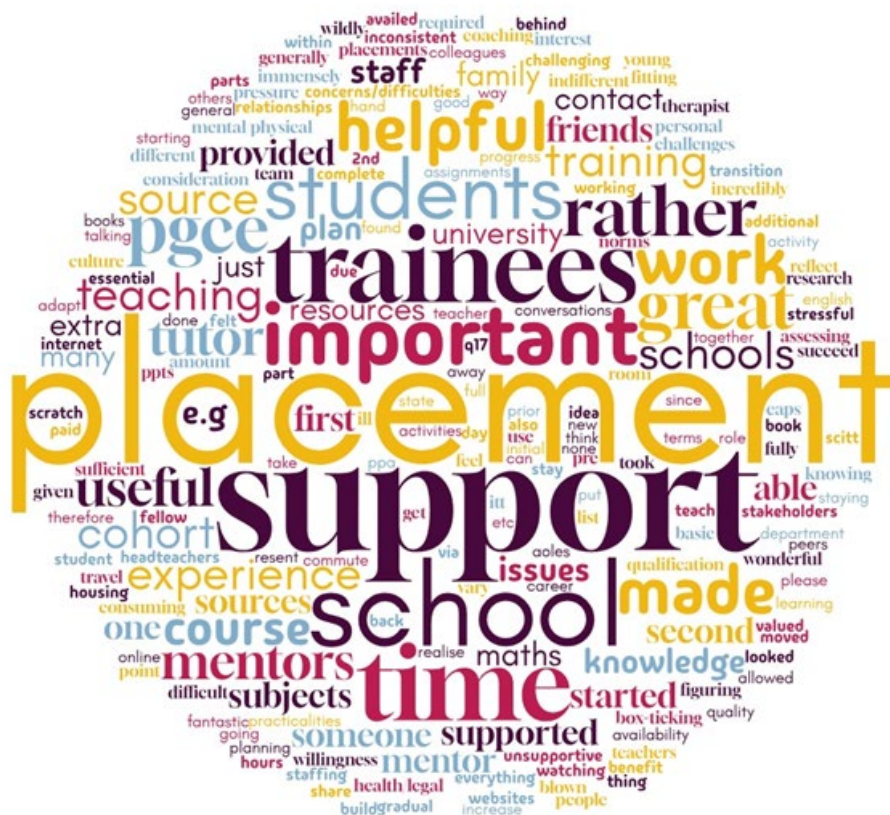


Secondary mathematics teacher recruitment: An overview of the landscape across the four nations of the UK

A report prepared for the Joint Mathematical Council of the UK

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August 2025



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1. Introduction

Teacher shortages are not new, especially in STEM subjects such as mathematics, and are present in many countries¹. England has long-standing teacher shortages, especially in some core secondary subjects, including mathematics. Shortages of well-qualified secondary mathematics teachers are also being reported in the other three nations of the UK. Education, including teacher education, in the UK is a devolved policy area, with the four nations of England, Scotland, Wales and Northern Ireland each responsible for their own education systems. Initial Teacher Education is different and operates in a different context in each nation and it is important to note that the mathematics curriculum is different and distinct in each nation with separate examinations. In England, the terminology for pathways leading to qualification as a teacher are collectively called ‘Initial Teacher Training’, but in the other nations ‘Initial Teacher Education’ (ITE) is used; this is the term used in this report. Those following such programmes are referred to as ‘trainee teachers’.

This report seeks to provide an overview of the landscape regarding Initial Teacher Education for secondary mathematics teachers structured around answering the following key questions from Joint Mathematical Council:

1. *What does the ITT landscape in each of the four nations of the UK look like now? What providers exist and what are their approaches, values etc? Are there identifiable pros/cons of each, and are there regional or other differences in fitness for purpose? What are the application processes and available incentives?*
2. *What are the historical trends in training numbers through the different routes in the four nations? What is the progression rate (e.g. from ITT to ECT in England), and what are the reasons for trainees failing to continue? In contrast, what are the reasons for staying? What contexts, resources or support have been significant?*
3. *Why are people deciding for/against a career in teaching mathematics? How do they choose a training route? Where incentives are available, are they working? Are application processes easily navigable?*

Whilst there is existing literature regarding recruitment of trainee teachers in the individual nations of the UK², there was very little literature found comparing the four nations and very little specifically about secondary mathematics ITE in each nation.

The report draws on interviews with stakeholders, a survey of teachers and trainees, recruitment and retention data, and literature to explore these questions (see Appendix for further methodological information). Ethical approval for the primary and secondary data collection was granted by the University of Southampton. The report is organised in sections derived from the key questions.

¹ De Witte, K., De Cort, W., Gambi, L. (2023). Evidence-based Solutions to Teacher Shortages. *NESET report*, Luxembourg: Publications Office of the European Union

² For example, <https://www.cga.cymru/site/index.php/en/documents-eng/policy-and-research/ewc-research/476-teacher-training-incentives-in-wales-international-policy-context/file>
[Universities' Council for the Education of Teachers.PDF](#)
[Teacher supply and shortages - The implications of teacher supply challenges for schools and pupils](#)
[https://www.eis.org.uk/Content/images/education/240829%20Education%20\(Scotland\)%20Bill%20response%20FINAL.pdf](https://www.eis.org.uk/Content/images/education/240829%20Education%20(Scotland)%20Bill%20response%20FINAL.pdf)

2. Current landscape in the four nations of the UK

2.1 Comparison table

The table provides comparisons between the four nations of the United Kingdom with regard to Initial Teacher Education for secondary mathematics against a series of criteria. Acronyms, along with further context and specifics for each nation are reported in the following sections.

	England	Northern Ireland	Scotland	Wales
Context ³	8.8 million students in 17000 state funded primary schools, 3400 state funded secondary schools, 1000 special schools. State funded schools include local authority run schools, free schools, academy schools, foundation schools, voluntary schools.	340,000 students in 800 State funded primary schools, 70 grammar schools, 130 (post primary) non grammar schools.	700,000 students in 2000 primary schools (5 - 12), 360 secondary schools (ages 12-18).	470,000 students in 1200 primary schools, 190 secondary schools (16% Welsh medium).
Main routes	2 undergraduate (UG) and 5 postgraduate (PG) routes. Fee paying and salaried. University-led and school-led routes.	UG and PG	UG and PG	PG Open University (OU) in Wales offer part time and salaried routes.
Qualification awarded	QTS (Qualified Teacher Status) Bachelor degree (UG) PGCE (Post Graduate Certificate in Education) or PGDE but not for all programmes	BEd PGCE Eligibility to teach	PGDE (Post Graduate Diploma in Education) BSc Qualification as a teacher	QTS PGCE BSc
Number and type of providers 2024/5	HEI PG – 56 HEI UG - 5 SCITT- 87 No allocation numbers for individual institutions but targets set by DfE	HEI PG – 1 HEI UG - 2 Allocations set by the DfE(NI)	HEI PG – 8 HEI UG – 2 Intake targets set by the Scottish Funding Council	HEI PG – 5 HEI UG – 1 Allocations set by Education Workforce Council

³ Forsythe, S. & Smith, C. (2020). Mathematics education 4-18 in the four nations: A comparative analysis. Joint Mathematical Council of the United Kingdom.

	England	Northern Ireland	Scotland	Wales
Entry requirements for PG	Bachelor's degree, relevant subject knowledge, GCSE (grade 4/C or above) in English and mathematics Additionally for Teach First – 2:2 degree.	Bachelor's degree at least a 2:2 in an acceptable discipline relevant to teaching mathematics or a cognate area if 50% or more of the modules studied are deemed currently relevant to teaching mathematics. Applicants with numerate degrees in a subject other than mathematics must possess at least a Grade C in A-level Mathematics. GCSE (grade 4/C or above) in English and mathematics.	Bachelor's degree must be in the subject chosen to teach, for some providers this is 80 SCQF credits, 40 of which are level 8 or above. Scottish standard exams: level 6 for English and level 5 for maths. Prefer some mainstream classroom experience if possible.	Bachelor's degree at least a 2:2 in a relevant subject, or a related subject with at least 50% relevant subject content. Grade C GCSE in English/Welsh. Grade C GCSE in Maths. Applicants for PGCE Maths will also require an A level in Maths as well as a relevant degree.
Application process	Teach First – separate process. UCAS for UG GOV.UK's "Apply for teacher training" service for others	Applications are made direct to the provider except for Stranmillis University College, which is through UCAS.	UCAS	UCAS OU – direct application
Programme structure for PG	Mostly on school placements with some time for theoretical learning in university or in a school. Some programmes are all school-based, but these still include taught elements.	Blocks of university-based tuition and school placement.	Half the time in university learning theory and techniques and the rest on school placement.	Work-based and university-based learning experiences will be closely integrated and the structure of the programme (one day per week at university/lead partner schools/alliances and four days per week on clinical practice).
Programme length	PGCE – 36 weeks PGTA – 12 months HPITT (Teach First) – 2 years TDA – 4 years UG – 3 or 4 years	BEd - 4 years PGCE - 36 weeks	UG – 4 years PGCE – 36 weeks	PGCE – 36 weeks OU – 2 years (part time fee paying and a salaried route)

	England	Northern Ireland	Scotland	Wales
Programme Content for PG	Initial teacher training and early career framework (ITTECF) sets out what trainee and early career teachers need to know, and know how to do, at the start of their careers ⁴ . Key features include: Intensive training and practice weeks, teaching practice in at least two schools, structured mentoring, strong partnerships between providers and schools, focus on evidence-based practice.	Framework for competences “Teaching: the reflective profession” Professional Values and Practice, Professional Knowledge and Understanding, Professional Skills and applications. 27 statements in total “rejects a restricted view of teaching competences” phase exemplars. Also code of values and professional practice. Features include: Close links with the Northern Ireland Curriculum, Focus on shared education, Strong religious education component, Partnership model between universities and schools. ⁵	Educational theory and practice that supports developing knowledge, understanding and practice in areas such as educational theory, childhood development and developing positive relationships. Legal and statutory frameworks. Also national priorities and pedagogies to develop understanding and practice in key areas. Focus on: Professional values and personal commitment. Professional knowledge and understanding. Professional skills and abilities. Deep integration with the Scottish curriculum. ⁶	Focus on: Professional standards for teaching and leadership, Welsh language development, Strong emphasis on research-informed practice, integrated academic and practical training.
Programme accreditation and inspection	Ofsted inspects providers. Providers also need to be accredited (most recently following the ITT Market review ⁷).	Programmes approved by DfE(NI) and accredited by GTCNI ⁸ . Inspected by ETI. ⁹	GTCS ¹⁰ accreditation renewed every six years.	Education Workforce Council ¹¹ accredit programmes and monitor compliance. Inspection by Estyn.

