

Career readiness through time

Longitudinal analysis links careers provision to improved career readiness and essential skills

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Summary

In recent years, we have established a link between good careers guidance (as measured by the Gatsby Benchmarks) and outcomes for students, drawing on the increasing datasets we have available through schools and colleges reporting their self-assessments and students telling us about their career readiness through the Future Skills Questionnaire (FSQ).

This report marks the first time we have had enough matched yearon-year data from the FSQ to analyse the longitudinal relationship between Gatsby Benchmark achievement and student career readiness¹ and essential skills. The results reinforce previous findings² on career readiness, also improving their robustness to the possibility of unquantified background variables and extending the evidence to cover essential workplace skills.

We now have stronger evidence than ever that the highest quality careers provision leads to increased career readiness amongst young people.

- On average, students made a 2.1%pt faster gain in career readiness from 2022/23 to 2023/24 in a school with 8 benchmarks fully achieved than in a school with the equivalent of 1 benchmark.
- An increase from around 1 to 8 benchmarks fully achieved similarly correlated with students making on average a 1.9%pt faster gain in essential skills from year to year.
- Identifying these relationships in longitudinal data increases confidence that the correlations correspond to an underlying causal relationship, albeit still not the same level of confidence a randomised control trial would convey.
- For both career readiness and essential skills, the positive relationship with Gatsby Benchmarks is stronger in the longitudinal data analysis than the equivalent cross-sectional analysis, suggesting that the ideal control variables not available for our previous cross-sectional analyses served to dampen the true relationship between benchmark achievement and career readiness.
- Career readiness and essential skills scores are also strongly correlated with each other. In the 2023/24 FSQ sample, each 20%pt increase in career readiness score correlates initially with an average 10%pt improvement in essential skills score, declining to nearer 5%pts on average at the top end of the score spectrum.

This is important evidence for the careers system in England, bringing an additional layer of confidence at a national level in the value of good careers guidance delivered at school level. It is worth noting that national level effects may seem small in percentage point terms, but are significant in the context of the typical progress made year-to-year and the moderate influence of most variables on skills gains. Modest percentage point gains each year also have the potential to aggregate into significant effects over seven years in secondary education.

¹ Career readiness score derived from students' responses to the career knowledge and skills questions within the FSQ.here.

² Percy, C. & Finlay, I. (2024). Technical note: Careers education and career readiness. London: The Careers & Enterprise Company.

Introduction

This report focuses on how student career readiness and essential skills scores changed from 2022/23 to 2023/24 in English schools, as reported in our Future Skills Questionnaire data. We link the dataset with Compass data on self-reported careers provision, as measured in terms of Gatsby Benchmark score, to analyse the relationship between year-on-year student-level progress with school-level careers provision. The use of longitudinal data allows us to report on these relationships with greater confidence than previous cross-sectional analyses.



Key findings



On average, students made a **2.1%pt** faster gain in career readiness from 2022/23 to 2023/24 in a school with 8 benchmarks fully achieved than in a school with the equivalent of 1 benchmark.



An increase from around 1 to 8 benchmarks fully achieved is similarly correlated with students making on average a 1.9%pt faster gain in essential skills from year to year.



Identifying these relationships in longitudinal data increases confidence that the correlations correspond to an underlying causal relationship, albeit still not the same level of confidence a randomised control trial would convey.



For both career readiness and essential skills, the positive relationship with Gatsby Benchmarks is stronger in the longitudinal data analysis than the equivalent cross-sectional analysis, suggesting that the ideal control variables not being available for our previous cross-sectional analyses served to dampen the true relationship between benchmark achievement and career readiness.



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Methodology

This report marks the first time we have had enough matched yearon-year data from the Future Skills Questionnaire to analyse the longitudinal relationship between Gatsby Benchmark achievement and student career readiness. Specifically, we can look at the readiness that a student reported in the 2023/24 academic year and compare it against the readiness that same student reported in 2022/23, to analyse whether that individual student's progress was higher in schools with more Gatsby Benchmarks.

This longitudinal analysis is an important methodological advancement on our previous analysis, which relied on cross-sectional analysis within an individual year. Cross-sectional analysis told us that students in schools with more benchmarks were more likely to have higher career readiness.³ However, although the cross-sectional analysis adjusted as far as possible for student- and school-level characteristics, it is hard to be certain that these control variables adjust for everything that might influence the relationship between benchmarks and career readiness. For instance, we cannot control for student academic ability/ achievement at the individual level, although some indirect adjustment is available via other markers, or perhaps students. Or perhaps students with a high level of motivation and a proactive attitude towards their future might simply happen to be in high benchmark schools by coincidence.

