

Teaching Mini-Group Impact Project Report

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Acknowledgements

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The research questions and forms were developed by the authors, and the research was conducted in collaboration with the members of the LAST Teaching Mini-Group. The statistical analysis of the pre- and post-session confidence scales was completed by Weiming Wang. Liz Hyde contributed to the analysis of the themes in the qualitative data.

The authors acknowledge that this report represents an extension of previous research conducted by members of LAST, including a [smaller-scale investigation into students' confidence in their academic skills \(2019\)](#) and a [Teaching Excellence Project on support for international students \(2022-23\)](#).

Introduction

This project report first describes the rationale, aims and methodologies of the LAST Teaching Mini-Group Impact Project, which ran in the Spring semester of the 2023/24 academic year. The findings of the research are then presented through statistical analysis and an exploration of the themes found in the qualitative data gathered as part of the project. The main findings of this research are twofold. **Firstly, the median confidence level after LAST in-curriculum session(s) is statistically higher than the pre-session median confidence level. Secondly, students leave our lessons feeling able to apply the concepts learned or report an increase in their confidence or understanding of the skills taught.** The report concludes with recommendations. These include increasing the prominence of session learning outcomes and exploring effective ways of promoting resources outside of the classroom. The aim of these recommendations is to maximise the efficiency and depth of LAST's already demonstrably effective in-curriculum teaching.

Project context

The project explores the impact of LAST's in-curriculum teaching sessions. (The term "in-curriculum" refers to sessions that are embedded in modules and courses and delivered by Academic Skills Tutors and Academic Librarians. These sessions are requested by academic staff through an [online form](#).) The project's methods were an extension of those used in a smaller-scale study conducted as part of the 2022-23 Teaching Excellence Project mentioned above. As in that smaller study, this project measured the confidence levels of students in their academic competencies before and after in-curriculum teaching, using a Likert scale. Extending the scope of this project beyond that of the 2022-23 study, a qualitative component was added, whereby students were asked to record what they had learned and what they would do differently as a result of attending the session or sessions. The meaning of "impact" was accordingly redefined for this project to encompass a wider range of changes that students experienced as a direct result of the teaching: not only changes in confidence but also in awareness, knowledge, ability or feelings towards academic competencies and skills.

Rationale and specific project aims

The remit for the Teaching Mini-Group within LAST includes:

- Measure in-curriculum teaching and support to assess our impact on student success and have evidence for further roll-out.

Measuring the effectiveness of teaching sessions directly after the session is a well-established practice globally (A et al., 2016). However, this approach has frequently been criticised as, firstly, measuring feeling rather than learning, and, secondly, encouraging surface-level feedback gathering that gives no indication of how to improve teaching in the long term (Lambert, 2012). Pre-testing to create a baseline for evaluation is established practice, based on the Kirkpatrick model (Kirkpatrick, 1998). However, Kirkpatrick's model has been criticised for being a training validation model rather than an evaluation model, as it does not measure or aim to measure the value trainees ascribe to training; it measures merely the outcomes of the training itself (Kearns, 2005).

When departments are under pressure to demonstrate their impact, it is tempting to include quick-fix "happy sheets", defined by Spowart et al. as post-event questionnaires that "focus on the participants' immediate satisfaction with the teaching" (Spowart et al., 2017), as this is a fast, uncomplicated way of gathering data. For this project, the Teaching Mini-Group aimed to go beyond gathering merely superficial/immediate data by exploring the longer-term changes that students felt the session or sessions they attended would make to their academic practices.