⁴ [Initial teacher training and early career framework - GOV.UK](#)

⁵ [Teaching: The Reflective Profession | The General Teaching Council for Northern Ireland \(gtcni.org.uk\)](#)

⁶ [A guide to the Professional Standards](#)

⁷ [Initial teacher training \(ITT\) market review: overview - GOV.UK](#)

⁸ [Home | The General Teaching Council for Northern Ireland \(gtcni.org.uk\)](#)

⁹ [Home | Education Training Inspectorate](#)

¹⁰ [GTC Scotland - the independent regulator for teachers in Scotland](#)

¹¹ [CGA / EWC](#)

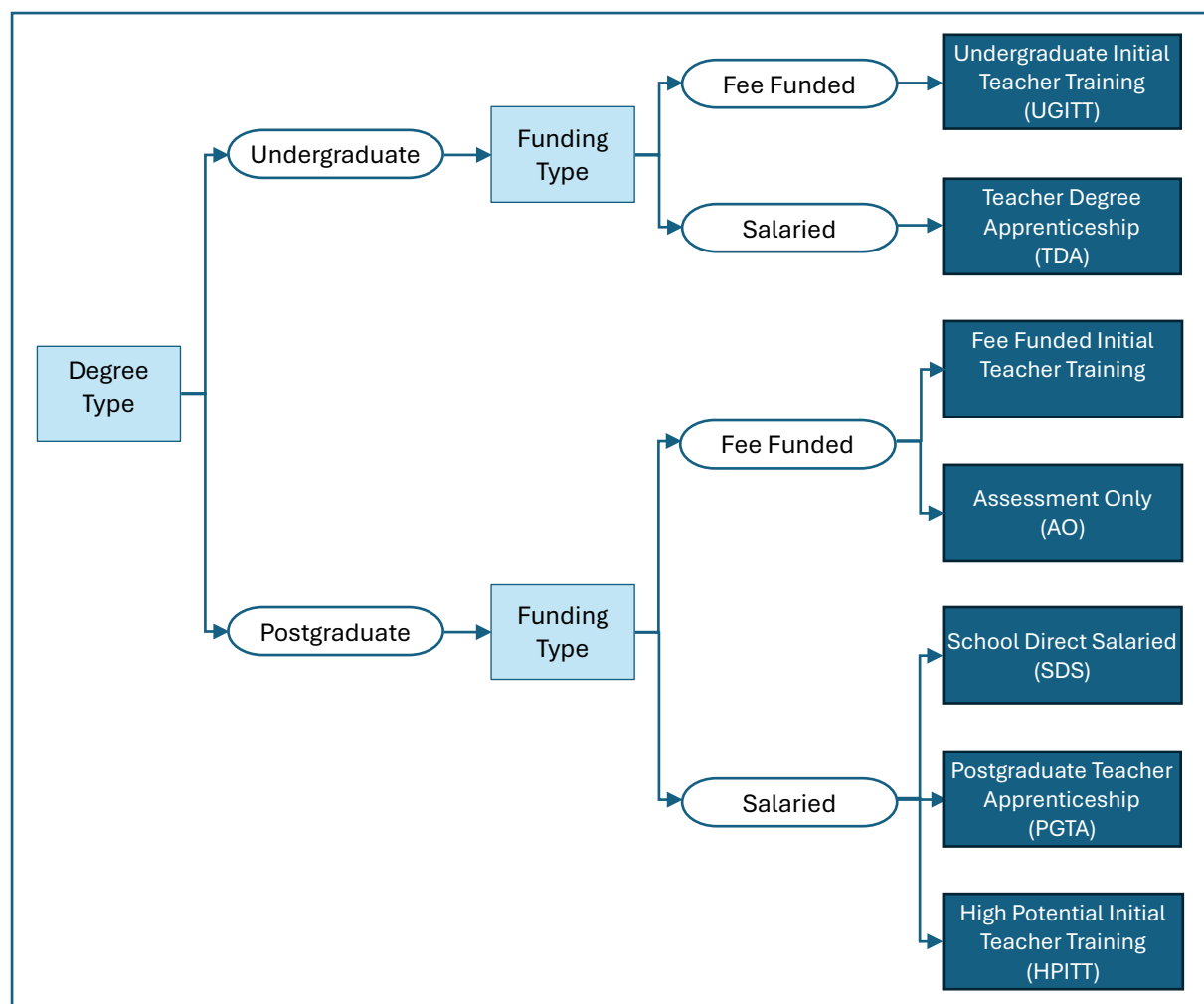
	England	Northern Ireland	Scotland	Wales
School placement requirements PG	All routes require placement in two different schools. Salaried route teaching load up to 90% of a full time teacher's duties and apprenticeship 80% in school. PG at least 120 days in school.	Two placements PG 24 weeks in school UG 32 weeks in school	Two or three school placements. Must be in Scotland. Half the time spent in school.	Two placements, both must be in Wales totalling 120 days.
Finance for PG(2025/6)	Fees £9535/year. Fee paying eligible for tuition fee and maintenance loan. £29000 bursaries or £31000 scholarships available for eligible subjects for those on a fee paying route.	Fees £4750 for NI and ROI, £9250 for GB students. Tuition fee loans and student finance.	Fees are paid for by the Scottish Government for Scottish students. Higher fees for those from the rest of the UK. Maintenance loans available. Bursaries of £20000 for career changers.	Fees £9535/year. Priority subject incentive bursary of £15000 with staged payments. Grant for ethnic minority students. £5000 grant for those following a programme enabling them to teach in Welsh.
Induction period	2 years Early Career Framework with reduced teaching load, training and funding for mentoring.	Induction (1 year) and Early Professional Development (EPD – 2 years) . Must register with GTCNI.	PGDE guarantees a teaching post for the probationary year with reduced teaching load and mentoring. Must register with GTCS.	One year with reduced teaching load, 13 days training and mentoring. Induction profile. Must register with EWC.
Incentives for ECTs	Early career payments in certain subjects (2018-19 onwards), professional development opportunities, teacher vacancy website and targeted student loan reimbursement scheme, support for career changers bursaries		Probationers are allocated a post in one of five authorities of their choice. If willing to complete their probation anywhere in Scotland they may receive a preference waiver payment.	Final staged payment of bursary on successful completion of induction year. 'Welsh in Education Teacher Retention Bursary' of £5000 for those who have completed 3 years of teaching in a Welsh-medium school.

2.2 Nation-specific contexts for Initial Teacher Education

The information presented in this section draws on both publicly available information referenced in the footnotes and information from the stakeholders interviewed.

2.2.1 Initial Teacher Education in England

As shown below, there are seven routes into teaching in England including two for undergraduates (fee funded degree and the salaried teacher degree apprenticeship). Of the five routes available for postgraduates, two are fee funded (assessment only and ‘fee funded ITT’). Fee funded ITT includes both Higher Education Institution (HEI) and School Centred ITT (SCITT) provision. There are three salaried routes (high potential initial teacher training, postgraduate teacher apprenticeship and school direct salaried).



Routes into teaching in England summary diagram¹²

The route with the most trainee teachers on it for secondary mathematics is the fee funded HEI route (although this is slowly decreasing) followed by fee funded SCITT route. Undergraduate numbers are very small. All routes lead to qualified teacher status which is required to teach in most, but not all, schools in England. HEI routes include a PGCE or PGDE. For school-led routes

¹² [Routes into teaching for domestic candidates - Becoming a teacher design history - Department for Education](#)

PGCE is often offered and is done so in partnership with an accredited awarding body such as a university. The National Institute of Teaching (NlOT) has recently gained degree awarding powers and is the first non-university body to do so. The organisation describes itself as on a 'journey towards becoming a specialist, school-led university for the teaching profession'¹³. Applications for postgraduate routes are made through a bespoke online service provided by the Department for Education. SCITT programmes are offered by individual schools or groups of schools and on these programmes the training is designed and developed by schools. Many SCITTs work in some way with universities, especially if they also offer PGCE to trainee teachers but they recommend for QTS in their own right.

All ITT providers were required to apply for reaccreditation following the ITT market review¹⁴ in 2021. Not all providers were reaccredited and following the first rounds of reaccreditation there was some re-positioning by providers through partnering with others. There is variation in provision within regions in England. There is central government control and oversight of ITE provision through Ofsted and the requirement that providers are compliant with the Initial teacher training and early career framework¹⁵. Trainee teachers are only recommended for the award of QTS if they have met the Teachers' Standards¹⁶. The Department for Education set teacher training targets for postgraduate recruitment in individual secondary subjects based on the Teacher Workforce Model; however, these targets are not limits and recruitment can exceed targets¹⁷.

Teach First have the current contract for high potential initial teacher training (HPITT) which is advertised as focusing on those who 'would be unlikely to join the profession or work in a school serving an area of greatest need' and targeted at 'high performing graduates and career changers'¹⁸. This two-year programme includes summer training before a September start in school. It is marketed as a fast track route leading to school leadership and roles in other sectors. Applicants can express a preference as to the subject they wish to teach but they may be asked to teach another more in-demand subject in which they are also considered qualified. Applications are made directly to Teach First.

The teacher degree apprenticeship (TDA) is a funded pilot programme due to start at seven institutions¹⁹ in the autumn of 2025 and currently only offering apprenticeships in secondary mathematics teaching²⁰. These are 4-year, full-time courses where students will spend an average of 40% of their time studying for their degree with a university and the remainder working as an unqualified teacher in a school. There are also other small projects supporting the recruitment secondary mathematics teachers, for example one run by Co-op Academies Trust with funding from the Maths Excellence Fund²¹. This employs graduates as 'Maths Excellence Tutors' for two years who then go on and apply for teacher training through a salaried

¹³ [National Institute of Teaching gains new degree awarding powers – The National Institute of Teaching](#)

¹⁴ [Initial teacher training \(ITT\) market review report - GOV.UK](#)

¹⁵ [Initial teacher training and early career framework - GOV.UK](#)

¹⁶ [Teachers' standards - GOV.UK](#)

¹⁷ [Postgraduate initial teacher training targets, Academic year 2025/26 - Explore education statistics - GOV.UK](#)

¹⁸ [Routes into teaching for domestic candidates - Becoming a teacher design history - Department for Education](#)

¹⁹ [Providers selected to deliver the teacher degree apprenticeship \(TDA\) funding pilot - GOV.UK](#)

²⁰ [Teacher degree apprenticeships \(TDAs\) | Get Into Teaching GOV.UK](#)

²¹ [Maths Excellence Fund](#)

route. Previous projects in England have included Future Teaching Scholars,²² which supported undergraduates through their degree and into a salaried ITT route and Researchers in Schools²³ which was a three year tailored programme for PhD graduates. Whilst not an ITE provider in its own right, Now Teach provides additional support for career changers interested in teaching²⁴.

A longstanding shortage of mathematics teachers (alongside some other subjects) led to the provision of pre-ITE subject knowledge enhancement courses (SKEs). These are usually online programmes with a bursary and no fees which aim to upskill trainee teachers in mathematics subject knowledge prior to their teacher training programme. Suitable candidates are identified during the application process for ITE and must meet set criteria²⁵ in order to qualify. Teachers have opportunities for professional development through the National Centre for Excellence in the Teaching of Mathematics (NCETM)²⁶ and the Maths Hub network as well as the National Professional Qualifications²⁷; although the latter does not have a secondary mathematics-specific offer. Masters programmes for teachers are available, but there are no national funding programmes currently for these and fewer teachers in England now take up these programmes than previously.

2.2.2 Initial Teacher Education in Northern Ireland

ITE in Northern Ireland is provided through a small number of long-standing specialist institutions and ITE programmes are designed to reflect the core values and competencies from the GTCNI. All secondary mathematics ITE is provided through two university undergraduate programmes lasting four years and one postgraduate programme of one year duration. Programmes are also available through the medium of Irish. All teachers are required to register with the General Teaching Council for Northern Ireland (GTCNI). Recruitment quotas are set by the Department for Education in Northern Ireland. Typically, mathematics teachers in Northern Ireland either have a BEd or a degree in mathematics. Primary ITE programmes are more popular than post-primary (secondary). The recently observed drop in postgraduate recruitment is attributed to the lucrative job opportunities available in the Belfast area for mathematics graduates in the fields of finance and data analytics. In the past, newly qualified teachers used to leave to go and work in the independent sector in England and Wales but many are now attracted to the Middle East with Doha and Dubai being popular destinations. Newly qualified teachers also move to the Republic of Ireland, where salaries are higher and holidays are longer. A shortage of secondary mathematics teachers is becoming evident, with rural areas in particular finding recruitment difficult. There has been a long period of industrial action short of a strike by teachers and, whilst the starting salary has recently increased, low pay is still an issue. Historically, there used to be no shortage of teachers and it was very difficult to get a permanent job in teaching and there is still a tendency for some schools to recruit staff to posts on temporary contracts. Other system-wide challenges in the profession relate to a lack of continuing professional development opportunities for teachers²⁸ and variability in provision of mentoring for beginning teachers.

