UNIVERSITY OF CAMBRIDGE

"Can we build a tool that helps students assess, track, and grow their skills while enabling staff to provide targeted support through actionable data?"

1 Skills Evaluation Research Project (2023-2025)

This project emerged from the University of Cambridge's TEF 2023 submission, which emphasised creating a framework to help undergraduate students evaluate their skills and connect with resources at Cambridge to address gaps or enhance strengths. The project focuses on developing a **Skills Discovery Tool**, featuring:

- Designing a curated skills inventory aligned with a development framework.
- Creation and testing of a skills evaluation, based on the new framework.
- Recommendations and signposting to appropriate development opportunities.
- Building data dashboards for staff, based on student evaluation results.

Research focus to build and test the tool

1. **Research** on learning gain, self-evaluation and skills evaluation methods; focus on the current and emerging skills needs of the labour market, for graduates and non-graduates and their appropriate categorisation.
2. **Validation** of the skills evaluation questions and student feedback on usefulness
3. **Impact evaluation**: evaluating the early impact of the tool on student skills awareness and motivations to address skills development as a result of using the tool

Building the tool

I procured digital platform (supplier) to design the evaluation questions and build the reports the student sees, including the ability to see their scores each time they take the evaluation, allowing for progress monitoring.

Who can the research help?

I hope this research can help other Careers Services who are investing in student skills development and evaluation tools to understand whether digital tools have an impact on student skills development and how they might support staff to target resources to student needs.

2 Building a skills evaluation framework

This research helped create a skills evaluation framework of:

120 Individual skills

9 Skills development categories

65 Questions to evaluate skills in each category

8 Development activity categories

Categories

9 skills categories 'Digital, technology use and technical'; 'Learning, thinking and reasoning'; 'Writing, analytical and reporting'; 'Self management'; 'Planning and organising'; 'Presentation, negotiation and influencing'; 'Interpersonal, communication and social skills'; 'Leadership & Management' and 'Entrepreneurship & Enterprise'.

8 Development Categories: Music, Sport, Academic study, Theatre, Film & Arts, Entrepreneurship, Professional Development, Societies & Committees and Community & Volunteering.

RESEARCH AREAS ✕

- **Skills and attitudes required by graduate employers** (e.g ISE Student Development Survey; DoE Employer Skills survey; NFER, World Economic Forum (WEF), internal employer survey (300 employers across 37 industries)
- **Future skills demand** (Pearson: The Future of Skills; WEF The Future of Jobs Report)
- **Current skills needs in the wider labour market** (LinkedIn Economic Graphs, WEF, McKinsey)
- **Frameworks for skill measurement, evaluation and learning gain**: (Vermunt et al; (2018); Allen J and Rolf van der Velden (2005); Andrande HL (2009)

3 Capturing student views on skills development and their current activities

Research focus: Collect student perspectives on skills development (their motivation to engage). Collate the types of activities students are engaged in as they related to the 8 development categories and 9 skills categories.
**Motivation**: Understand why students get involved with skills development and how the tool might help; how valid the development categories were and if student activities fit into them.
Method: survey and interviews
Key findings: students are motivated by career development, becoming competitive in the labour market and/or filling skills gaps from their degree study. Students are most engaged in community/social groups and feel they are developing social, communication and leadership skills above digital and technical skills through these activities. The categories for development aligned to the responses of the students in their view of their activities.

4 Validation round, focus groups and a test user group (Spring 2024)

Once the developer had built the evaluation (initially 40 questions) and the student report had been created (image below), I tested it with 3 groups of students across course groups and stages (~30 students). They offered feedback on length, question appropriateness, suitability for Cambridge students and of the report to their needs, including how much it might impact actions they would take to develop their skills.

