

Diversity of Provision: A Brief Description of the Post-School Education, Research and Skills System in Scotland

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1. Executive Summary

The report describes the complex post-school education, skills and research landscape including the pathways it generates and the connections it forms. The report includes data, statistics and research evidence alongside information from engagement. It identifies several areas where the evidence base could be improved.

A key underlying theme is the strength of the system, including the high satisfaction of employers with education leavers and the high international regard of the quality of the system products and learners. But as summarised below, there are deficiencies in the current system that may prevent it being fit for the future.

The Learner Challenge

- Unlike the perceived view of a linear path, the learner journey is identified as a unique learner experience with many different entry and exit points to a wide range of pathways throughout people's lives.
- The effectiveness of the senior phase at school is questioned in terms of the value and range of school qualifications for transition to post-school destinations including employment.
- There is evidence of some success in efforts to widen access to post-school learning, although challenges remain for young people including those from more disadvantaged areas, those who are care experienced, disabled learners, estranged students and some minority ethnic communities.
- There are ongoing gender imbalances in subject choice, destination and pay and progression outcomes.
- Attainment and satisfaction levels appear to be quite good for most learners but differences in data collection and methodology means that it is difficult to compare across the system.
- Evidence suggests that there is lack of clear advice and support to learners to help them understand the potential pathways, transitions, and outcomes to a desired goal.

The Wellbeing Economy Challenge

- Evidence shows that this is an economically turbulent time with existing drivers and new disruptors likely to influence progress.
- A range of current and future skills gaps and shortages exist.
- There is some evidence that employer investment in training and sense of responsibility for workforce planning has decreased over time.

- Considerable effort has been put into skills planning, but evidence suggests that learning provision is still not adequately prioritised, aligned and delivered at pace to support the wellbeing economy.
- There are a range of significant challenges in trying to align provision with the current and future needs of the wellbeing economy.
- While many skills continue to bring a wage premium, there is increasing evidence of misalignment and underutilisation of skills in employment, particularly for graduates.

The Research and Knowledge Exchange Challenge

- While the report sets out the global reputation for research excellence it notes several areas of challenge including funding transparency, international collaboration, research culture, and understanding the full effect of translating research ideas into impact.

Strategic Policy and Collaboration

- The current funding landscape appears to be overly complex with funding for both provision and living support being allocated by several different government agencies or non-departmental public bodies (NDPBs), sometimes with competing objectives and cultures.
- The current regulatory landscape is also quite complex. While some individual elements of regulation appear to be understood and endorsed, the combination of different regulatory processes appears confusing and burdensome.
- The report shows that there is a vast range of system-specific data collections and reporting systems. However, there is an inability to report, compare and examine system-wide performance because of the different methodologies underlying data collections and the paucity of data for some parts of the system. There is also a lack of systematic evaluations of the effectiveness of key policies.
- The system complexity, lack of coherence, transparency and strategic intent have been consistently and strongly heard through engagement in various recent reviews. However, there is scope to improve the range of robust data and evidence to further underpin future reform decisions.

2. Introduction and Purpose of Report

The Scottish post-school education, research and skills system is highly complex, involving numerous organisations in the private, public, and third sector, and numerous learning pathways aligning to varying learner needs and expectations. This complex system tries to balance a range of factors, including the purpose of education; the role of individual choice and aspiration; social and cultural norms, values and expectations; the alignment of skills to current and future economic need and productivity; the intent of public funding; and the priority of domestic versus global drivers.

The Purpose and Principles aims to set out a national mission and guiding framework for the post-school system as a whole. Key to this is valuing the different parts or components of the system, and allowing them to do what they do best, removing friction that slows or creates duplication, and recognising that having a range of learner pathways and excellent research, innovation and knowledge exchange is critical to future success in Scotland.

Each component of the system has its own mission, strengths and limitations. Scottish Government and its delivery partners' role is to ensure that, through a strong strategic enabling framework, actors in the system can collaborate to effectively deliver what is needed for Scotland's people, society and economy.

2.1. Navigating the Report

This report describes the current system at a strategic level to introduce the reader to the evidence base behind system components, pathways and connections. It uses robust data and evidence where this is available but supplements this with views and experiences of stakeholders as gathered through engagement in this process and previous reviews. The approach is explained further in Annex A.

This overview report is supported by other documents, including infographics to help visualise current provision in key parts of the system and supporting evidence papers for each of the five principles as well as component maps and case studies.

This paper describes the system connections and the barriers and enablers they provide. It is divided into seven chapters:

1. Executive Summary
2. Introduction to the current provision of post-school skills and education
3. Learner journey including barriers and enablers to smooth transitions
4. The alignment of skills and education with the economy
5. Research and knowledge exchange in Scotland
6. Collaboration and professional networks
7. Strategic policy landscape

Key Terms:

Learner – a person who is taking part in education or skills development. That is anyone undertaking or considering undertaking formal or work based learning including courses at school, university, college, or other learning providers such as training provided in the workplace.

Learner Pathway – a specific education, skills or training course or set of related courses. Pathways may or may not lead to a qualification level.

Learner Journey – the way that a learner combines different pathways to create their unique personal learning journey.

Further Education – learning normally at SCQF level 6 and below.

Higher Education – learning normally at SCQF level 7 and above.

Institutions – a collective term to encompass colleges, universities and other Higher Education (HE) organisations such as research institutes.

SCQF – The Scottish Credit and Qualifications Framework (SCQF) is Scotland's national qualifications framework which helps people to understand and compare Scottish qualifications.

Post-school – referring to all learning that takes place outwith a school setting for adults and young people over the age of 15.

A lexicon has been produced to help navigate terminology in the system.

2.2. Introducing the System

The post-school education and skills sector in Scotland currently produces:

- well regarded research;¹
- high levels of tertiary educated people (55.2% compared to OECD average of 39.9% in 2022);^{2,3}
- record numbers of enrolments at university;⁴
- increasing activity since 2018-19 and broad role of colleges^{5 6}
- apprenticeships increasing after COVID.⁷
- high reported levels of satisfaction with the preparedness of education leavers (the Scottish Employer Perspectives Survey 2021⁸ found that 80% of employers that recruited a leaver from a Scottish university said they were well or very well prepared for work; 78% of employers that recruited a college leaver said they were well or very well prepared for

work; and 68% of employers that recruited a school leaver said they were well or very well prepared for work).

However, this level of opportunity and attainment is not uniform, with almost one in 10 having low or no qualifications in 2020, with this figure much higher for people over 45, people living in deprived areas and disabled people.^{9, 10}

The system is complex and can be conceptualised in many different ways. In terms of delivery structure it involves the senior phase of school, provision of education and skills to school leavers and others by colleges, universities, independent and third sector learning providers and local authorities, as well as on- and off-the-job learning by employers, including apprenticeships, to upskill and reskill their current or new workforce. And, the system plays a critically important role in research, innovation and knowledge exchange.

There are 26 colleges in Scotland,¹¹ employing around 14,000 staff¹² and teaching 236,730 people in 2021-22.¹³ Colleges vary in size, from catering for a couple of hundred into the tens of thousands of learners, but individually and collectively provide a vast range of curriculum and qualification choice and specialist practice development. Each college has a different mission, responding to local and regional economy, demographic characteristics of key learner groups, areas of specialisation and regional patterns of post-school provision.

There are 19 Higher Education Institutions and universities in Scotland,¹⁴ educating 301,230 learners¹⁵ and employing around 52,000 staff in 2021/22. Each Scottish university and Higher Education Institution (HEI) is an autonomous organisation with a distinct mission and ethos, which is reflected in its size, diversity of income sources, its international presence, research interests and funding, split between undergraduate and postgraduate courses and spread of curriculum. Scottish universities have grown all international enrolments, over the last five years from 54,345 in 2017/18 to 82,440 in 2021/22¹⁶ However growth in postgraduate numbers has been the most pronounced, with numbers of international postgraduates more than doubling from 24,950 in 2017/18 to 50,785 in 2021/22.^{17,18} The university sector has grown in total enrolments by 31% between 2006-07 and 2021-22.¹⁹

Independent and third sector learning providers have a significant role in the system, particularly in terms of apprenticeships, employability for those furthest from the labour market, providing community based learning and supporting employers to fill skills gaps.