With longitudinal analysis, by contrast, each student is their own control. Student- and school-level characteristics are broadly fixed in the short-term and we can assume that most of their impact on career readiness is either baked into their score in 2022/23 or into a fixed average progress trajectory they might make over the following year. In other words, even characteristics that we are unable to control for directly in the cross-sectional analysis become indirectly controlled for in the longitudinal analysis. For instance, if a student has long been proactive about their future or felt confident on account of their academic ability, these characteristics would have already resulted in higher career readiness in 2022/23. This longitudinal analysis remains short of the causal confidence gained from a randomised control trial but marks a significant increase in confidence relative to crosssectional analysis.

Data source and definitions

The analysis draws on the mainstream (i.e. non-SEND) versions of the Future Skills Questionnaire as completed by students during the 2022/23 academic year (the baseline year for longitudinal analysis) and the 2023/24 academic year (the endline year).⁴ Our usual data cleaning approach was applied, e.g., to remove older-dated duplicates or students using the inappropriate FSQ version for their year group, as described in our past research.⁵ Students complete FSQ at different points during the academic year, such that the results can be described as year-on-year progress but not necessarily as progress over a full year, as there is not typically a neat 12-month gap between surveys.

The career readiness score is calculated by first coding each response as either positive (1) or negative (0), in line with our previous analyses.

3 Specifically, a student in a school achieving all eight Gatsby Benchmarks would typically have a career readiness score 3.5% pts higher than a student in a school achieving one Gatsby Benchmark (n=25,158 KS4 students in 348 school clusters in 2022/23, p-value 0.00, with student, school, and geographic controls in place). Source: Percy, C. & Finlay, I. (2024). Technical note: Careers education and career readiness. London: The Careers & Enterprise Company.

4 Between 1st September 2023 and 31st July 2024.

5 Percy, C. & Finlay, I. (2024). Technical note: Careers education and career readiness. London: The Careers & Enterprise Company.



The resulting variables are then summed and dividing by the maximum achievable score for the questionnaire, then multiplying by 100 to obtain a percentage. The essential skills score is calculated to produce a similar percentage score from 0 to 100 based on the eight essential skills questions asked in each survey version, with individual responses scored 0-4.⁶ The underlying questions and response options can be accessed from our online resources.⁷

The Gatsby Benchmark measure is based on the benchmark achievement score from 0-100, where each of the eight benchmarks is equally weighted and calculated based on the subbenchmarks achieved. We operationalise Compass self-assessment scores for the 2021/22 academic year, noting the Compass evaluation is often completed during an academic year (and more commonly towards the end of an academic year than the beginning), such that the 2021/22 score provides a better indicator of baseline provision from the start of 2022/23 than the 2022/23 score. All schools are included in the modelling but only students who stayed in the same school for 2022/23 and 2023/24 are included. We analyse only students who stayed in the same school for both baseline and endline years, as the timing of FSQ during the year means that the careers provision level in both baseline and endline is relevant.⁸

The usual caveats apply to FSQ and Compass data. They are based on self-reported survey tools. FSQ, particularly for schools with substantial year-on-year data, is completed by schools that are highly engaged with CEC tools and the CEC approach to careers provision. Typically, such schools report higher levels of careers provision than others. FSQ is primarily completed by students in Key Stages 3 and 4. As a result, our results are more directly representative of lower secondary education in highly engaged schools than of all secondary education in England.

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Analysis approach

A simple longitudinal regression is applied, in which the outcome variable is a student's score in 2023/24, and the predictor variables are the student's score in 2022/23 and the school's Gatsby Benchmark score as identified at the end of 2021/22. The baseline score is used as a control instead of pre-calculating a change score as the outcome variable, in line with statistical practice to account better for regression to the mean effects over time. Further control variables are not included in this initial longitudinal analysis because each student's score in the previous year acts as their own control and control variables may inflate estimation variance with little benefit. Because the benchmark score is measured at school-level, standard errors are clustered at the school-level. Analysis confirmed that including a squared term for average benchmark score is not significant, so we continue with linear modelling.