Snapshot of the skills evaluation graphic in the student report, within the platform (Potential.ly)
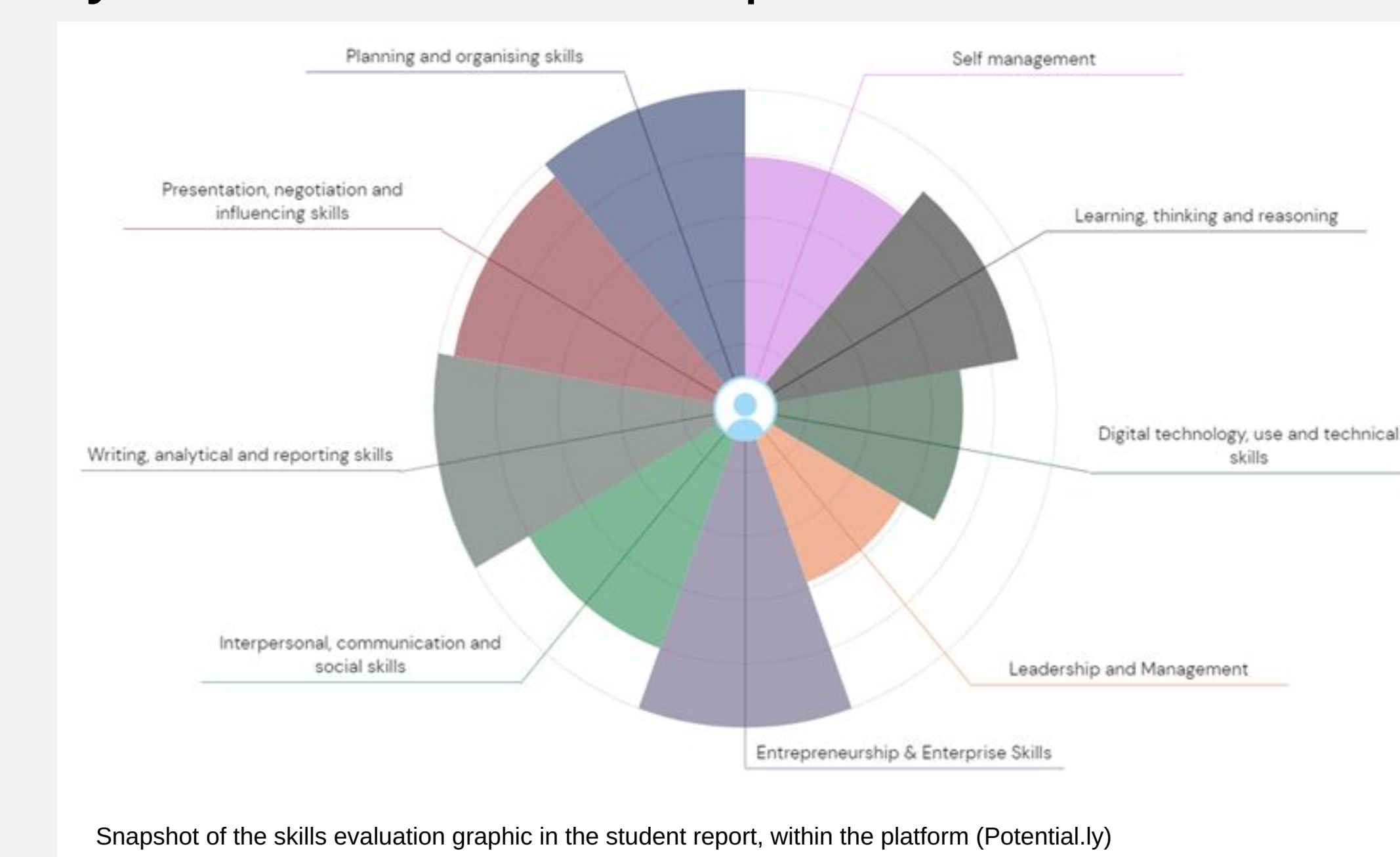
This feedback was collated, coded and given to the developer to make improvements. Changes focused on the length of the evaluation and the question methodology.

How useful were the activities recommended to help build your skills further in each category? (%)

Extremely	Somewhat	Neutral	Not useful
13		74	9

> It would impact my career management decisions heavily. I struggle with [...] identifying what my skills are. The skills assessment feels very comfortable to use to find this out

> I think they [the questions] were suitable to assess perceptions about my skills, but not necessarily to really assess the skills I do have

This initial validation and testing round was invaluable in spotting missteps and gathering user experience before we invested too heavily in the evaluation model. It also showed early signs that this was a positive venture.

After making changes to the evaluation and activities report, it was ready to pilot the tool with a real cohort (see section 6).
In the interim, now the evaluation was in place, I worked with a data analyst to build PowerBI dashboards for staff to view evaluation results.