²² [Future Teaching Scholars | Maths & Physics Teacher Training](#)

²³ [Researchers in Schools: Use your PhD to make a real difference](#)

²⁴ [NowTeach - Teacher Training as a Second Career](#)

²⁵ [Subject knowledge enhancement \(SKE\) | Get Into Teaching GOV.UK](#)

²⁶ [Home | NCETM](#)

²⁷ [National professional qualification \(NPQ\) courses - GOV.UK](#)

²⁸ [Universities' Council for the Education of Teachers.PDF](#)

2.2.3 Initial Teacher Education in Scotland

The mathematics curriculum in Scotland is considered very traditional with a strong focus on teaching towards exams. All secondary mathematics ITE is provided by universities through BSc Education and PGDE (Post Graduate Diploma in Education) routes. Programmes are also available in the medium of Gaelic and the Scottish government sets targets for recruitment. Programmes are also available as ‘dual certification’ where a trainee qualifies to teach two school subjects. Part time programmes are also available and there are a small number of alternative university routes such as the MSc programme at University of Edinburgh in transformative teaching and learning. This is a two year programme leading to a Masters degree and teaching qualification leading to opportunities to work across primary/secondary transition. In 2017/18 and 2018/19 the Scottish government supported pilots of some alternative routes into teaching in STEM subjects²⁹. Overall, the number of trainee teachers is decreasing and there are now shortages of mathematics teachers in many areas. Recruitment of trainee teachers and of qualified teachers is strongly influenced by geographical factors. In the larger cities there is a degree of competition between universities for students but outside of the central belt (running from Glasgow to Edinburgh) prospective teachers are often seen to do their PGDE where they studied as an undergraduate. In very sparsely populated areas there are fewer people who want to become teachers and local provision needs to be made for those that do want to train who are often also career changers. Support is needed to ensure that these students are able to stay in places such as the Highlands where it is more difficult to recruit teachers. Population migration due to development means that there will be an increasing need for teachers in the East of Scotland. Scotland has an excess of primary teachers. Primary trained teachers are only allowed to teach at lower secondary level and are not allowed to teach national qualification classes. Distinctive to Scotland are the central placement system, which arranges placements for trainee teachers, and the employment guarantee for probationers. The latter is arranged through local authorities, who have responsibilities for education, but the size and geography of some local authorities means that probationers may still be placed some distance from their home. Schools sometimes find that allocated probationers don’t take up their posts. Teachers are required to register with the General Teaching Council for Scotland (GTCS) which also offers a flexible registration route for those who choose to work part time or in the independent sector. Some new teachers go and teach in Dubai and the Middle East. There are no official mentoring schemes for those in schools working with trainees.

2.2.4 Initial Teacher Education in Wales

In Wales, all secondary mathematics ITE is provided by universities in partnership with schools through postgraduate (PGCE) programmes. The Open University in Wales (OU) offer a part time programme and a salaried programme. There is strong oversight of programmes from the Education Workforce Council (EWC) regarding entry criteria and accreditation, in particular. All teachers are required to register with the EWC. Programmes are offered in the mediums of both English and Welsh, with a requirement that those going on to teach in Welsh medium schools must be Welsh speakers. Recruitment to Welsh medium programmes is very difficult and consequently schools find it extremely challenging to recruit Welsh-speaking mathematics teachers. There is very little movement of teachers between English-medium and Welsh-medium schools with teachers tending to stay teaching in the medium they start teaching in. Recruiting secondary school mathematics teachers is challenging, particularly in some areas.

²⁹ [Alternative+routes+into+teaching+-+February+2020v3.pdf](#)

This is likely to have been exacerbated by PGCE provision (other than the OU) being in the North and South of Wales, with no provision in the West or mid-Wales. Not all the universities with BSc mathematics programmes also offer PGCE programmes meaning that there is not always a natural progression for students at those universities. PGCE programmes are expensive for universities to run and the current funding environment in Higher Education is putting pressure on staffing levels for PGCE programmes. Notably, Wales has a funded career pathway for teacher professional learning leading to the National MA Education (Wales) as part of the Welsh Government Early Career Teacher Package and then the National EdD (Wales)³⁰.

2.3 Comparison

The comparisons made here principally draw on the information in the previous sections. These are set in the context where 84.25% of the UK population are in England, 8.2% in Scotland, 4.7 % in Wales and 2.8% in Northern Ireland³¹. In England, recruitment targets are not set at institutional level and do not function as a maximum in the way they do for the allocations in the other nations. In Northern Ireland, Scotland and Wales teachers are required to register with the relevant professional body; there is no such requirement in England. You must be qualified to be a teacher in a maintained school but currently in England academy schools and free schools can employ teachers without QTS.

Whilst shortages of secondary mathematics teachers are long-standing and well-documented in England, it is clear that the other nations are now also facing recruitment challenges. The smaller nations have particular geographical features leading to some areas finding it difficult to recruit teachers.

In England, ITE is characterised by variation, complexity and change. There have been long-standing shortages of teachers and there is a great deal of centralised regulation from the DfE regarding ITE. Over the last 10 years the narrative from government regarding ITE has focused on ‘training’, what beginning teachers need to know and need to know how to do, and on training designed and led by schools. This is in contrast to the other three nations where the narrative is around ‘teacher education’ rather than ‘training’. In Northern Ireland, for example, ITE is positioned firmly as ‘Teacher Education’ and has a focus on ‘Teacher Professional Learning’ as an ongoing and developmental process³².

Whilst in England there are many routes for ITE delivered by different organisations, in the other three nations all ITE is delivered through universities. In Wales, ITE is only available as a postgraduate programme. Wales is the only one of the smaller three nations where there is a salaried route available for trainee teachers. In all four nations the general expectations for subject knowledge for entry to a postgraduate programme to study mathematics are similar and set by government. The Welsh government requires providers to adhere strictly to their requirements regarding degree level mathematics, whereas in the other nations providers have more latitude to make their own entry decisions regarding the mathematics subject knowledge needed to teach. Pre-ITE subject knowledge enhancement programmes are only available in England. Postgraduate programmes are of similar length in all four nations, although

³⁰ [Homepage - MA Education](#)

³¹ [Population of UK 2025](#)

³² [Universities' Council for the Education of Teachers.PDF](#)

undergraduate programmes are three years in England (except for TDA) and four years in the other nations.

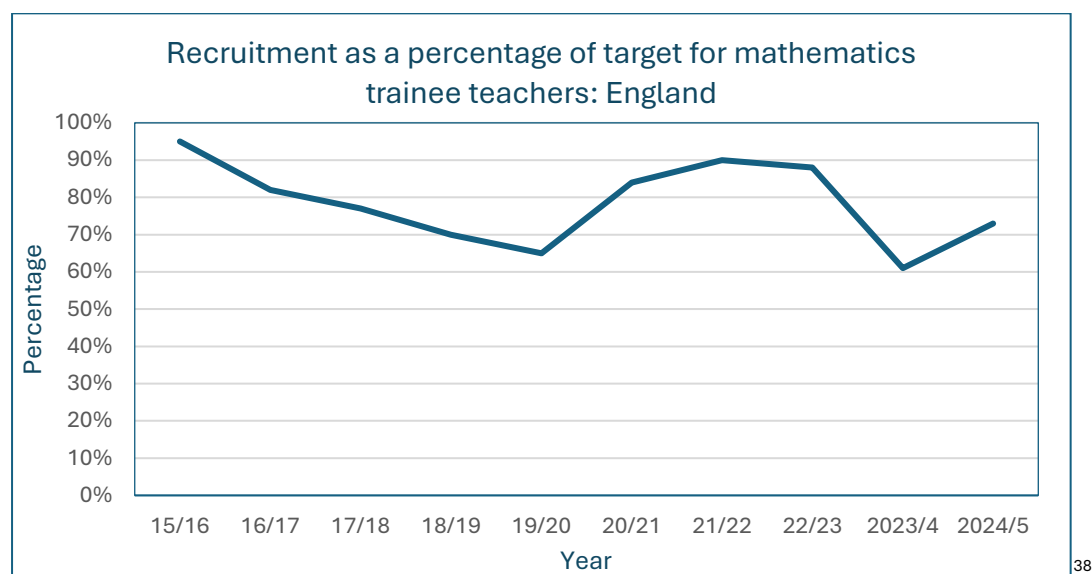
Working in partnership with schools is considered essential in all four nations and in all four nations trainee teachers spend a considerable amount of time on school placement and in at least two different schools. Trainee teachers in Scotland on a PGDE spend less time in school compared with the other three nations. There is some variation between nations regarding the requirements for mentor support for trainee teachers. Opportunities for professional development for secondary mathematics teachers also differ across nations with Wales offering nationally funded Masters and doctorate programmes, England having mathematics-specific professional programmes through NCETM and no clearly identifiable nationally offered programmes in Scotland or and Northern Ireland.

There is some variation in fees across the four nations with home students in Scotland having their fees paid by the Scottish government and lower fees in Northern Ireland for home students. The difference in bursaries is notable across the four nations, with Scotland only offering bursaries for career changers, Wales offering a bursary approximately half that of the English bursary and no bursaries in Northern Ireland.

3. Recruitment trends

3.1 England

In England, there has been long-term under-recruitment to targets set for secondary mathematics ITE and the recruitment target has not been met since 2011/12. The figure below clearly shows a decreasing recruitment against target followed by a pronounced ‘covid effect’ rise and drop. The subsequent post-pandemic rise in percentage recruitment against target is attributed by NFER to a significant fall in the recruitment target³³, although there was also a corresponding small rise in actual numbers of trainee teachers as shown in the second figure. Most recently, recruitment has risen with Schoolsweek reporting in April 2025³⁴ that mathematics ITE programmes were expected to recruit above the target for 2025/26. It remains to be seen how high actual recruitment is for 25/26. Caution should be exercised as these increases may have been fuelled by challenges in the graduate job market and current economic uncertainty rather than being an indicator of longer term improvement in recruitment. This forecast of improved recruitment has led to the DFE reducing the target³⁵ for secondary mathematics trainee teachers by 25% for 2025/26³⁶. According to NFER, targets are expected to increase if subjects have substantially under-recruited in previous years which would suggest that the mathematics target should not have been decreased. NFER further point out that the target for mathematics may not reflect the education system’s need for mathematics teachers to meet aspirations for more students to study mathematics to age 18. It should also be noted that substantial numbers of pupils in secondary schools are taught mathematics by non-specialist teachers³⁷, suggesting a continuing need to train new specialist teachers.