The measurement of relationships with careers provision begins at those with approximately one benchmark fully achieved to better reflect the distribution of the data in the sample, in line with the 2024 report. Specifically, we exclude the bottom 5%ile of the distribution with a benchmark score below 65 on a 0-100 scale.⁹ For reference, 3% of schools had zero benchmarks in 2021/22. The top end of the range remains at 8/8 benchmarks fully achieved, which corresponds exactly with 100/100 benchmark score.

^{6 0 -} I don't know what this means; 1 - I'm not able to do this yet; 2 - I know what this is, but I'm not sure if I can do it; 3 - I can do this quite well but could develop further; 4 - I can do this really well

 $^{7 \ \}underline{https://resources.careersandenterprise.co.uk/resources/future-skills-questionnaire}$

⁸ In this analytical sample, this requirement only reduces the sample size by 1.7% or 267 students, although the number of unique schools in the sample reduces by 52.

^{9 65} is the average benchmark score identified with 1 benchmark fully achieved across a range of methods, including the average score for 1 benchmark fully achieved and predicting the number of benchmarks fully achieved in a regression using average benchmark score (both linear and squared term).

Results

Gatsby Benchmark provision and career readiness

The results continue to support the value of school-level careers provision for enhancing student career readiness, even at the reduced sample of students for which we have year-on-year data and in the subset of more highly engaged schools that are using FSQ the most.

On average, students made a 2.1%pt faster gain in career readiness from 2022/23 to 2023/24 in a school with 8 benchmarks fully achieved, as compared to a school with the equivalent to 1 benchmark fully achieved (n=15,396 in 198 schools, p-value 0.020). The 2.1%pt faster gain is 0.09 of a standard deviation in terms of 2023/24 career readiness scores.

Focusing on broadly the same subset of students where student-level controls¹⁰ are available, the 2.1%pt gain is a slightly larger increase than would be identified using cross-sectional analysis (average 1.6%pts gain in career readiness). Indicatively, this suggests that the control variables not available in cross-sectional analyses serve to dampen the true relationship between benchmark achievement and career readiness.

Gatsby Benchmark provision and essential skills

The same longitudinal methodology can be used to examine the relationship between Gatsby Benchmark provision and progress in essential skills.¹¹ Again the relationship is strongly positive. An increase from 1-8 benchmarks fully achieved approximately correlates with students making on average a 1.9%pt faster gain in essential skills from year to year (0.12 of a standard deviation; n=15,396 in 198 schools, p-value 0.002, higher than the 0.9%pt gain using the same cross-sectional analysis).

¹¹ Essential skills questions, based on the Skills Builder Universal Framework (NB pls hyperlink to https://www.skillsbuilder.org/universal-framework) are measured in Part 2 of the Future Skills Questionnaire.

Career readiness and essential skills

The 2023/24 FSQ dataset can be used to explore the cross-sectional correlation between career readiness and essential skills. On average, students with higher career readiness also reported higher essential skills achievement. The relationship is very strong, albeit slightly diminishing at the high end of scores (see graph). Predicting a student's essential skills score using their career readiness score (linear and squared term) explains 31.1% of the variance in essential skills (p-values 0.000; n= 228,689). On average, a 20%pt increase in career readiness score correlates initially with a 10%pt improvement in essential skills score, declining to nearer 5%pts at the top end of the score spectrum.





Source: Future Skills Questionnaire data, 2022/23 and 2023/24

¹⁰ Gender, FSM, SEN, EAL, and Year Group for their 2023/24 academic year.

Appendix: Descriptive data

Variable	Sample	Mean	Std. dev.	Min	Мах
Longitudinal data with FSQ 22/23 & 23/24 and GBM 21/22 data (analytical sample, i.e. mainstream FSQ survey variants only with students in same school in 22/23 and 23/24)					
Career readiness score (% positive) in 2023/24	15,396	59.5	23.6	0	100
Career readiness score (% positive) in 2022/23	15,396	54.4	22.6	0	100
Gatsby benchmark score (2021/22)	15,396	88.3	13.2	16.1	100
Number of benchmarks fully achieved (2021/22)	15,396	4.8	2.2	0	8
Essential skills score in 2023/24	15,396	67.0	16.5	0	100
Essential skills score in 2022/23	15,396	68.2	16.2	0	100
Cross-sectional data in FSQ 23/24 (analytical sample, i.e. mainstream FSQ survey variants only)					
Essential skills score	228,689	67.4	17.0	0	100
Career readiness score (% positive)	228,689	56.1	23.4	0	100







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