LAST have a very broad in-curriculum session offer. Each session/topic from the list addresses one aspect or component of academic skills (Essay Writing, Finding and Using Information Sources, etc.), and learning outcomes specific to each session are advertised on [the Library Support webpage](#). The learning outcomes are intended to be used as the basis for planning sessions that include appropriate learning activities for the reported needs of the students. As Hussey and Smith state,

“It is useful to have the topic of a lecture or teaching session specified at the outset, and this involves *indicating what the students are expected to learn*, but the depth and detail of the knowledge, or the level and sophistication of the skills, will be established by the teaching session itself, the learning activity involved and the kind of reading or exercises recommended” (Hussey and Smith, 2002, p. 228)

Having advertised learning outcomes means that academics wishing to book in-curriculum teaching can request the session(s) that most closely matches the learning needs of their students. However, we were anecdotally aware that, despite the breadth of LAST’s in-curriculum offer, there were some instances where we had been asked to deliver teaching that diverged from the advertised learning outcomes of the bookable sessions. We therefore also decided to use this research to investigate the extent to which what was being taught in class matched the learning outcomes of the advertised sessions, and if not, what learning was taking place within the classroom. We speculated that this element of the project could help us identify improvements to the advertising of LAST’s teaching and lead to some reductions in our pre-session planning workload.

The research questions were, therefore:

1. How does students’ self-reported confidence in their academic skills change after LAST in-curriculum sessions?
2. Do our advertised learning outcomes reflect the taught content of the sessions?
3. What are the changes that students feel the sessions make to their academic practice?

Project methodology

A questionnaire collecting both quantitative and qualitative data was developed. This questionnaire was in two parts. The first part, which students were to complete immediately before the session, asked students how confident they felt in their academic skills, using a Likert scale. The second part was completed post-session, either at the end of a standalone session or at the end of the final session in a “bundle” (for 2023/24, bundles comprised three sessions linked together under a common theme). In addition to asking students for their confidence level to enable comparison

between pre- and post-session(s), the second part of the questionnaire also included two questions asking for free-text responses:

1. What have you learned in this session?
2. What one thing will you now do differently as a result of having attended this session?

Participant data was recorded (student name and email). Information about the purpose of the study, what would happen to students' data and how to withdraw from the project was provided along with the questionnaire, as were contact details for a member of the research team. All data was stored on LBU's OneDrive, and all the participants' personal information was deleted after analysis.

All LAST team members who conduct in-curriculum teaching were advised to ask the course tutors for permission to run the questionnaire in their sessions. Questionnaires were open between February and April 2024.

The surveys were completed by students taking part in a range of LAST in-curriculum sessions from different Schools. In total, 131 students completed both parts of the questionnaire, with 122 completing all parts and therefore providing the data that was used in our analysis. The breakdown of participants according to School and session type is as follows:

School	Session type	Number
CSS/ETH	Academic Writing	8
CSS/ETH	Report Writing	1
HSS	Academic Writing	19
LSA	Finding information/referencing bundle	10
BUS	Critical thinking	1
BUS	Referencing	7
LAW	Finding information	10
SOH	Finding information/critical thinking bundle	5
SOH	Finding information	6
SOH	Presentation skills	10
SOH	Critical thinking	7
SOH	Essay writing	15
SOH	Referencing	18
SOH	Reflective writing	2
SOH	Using MS Word/writing a research proposal bundle	12

(CSS/ETH: Carnegie School of Sport, Events, Tourism and Hospitality Management. HSS: School of Humanities and Social Sciences. LSA: Leeds School of Arts. BUS: Leeds Business School. LAW: Leeds Law School. SOH: School of Health.) "Session type" is taken from the administrative record of the session within LAST's data recording.

The total number of participants from each school is shown in this table:

School	Total number of participants
CSS/ETH	9
HSS	19
LSA	10
BUS	8
LAW	10
SOH	75

The School of Health is over-represented within the sample; however, the School of Health historically does make the most in-curriculum teaching booking requests. School of Health students also make up the biggest percentage of one-to-one appointments with LAST (52% in 2023/24) and of bookings onto Open Workshop Programmes (41% in 2023/24), so the representation of SOH students in this research in the context with LAST's services is appropriate.

Key findings

Self-reported confidence in academic skills

A statistical analysis comparing the pre- and post-session confidence levels was performed.

