. Engagement in active online reading during the pandemic provided a forum for interaction between students, which survey respondents perceived as deepening their learning. While there was some initial apprehension about the collaborative nature of the annotation activities, for many of our respondents such work was recognised as playing a positive role in their studies. However, it should be recognised that a minority of students reported feeling some anxiety about making responses visible to their peers. Care should thus be taken to set out clear expectations early in modules, stressing the value of this practice for critical thinking, deep reading, and collective knowledge creation.

Staff feedback was positive overall, with the majority of survey respondents reporting that they adopted a 'low presence' approach within resources in Talis Elevate, meaning that they commented or otherwise intervened infrequently or not at all. In general, respondents stressed the impact of 'vocal minorities', whether individuals or clusters of students in seminar groups, on driving annotation activity, a common experience under normal in-person teaching conditions, where some students can be reluctant to participate (Ahmad, 2021; Liu and Littlewood, 1997). Although direct discussion between students was seldom observed, collaborative annotation was perceived to have had a positive impact on the overall learning experience, a phenomenon that can be related to the tendency of some students to 'lurk' rather than participate fully in online learning (Honeychurch et al., 2017). One of our key findings, therefore, is that the challenges presented by using an online space to engage students in reading – such as variable engagement, reluctance to collaborate, and gradually declining student initiative across the course of the module – reflect many of the challenges that seminar tutors encounter in face-to-face scenarios. This suggests that some of the strategies developed to help students in class could be effectively redeployed to assist them online, and perhaps that combining elements of both teaching contexts might prove a particularly successful approach to adopt.

Active online reading focusses on close analysis of primary sources and secondary literature, creating a collective space for students to share their observations about the texts, sometimes in response to guiding questions. The collectively annotated resource represents a bank of shared knowledge, an approach that has been shown to have positive benefits for student abilities, subject knowledge, disposition towards collaboration, and creativity (Yeh, 2012). Students perceive value in observing the work and behaviours of their peers, and active online reading provides a framework to 'fill some of the gaps' opened up in the absence of physical collocation, a circumstance in education by no means limited to the pandemic. This can constitute an effective 'scaffold' (Richardson et al., 2022) for further learning activity, such as discussion and debate in face-to-face seminars, other online work, and written

assignments (especially source analyses, which closely track what students are typically asked to do in Talis Elevate). Such an approach, using online learning to support in-person learning, both reflects and further informs the increasing focus in recent pedagogical scholarship on academic reading, especially on how digital reading has transformed staff and student experiences of teaching and learning in higher education (Cohn, 2021; Hargreaves, Robin, and Caldwell, 2022).

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