5 Building the dashboards (Summer 2024)

A wide range of staff support students with their skills development. Knowing where to put their resource is crucial. The dashboards take their feed from the evaluation scores, linked to a student's ID, with the potential to show the skills profile of the whole university and to filter by specific cohorts. Decisions can then be made on how to support particular groups (e.g course level, EDI).

Example staff dashboard (built in PowerBI on internal system)

SKILLS DISCOVERY
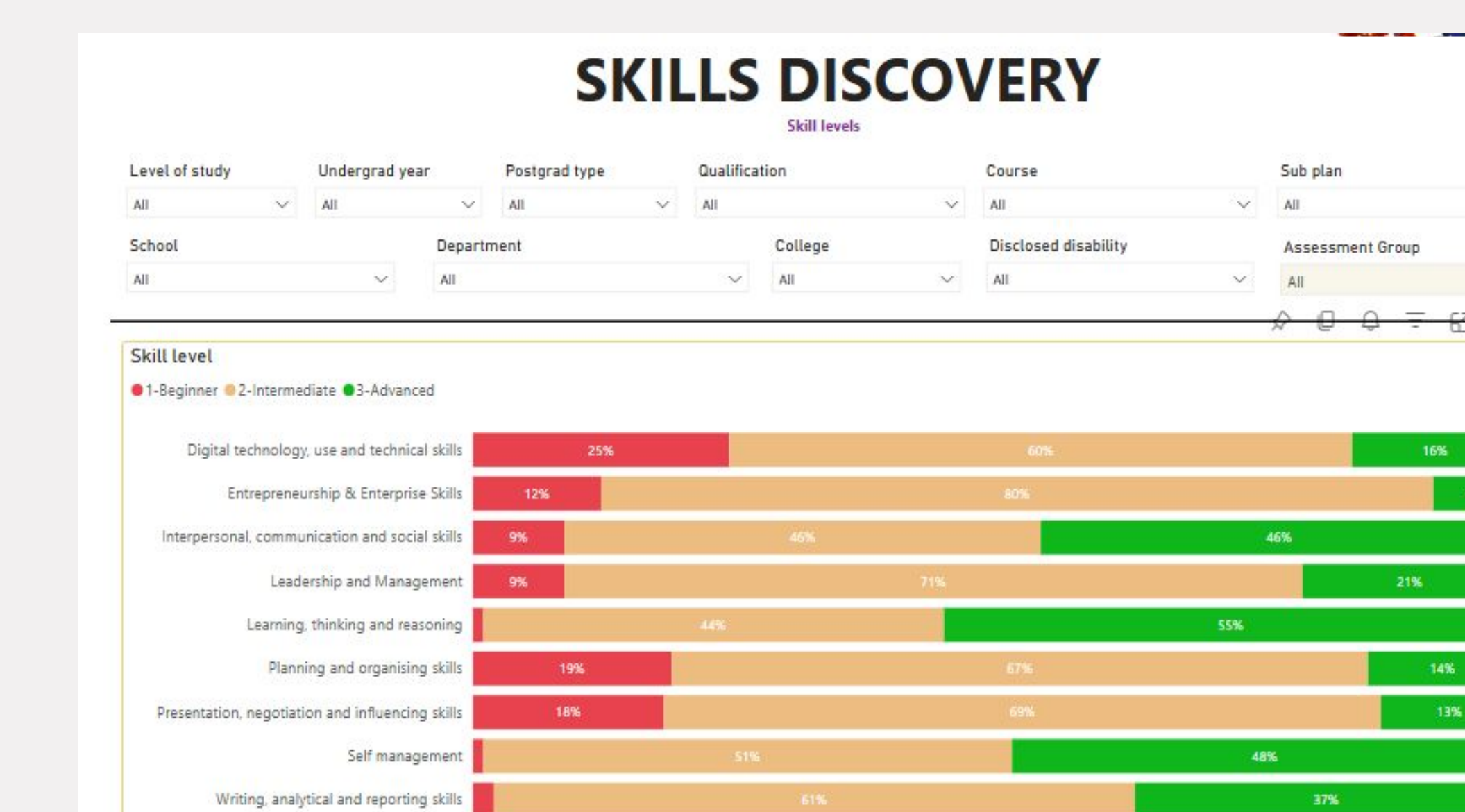
6 How effective is the early data in enabling tutors to support students?