Local Authorities play a key role in the post-school system because of their role in providing senior phase school education and their duty to plan for and provide Community Learning and Development. Community Learning and Development (CLD) is focused on improved life chances for people of all ages through learning, personal development and active citizenship and stronger

more resilient, supportive, influential and inclusive communities. Given that the context of each local authority will be different the CLD plans are tailored to the local context. Key elements will include literacy, numeracy, English for Speakers of other Languages (ESOL) and supporting local efforts to reduce the attainment gap. Delivery of training is provided by a mixed model with some local authorities employing their own CLD trainers, as well as having contracts or agreements with local colleges, third sector partners and some independent training providers. Course provision varies from free courses on essential skills to a range of interest classes which people pay for but with concessionary rates for those on lower incomes. The Standards Council for Community Learning and Development was established in 2007 to improve the quality of training and skills for those active in CLD practice.²⁰

Funding, regulating, and quality assuring this whole delivery structure are a range of government agencies and Non-Departmental Public Bodies (NDPBs), including Education Scotland, the Scottish Qualifications Authority (SQA), the Quality Assurance Agency for Higher Education (QAA), the Scottish Funding Council (SFC), Skills Development Scotland (SDS), the Student Awards Agency Scotland (SAAS), Audit Scotland and the Scottish Credit and Qualifications Framework (SCQF) Partnership.

As important as the quality and delivery of the components is the alignment, flexibility, transparency and timeliness of connections between different parts of the system. Complexity is not in itself an issue, but as the Skills Landscape Review²¹ sets out, in some cases this complexity is accompanied by significant confusion, duplication of roles and functions and unhelpful competition. An overview of provision by the main education and skills providers is set out in Annex B and Annex C.

3. The Learner Challenge in Post-School Education, Research and Skills

The OECD Learning Compass²² sets out the challenge for all governments in establishing an education, research and skills system that meets the needs of all learners and society. Although this was primarily developed from a schools focus, the messages have relevance throughout the education system.

“How can we prepare students for jobs that have not yet been created, to tackle societal challenges that we can’t yet imagine, and to use technologies that have not yet been invented? How can we equip them to thrive in an interconnected world where they need to understand and appreciate different perspectives and world views, interact respectfully with others, and take responsible action towards sustainability and collective well-being?”²³

This work concluded that learners who are best prepared for the future have a sense of agency; a responsibility to participate in the world and, in so doing, to influence people, events and circumstances for the better. The OECD Learning Compass also introduced the concept of each learner holding their own Learning Compass.

“Where the student stands – his or her prior knowledge, learning experiences and dispositions, family background – will differ from person to person; therefore the student’s learning path and the speed with which he or she moves towards well-being will differ from those of his/her peers. Yet, even though there may be many visions of the future we want, the well-being of society is a shared “destination””.²⁴

This concept of developing learner agency is reflected in many of the recent reviews of Scottish education including the learner-first focus of the SFC Review of Coherent Provision and Sustainability 2021, the 15-24 Learner Journey Review 2018, the Muir Review 2022, the SDS Careers Review 2023, and the Royal Society of Edinburgh Tertiary Education Futures report 2023.

Holding the learner at the centre is clearly articulated in the Purpose and Principles for post-school education, research and skills as well as other aspects of current reform such as the National Discussion on education and the Hayward Review of qualifications.²⁵ A review of literature on lifetime skills showed that there are economic and social benefits of lifelong learning, as well as wellbeing benefits for the individual.²⁶ The key challenge will be to continue to hold this learner focus while also balancing this with the current and future needs of the [wellbeing economy](#).

3.1. Types of Provision of Post-School Skills and Education

A wide range of learning pathways are available which include a wide range of accredited and unaccredited education and skills provision. Annex B provides a series of tables which give an overview of learning provision in the system.

3.1.1. Courses that lead to Qualifications (Accredited Courses)

The clearest articulation of the range of qualifications available is set out in the SCQF framework.²⁷ This framework allows comparison of qualifications by giving each qualification a level and a number of credit points which reflect the complexity of required learning. It starts at SCQF level 1 with National 1 Awards which are designed for learners who require additional support including SQA Skills for Life and Work such as communication, creative arts, food preparation, ICT, life in another country, number skills, practical craft, physical education etc. The framework progresses to the highest being a Doctoral degree, Professional Apprenticeship or Professional Development Award at SCQF level 12. The framework covers both general education subjects and vocational subjects.

Pathways are provided by a range of organisations. Universities specialise in Higher Education, mainly SCQF level 9 and upwards. Colleges cover the whole range from unaccredited courses for interest or personal development to a variety of technical, professional and vocational awards from SCQF levels 1 to 6, as well as Higher Education mainly at SCQF level 7 and 8. Employers may utilise colleges or universities to provide a mix of learning with some accredited courses for subjects such as health and safety, for reskilling or for individual career development, as well as employing apprenticeships with SCQFs ranging from 4 to 11. Independent learning providers also provide work-relevant learning leading to accredited qualifications and local authorities and third sector providers may also provide accredited courses as part of Community Learning and Development (CLD).^{28, 29}

3.1.2. Courses that lead to a Licence to Practice in an Occupation

Many occupations and professions require completion of specific learning pathways which combine on- and off-the-job learning in order to be able to practice. In many cases these will require a certain range of qualifications to be attained first. Each occupation will have specific and different requirements often set out in national occupational standards³⁰ or detailed in professional standards e.g. in law³¹, medicine,³² architecture³³ or electrical training.³⁴

3.1.3. Courses or Learning for Interest, Personal or Social Development

A range of providers of education and skills are active in providing unaccredited courses. Local authorities, private, independent and third sector training providers and colleges all offer CLD to provide basic essential skills and learning for people who need additional support for any reason, for example numeracy, literacy, communication, and time management. Local authorities, colleges and many universities also run short interest courses, often at evenings or weekends to help people continue learning for interest, hobbies, career progression or to try out new paths.

3.1.4. Off-the-Job Training run by or in Collaboration with Employers

Employees will undertake a range of learning during their working life. Much of this learning will be on-the-job, but there is often a range of specific courses required such as health and safety, food hygiene, data protection, handling heavy objects, driving for work etc. Some of these are certified courses provided externally, but many will be internal courses required for the employer to fulfil their legislative duties.

3.1.5. On-the-Job Training run by Employers to Improve Work Skills

A large amount of the learning that employees undertake will be related to their day-to-day job. They may be asked to undertake new processes, adapt to new systems, try new technologies and activities. They will also be exposed to a range of different situations which will enable the development of meta-skills such as negotiation, presentation, confidence and resilience. Managers, peers, mentors and/or internal trainers will all have a role to assist in this learning. This learning can often be unrecorded and may not even be recognised as such by those involved.³⁵ However, on-the job learning can shape work practices and cultures that can either facilitate ongoing informal learning or creates environments that do not.³⁶

3.1.6. Apprenticeships combining Employer-led Learning and Accredited Courses

Apprenticeships are a specific type of provision that normally combine work with on- and off-the-job learning.³⁷ Apprenticeships are available from SCQF level 4 to 11 with Foundation Apprenticeships offered to senior phase school children, Modern Apprenticeships offered to adults aged 16 and over and Graduate Apprenticeships linking employees to degree qualifications. Annex E provides further information on apprenticeships.

3.2. Diversity of Learner Journeys

Learners take a myriad of different learner journeys through the system, linking-up different pathways and learning providers in order to fulfil their potential and enjoy satisfying lives and careers. Many learners are school

leavers, but many are not and increasingly learners will be looking to upskill and reskill throughout life. A flow diagram in Annex C provides a visual representation of key learning pathways and common learning journeys, showing the complexity of the system.

The motivations for different learner journeys are unique to individuals, contextualised by a vast range of factors. This will be a combination of personal factors including age and prior attainment; subject and career preferences; aspirations and confidence; family or socio-economic background; whether they have a disability or additional learning support need. It will also be shaped by other factors such as location; work experience; careers guidance and the views and expectations of peers, friends, family and teachers.

The learning journey is not linear. Some learners may take pathways that do not work for them. They may drop out or choose to change pathway. Some may decide to return to education later in life. One of the advantages of the current system is its flexibility to accommodate changes in learner pathways.