³³ [Teacher Labour Market in England Annual Report 2023 - NFER](#)

³⁴ [Teacher applicants rise across most subjects, as targets lowered 20%](#)

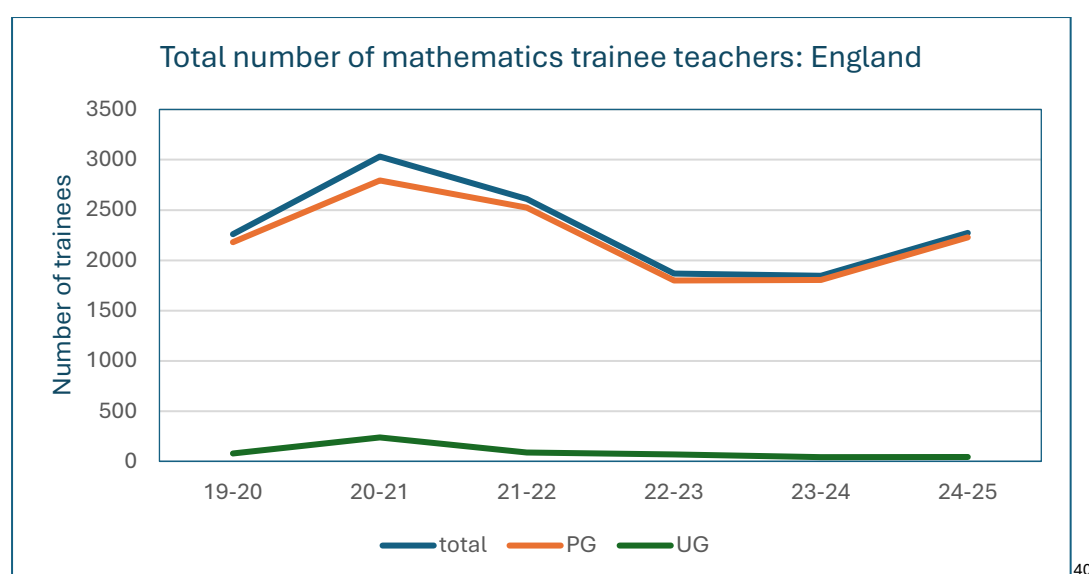
³⁵ Targets also take into account that fewer teachers are forecast to leave, pupil growth rate is decreasing and there have been more returners to the profession

³⁶ [Postgraduate initial teacher training targets, Academic year 2025/26 - Explore education statistics - GOV.UK](#)

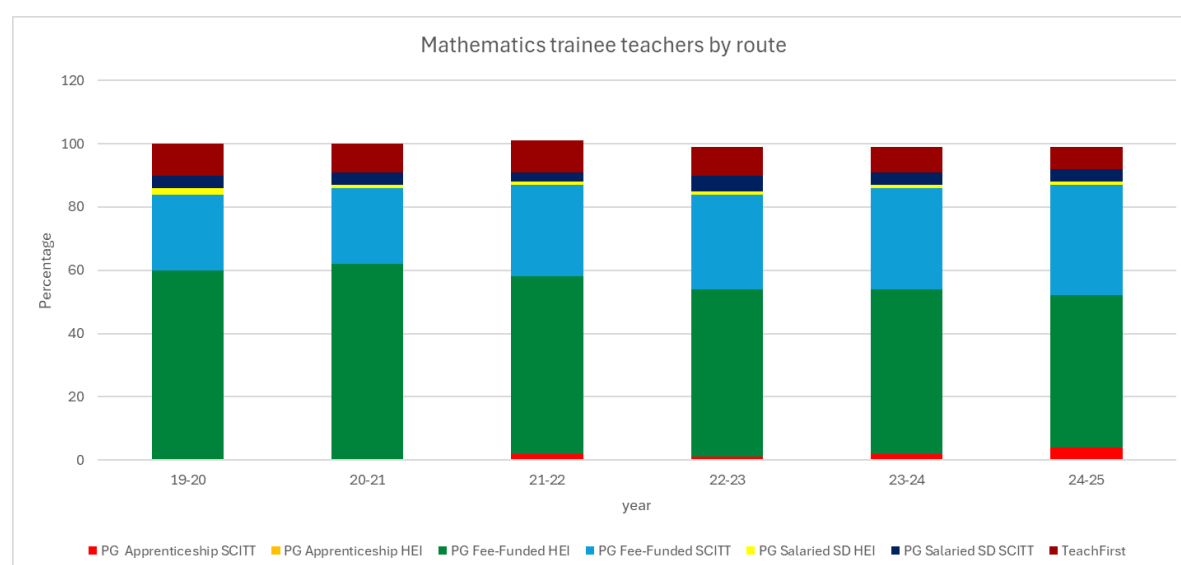
³⁷ [Recruiting, developing, and retaining the mathematics teaching workforce in England: An MEI discussion paper - MEI](#)

³⁸ [Initial Teacher Training Census, Academic year 2024/25 - Explore education statistics - GOV.UK](#)

Actual numbers of trainee mathematics teachers, whilst rising, are still less than five years ago. This should be of concern given that secondary pupil numbers are increasing³⁹. Numbers on undergraduate programmes for secondary mathematics teaching seem to be on a slow decrease with some programmes closing.



The following figure shows that, whilst more than 80% of trainee mathematics teachers follow fee-funded routes, the percentage of mathematics trainee teachers on university fee-funded routes is slowly decreasing with a corresponding increase in SCITT fee-funded routes.



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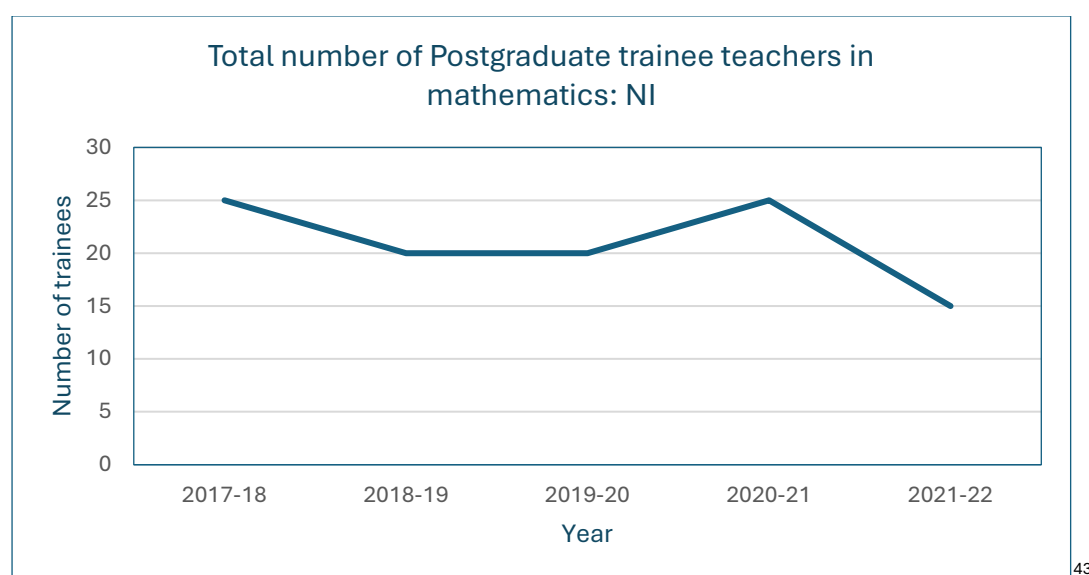
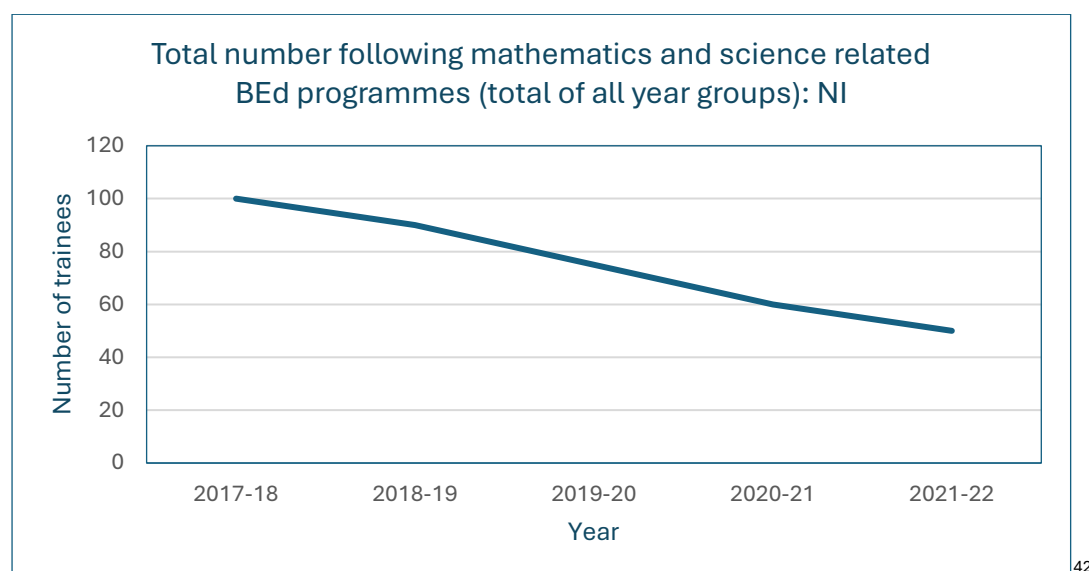
³⁹ [Schools, pupils and their characteristics, Academic year 2024/25 - Explore education statistics - GOV.UK](#)

⁴⁰ [Initial Teacher Training Census, Academic year 2024/25 - Explore education statistics - GOV.UK](#) updated 30 Jan 2025

⁴¹ [Initial Teacher Training Census, Academic year 2024/25 - Explore education statistics - GOV.UK](#) updated 30 Jan 2025

3.2 Northern Ireland

The approved total intake across all subjects for the four-year Post-Primary BEd is 100 per year. The figures show a steady decrease in the numbers of both undergraduates studying mathematics as part of their teacher training and of postgraduate trainee mathematics teachers.



UCETNI⁴⁴ identify that recruitment of teachers is not as challenging in Northern Ireland as other parts of the UK but does acknowledge that there are some difficulties relating to specific subject areas including mathematics. They foresee some challenges ahead; this is borne out by the stakeholder interviews for this report.