> "[The tool] has enabled us to design a data-driven programme of skills workshops for our incoming xxx cohort and highlighted a surprising gap in xxx students' digital skills, which we plan to address over the coming year. The tool is easy to use and provides invaluable data which will strengthen our offering" - **Programme manager**

In the early pilot, a target group of students on a career development programme were chosen to undertake the evaluation - with their programme manager using the skills dashboards to learn more about their cohort and where they should focus their training programme, based on the results profile of their cohort.

7 Piloting the improved tool with the wider student body

364 Students took the evaluation between September 2024 - December 2024. These users were contacted to be part of the impact evaluation (section 8).

2 Colleges made it a mandatory part of their 1st year induction.

3 Colleges made it an optional part of a skills, career or college programme.

Users outside of these groups reported that they found the skills tool on their own or had it recommended to them. When I have more responses I will look at any correlations between mandatory and non-mandatory use of the tool.

8 Impact Evaluation (January - May 2025)

Focus: what impact did using the tool have on students **actions and awareness** towards their skills development?
Method: survey via MS Forms (January - March)) and focus groups (February - April 2025, not complete at time of poster publication)
Survey size: 364 users surveyed, 22 responses so far.

Figure A
How much did the tool increase your awareness of the importance of ongoing skills development during your studies? (%)

Very much	Somewhat	A little	Not at all
17	44	35	

> I have gained new ideas and research prompts to further my own skills development opportunities

Early findings

1. The skills tool is somewhat effective in increasing awareness of the importance of ongoing skills development whilst studying (figure A)
2. Using the tool has had some impact in motivating users to undertake further skills development activities (figure B)
3. The majority of responders reported that they were 'very' or 'somewhat' likely to to explore or make use of skills development resources as a result of using the tool (figure C)
4. A minority of users reported that the tool had had any direct impact on their taking up their current skills development activities, with most reporting they were already involved with them before using the tool (figure D).
5. Qualitative feedback offered insight into what elements of the tool were helpful and what, in particular the report format, needed to be addressed (figure E)
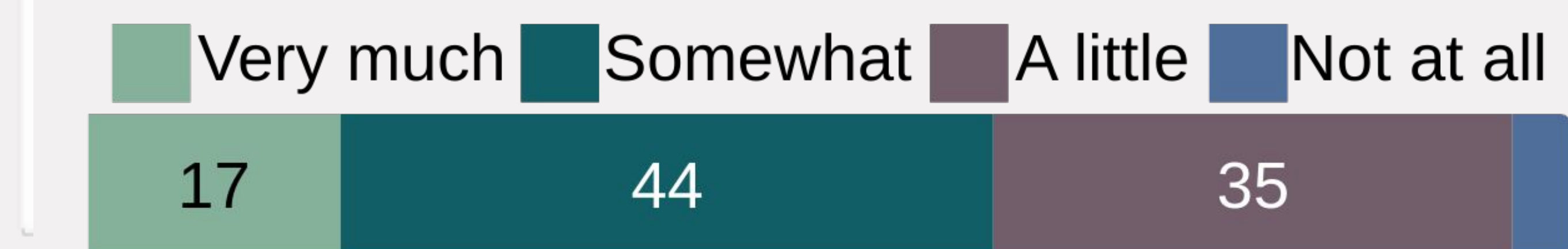6. The evaluation also asked what else has an impact on the students undertaking skills development. Answers included the support of their college tutors and mentions of feelings of stress to be 'better' - raising the topic of the pressure students feel to keep improving.