3.3. Senior Phase in School to Post-School Connection

The post-school education, skills and research system commences when young people leave school and carries on throughout their lives. However the senior phase (S4-S6) at school creates an important input to the post-school system, with the subjects studied and the attainment achieved impacting on future learning opportunities. It is described briefly here to set the scene.

It should be noted that there is an increasing range of providers involved in delivering the senior phase of schools including through Foundation Apprenticeships, college provision and school-college partnerships. In addition to school-based qualifications, many young people will also undertake additional youth activities as part of Community Learning and Development (CLD), for example participation in sports, music, youth clubs, Scouts or Guides etc. CLD can also act as a 'safety net' for more disengaged or vulnerable young people, either supporting them into the 'traditional' school or post-school pathways and/or providing wider skills (such as communication, team-building, etc.) that can be of value to future employers.

The current Scottish system has a traditional path of most pupils sitting National 4s and 5s in their 3rd and 4th year in senior school, with Highers (SCQF 6) in 5th year and Advanced Highers (SCQF7) or additional Highers or equivalent in 6th year. Alongside this traditional path, pupils can sit other national or vocational qualifications or take on a Foundation Apprenticeship (at SCQF levels 4, 5 and 6), depending on what is on offer in the school that they attend. The subject choices made in these formative years can be very

influential in opening or closing opportunities in post-school,³⁸ so good advice is critical at this stage.

In the 2021-22 academic year, 55,237 pupils left school.³⁹ 27.7% were S5 leavers and 12.4% were S4 leavers, the remainder left from S6.⁴⁰ 66.4% of young people left with 4 or more passes at SCQF5 or better.⁴¹

The entrance to Higher Education at college or university usually requires passes at SCQF6. In 2021-22, 61.3% of all school leavers left with one or more passes at SCQF level 6 (Highers or equivalent) or better. 38.6% achieved 4 or more passes at SCQF6 or better,⁴² which is often the entrance point into university.

For most people the school system provides educational attainment that allows progression, but not everyone finds the school system works for them. 11.2% of pupils did not attain 4 or more passes at SCQF4 or better and 2.1% of school leavers attained no passes at SCQF Level 3 or better in 2021/22.⁴³
⁴⁴ This suggests that different options may be needed to ensure everyone leaves senior phase with core essential skills.

Female pupils continue to outperform male pupils at SCQF Levels 4 to 6 or better, with the gap being wider at higher SCQF levels. Asian-Chinese pupils continue to have high levels of attainment compared to other groups, with 93.6% achieving one pass or more at SCQF6 or better.⁴⁵

At all attainment levels there is a gap with school leavers in more deprived areas achieving lower attainment than those in less deprived areas.⁴⁶ The attainment gap by deprivation increases with qualification level, with the gap at SCQF level 4 or better at 5.8 percentage points amongst 2021-22 school leavers compared to 37.0 percentage points at SCQF level 6 or better.⁴⁷ At all attainment levels, pupils with additional support needs have lower attainment than those without.⁴⁸

School attainment is important because it will play a role in post-school destinations, but may also impact on future learning opportunities with people having to fill any subject or attainment gaps with additional qualifications or relevant experience before taking higher levels.

Approximately nine months after the end of the school year, 93.5% of 2021-22 school leavers were in a positive follow-up destination.⁴⁹ As

Table 1 shows, this includes a wide variety of destinations, with Higher Education at college or university being the largest group. The overall trend has been improving over the last 15 years but some inequalities remain across different destinations. School leavers from the most deprived areas were more likely to be in employment, training or further education and less likely to be in higher education than school leavers from the least deprived areas.⁵⁰

Table 1: Follow-up Destinations for Scottish school leavers, 2021-22.⁵¹

Destination	2021-22
Higher Education	37.7%
Further Education	20.7%
Employment	31.8%
Training	2.3%
Voluntary Work	0.5%
Personal Skills Development	0.4%

Partnerships between CLD providers and careers advisors, social work and/or schools offer activities for the personal achievement of young people who are least likely to progress to further education or work due to socio economic or systemic barriers. This work provides a support mechanism to give personal development opportunities to young people.

3.4. Financial and Pastoral Support

The current post-school system aims to support individual learners through financial, teaching and pastoral support. There has been a significant policy drive to ensure the system is equitable with widening access targets⁵², gender equality policies and drives to improve access to pathways for disabled students and those from minority ethnic communities.⁵³ There has also been significant pastoral support to ensure learner mental health and wellbeing, particularly given the impact of the pandemic.⁵⁴

However, despite these efforts there is further room for improvement.

People from more deprived areas, disabled people and care experienced people continue to face additional barriers in accessing and completing courses, as do some people from minority ethnic communities.⁵⁵

There are increasing levels of mental health illness reported amongst young people with this reflected in high prevalence in colleges and universities and amongst young people entering the labour market.⁵⁶

Despite various policy initiatives there remains an under-representation of men studying at undergraduate level at university⁵⁷ and an under-

representation of women in Modern Apprenticeships,⁵⁸ especially those in STEM related occupations.⁵⁹ Gender imbalance in subject and pathway choice remains pronounced.⁶⁰

At a national level Scottish universities met the interim widening access targets early, with 16.4% of all Scottish-domiciled entrants to full-time first-degree courses in 2019-20 from the 20% most deprived areas⁶¹, but maintaining progress, the figure was only 16.5% in 2021-22, and meeting individual institution targets is more challenging. Various approaches have been undertaken by universities to support learners⁶² in the widening access cohort to access and complete pathways with varying success in practice.

Although the targets are specifically for universities, colleges play a critical role in providing learning and supporting widening access students onto a path to university. For example, 28.7% of Scottish-domiciled full-time entrants to HE courses in the college sector were from the more deprived areas in 2020-21.⁶³ Apprenticeships have also traditionally been popular opportunities for people in more deprived areas.⁶⁴ Recent evidence suggests that this may still be the case for Modern Apprenticeships,⁶⁵ although the pattern might differ for Foundation and Graduate Apprenticeships.⁶⁶

The funding landscape is described more fully in Chapter 7. In brief, the current funding system provides free tuition for eligible Scottish full-time Higher Education students and also supports these learners with living costs through the availability of student loans, subject to eligibility.⁶⁷ The current funding system also supports the provision of much, but not all, Further Education, apprenticeships and community learning and development such that many learners, particularly those on full-time pathways do not have to pay tuition fees. There is less direct access to living cost support for learners who are on non-HE pathways or who are part-time. Discretionary and hardship funding, various bursaries and Educational Maintenance Allowance are also available to help learners in priority groups based on individual application processes. This includes, for example, care experienced learners.

Although various learner financial support is available for learners of Further Education, from a learner perspective, it is quite complex to navigate and has contradictory relationships with both social security and Educational Maintenance Allowance ([EMA](#)). Survey data suggests that more than one-third of college students (37%) experienced food insecurity in the previous 12 months⁶⁸ and that most Further Education students are highly dependent on their families for financial support.⁶⁹

One final area of financial support for learners is the Individual Training Account (ITA). This fund is targeted at people seeking employment or in low paid work. It provides a £200 payment that eligible learners can put towards the cost of an approved training course.⁷⁰

3.5. Attainment (Retention / Completion) and Satisfaction with post-school Pathways

Universities, colleges and apprenticeship pathways all have different methodologies for looking at outcomes. They also cater for very different student bodies. It is therefore not possible to make direct comparisons. Most pathways show that for the vast majority of learners there are high levels of retention, completion and satisfaction. They also show that there is always an element of attrition, crudely between 10-20%, as people leave the pathway, for example to pursue other work or learning opportunities or for personal or family reasons.

According to the latest published data, 59.0% of college full-time further education students successfully completed their course and 62.5% of full-time higher education students at colleges successfully completed their course. In both cases a further 11-14% completed their course, but did not gain the full qualification they were aiming for.⁷¹ A lot of college provision is also part-time, which is excluded from the above figures.

There are a range of reasons that may impact on withdrawal rates, not all of which will be a negative outcome for the learner. Non-completion rates will increase if a higher proportion of students move to employment, change course, take a year out or move to an apprenticeship at college. The nature of the student body may also impact on completion rates. People living in financial hardship, with health conditions or additional caring or family responsibilities may find it more difficult to successfully complete due to other pressures.