The table below shows the frequency of reported confidence levels pre- and post-session (with 1 meaning 'not confident' and 5 meaning 'very confident').

Confidence level	Number stating this confidence level at the beginning	Percentage frequency of confidence level at beginning	Number stating this confidence level end	Percentage frequency of confidence level at end
1	6	4.9%	4	3.2%
2	18	14.6%	5	4.0%
3	66	53.7%	29	23.2%
4	30	24.4%	66	52.8%
5	3	2.4%	21	16.8%

Fig. 1. Table showing frequencies of confidence levels

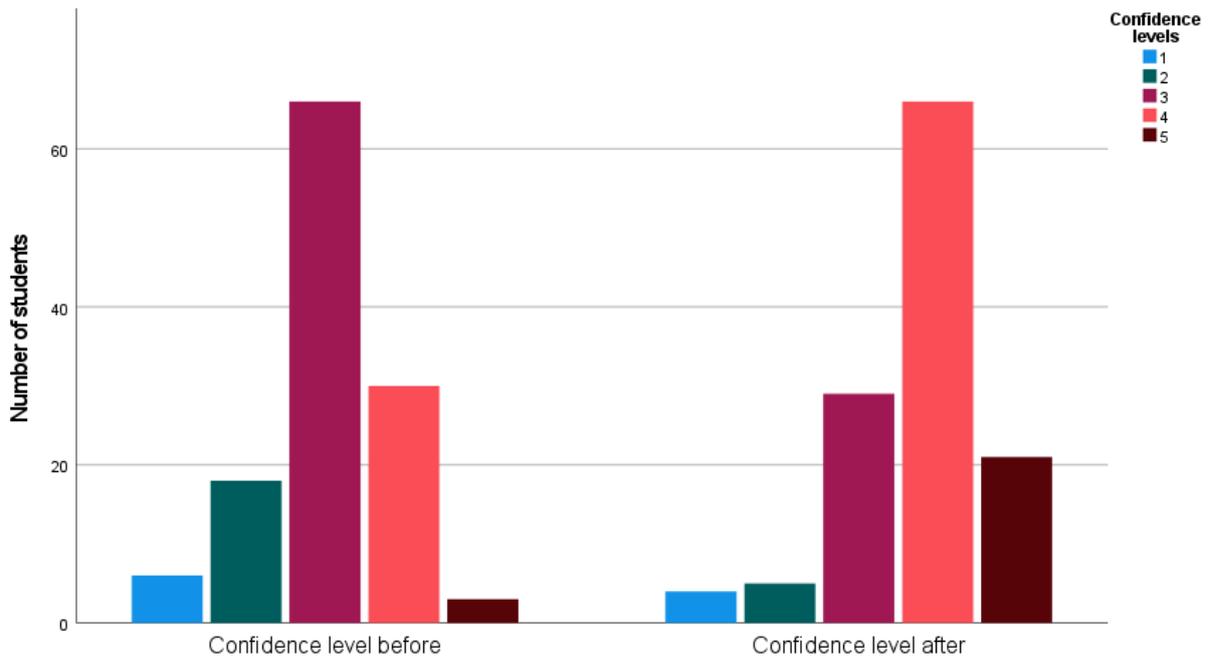


Fig. 2. Graph showing frequencies of confidence levels

A Wilcoxon signed-rank test was then used to compare beginning confidence level and end confidence level.

Ranks

		N	Mean Rank	Sum of Ranks
Confidence level end - Confidence level beginning	Negative Ranks	8 ^a	46.38	371.00
	Positive Ranks	80 ^b	44.31	3545.00
	Ties	34 ^c		
	Total	122		

a. Confidence level end < Confidence level beginning

b. Confidence level end > Confidence level beginning

c. Confidence level end = Confidence level beginning

Fig. 3. Table showing Wilcoxon signed-rank test of negative and positive ranks

Out of the 122 students, 80 reported an increase in their confidence level after the session, while 34 stated that their confidence remained unchanged. Additionally, eight students indicated a decrease in their confidence level following the session.