Figure B
Has using the tool motivated you to undertake further skills development activities?

| Yes | Somewhat | No |
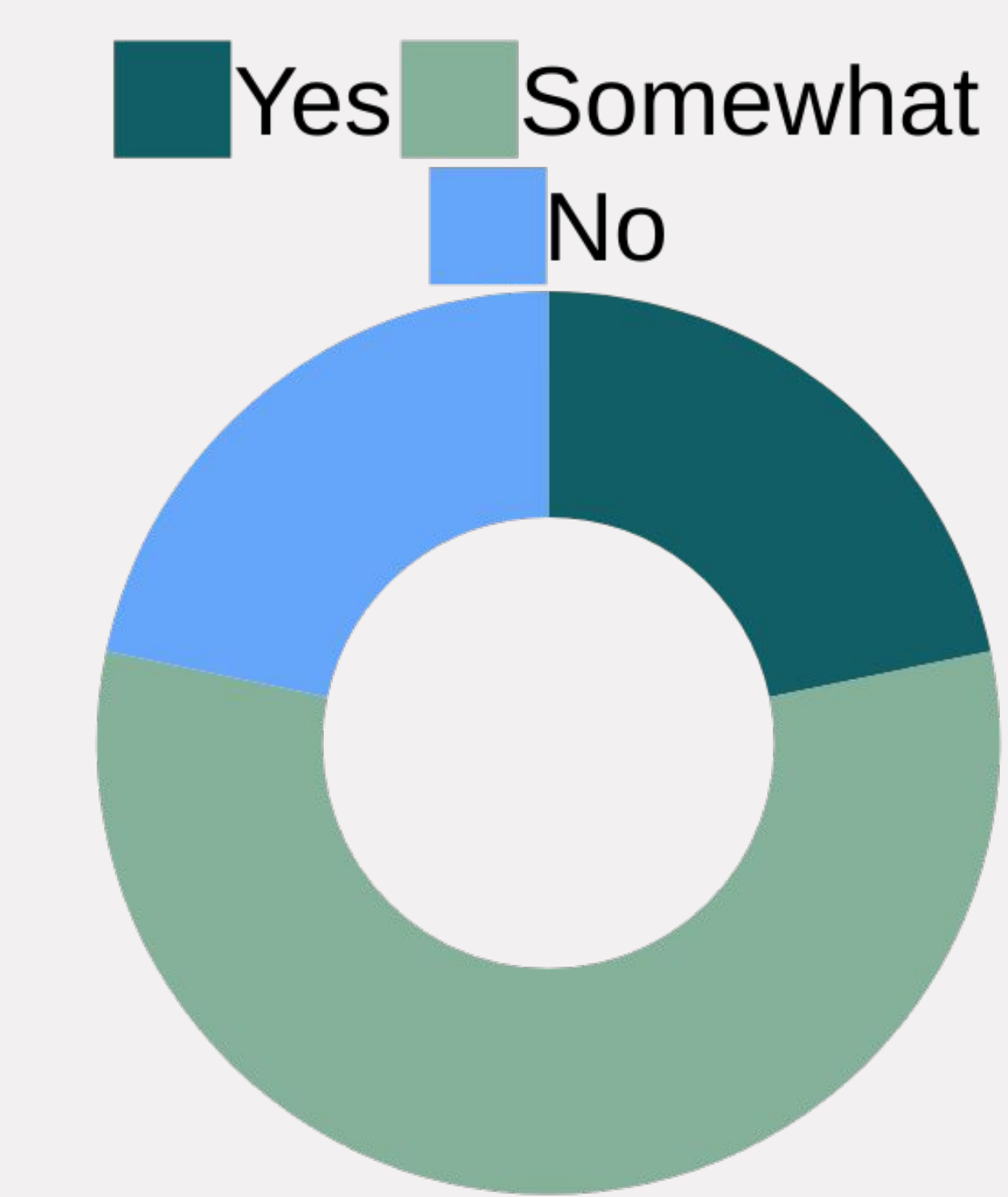
Collectively 79% responded 'yes, I am now motivated to actively improve my skills' or 'somewhat, I am considering further development'.

Figure C
How likely are you to explore or make use of skills development resources as a result of using this tool? %

Very	Somewhat	Neutral	Unlikely	Very unlikely
17	48	13	22	

35%
We asked if users were involved in skills development activities and whether the tool had had an impact on their taking part. 35% reported that the tool had had 'some' or a 'direct' impact on their taking part in their current skills activities

Figure D

Figure E
> [The tool] Helped me gauge what workplace specific skills I can improve in

> It [the report from the tool] presents a view of me that is too standardised

Next steps

1. Process more survey results as they come in.
2. Run follow-up focus groups with users to focus on motivation to take up skills development activities and how to improve the tool's recommendations.
3. Disseminating findings to stakeholders.
4. Planning to improve the tool with a wider steering group.

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