Universities currently measure retention from first year to second year rather than completion. This is currently being reviewed by HESA to understand if it meets user needs.⁷² Based on this current measure 94% of students are retained and 6% of students do not return for second year. Additional data was sourced from SAAS, based only on Scottish students eligible for free tuition. This experimental analysis shows a similar retention figure in that around 6% either didn't take their second year grant or withdrew during the first or second year. In addition, 9% of all students who started a degree had withdrawn during or prior to their 3rd year. In total 14% of students that started had withdrawn prior to the end of the 4th year. It is worth noting that in some cases students can choose to leave at the end of 3rd year with an ordinary degree rather than staying for their honours year.⁷³

Data from OECD suggests that the average non-retention on bachelor programmes is around 12%. Evidence from OECD also suggests that on average across OECD countries only 39% of full-time bachelors programme

students complete within their allocated programme duration with a further 30% completing in the next 3 years. Data for the UK is much higher with over 70% completing within programme duration and a further 15% completing over the subsequent 3 years. Equivalent data is not available for Scotland.⁷⁴ As with colleges the composition of the student body will impact on retention rates with more disadvantaged learners and older learners more likely to struggle. For example, mature students are twice as likely to drop out than younger students.⁷⁵

For Modern Apprenticeships achievement is noted when a final outcome payment is made and approved. Achievement rates have tended to be around 76-77% although they did drop below 73% in 2021-22 and 2022-23.⁷⁶ The data shows that MAs aged 25 or over had a higher achievement rate than those aged 16-19 (77.0% compared to 68.3%).⁷⁷

Graduate Apprenticeships do not report achievement in the same way, but available figures show early leavers with no achievements from the programmes. This has risen slightly from 9.7% in 2017-18 to 15.5% in 2020-21. Proportion of early leavers with no achievements overall were much lower in 2021-22.⁷⁸

When considering satisfaction measures it is important to understand the methodology utilised to obtain the results and the base. Satisfaction rates for apprenticeships are measured based on apprentices who are still in training after 6 months. The survey is sent to apprentices 6 months after they are a confirmed start, so some may have dropped-out by then. For college and university students, the questions will only be asked of those students who are still on the course in the Spring term. Therefore questions are only being asked of those who have not withdrawn which could impact on satisfaction levels.

According to the National Student Survey 2022, overall satisfaction with Scottish universities varies considerably from mid 60% to over 80%. It is likely that this data is still reflecting some of the difficulties of operating through COVID. Prior to COVID average satisfaction for universities in Scotland tended to be around mid 80% for both full-time and part-time students.⁷⁹

Satisfaction rates from colleges are also derived from a survey of students.⁸⁰ Response rates for this survey vary greatly by college with half of the colleges having full-time further education response rates of below 40%⁸¹ which makes comparisons very difficult. Broad results show 92.7% of full-time FE students were satisfied with their overall college experience in 2021-22. When considering full-time HE students then numbers are lower with 85.7% satisfied. Satisfaction was higher for part-time students for both FE and HE.

Satisfaction rates with MAs in training were high at 94% with a mean score of six or above. Satisfaction at three months and 15 months after leaving remained high at 89% and 87% respectively with over 90% of respondents likely to recommend the pathway to others, irrespective of whether they had personally withdrawn.⁸²

Most people applying for an Individual Training Account (ITA) were positive about their experience. Of those surveyed, 90% of respondents rated their overall experience as 'good', 63% 'very good' and 27% 'quite good' with 83% of people reporting that they would not have done the learning without an ITA.⁸³

3.6. Barriers and Enablers to Navigating the Learner Journey

For the system to work coherently it is important that it can be smoothly navigated by the learner. This will include the ability for a learner to identify and understand pathways, as well as the potential outcomes or opportunities they might open up for the learner. Returning to the notion of a "Learner Compass" mentioned earlier, learners should be able to identify their goal and then identify actions needed to achieve that goal. In order to do this, the system should be able to support decision-making through good quality support, advice and information, clear and accessible pathways, clear and supported transitions and good understanding of likely short and longer term outcomes. Each of these will be considered in turn.

3.6.1. Good Understanding of Likely Outcomes

The decision of which pathway to take is an important one. For full-time courses, learners decide whether or not to delay entry to the labour market, forgoing possible earnings during this time. For FE (typically SCQF 1-6) this might be for a short period of time, but for HE (typically SCQF 7+) it is usually one or two years with a typical degree in Scotland usually lasting four years.

There will be some young people who attend university because of the prestige of a degree and the rite of passage of going to university, but for many there will also be an expectation that it will help to achieve higher career earnings. In Scotland, tuition fees for university courses are free for eligible Scottish domiciled students, but most students will still accrue considerable debt from student loans which will need to be repaid once they are in work. Levels of tuition fee and living support for Higher Education students means that on entry into repayment, Scottish students have lower loan balances than elsewhere in the UK (Scotland £15,430; NI £24,500; Wales £35,780; England £44,940 when entering repayment in 2023), but it still reflects a significant debt.⁸⁴

At the same time as deciding whether to go to university or college at all, young people must also decide which subject they would like to study and which institution to attend. These choices will all have a substantial bearing on employment and earning opportunities throughout their adult life.

The Longitudinal Education Outcomes data (LEO) is a useful source of evidence around outcomes from Modern Apprenticeships, college and university provision in the UK and Scotland. For example, the most recently published statistics show that UK-domiciled first degree graduates from Scottish HEIs in 2013-14 had median earnings of £29,300 in the 2019-20 tax year. The data also show the importance of subject studied in predicting future earnings with 'medicine and dentistry' giving median earnings of £50,500, with 'performing arts' and 'creative art and design' having much lower median earnings of £20,500 and £22,300 respectively. Some of the difference may be explained by post-degree further study, or number of hours worked, but the difference in earnings clearly show the benefits of some courses.⁸⁵ Median earnings also vary for different equality groups, with college and MA data showing similar variations in subject and personal characteristics to university graduates.⁸⁶

Over time, as the number of graduates increase this graduate earning premium can only continue as long as there is an increasing demand for graduates. As discussed in Chapter 4.5, recent analysis by CIPD⁸⁷ and NIESR⁸⁸ suggests that this point has now been passed in the UK and that learners are increasingly over-qualified or over-skilled for the jobs that they take. An alternative perspective is that the labour market might be under-utilising the skills of learners.⁸⁹ This might be true but in the short-term it might cause learners to think carefully about qualification and course pathways.

More recent analysis from Scotland again confirms the advantage of higher qualification levels to both future earning potential and to the economy.⁹⁰ Econometric analysis undertaken as part of the Education and Skills Impact Framework (ESIF) shows there is further nuance around whether the earnings premium for a full degree is necessarily greater than that for other pathways. This analysis shows significant benefits to apprenticeship pathways when compared to non-completers, with men who attain Modern Apprenticeship Level 3 achieving between 14% and 52% higher daily earnings. This analysis is complex and marginal returns vary considerably depending on age and gender as well as being subject, pathway and institution-dependent.

A study by Ianelli using the British Panel survey of 1970 gives a longitudinal assessment of life chances and concluded, "The results show that graduates from lower social classes of origin have more diverse and less stable trajectories, are less likely to enter top-level jobs in their 20s and more likely to enter and remain in lower social classes than their more socially advantaged counterparts".⁹¹ This work responds to a time when fewer people went to

university. However, a more recent Institute for Fiscal Studies (IFS) study in 2018,⁹² showed similar issues. It also concluded that even after accounting for background characteristics, an average 29 year old man who attended HEI earns around 6% more than a 29 year old man with similar school attainment and background characteristics who did not attend HE, while women earn 26% more.

This data relates only to England and Wales but it is useful because it takes into account the prior characteristics of learners. The report from IFS also shows considerable variation depending on the subject studied and the institution attended. For example, men studying creative arts, English or Philosophy earned less on average than those with similar background characteristics who do not go to HE. By contrast studying economics or medicine increased earnings by over 20%. For women there are no degree subjects that have negative average returns.⁹³

The decision on the best route forward for an individual, based on potential employment outcomes, is thus a tricky one requiring clear and good quality information and advice.

3.6.2. Good Quality Advice and Information

The provision of good quality information and advice is critical whether as a school leaver, a leaver from the post-school system looking at next steps, or someone looking for upskilling or reskilling options. As noted above, learning opportunities have benefits but they also have costs - including time lost from the labour market, living costs and sometimes tuition fees. Learners need a full range of information in order to balance the benefits of the learning opportunity against the financial and other costs required.