		Frequency	Percent
Valid	-2	2	1.6%
	-1	6	4.9%
	0	34	27.9%
	1	64	52.5%
	2	15	12.3%
	3	1	0.8%
	Total	122	100%

Fig. 4. Table showing the frequency of negative and positive ranks

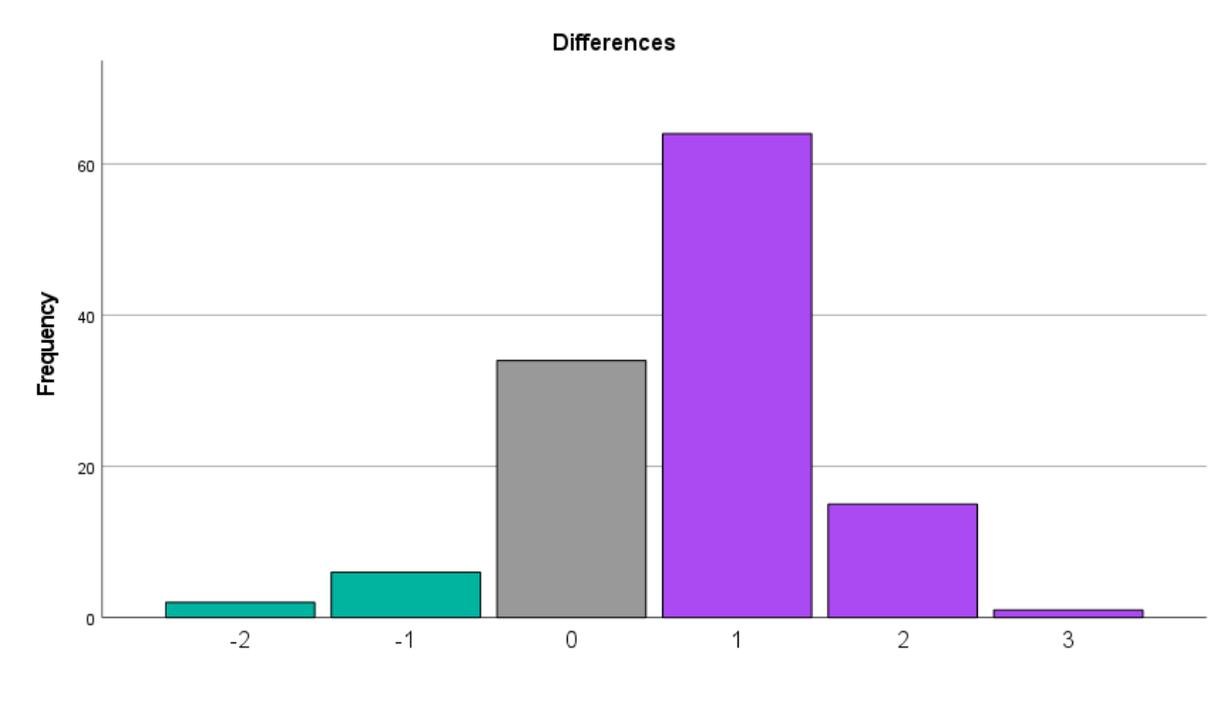


Fig. 5. Graph illustrating the frequency of negative and positive ranks

Test Statistics^a

Confidence
level post-
session -
Confidence
level pre-
session

Z	-7.061 ^b
Asymp. Sig. (2-tailed)	<.001

a. Wilcoxon signed-rank test

b. Based on negative ranks.

A Wilcoxon signed-rank test indicated that the median confidence level after the session was statistically significantly higher the pre-session level ($Z = -7.061$, $p < .001$). The effect size is 0.64, which is large according to Cohen's classification of effect sizes.