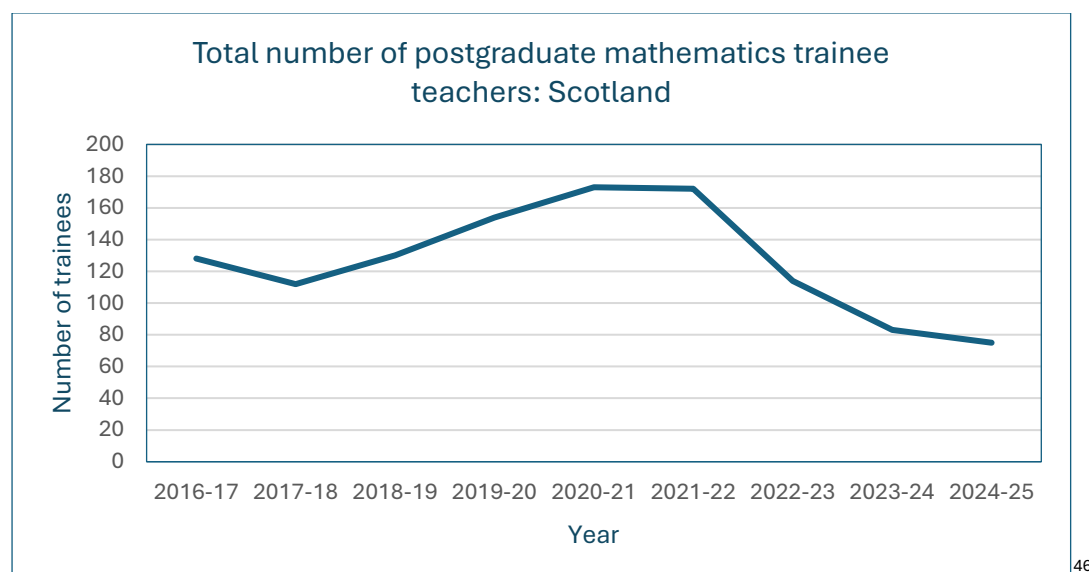
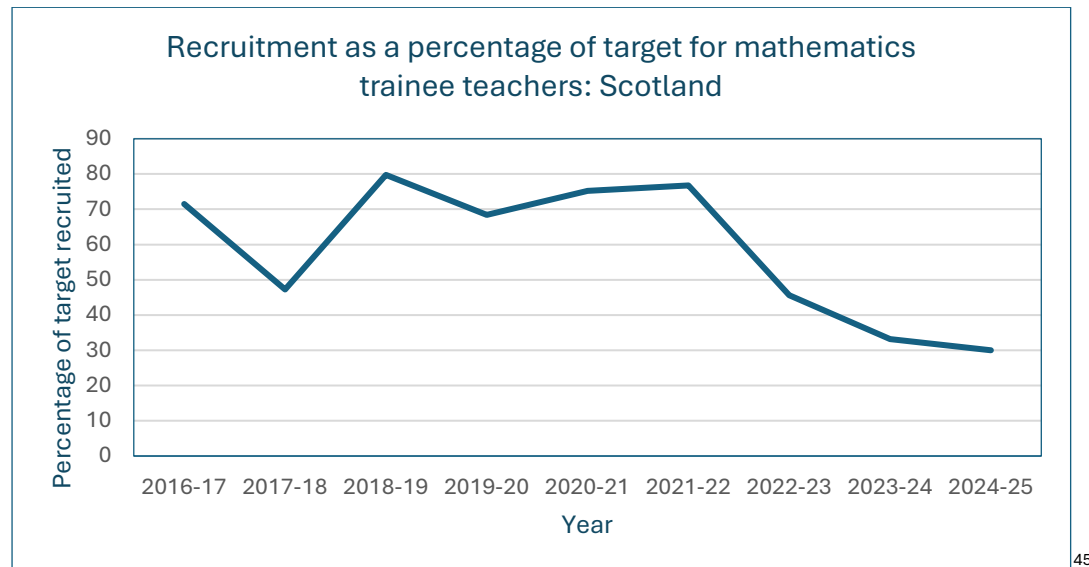
⁴² Northern Ireland Department for the Economy (Higher Education Statistics Agency). All the data provided was provided rounded to the nearest 5 to prevent the identification of individuals and was only available for academic years up to 2021/22.

⁴³ Northern Ireland Department for the Economy (Higher Education Statistics Agency)

⁴⁴ [Universities' Council for the Education of Teachers.PDF](#)

3.3 Scotland

The figures for Scotland also show the ‘covid effect’ seen in the English data. However, the figures do not show any subsequent uptake and numbers continue to decline, whilst the intake target for PGDE secondary mathematics has remained at 250 in recent years. Recruitment as a percentage of target is very low for 2024/25.

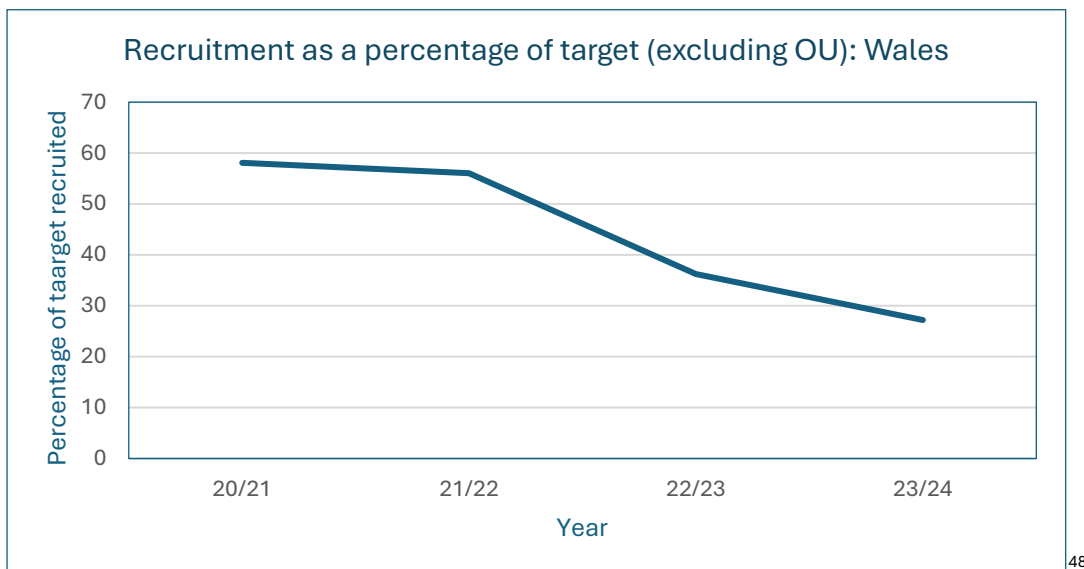
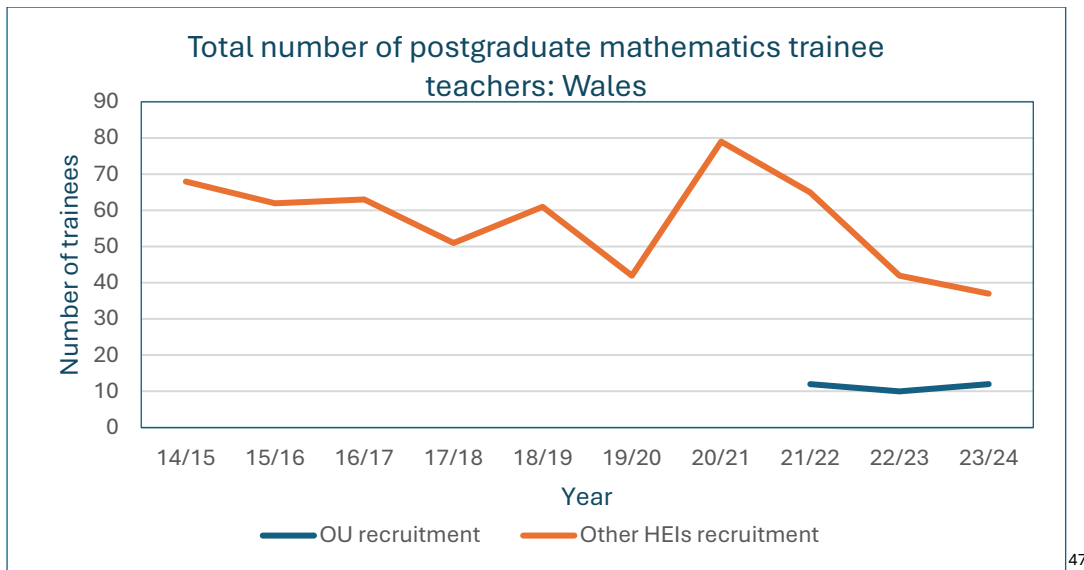


3.4 Wales

The figures for Wales show a steady decline for recruitment against target. Despite a rise in actual numbers over the covid period, overall numbers show a continuation of the pre-Covid decline.

⁴⁵ Teacher Workforce Planning Advisory Group www.gov.scot

⁴⁶ Teacher Workforce Planning Advisory Group www.gov.scot



A report commissioned by the Welsh government and published in November 2024⁴⁹ found that trainee teacher numbers were declining, especially in STEM subjects and languages. It also found that there were more recruitment problems in rural areas in North and West Wales and in urban areas outside Cardiff and Swansea.

3.5 Completion and early career retention rates

There is very little data available on completion rates for ITE programmes, with none available for Northern Ireland. What was available is presented here. Barriers and enablers are discussed later in section 5.

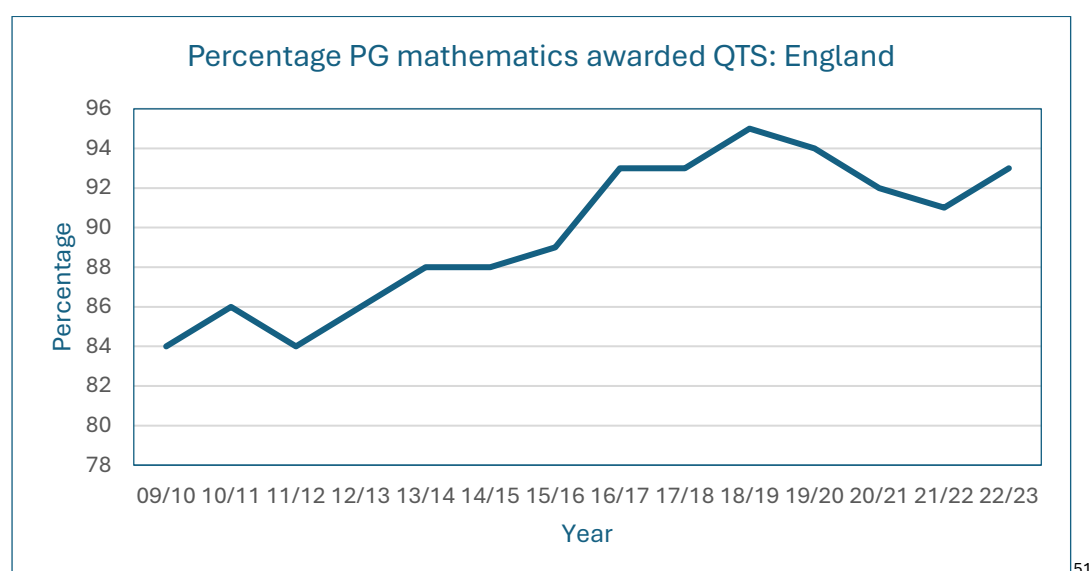
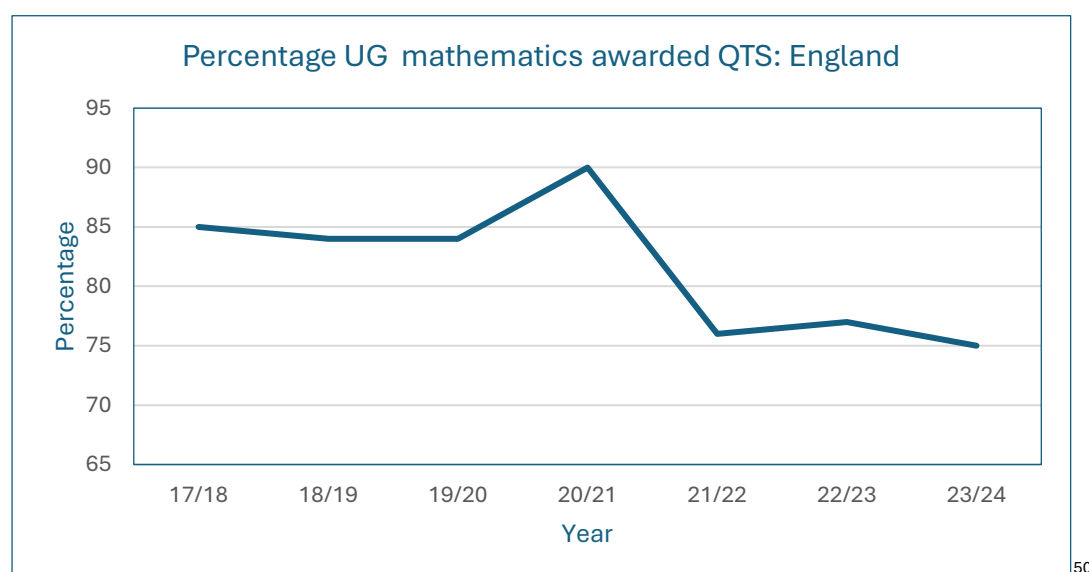
In England the percentage of undergraduates being awarded QTS has declined; however, it should be noted that the number of undergraduates on programmes leading to the award of QTS

⁴⁷ [Education workforce statistics](#)

⁴⁸ [Initial teacher education \(ITE\) intake allocations](#) and [Education workforce statistics](#)

⁴⁹ [The effects of high-quality professional development on teachers and students: a cost-benefit analysis](#)

is now very small. The percentage of secondary mathematics postgraduates awarded QTS rose prior to the pandemic, it then dipped but looks to have risen again to pre-pandemic levels.