A recent review of careers made ten recommendations to drive forward the services⁹⁴ including creating person-centred services and an increased focus on work skills and experiential career education. The [My World of Work](#) digital offer is a core part of this service.⁹⁵ In addition to the career service offered by SDS there is also a Developing the Young Workforce ([DYW](#)) initiative providing advice and learning to school leavers.⁹⁶ Given demographic changes and the increased pace of technological change, the careers review recommends the need to further test proposals to identify requirements for an all-age career service to sit alongside offers focused on young people.⁹⁷

There is also an imperative for pathway providers such as community learning providers, colleges, universities and apprenticeship framework employers to provide good quality information on the curriculum and teaching mode of courses and potential outcomes, so that learners who are making significant financial decisions are doing so from a position of informed understanding of the costs and benefits. Some of this is provided from individual university

websites, with comparator sites such as Discover Uni⁹⁸ and UCAS⁹⁹ providing a broader range of information and advice including data on potential earning and employment opportunities alongside factors such as student views, costs, quality and standards and entry requirements. Although UCAS includes data on colleges in England it does not in Scotland. College websites provide individual course information where available. SDS publish a range of data on apprenticeship starts and achievement by sector¹⁰⁰ alongside the broader My World of Work resource.

Although this range of data is helpful it puts the onus on the learner to be aware of the pathways and relevant websites and be able to do the level of research required to understand the pros and cons of different pathways. There appears to be little that simplifies the journey for the learner in the same way that, for example, a travel booking website can take a broad desired travel outcome and display a range of tailored options.

3.6.3. Easy and Supported Application Processes

Little robust evidence was identified to understand the ease and effectiveness of the current application processes. The descriptions below are taken primarily from understanding of the system presented by various stakeholders. It is quite likely that individual institutions will have undertaken evidence gathering to inform their own processes. This is an area where there is scope to develop further comparative evidence to understand the extent to which current application processes are satisfactory for learners and the people who support them.

Current applications for full-time first degrees in Scotland, whether domestic or international, go through the UCAS system. This process allows learners to apply with a single application form and personal statement for a combination of up to 5 different courses and/or institutions. This approach has been in place for around 30 years and stakeholder opinions suggest that it appears to be well understood by schools and parents.

However, engagement suggests that the ease of this system also becomes a barrier, because it can push school leavers in particular down this route rather than other pathways which require individual application processes. It also has some downsides because of its lack of flexibility in terms of timing, with everything geared to an academic calendar.

Applications to part-time undergraduate courses, graduate apprenticeships¹⁰¹ or postgraduate courses at university require learners to apply with employers or individual institutions through online application forms and personal statements. This may work well because learners choosing these pathways may have a narrower range of providers, institutions and subjects of interest.

However, it may also deter school leavers from choosing a part-time rather than full-time route.

There is no centralised admissions service for colleges in Scotland meaning that it is difficult to compare applications and offers across Scotland. Applicants to college are required to submit a separate application and personal statement for each course or institution that they wish to attend. There may be some opportunity to streamline this, but engagement illustrated that there are barriers to consider including the vast range of qualification types offered, the range of learners at different stages, and the fact that not all college courses start and finish in a normal academic year.

It appears that the process particularly for school leavers moving to Higher Education at college is less well understood by parents and teachers than the standard UCAS university route, especially in schools which would normally send a large number to university. Therefore, the awareness of prospective learners of available college provision relies on the colleges building their profile and relationships with schools and businesses locally.

3.6.4. Clear and Supported Transitions

As noted a learner journey will involve a unique building of pathways. This starts in the senior phase of school with choices around subjects and qualifications to take. This is normally a restricted choice; restricted by columns of subjects where learners can pick one from each column, with the columns themselves dependent on the range of teaching and facilities available in the school or partnerships with neighbouring schools, employers or local colleges.

One very specific issue is the extent to which pathways will or will not lead into other pathways. This can create barriers and wasted time spent learning a qualification which does not lead to the desired endpoint. For example, learners may take college courses with an assumption that this will allow them to move to a specific university if they do well enough (often referred to as “articulation”).

However, this is not always possible, because a qualification requires both breadth and depth and university courses can have specific specialisms which differ from college courses. Teaching modes can also differ between the self-directed university approach and more structured college approach. The ability to cope with both the curriculum and the mode are necessary for a learner to successfully transition.

In 2020-21, for 11,780 learners enrolled at a university on a first degree course having previously achieved an HNC or HND qualification at college,

7,665 (65%) made this move within 3 years of achieving their college qualification, with only 58% of these recent learners receiving full credit for prior learning. That is, students with an HNC entered year 2 and those with an HND entered year 3. This means 42% of learners who had taken college courses within the previous 3 years were required to repeat a year, for example to gain additional learning because the required syllabus was not covered or due to student choice etc.¹⁰²

Those with longer time gaps between college and university are required to undertake additional qualifications. College and universities have been working together to improve pathways at a regional level to ease transitions including work through the Joint Articulation Forum¹⁰³ and work in East Scotland to set out how pathways could join in the region.¹⁰⁴ Although there have been year-on-year improvements, as the data suggests there is still some way to go. Linked to this there is also a collective need for a better understanding of the data on articulation so that policymakers and practitioners understand more about outcomes, that is who articulation works for and under what circumstances.

Transition to a higher qualification does not always necessitate moving to another provider or pathway, but where it does it is important that the learner understands and is prepared for changes in teaching and assessment methods and modes; that they are able to find suitable accommodation and friendship groups; that they understand the financial implications and that special accommodations and pastoral support is passed on where that is in the learners interest and with their consent. Robust, comparative, evaluative evidence on what works in easing transitions from college to university was not identified for Scotland, but there were good examples found in engagement (see analysis reports and case studies) and some similar work in UK.¹⁰⁵ There is scope to build a better evidence base around transitions.

4. The Wellbeing Economy Challenge

Education and skills are recognised as important drivers of economic growth and productivity with skills and qualifications able to raise productivity both directly by increasing an individual's ability to do more advanced tasks and indirectly by enabling the development and application of technology and innovation.

4.1. The Economic Context

The education, skills and research system is asked to supply and support a vast range of public sector workers, industries and businesses. In 2022, there were around 2.7 million people employed in Scotland with 23% of these in the public sector and 77% in the private sector.¹⁰⁶ There is a high reliance on small and medium enterprises (SMEs) in Scotland. As at March 2022, there were an estimated 360,910 private sector businesses operating in Scotland, with small (0-49) and medium (50-249) sized enterprises accounting for 99.4% of all private sector business.¹⁰⁷ SMEs often have little capacity to engage with workforce planning or resources to support investment in business research and development.¹⁰⁸

The economy was performing relatively well before the COVID-19 crisis, but, the recent past has been turbulent which has intensified economic and labour market challenges. Based on economic conditions in March 2023 the long-term outlook for Scotland suggests that the economy (measured by GVA) and employment will grow – albeit slower than the UK. Scotland's lower representation in higher value-added sectors such as business services and information and communication contribute to this trend.¹⁰⁹ Looking to the future, existing drivers and disruptors will continue to have influence, and new ones will emerge:

- The economic outlook is dominated by forecasts of low growth and high inflation impacting on businesses and households. The cost of living crisis is expected to continue at least in the short term;¹¹⁰
- Low productivity growth remains persistent, and productivity performance varies across Scotland's regions, impacting on wage growth and business investment.¹¹¹ Productivity also varies across business sectors with manufacturing performing relatively well when compared to non-manufacturing production (agriculture, forestry, fishing and mining), construction and services.
- Scotland has a distinct demographic challenge with an ageing and shrinking population which has the potential to amplify labour shortages;¹¹²

- Migration is, and will continue to be, an essential factor for labour supply, as well as addressing public health concerns and wider economic inactivity;¹¹³
- The Climate Emergency and long-term inequalities exacerbated by the pandemic place importance on realising a Just Transition;¹¹⁴
- Technology, artificial intelligence and automation will create job and industry evolution and can present both a challenge and opportunity for Scotland's economy. McKinsey suggests that UK companies will need to transition up to a third of their workforce into new roles or skills levels over the next decade.¹¹⁵
- There are more jobs in high and low skilled occupations with fewer middle skilled roles and people struggling to keep up with technological change.¹¹⁶

4.2. Skills Gaps and Skills Shortages

As described below the data shows there are current and potential future skills gaps and skills shortages. Where these skills are lacking, it's usually for one of three reasons:

- Skills gaps – where the existing workforce lack the specific skills or qualifications required for their roles;
- Skills shortages (skills shortage vacancies) – where the employer is unable to fill a vacancy for a role due to a lack of applicants with suitable skills / qualifications; or
- Labour shortage – where there are too few applicants overall to recruit for specific roles.