- The key findings of this statistical analysis are:
 1. 66% of students reported an increase in their confidence in their academic skills after LAST in-curriculum session(s), with 28% reporting their confidence levels remaining the same and 7% stating a decrease in confidence.
 2. The median confidence level after LAST in-curriculum session(s) is statistically higher than the pre-session median confidence level.

Further analysis looked for commonalities amongst students who reported a decrease in confidence, but there were no commonalities in terms of group or in-curriculum session(s) attended. Comparing the pre- and post-session answers of the students who stated a decrease in confidence indicates that these students' understanding changed during the session, with two answers using the word "properly" about their work in the post-session part of the questionnaire. It may be that their confidence levels beforehand were relatively high because of a lack of understanding of what was expected and that, by the end of the session, their understanding of expectations had changed. However, further research would be needed to clarify this.

Self-reported learning within the session

The free-text answers to the question "What have you learned in this session?" were compared with the learning outcomes in the descriptions of the sessions on the Library Support webpage, where academic staff can read about and request in-curriculum

teaching. Where the sessions were provided as part of a bundle, our intention was to use the learning outcomes advertised for all the sessions delivered in the bundle in the comparison.

Of the 122 students, 95 students reporting learning that could reasonably be interpreted as matching one of the learning outcomes advertised for the session(s). 27 students reported learning that could not be matched to learning outcomes.

Of these 27 students, 9 attended a bundle of sessions on academic writing but reported learning about topics that are adjacent to or overlap with writing: library resources, literature searching and referencing.

Four of the completed questionnaires where reported learning did not match the advertised learning outcomes were from a session that amalgamated two sessions (on Using Microsoft Word in Long-Form Documents and Writing a Research Proposal). The reported learning by these four students all related to using a specific software (Zotero) or to referencing more generally.

The remaining three students whose reported learning differed from the advertised learning outcomes came from three different groups. All reported learning something that indicated an increase in confidence or knowledge of good academic practice more widely, rather than something specific to the learning outcomes of the session.

Exploring possible reasons for this part of the results enabled us to identify an improvement that can be made for 2024/25: a tighter focus on learning outcomes in some aspects of the advertising and planning of sessions/bundles (see the 'Recommendations' section below). While session learning outcomes featured prominently on the Library Support webpage in 2023/24, the form that academic staff used to request sessions (which was embedded in the webpage) did not explicitly refer to learning outcomes. This is likely to have been the underlying reason why some students reported learning that, while beneficial, diverged somewhat from the apparent main topic of the session or sessions. The bundle of sessions attended by the 9 students mentioned above provides a useful example. These sessions were planned by a LAST tutor in collaboration with the requesting academic staff member for a group that included a large proportion of international students. The 2023/24 request form included a brief description of this bundle option that, while accurate, was not explicitly linked to any learning outcomes for the sessions that it comprised: "International student support (Suite of sessions on academic writing, incorporating collective formative feedback.)" The absence of a continued focus on learning outcomes throughout the booking and liaison/planning stages can lead to sessions covering a range of topics that would be more effectively addressed separately.

What students will do differently because of the session(s)

The free-text answers to the question “What one thing will you now do differently as a result of having attended this session?” were analysed thematically, with two members of the Teaching Mini-Group working together to identify sub-themes and major themes.

Decisions on what to include as distinct themes were based on the principal described by Ryan and Bernard: “You know you have found a theme when you can answer the question, What is this expression an example of?” (2003, p. 87).

The following three major themes were identified:

“Use”: Students stating their intended future use of a specific tool, resource, software or study aid, or showing a new awareness of such a tool. 22 answers related to this theme.

“Change”: Students indicating personal changes in attitude (e.g., increased confidence or the belief that something will now be “easier”) or understanding. 29 answers related to this theme.

“Do”: Students stating their intention to take a specific action not related to the use of one specific tool. Responses in this theme include (but are not limited to) statements that: begin with “I will....”; show evidence of planning; demonstrate that the student now knows how to do something (e.g., “search using phrase searching (quote marks)”; signal the intention (and therefore the ability) to perform a task to a higher standard, e.g. “search more effectively”. 44 answers related to this theme.