In England, the teacher retention rate in state-funded schools for those who qualified in all subjects one year after qualification in 2023 was 89.7%⁵².

In Scotland, for all subjects, about 80% of those who complete postgraduate teacher training and about 90% of those completing undergraduate teacher training start the teacher induction scheme and register with the GTCS⁵³. These percentages exclude those on the flexible registration route.

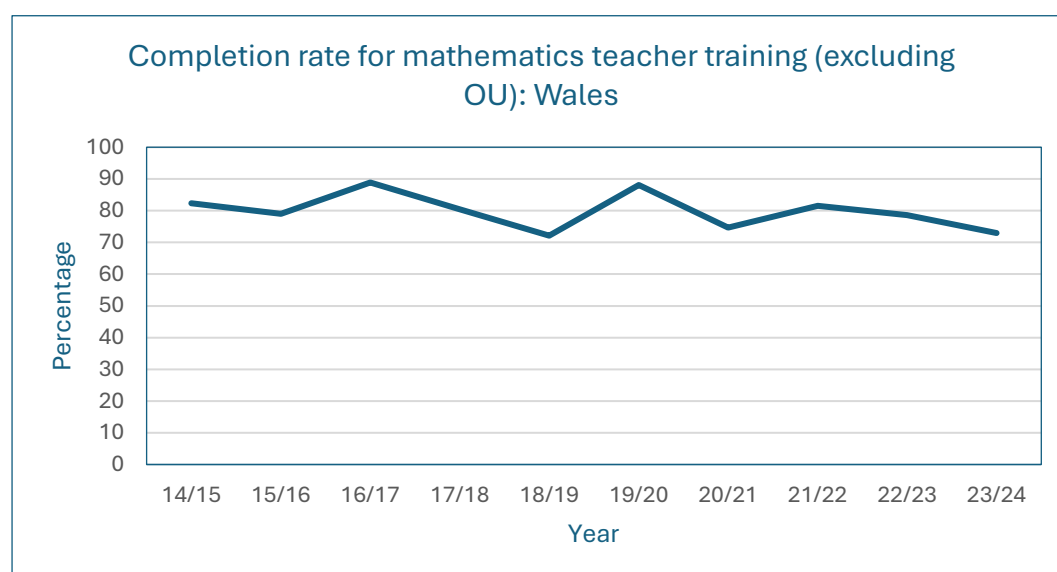
⁵⁰ [Initial teacher training performance profiles, Academic year 2023/24 - Explore education statistics - GOV.UK](#)

⁵¹ [Initial teacher training performance profiles, Academic year 2023/24 - Explore education statistics - GOV.UK](#)

⁵² [School workforce in England, Reporting year 2024 - Explore education statistics - GOV.UK](#)

⁵³ [Teacher Workforce Planning - 2023 exercise - Statistical modelling paper - gov.scot](#)

Completion rates for secondary mathematics in Wales show some decline and are lower than those in England.



3.6 Recruitment challenges

Data for this section is drawn from the interviews with stakeholders and provides insight into the figures earlier in this section. Themes are reported as those that were common across more than one nation, and those that were nation-specific. The table indicates in which nations a theme was mentioned, but absence of mention should not necessarily be taken as meaning the theme is not present in that nation.

3.6.1 Common themes

Theme	England	Northern Ireland	Scotland	Wales
Negative perceptions, and misinformation, around teaching as a career: - Not seen as an attractive, well-regarded career - Concerns regarding behaviour of young people, classroom management and workload - Salary - Career prospects - Teaching under-valued - Image problem with mathematics teaching - Family and friends who are teachers dissuading potential applicants	X	X	X	X
Teaching is portrayed negatively in the media	X		X	X
Workload – teaching is perceived as a career where there is high workload and there are difficulties achieving work-life balance	X	X		X
Other more financially rewarding opportunities for mathematics graduates	X	X	X	

Theme	England	Northern Ireland	Scotland	Wales
Career progression – lack of opportunities, lack of awareness of potential applicants of opportunities	X		X	X
Lack of opportunities for flexible working – new graduates particularly are looking for opportunities for hybrid or part time working	X		X	
Negative attitudes towards mathematics	X		X	

These issues are also identified in the literature, including in Snell et al.'s⁵⁴ recent study of STEM undergraduates, which also found a 'significant knowledge deficit about what teaching entails' amongst students (p.1) and also in Wang & Houston's research on Scottish undergraduate students⁵⁵. The literature supports the concerns raised in the interviews regarding teacher pay. In 2023, NFER⁵⁶ reported that 'the deteriorating competitiveness of teacher pay in England is likely to be one significant factor affecting supply. Teacher pay has grown more slowly than average earnings in the wider economy' and that this was 'likely to have had a negative impact on recruitment' (p.i). The issue regarding the need for opportunities for flexible working was raised in both the evidence submission Teach First made to the House of Commons Education Committee⁵⁷ and by the 2025 School Teachers' Review Body⁵⁸ for England. The survey Teach First⁵⁹ commissioned to investigate the attitudes of Gen Z towards teaching identifies that, whilst respondents saw teaching as a socially valuable profession, they also wanted flexibility and better pay, and perceived teaching as being stressful. Work from Snell & Klassen⁶⁰ found Gen Z recognising teaching as fun and people-focused but also as underpaid with a lack of autonomy. These problems are not only found in the UK. The work of Flores et al.⁶¹ exploring teacher shortages in Portugal identified negative portrayals of teaching in the media as contributing to recruitment difficulties and Magni⁶² noted that the teaching profession is becoming less attractive in Italy due to job dissatisfaction, low pay and poor working conditions. Research also identifies recruitment as closely linked to the availability of other well-paid attractive career opportunities⁶³; an issue identified in the stakeholder interviews and by USCET⁶⁴.

⁵⁴ Snell, R., Klassen, R., Thompson-Lee, S. & Wang, H. (2025) Back to basics with teacher recruitment: What do STEM undergraduates want? *European Journal of Education* 60(1) e12840

⁵⁵ Wang, W. & Houston, M. (2023) Teaching as a career choice: The motivations and expectations of students at one Scottish University *Educational Studies* 49(6) pp 937-954

⁵⁶ [Policy options for a long-term teacher pay and financial incentives strategy - NFER](#)

⁵⁷ [Teach First - Recruitment, Training and Retention of Teachers | Teach First](#)

⁵⁸ [School Teachers' Review Body 35th report: 2025 - GOV.UK](#)

⁵⁹ [Tomorrow's teachers: A roadmap to get Gen Z into the classroom | Teach First](#)

⁶⁰ [PsyArXiv Preprints | From Misinformation to Motivation: Why Generation Z is \(or Isn't\) Choosing Teaching](#)

⁶¹ Flores, M., Oliveira, H. & Pedro da Ponte, J. (2025) From teacher surplus to teacher shortage and its effects on teacher education: The Portuguese case *European Journal of Teacher Education* 48(1) 26-44

⁶² Magni, F. (2025) Teachers' shortage and initial teacher education reforms in Italy: An overview *European Journal of Teacher Education* 48(1) pp. 81-96

⁶³ Podolsky, A., Kini, T., Darling-Hammond, L., & Bishop, J. (2019) Strategies for attracting and retaining educators: What does the evidence say? *Education Policy Analysis Archives*, 27(38)

⁶⁴ [USCET Evidence into Parliamentary Inquiry into Teacher Recruitment and Retention \(May 2025\) | USCET](#)

3.6.2 England

Those interviewed in England raised issues about visas for international applicants, particularly around these applicants not understanding that they are not eligible for the bursary. They reported that those that do come and train then find it difficult to get jobs because they need a visa and schools find it difficult to support visa applications. The number of different routes for ITE in England is also considered to be confusing to applicants who find it difficult to identify the differences and similarities between the routes. A shortage of good applicants leads to competition between providers. Subject Knowledge Enhancement programmes have become an established part of the landscape in England. However, lack of subject knowledge is still reported as a problem in England with applicants not having appropriate qualifications and lacking the depth of necessary knowledge. Whilst stakeholders welcomed the provision of generous bursaries for trainee teachers, it was acknowledged that some applicants may only be interested in the bursary.

3.6.3 Northern Ireland

The only Northern Ireland-specific recruitment challenge raised was that morale is low among teachers following the recent action short of a strike over pay and conditions for teachers.

3.6.4 Scotland

In Scotland there is an over-supply of primary teachers in Scotland and stakeholders said that this is interpreted by prospective teachers as meaning that it is also difficult to get a secondary teaching job. Several interviewees discussed how the geography of Scotland leads to specific recruitment challenges in very rural areas where the infrastructure is poor and it is hard for potential teachers to access local ITE provision. They also reported that, whilst there are jobs in rural areas, probationers often don't want to go and work in those areas. Some concerns were raised regarding the bursary for career changers with suggestions that it should be more widely available and that the administration of it hinders recruitment because award decisions are made too late for applicants to make necessary practical arrangements such as childcare. For those who are not career changers the rise in cost of living and not being able to work whilst studying is a financial challenge in doing a PGDE. The guarantee of employment for teachers in their probationary year is specific to Scotland but it is expensive for government and it was suggested that over-supply of new teachers every year in the Central Belt reduces opportunities for permanent employment for teachers following the probationary period.

3.6.5 Wales

As with Scotland, there are geographic challenges that cause recruitment difficulties. In the case of Wales, there is a lack of provision of ITE in mid-Wales. Some areas have difficulty recruiting teachers, but programmes have difficulty recruiting applicants from these areas and newly qualified teachers tend not to move to get jobs. PGCE programmes and undergraduate mathematics degrees are offered at different institutions and this limits opportunities for natural progression for new graduates within the same institution. There is a smaller pool to recruit from in Wales given that trainee teachers must have a mathematics degree and there is no provision for subject knowledge enhancement. Welsh medium schools are becoming very popular, but teachers need to be Welsh-speaking to work in one and there is a lack of applicants for teaching who are Welsh-speaking. The much larger training bursary in England is very attractive to prospective trainee teachers living within commuting distance of, or prepared to

move to, an English ITE provider. The USCET report giving evidence to the Welsh government⁶⁵ raises non-matching institutions for undergraduate and PGCE study, the uncompetitive bursaries, negative portrayals of teaching in the media, the subject knowledge barrier, as well as the expensive nature of PGCE programmes as barriers to recruitment.