Employees arrive in a job with a range of backgrounds in work experience, skills, qualifications, meta-skills and personal qualities. They will then undertake a range of learning during their working life to skill them for the jobs they perform. This learning will be a combination of learning on-the-job from peers and managers and specific courses or learning programmes. For the purpose of this report, these different offerings can be grouped as follows:

- Specific mandatory courses required for the industry such as health and safety, food hygiene, data protection, operating tools and machinery, handling heavy objects, driving for work etc. Some of these will need to be externally certified courses, but many will be internal courses required for the employer to fulfil their legislative duties, for example fire safety, inclusion and diversity.
- Specialist knowledge and skills related to the workplace, for example operating company specific tools and machinery, using company IT systems, understanding processes to log calls and customer enquiries, understanding company and product ranges. This type of knowledge and skills is usually taught by the employer either on the job, through in-

house courses or sometimes a contracted tailored course provided by an Independent Learning Provider (ILP) or college.

- Development of meta work-skills that people can bring to a workplace or develop within the workplace such as self-management, communication, team working, prioritising work. Large employers often have in-house training departments or utilise independent training partners. Evidence from the Scottish Employer Perspectives Survey 2021 shows that the attribute most sought by employers in candidates was having meta-skills.¹¹⁷
- Provision of apprenticeships is one key employer-led pathway where staff are employed but combine on- and off-the-job learning to gain qualifications and experience in the industry. Apprenticeships are described more fully in Annex B and Annex E.
- Continuing Professional Development (CPD). This may be employer-sourced and funded, for example in a firm of architects, group training may be undertaken, or in a large company with a number of people of the same profession. But it may also be individually sourced and funded. For example, if a construction firm employs chartered surveyors, chartered builders, skilled trades, each will have their own requirements to keep their knowledge and skills up to date with new technologies and practices. Employers may also offer to source and/or contribute payment towards individual learning as a part of career development, for example if an individual decides to take formal courses at college or university which they perceive will be of benefit to the company (for example a Masters of Business Administration (MBA)).

The latest published data from a survey of employers on the skills in their workforce was collected in 2020, so has to be caveated due to the impacts of the COVID pandemic.¹¹⁸ At that time 12% of employers said that they had one or more skills gaps within their workforce, while 4% of employees were considered to have skills gaps and 8% of employees were considered to be under-utilised in their role.¹¹⁹ Incidence of skills gaps increased with establishment size with 4% of small establishments identifying a skills gap compared to 40% of large companies.

Findings from the [Scottish Employer Skills Survey 2020](#) also show that the proportion of all establishments with any skill-shortage vacancies had fallen from 6% in 2017 to 3% in 2020. Just over 1 in 5 (21%) of all reported vacancies were skill-shortage vacancies – that is, they were hard to fill due to a lack of skills, knowledge or experience among applicants.¹²⁰

Skills gaps happen when an employer thinks an existing worker does not have enough skills to perform their job with full proficiency. The most common causes of skills gaps according to the data were transient, that is staff members being new to the role with only partially completed learning. There

were also specific activities which created short-term skills gaps such as the introduction of a new IT system or working practice.¹²¹ Establishments that had transient skills gaps were less likely to note an impact on their performance.

Some skills reportedly lacking in the existing workforce are indicated in Table 2. They broadly emphasise that meta-skills need to be improved across the workforce and for potential recruits. The data also shows a continued need to upgrade digital skills.¹²²

Table 2: People and personal skills lacking among staff with skills gaps.¹²³

Skills gaps reported by employers	% of employees
Ability to manage own time and prioritize own tasks	63%
Team working	56%
Customer handling skills	53%
Creative and innovative thinking	46%
Managing their own feelings, or handling the feelings of others	46%

Responsibility for mitigating short-term skills gaps (within an existing workforce) would commonly fall to employers, whereas other parts of the post-school system work with employers to design provision to fill longer-term skills shortages (lack of suitably skilled/qualified people across the labour market). Employers can improve their employees' skills by training existing staff (filling skills gaps), or by addressing skills shortages by recruiting trained staff from other companies/sectors, or by recruiting inexperienced/unskilled staff with the expectation and commitment to train them to a minimum standard.

However, the 2020 Scottish Employer Skills Survey also found that one third of establishments (33%) had staff that were underutilised in 2020. That is, at least one employee with skills and qualifications more advanced than required for their current role. In 2017 this was 35% of establishments. The proportion of all staff with skills and qualifications more advanced than required for their current role was 8% in 2020 compared to 9% in 2017.

In Chapter 3, the report described the importance of learner agency in the system; that is that learners "have the capacity to set a goal, reflect and act responsibly to effect change'. The same notion of agency is also needed by

employers whose workforce planning and skills utilisation should provide a good sense of their current and future skills gaps and shortages as well as staff they are currently underutilising. However, views expressed in engagement suggested that workforce planning was not carried out as fully or as effectively as it could be and that businesses did not know where to go for help. Employer agency would also need employers to be able to translate workforce planning into reduced skills gaps and shortages and increased utilisation. To do this the employer, or employer representative bodies, need a clear path, good contacts and a central role to filling gaps and reducing future shortages through employer investment and collaboration with learning providers. As the Skills Landscape review sets out this landscape is currently incoherent and disjointed while is likely to impact on employer's sense of agency in the process.¹²⁴

4.3. Skills Planning and Labour Shortages

Skills planning is currently the responsibility of Skills Development Scotland. They commission, produce and analyse a wide range of data on current and future skills needs, supplementing the data with employer engagement. A wide range of publications are produced to support skills planning in Scotland by region and sector.¹²⁵ The picture at national level is described below.

The number of people in employment in Scotland (2026-2033) is expected to grow by 0.9 per cent (22,700 people), which is 1.3 percentage points less than the UK's 2.1 per cent growth forecast (706,000 people).¹²⁶

Scotland's employment growth will not be evenly distributed across sectors. Demand for workers is expected to be strongest in service industries, particularly Human Health and Social Work, driven by the ageing population and consequent increased demand for health-related services. The sector is forecast to require 23,200 additional workers in 2033. This is greater than demand across all other sectors, as some of the additional requirement in growing sectors is offset by contraction in others.

Public Administration and Manufacturing are forecast to have the greatest contractions over the 2026 to 2033 period. Employment in the Manufacturing sector in Scotland is forecast to contract by 25,200 people, driven by the sector becoming more automated and less labour intensive. The number of people working in Public Administration is also forecast to reduce by 8,100.

However, demand for workers will be greater than new job creation alone, as workers leaving the labour market due to retirement or other factors also create demand. To fill all job openings over the 2026 to 2033 period it is forecast that 729,900 people will be needed. The forecast indicates that, as a

result of people leaving the workforce, all sectors will have demand for workers – including those that are forecast to contract overall (see Figure 1).

Automation is expected to impact on the type and number of jobs with ONS suggesting that around 7.4% or 1.5 million jobs in England were at high risk from automation in 2019.¹²⁷ However, there is also some evidence that automation can be viewed as an opportunity. For example, robot density, the percentage of robots per worker, is actually highest in the large employment economies of South Korea, Japan, Germany, Sweden and Singapore.¹²⁸

Figure 1 sets out the forecast requirement based on known demand and industry classification. In responding to this range of skills demands, the education, skills and research system is asked to balance and prioritise provision and curriculum development across a vast range of different pathways and qualifications.