There were also several answers that were unrelated to the questions, indicated a limited change in practice, knowledge or understanding, or indicated that the student would stop doing something, e.g. not use AI tools. 19 answers related to this theme.

8 students refrained from answering the question.

This thematic analysis shows that our teaching for the most part results in specific positive actions or skills building being self-reported by students after the session. Students leave our sessions more aware of how to complete academic activities and more confident in finding or using tools and resources to help them to do so.

It is important to note, of course, that the learning discussed here is indeed self-reported: it has not been assessed through the monitored performance of any tasks or through any comparison of graded assignment work. Similarly, we are not able to prove that students who stated that they intended to perform an action because of our teaching did in fact go on to do so.

However, within the limits of this research we can report that **students leave our sessions feeling able to apply the concepts learned or report an increase in their confidence or their understanding of the skills taught**. A further project investigating

the extent to which students' self-reported improvements and action plans lead to measurable increases in academic skills competency would be valuable.

Summary of findings in relation to research questions

The research questions for the project are repeated below, with brief responses summarising the project's findings.

1. How does students' self-reported confidence in their own academic skills change after LAST in-curriculum sessions? **On average, it increases significantly, with most students reporting an improvement in confidence by at least one point using a Likert scale.**
2. Do our advertised learning outcomes reflect the taught content of the sessions? **Fundamentally, yes. Our findings show a clear link between LOs and students' self-reported learning in the vast majority of the sessions that we considered. Some students did report learning that deviated somewhat from the stated topic of the session(s). This indicates that we can still do better in making LOs prominent and ensuring that they match the taught content of sessions (see Recommendations).**
3. What are the changes that students feel the sessions make to their academic practice? **Students leave our sessions better able to: recognise good academic skills practice, utilise relevant tools and resources, and plan specific actions to help them accomplish their goals.**

Recommendations

From the findings of this research, the authors suggest the following recommendations.

1. To ensure that all of LAST's in-curriculum teaching is as focused and beneficial as possible, session learning outcomes should be made still more prominent in LAST's advertising and planning of sessions. This will reduce the likelihood of sessions being planned without a clear set of main goals or sessions being 'diluted' by the addition of associated learning, i.e. content that is related to but not an integral part of the stated topic. It is important that learning outcomes remain central throughout the process: at the point when an academic staff member makes a request, during liaison between the academic staff member and LAST teaching staff, while sessions are being planned, and when they are delivered. For 2024-25, our specific suggestions on this point are that:
 - a. The Library Support webpage continues to carry clear session descriptions and learning outcomes;
 - b. the online form that academic staff use to request sessions makes reference to those learning outcomes;

- c. the content of the 'bundle' options available within the form is made clearer by the addition of lists of the sessions that can be selected to make up each bundle;
 - d. the relevant LAST staff make focusing on session learning outcomes a priority in the planning and delivery of in-curriculum teaching.
2. To ensure that students remain able to access the associated learning mentioned above, the Teaching Mini-Group should work with the wider team to investigate the most effective ways of promoting tools and resources outside of LAST's in-curriculum teaching sessions. This would maximise the efficiency of those sessions, facilitating in-depth exploration of agreed topics in the classroom, with students able to pursue associated learning (i.e., resources and self-directed learning opportunities) in their own time. This improved advertising could include incorporating promotion of specific tools/resources/software into new versions of LAST's academic skills modules (e.g., First Year Study Smart) and changes to the materials provided by LAST to academic staff for cohort-specific induction purposes.
3. Zotero was the tool most frequently mentioned by students as an important takeaway point from the session. As Zotero is Open-Source software available to all students and staff, we recommend that a promotional campaign for using Zotero effectively, including frequent training sessions and training videos, is created for the 2024/25 academic year.

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