Consider:

England:

- more support for providers, applicants and schools around non-UK applicants
- further funded development of carefully designed Teacher Degree Apprenticeships targeting students who would not otherwise apply to university
- increasing the recruitment target to more realistically reflect shortages in secondary mathematics

Northern Ireland:

- providing more opportunities to train by offering part time programmes
- offering a guarantee of permanent employment for newly qualified teachers

Scotland:

- a funded programme for primary teachers to qualify to teach secondary mathematics
- improvements to infrastructure in rural areas
- reform of the probationer employment guarantee to better meet the needs of new teachers
- consideration of alternative routes, such as the return of the ‘supported induction programme’⁶⁶, whilst retaining Scottish distinctives

Wales:

- developing dual subject specialism opportunities
- offering pre-PGCE subject knowledge enhancement
- offering a wider range of routes such as a ‘grow your own’ programme to support recruitment in mid-Wales⁶⁷

⁶⁵ [USCET Evidence into Parliamentary Inquiry into Teacher Recruitment and Retention \(May 2025\) | USCET](#)

⁶⁶ [Alternative+routes+into+teaching+-+February+2020v3.pdf](#)

⁶⁷ For some further suggestions for Wales see

https://issuu.com/cardiffmet/docs/a_future_teaching_profession_for_wales

4. Becoming a teacher

This section draws on data from both the survey of teachers and trainee teachers and from the interviews with stakeholders. The demographic breakdown of the survey participants is shown in the Appendix.

4.1 Choosing to become a teacher

Those answering the survey were asked to rank five reasons for becoming a mathematics teacher as to their importance to them personally on scale from 1 -strongly disagree to 5 – strongly agree. The mean scores are shown in the table below:

Reason	Mean Score
Liking and having an interest in mathematics	4.6
Wanting to work with young people	4.5
Having a regular salary and pension	3.7
Wanting to improve the life chances of young people	4.4
The employment and career opportunities available	3.5

Qualitative data from the survey is combined with that from the interviews with stakeholders to identify themes regarding the reasons people choose to become a teacher. These are presented in the table with the more commonly found themes first:

Theme	Detail
Intrinsic motivations	a calling, to do something with value and meaning
Personal experience as a learner	includes those that felt they had been influenced by good teachers as well as those who said their own learning experiences had been negative
Perception of teaching as ‘family friendly’	the long school holidays are seen as attractive, especially for those with children or looking to having their own children in the future
Love of the subject	also often described as ‘passion’ or ‘enjoyment’
Experiences teaching and helping others	this included those with previous teaching experience, tutoring and who had helped their peers
Influence of others	including family, peers and teachers
Job security	
Bursary	seen as a positive factor allowing someone to train, and as attracting those who don’t know what they want to do
Working environment	this included not wanting to work in an office and the job being varied
Good pathways for progression	
Working with others	both with other adults and with children and young people

Whilst survey participants did not mention being influenced by undergraduate modules offering teaching and education experiences, stakeholders mentioned promoting teaching as a career to undergraduates and programmes such as that from the London Mathematical Society⁶⁸ support activity promoting teaching as career.

⁶⁸ [Teaching Mathematics as a Career | London Mathematical Society](#)

The motivations identified in the above table reflect those in the literature, especially the importance of intrinsic motivation and having an interest in the subject area they want to teach⁶⁹. However, Bartanen et al. go on to find that motivations for teaching were not strong predictors of classroom practice or of early career retention with the exception of intrinsic enjoyment of teaching and experiences with adversity.

Underpinning some of the issues raised across the recruitment challenges in section 3.6 and this current section are notions of teaching as a profession, where a profession is considered to offer opportunities for ongoing development and a career structure. The evidence suggests that the range of career paths available in teaching are not generally well understood by prospective applicants and section 2.3 identifies that there is variability in type, funding and availability of professional development opportunities across the four nations.

Whilst the survey did not ask why respondents thought that people chose not to go into mathematics teaching, stakeholders did make some suggestions in this regard. These were almost all closely related to the recruitment challenges mentioned previously in section 3.6. Additional points made included people thinking that either teaching wasn't for them, feeling that they should try something else first, career changers having to consider starting at the bottom of the career ladder again and suggestions that mathematics teachers require a range of soft skills that some graduates feel that they lack. Whilst it is not mathematics-specific, Gorard et al.'s⁷⁰ work is valuable because it surveys almost 4500 undergraduates in England regarding their career choices. The biggest deterrent to choosing a career in teaching was the low salary. Interestingly, there were indicators in their findings that those intending to teach tended to come from less educated backgrounds, with parents from lower socio-economic backgrounds and were students with lower qualifications and lower expected degree results than their university peers. More mathematics graduates from low-tariff universities enter teaching compared to high-tariff universities. Therefore another factor impacting on recruitment of trainee mathematics teachers are the changes in Higher Education funding policy that have led to low-tariff programmes attracting fewer students, and consequently the pool of graduates to recruit secondary mathematics teachers from becoming smaller⁷¹. In another paper, Gorard et al.⁷² found that those who have considered teaching but then rejected it do not see teaching as high status, offering good promotion opportunities or job security.

⁶⁹ Bartanen, B, Kwok, A., Avitabile & Kim B. (2024) Why do you want to become a teacher: A natural language processing approach *Educational Researcher* 54(1) pp. 7-20; Crow, F. & McGarr, O. (2022) "Foreclosing" a teaching career? An exploration of career decisions of undergraduate pre-service teachers' through the lens of Identity Status Theory; *Teaching and Teacher Education* Vol. 115 103744; Kwok, A., Rios, A. & Kwok, M. (2022) Pre-service teachers' motivations to enter the profession *Journal of Curriculum Studies* 54(4) pp. 576-597; du Preez, M. (2018) The factors influencing mathematics students to choose teaching as a career *South African Journal of Education* 18(2)

⁷⁰ Gorard, S., Ventista, O. Morris, R. & See, B.H. (2023) Who wants to be a teacher? Findings from a survey of undergraduates in England *Educational Studies* 49(6) pp. 914-936

⁷¹ [Recruiting, developing, and retaining the mathematics teaching workforce in England: An MEI discussion paper - MEI](#)

⁷² Gorard, S.; See, B.H. & Morris, R. (2022) How to get more people into teaching? Comparing undergraduates' and teacher trainees' motivation and perceptions of a teaching career *Education Sciences* 12 767.

4.2 Choosing a route

Given that there is only a wide choice of postgraduate route in England, this section draws on data from survey participants who trained in England recently and stakeholders working in England. It should be noted that trainee teachers may well draw on a number of factors in making decisions. Each theme was identified in both data sources and is illustrated with quotes from survey participants:

Reputation of provider: *'I wanted a credible training provider', 'I specifically wanted to be trained by the staff at xxxx'*

Advice from others: *'I spoke to a careers advisor at my university', 'I asked a few people who had done it already'*

Continuity: *'followed my maths degree at the same university'*

Financial considerations/employment: *'I needed a route that paid me a salary that would cover my expenses', 'bursary', 'wanted to get on and teach'* [Teach First trainee teacher]

Availability of support: *'seemed like the best supported'*

Survey respondents also mentioned personal factors/decisions: *'PGCE seemed the route that suited me best', 'having a hands on approach suited me better', 'I could complete this part time – my children were young at the time', 'I wanted to have the opportunity to train with a large group of people as I studied my degree online'*

There were two further reasons mentioned by survey participants for choosing a university-led PGCE route: 1) wanting the PGCE qualification for its flexibility and its international recognition, and 2) wanting an academic and theoretical focus to their teacher training.

Despite efforts to recruit survey participants who had trained through a range of routes, most had trained through a university PGCE and this means that the reasons for choosing a school-led route are under-represented in the survey results. Two survey participants identified SCITT as providing the opportunity *'to be involved in school right away'* and as *'learning on the job'*. The stakeholders interviewed suggested that SCITTs are seen as offering very local provision, which is attractive to many applicants. They also said SCITTs are attractive because applicants feel that they have more control over which school they will be placed in and because they know their placement school in advance of starting their ITE.

4.3 Completing the application process

This question was targeted at ITE providers in England, specifically with regard to the web portal provided by the DfE for applications. Those that commented felt that the system was generally fit for purpose with some criticisms around the usefulness of the personal statement, duplication across the references and personal statement, and not getting references within the application anymore. Concerns were raised regarding international applicants who seem not to be getting the message that they are not eligible for the mathematics bursary. It is also of note that the Universities and Schools Council for the Education of Teachers⁷³ considers the UCAS application system in Wales as not fit for purpose and requiring overhaul.

⁷³ [USCET Evidence into Parliamentary Inquiry into Teacher Recruitment and Retention \(May 2025\) | UCET](#)

4.4 Financial incentives

Stakeholders offered a wide range of suggestions for financial measures that would recruit and/or retain teachers. These included changing the taxation system to reduce income tax for teachers, retention bonuses, student loan forgiveness programmes, abolishing or reducing fees for ITE programmes, housing support for new teachers and differential pay scales. In terms of bursaries there were suggestions that bursaries should be made more widely available, but that bursaries might also be more closely linked to a requirement to teach following ITE.

There have been a number of reports and studies into the effectiveness of financial incentives for recruitment and retention of teachers in England⁷⁴. NFER found that bursary increases are associated with increases in long term teacher supply including in schools in disadvantaged areas⁷⁵. Bursaries are also found to be cost-effective and can be targeted effectively at shortage subjects. Gorard et al.'s⁷⁶ work, however found that undergraduates are 'largely impartial' about financial incentives for training but incentives are of greater importance to those considering and intending to teach. Thompson-Lee et al.'s⁷⁷ work reviewing interventions specifically aimed at recruiting STEM teachers found that financial incentives were not effective for recruitment but were effective for retention. With regard to early career retention payments NFER's June 2025 report⁷⁸ found that bursaries are considerably more cost effective than retention payments but suggests that retention payments might have a role to play in supporting retention in subjects where bursaries are already high. Retention payments were found to probably be an effective tool but concludes that the evidence was less conclusive than it had been found to be in previous studies. Other work, such as that from Sims & Benhenda⁷⁹, proposes differential pay for teachers of shortage subjects.

The level of teacher pay is generally considered to be impacting negatively on recruitment. A recent report⁸⁰ from the Education Policy Institute for the Welsh government reviewed the academic literature on financial incentives and concluded that a 10% salary supplement reduces attrition by about 30%. It goes on to recommend a salary supplement of 5-10% of base salary for early career teachers in shortage subjects (including mathematics). The School Teachers' Review Body⁸¹ for England reports that the competitiveness of teacher pay has continued to reduce. The report also provides a comparison of teacher pay in England, Scotland and Wales which shows that starting salaries in Wales are 5.6% higher than in England and that salaries for Scottish teachers are significantly higher than in England.

Stakeholders considered the English bursary scheme to work well and to be clear and straightforward. With regard to the ECT incentive payment, one interviewee suggested that the payment does not influence where trainee teachers choose to go on and work. However,

⁷⁴ For example, [The teacher labour market in England - Education Policy Institute](https://www.gatsby.org.uk/uploads/education/nfer-report-final.pdf); <https://www.gatsby.org.uk/uploads/education/nfer-report-final.pdf>

⁷⁵ [The impact of training bursaries on teacher recruitment and retention - NFER](#)

⁷⁶ Gorard, S.; See, B.H. & Morris, R. (2022) How to get more people into teaching? Comparing undergraduates' and teacher trainees' motivation and perceptions of a teaching career *Education Sciences* 12 767

⁷⁷ Thompson-Lee, R., See, B.H. & Klassen, R. (2025) A systematic review of STEM teacher recruitment and retention interventions *International Journal of STEM Education* 12(33)

⁷⁸ [The impact of early career retention payments on teacher retention - NFER](#)

⁷⁹ [Quantifying 'promising trials bias' in randomised controlled trials in education](#)

⁸⁰ [The effects of high-quality professional development on teachers and students: a cost-benefit analysis](#)

⁸¹ [School Teachers' Review Body 35th report: 2025 - GOV.UK](#)

another interviewee disagreed, suggesting that the incentive payment system does not work well within a Multi Academy Trust (MAT) context as Newly Qualified Teachers (NQTs) were ‘shopping around’ within the Trust wanting to work in a school where the incentive was available. As a consequence, MATs were needing look for ways to incentivise NQTs to work in other schools within the Trust. Whilst the bursary for Scottish career changers was welcomed, there was some criticism that administration and delivery issues were leading late notification of bursaries to applicants who then had insufficient time to make arrangements such as childcare.