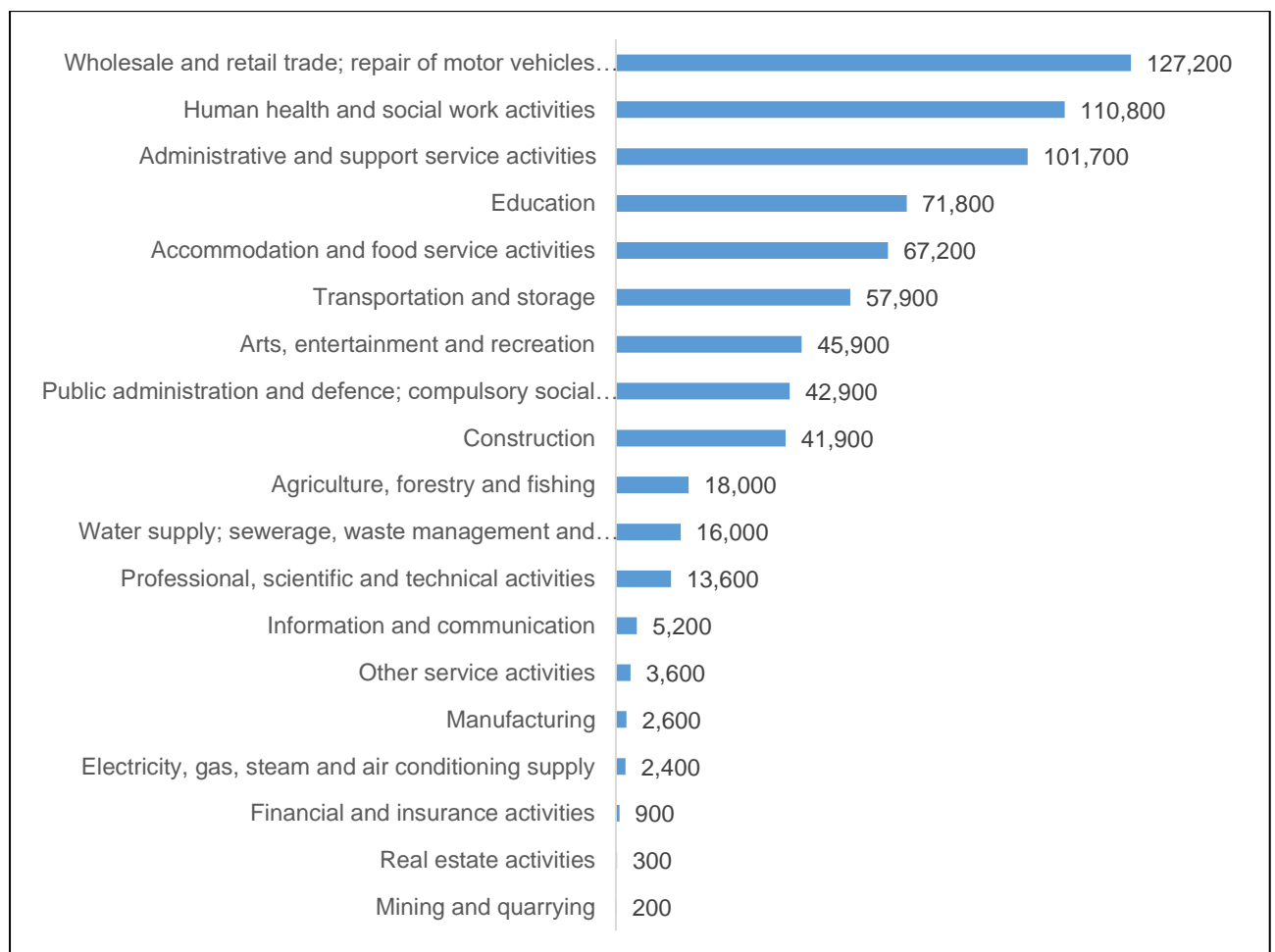


Figure 1: Forecast personnel requirement by Scottish industry 2026-33.¹²⁹

According to SDS, more than half of the total requirement of new workers (57 per cent, 418,300 people) over the 2026 to 2033 period will be for workers qualified to SCQF level 7 and above. It is estimated that approximately a further one-third (34 per cent, 249,400 people) of the total requirement will be for people qualified at levels SCQF 5 and 6. Projections suggest that approximately nine percent (62,200 people) of the total requirement will be for people with SCQF level 4 or below qualifications. This is indicated in Figure 2

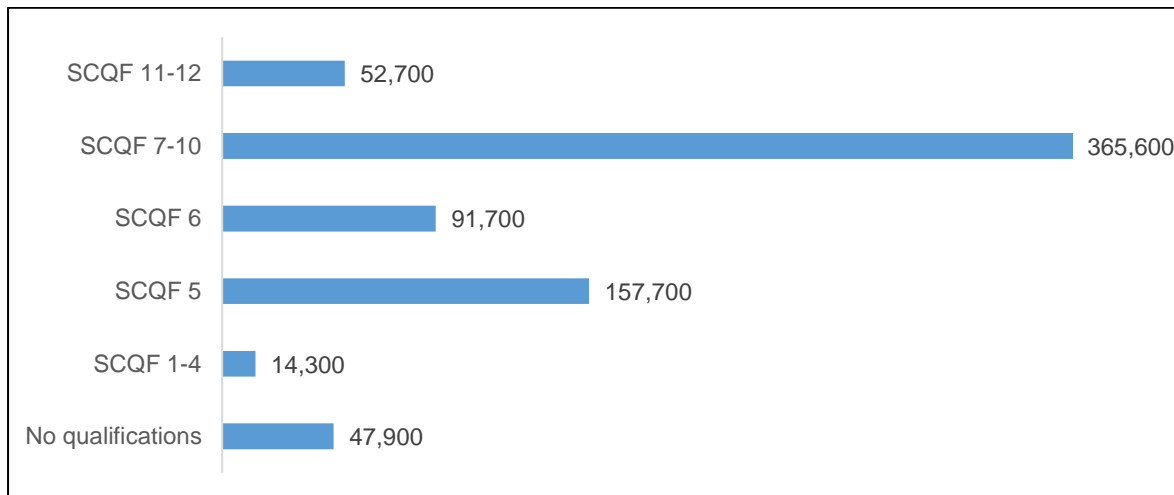


Figure 2: Forecast requirement of numbers of people per SCQF, 2026-33.¹³⁰

In this context it is sometimes difficult to separate a skills shortage from a labour market shortage, especially for jobs which have low qualifications and skills requirements, or where prospective employees are over or under-qualified for the role, or where there are a number of industrial sectors recruiting from the same part of the labour market.¹³¹ For example, for lower skilled jobs, in a tight labour market, potential employees are likely to prefer occupations and sectors which offer better pay and conditions for their needs. They also may have more bargaining power to negotiate better pay and conditions. This may lead to wage inflation or leave labour shortages but it is not necessarily a skills shortage. Scotland has low pay challenges in several sectors including retail, hospitality, business administration and support services and entertainment.¹³²

While helpful in identifying sectoral demand, the current skills and workforce planning approach and the system it lands in, is arguably not providing the agile and responsive system required. An Audit Scotland report in 2022 highlighted that current arrangements are unlikely to achieve the ambitions for skills alignment at the pace required, criticising a lack of Scottish Government leadership as well as lack of effective partnership working between SFC and SDS.¹³³ The recent review of the Skills Landscape identified similar issues with skills planning 'At the heart of this appears to be a fundamental question

about what and for whom we are planning and, connected to this, uncertainty about data and intelligence – who has it, who collects it, what it can tell us, who is able to access it and how it can be used to inform decision making.¹³⁴

There are a number of areas which appear to have some weakness, although these are identified from examining products available and engagement with stakeholders.

- Current skills planning is not always founded on good communication and collaboration between employers and providers
- Skills planning data does not always provide the detail needed on the nature of curriculum and level of qualifications that learning providers would need to shape provision.
- The lack of strategic intent from Scottish Government and clear national priorities makes it difficult for learning providers to determine the balance of priority for learning provision across different industries.
- There is an additional unknown element of future skills planning that is related to external drivers such as climate change¹³⁵ and the advance of technological disrupters including robotics, big data and artificial intelligence¹³⁶ as well as decisions taken by UK or Scottish Ministers to prioritise specific growth sectors for the future.
- There is a spatial dimension to skills planning with a need for both national, regional and local understanding of current and future skills gaps and shortages.

In response, the review of the Skills landscape identifies the need for more detailed engagement between government, industry and providers around planning and filling skills gaps. There is also growing recognition of the need to provide for adaptable and behaviour-centred meta-skills such as innovative thinking and emotional intelligence and greater inter-disciplinary knowledge.¹³⁷ There is also space for improved data and evidence not to continue to identify the problems but to shape a new solution.