In 2023, the European Expert Network on Economics of Education published a report on ‘Evidence-based solutions to teacher shortages’⁸². This undertook a detailed examination of research into interventions at teacher-, school- and system-level. The report recommends the use of targeted financial incentives such as bonuses, salary differentials and deferring retirement to encourage teacher recruitment. It also recommends an across-the-board salary increase to match teacher pay with those in professions requiring a similar level of education. Because this would be costly, the report recommends compensating the salary increase with a proportional increase in class size.

Consider:

All:

- provision of a wide range of funded subject-specific professional development
- promotion of the range of career progression opportunities available in teaching

England:

- making the bursary available for those with 3rd class degrees
- developing the ECT incentive offer so it is easier for multi-academy trusts to manage and is available more widely

Northern Ireland:

- enhancing the starting salary for teachers
- offering bursaries for PGCE students

Scotland:

- offering bursaries to those coming straight from university to ITE

Wales:

- increasing the bursary to match that available in England

⁸² De Witte, K., De Cort, W., Gambi, L. (2023) Evidence-based Solutions to Teacher Shortages *NESET report* Luxembourg: Publications Office of the European Union

5. Barriers and enablers for trainee teachers

The teachers and trainee teachers completing the survey were asked to sort eight statements with reasons for not completing teacher training into order with the most common reason at the top and the least common at the bottom. The set of statements was drawn from research literature on reasons for trainee teacher withdrawal⁸³. Averaging the positions of the statements gave the following order:

Workload – both for placement and training elements	Struggling in the classroom
Discovered that they didn't like teaching	
Lack of support from placement school	
Lack of self-confidence	
Personal and family reasons, including health issues	
Lack of support from training provider	
Financial difficulties	

Survey participants were also asked if they had any further thoughts regarding the reasons some people do not complete their teacher training. The most commonly suggested reason was having unrealistic expectations so that the job was found to be much harder, and the workload much higher, than anticipated. Other suggestions included difficulties with behaviour management, being only interested in the bursary, higher salaries elsewhere and not having the personal qualities for the job.

The teachers and trainee teachers answering the survey were asked to rank five sources of support as to their importance to them personally when training to teach on scale from 1 - strongly disagree to 5 – strongly agree. The mean scores are shown in the table below:

Reason	Mean Score
Your placement mentor in school	4.4
Other staff in your placement school	4.3
Friends and family	4.2
Staff from your training institution (e.g. university tutor)	4.1
Financial support from bursaries or loans	3.9

Survey participants were also asked to indicate any additional sources of support they had found useful during their teacher training. The word cloud figure was created from their responses.

⁸³ Roberts, D. (2012) Modelling withdrawal and persistence for initial teacher training: Revising Tinto's Longitudinal Model of Departure *British Educational Research Journal* 38(6) pp. 953-975; Keane, E., Heinz, M. & Lynch, A. (2023) Factors impacting on the retention of students from under-represented groups in initial teacher education in Ireland *Tertiary Education and Management* 29 pp. 5-23

both ITE providers and from school placements is effective in enabling trainee teachers to successfully complete their ITE programme. Investment in high-quality mentoring is also one of the recommendations of the USCET report⁸⁵.

Quality of teacher educators: expert tutors with experience and enthusiasm, who are competent and research-informed.

Other comments: provision of resources; financial incentives; support for mental health and stress.

Consider:

- more support, time and recognition for school-based mentors

⁸⁵ [USCET Evidence into Parliamentary Inquiry into Teacher Recruitment and Retention \(May 2025\) | UCET](#)

6. Conclusions

That there are shortages of well-qualified secondary mathematics teachers across the four nations of the UK is evident. Shortages act inequitably within nations leading to educational inequality for young people. Attrition of teachers from schools fuels the need for increased recruitment of new teachers. The reasons behind difficulties in recruiting new trainee secondary mathematics teachers are complex, and there are no straightforward solutions to the problems. Individual nations have different characteristics and distinct approaches to ITE. It is therefore not possible to identify pros and cons for each; it is more that different contexts lead to both different and similar challenges. Whilst much of the literature is not mathematics-specific, it does support all the arguments made by participants in this project who had been asked to specifically focus on secondary mathematics trainee teacher recruitment. Subject-specific ITE is important, particularly in mathematics and science⁸⁶. In addition to the nation-specific considerations mentioned previously, this report demonstrates that many of the reasons people do not apply for ITE for secondary mathematics teaching are related to long-standing issues with the teaching profession more widely and are common across all four nations:

- financial considerations (covered in section 4.4)
- poor public perceptions of teaching in the media
- high workload and poor work-life balance
- lack of career pathways and professional development opportunities
- lack of opportunities for flexible working and training

This list reflects those found by the School Teachers' Review Body⁸⁷ for England, the recent reports from Wales drawn on in this report, the House of Commons Education Committee report from 2024⁸⁸ and those raised in a recent report from MEI⁸⁹, amongst others. Considerations for improving recruitment of trainee teachers of secondary mathematics therefore include:

- promotion of teaching as a career, for example, through the wider use of education and teaching modules in UG degrees and to undergraduates
- using teachers to promote positive images, benefits, skills and opportunities of teaching as a career
- improvements to public image of teaching in and through the media
- expansion of opportunities for flexible working and training to better meet the needs of younger generations
- continuing work on workload reduction and workload management
- subject specialist support for beginning teachers
- development and promotion of career progression opportunities in teaching

⁸⁶ De Witte, K., De Cort, W., Gambi, L. (2023) Evidence-based Solutions to Teacher Shortages *NESET report* Luxembourg: Publications Office of the European Union

⁸⁷ [School Teachers' Review Body 35th report: 2025 - GOV.UK](#)

⁸⁸ [Teacher recruitment, training and retention - Education Committee](#)

⁸⁹ [Recruiting, developing, and retaining the mathematics teaching workforce in England: An MEI discussion paper - MEI](#)

Appendix – Methodological notes

The table shows how the sources of data contribute to answering the key questions and where in the report the data is drawn upon.

Data source	Contributing to key Question	Report section
Survey of teachers and trainee teachers	2, 3	Sections 4.1 & 4.2, section 5
Interviews with stakeholders	1, 2, 3	Section 2.2, sections 3.2 and 3.6, sections 4 5
Recruitment and retention data	2	Section 3
Literature	1, 2, 3	All sections

Empirical data was collected through an anonymous survey of teachers and trainee teachers, principally distributed through the Association of Mathematics Education Teachers, Association of Teachers of Mathematics and the Mathematical Association. 85 questionnaire responses were received, seven were removed as they were considered to contain too little information to be analysed, which left 78 responses for analysis. Empirical data was also collected from interviews with 22 stakeholders comprising teacher educators and others from across the four nations with an interest in ITE. Ethical approval was granted by University of Southampton with reference numbers 103711, 104296 and 104741. A wide range of recent published reports, academic literature, government documents, web sites and media reports was also drawn on.

Survey demographics

1.1	What is your role?	Number
	Head of mathematics at a secondary school	12
	Other (education-related)	8
	Secondary mathematics teacher	31
	Trainee secondary mathematics teacher	26
1.2	In which country do you teach?	
	England	62
	Northern Ireland	12
	Scotland	2
	Wales	1
1.3	In which country did you complete your teacher training?	
	England	62
	Northern Ireland	13
	Scotland	2
	Wales	1
1.4	As to which gender do you identify?	
	Female	44
	Male	28
	Non-binary / third gender	4
	Prefer not to say	1

3.1	Which route did you follow for your teacher training?	
	GTP	3
	SCITT	3
	Teach First (Post Graduate)	1
	Undergraduate degree with QTS	6
	University PGCE or PGDE	64

Survey (simplified version without question logic):

- Q1 What is your role?
- Trainee secondary mathematics teacher
 - Secondary mathematics teacher
 - Head of mathematics at a secondary school
 - Other:
 - If 'Other', please explain your role
- Q2 In which country do you teach?
- England
 - Northern Ireland
 - Scotland
 - Wales
 - Other
- Q3 In which country did you complete your teacher training?
- England
 - Northern Ireland
 - Scotland
 - Wales
 - Other
- Q4 As to which gender do you identify?
- Female
 - Male
 - Non-binary / third gender
 - Prefer not to say
- Q5 Thinking about your decision to pursue secondary mathematics teaching as a career, to what extent were the following reasons important to you personally: (1 = strongly disagree, 5 = strongly agree)
- Liking and having an interest in mathematics
 - Wanting to work with young people
 - Having a regular salary and pension
 - Wanting to improve the life chances of young people
 - The employment and career opportunities available
- Q6 Were there other factors that significantly influenced your decision about mathematics teaching as a career? Please explain

- Q7 Which route did you follow for your teacher training?
 University PGCE or PGDE
 SCITT
 Teach First (Post Graduate)
 Undergraduate degree with QTS
 GTP
 Apprenticeship (UG)
 Apprenticeship (PG)
 Assessment Only route
- Q8 How did you decide which training route to follow?
- Q9 I am interested in finding out why you think some people don't complete their teacher training programme.
 Please order the following statements with what, in your experience, is the most common reason people don't complete their teacher training at the top, and the least common at the bottom.
 Discovered that they didn't like teaching
 Financial difficulties
 Workload - both for placement and training elements
 Lack of support from placement school
 Lack of support from training provider
 Struggling in the classroom
 Lack of self confidence
- Q10 Please add any further thoughts you have regarding the reasons you think some people do not complete their initial teacher training
- Q11 In your personal experience, which of the following were important sources of support for you when you did your initial teacher training: (1 = strongly disagree, 5 = strongly agree)
 Friends and family
 Financial support from bursaries or loans
 Staff from your training institution (e.g. university tutor)
 Your placement mentor in school
 Other staff in your placement school
- Q12 Please state any other sources of support that were important to you during your initial teacher training. Are there other sources of support that you would have found useful?

Interview questions

- 1 What are the particular challenges recruiting trainee secondary mathematics teachers in your context/experience? (all)
- 2 What, in your experience, are the key factors that people consider when they decide for or against a career in teaching secondary school mathematics? (all)

- 3 What three things do you think would improve the recruitment and retention of trainee secondary mathematics teachers in your context/experience? (all)
- 4 In your experience, what contexts, support and resources help trainee teachers to become successful teachers? (all)
- 5 In your experience, what factors influence applicants when they are choosing a route for teacher training? (Teacher Educators in England only)
- 6 What aspects of the application process for places for teacher training do you think work well? Are there aspects that you think could be improved? (Teacher Educators in England only)
- 7 Of the incentives available to trainee teachers in the nation you work in currently, which do you think work well and support recruitment? (Teacher educators in England, Scotland and Wales)
- 8 Are there any incentives that have been available previously that you consider to have impacted positively on recruitment? (Teacher Educator)
- 9 Do you have any ideas about incentives that should be introduced in your nation? (Teacher Educators)