4.4. Trends in Employer-led Learning

There is some evidence that employer investment in training and sense of responsibility for learning has decreased over time at UK and Scottish level.¹³⁸
¹³⁹A recent CIPD report¹⁴⁰ suggests that participation rates have remained broadly stable since 1995 with 14-16% of the workforce receiving some type of training over the previous 4 weeks. However, they argue that this masks a fall in the length of training courses and a fall in off-the-job learning such that the number of training days per employee fell from 7.8 days per year in 2011 to 6.4 days in 2017.

In addition they argue that much of the learning provided is focussed on health and safety and induction. In a third of all businesses 50-100% of training is

classified as health and safety or induction. It can be argued that this type of learning has little impact on skill levels or tackling skills gaps.

The same report illustrates a real term cut in UK employer investment in training of 16.7% per trainee (6.3% per employee).¹⁴¹ It also suggests a contrast to many other parts of Europe where the percentage of employees involved in training and the number of training hours are higher.¹⁴²

It is difficult to compare UK participation rate findings with Scottish data because Scottish data looks at the previous 12 months whereas UK data considers the previous 4 weeks. The Scottish Employer Skills Survey 2020 suggests that employers trained 55% of their staff in the previous 12 months with half being on-the-job and a third off-the-job. This was lower than in previous survey rounds where it was above 60%. The Scottish data also agrees that most of the training was health and safety related (71%), along with induction (59%) and job specific (86%). The length and depth of these courses is unknown but around a quarter of establishments provided training for a nationally recognised qualification which equated to around 10% of the workforce.¹⁴³

Large employers often have in-house learning and development departments but many employers will also seek support for learning provision. This appears to be more of an issue for larger employers than for smaller employers. Insights from the Scottish Employer Perspectives Survey showed that around a quarter of employers (26%) had experienced a skill or training-related issue that required advice, information, or support in the 12 months. Larger employers were more likely than smaller employers to have needed such support, a fifth (20%) of employers with 2-4 employees mentioned this, compared with around half (48%) of those with one hundred or more employees. Among those experiencing an issue, eight in ten (80%) had sought or received advice on the issue.¹⁴⁴

As noted before SMEs make-up 99.4% of all private businesses in Scotland. A report from the Federation of Small Business at UK level indicates that while the vast majority of small businesses recognised the value of staff training to the business and to staff retention, many did not invest in training citing reasons such as time, cost and lack of local training options as well as the fear of trained staff moving to other employers.¹⁴⁵ Similarly, although small organisations, SMEs face the same challenges as large organisations that without proactive workforce planning to identify, fill and communicate current and future skills gaps and seek to fully utilise current staff skills, they can experience productivity slowdown. Little evidence was identified to understand extent of workforce planning in SMEs.

A Scottish funded programme the Flexible Workplace Development Fund (FWDF) was established in 2017 to provide employers with flexible learning

opportunities for their workforce. The programme evaluation found it was largely working well and delivering against its purpose. While setting out a number of recommendations to improve the programme, it stated it was a “much needed and valued intervention”.¹⁴⁶

CIPD note that the reasons for an apparent decline in employer investment in employees is less well understood but includes the expansion in the Higher Education system reducing the overall need for employers to train staff; increased efficiency in training investment and a shift towards business models requiring lower levels of skills.¹⁴⁷¹⁴⁸ This latter point is further supported by evidence from the European Investment Bank which shows that training investment is higher in countries where the economy is growing, who invest more in research and development or who have a higher share of well educated workers.¹⁴⁹

The UK Government recognised the need to address falling levels of employer training and specifically noted low levels of apprenticeships compared with other countries along with skills gaps in intermediate/technical level. They responded with the apprenticeship levy¹⁵⁰ which requires all UK employers with a pay bill of over £3 million to contribute a levy (0.5% of their annual pay bill) starting in April 2017. The aim was to inspire employers to expand or introduce apprenticeship programmes which has been a traditional pathway utilised by employers to recruit and train new employees or to upskill existing employees.

While in England, employers can directly access the funding to pay for training and assessment of apprenticeships, different models have been assumed in devolved countries. In Scotland funding from the apprenticeship levy is paid as part of the Block Grant to Scotland with Scottish Government arguing that this money replaced skills funding previously provided by UK Government. In effect, they argue, there was no bottom line increase in funding to Skills Development Scotland who manage apprenticeship frameworks and the Flexible Workforce Development Fund. Engagement with employers, however suggests some dissatisfaction that unlike England their perception was that they couldn't directly access the money they had invested for training.¹⁵¹

Prior to the levy SDS were already seeking to increase apprenticeships with 25,818 Modern Apprenticeship starts in 2015/16.¹⁵² In 2017/18 there were 38,485 Modern Apprenticeships in training. This suggests that over the period since the levy's introduction there has been little change in numbers of Modern Apprenticeships in training. In 2022/23 there were 39,006 Modern Apprenticeships in training.¹⁵³ However there has been an increase in other types of apprenticeship frameworks with the programme of Foundation Apprenticeships which started in 2016 rising to 4,122 school pupils in 2021¹⁵⁴ and Graduate Apprenticeships rising to 1,169 in 2020-21 and stabilizing at

1,166 in 2021-22.¹⁵⁵ Annex E provides further detail on the apprenticeships pathways in Scotland.

4.5. Alignment of Skills

There is clearly an important connection between the qualifications learners gain through the system and their readiness to move into work for employers and businesses. The Scottish Employer Perspective Survey, interviewing a representative sample of employers in Nov-Dec 2021 showed that employers thought that education leavers were generally employment-ready, with 80% saying leavers from University, 78% from college and 68% from school were well prepared for work.¹⁵⁶

OECD research suggests that higher education attainment remains closely correlated with higher employment rates and conversely that *“Those with lower educational qualifications earn less and are at greater risk of unemployment.”*¹⁵⁷ Helping to improve opportunities for those with low educational outcomes through upskilling and reskilling, for example through CLD and college provision, is therefore critically important not only to the economy but to enable good outcomes for individuals including increased wellbeing and a reduced risk of poverty.¹⁵⁸

Although higher qualifications are generally beneficial in terms of earnings and employment, there is evidence of misalignment of skill level to employment. For example, OECD warns that not all students are best served by a tertiary degree and more efforts should be made to expand vocational education and learning.¹⁵⁹ Analysis on matching job roles to graduate skills in the UK from CIPD¹⁶⁰ and NIESR¹⁶¹ provided further evidence of the underutilisation of graduate skills in the labour market.

The NIESR report specifically examined the impact of horizontal (34% don't work in field related to their degrees) and vertical (30% have too much education for their current job) graduate misalignment.

An additional UK survey by CIPD also gave very different results to the [Scottish Employer Perspective Survey](#) noted above. The CIPD survey undertaken in Feb-March 2022 suggested that only 28% of 17/18 year old leavers from school were very or fairly well prepared for work; compared to 40% of 17/18 year olds from college and 49% leavers from University.¹⁶² Some of the difference might relate to different national policy contexts between Scotland the rest of the UK but there is currently no data to support this. New data from the UK Employer Skills Survey, which includes Scotland, should be available later in 2023. This will provide useful trend data on work readiness.

While international research shows benefits for advanced economies of having a better balance of academic and work-based approaches to skills development, there is mixed evidence on whether it provides the best outcomes for learners with some arguing that broad transferrable skills may provide better future protection.^{163, 164}

Given the complexity of the wellbeing economy it is not altogether surprising that aligning skills from education leavers and the current workforce is difficult. There are a range of alignment challenges summarised below:

- Forecasting demand for skills is complex given that skills development and economic growth will simultaneously affect each other and at a national level, skills requirements will be influenced by investment such as technological change,¹⁶⁵ new facilities or processes, or emerging sectors.
- Even in a static system it is not practical to exactly match skills to demand because different businesses within the same industry will have different needs and different people within the same business may have different perceptions of which skills gaps to prioritize.
- Accumulating skills is a gradual process. The vast amount of adjustment and alignment at a national level will need to take place by upskilling and reskilling the existing workforce.¹⁶⁶ The employer therefore has a strong role and responsibility in training staff.
- Growth in part-time work, self-employment¹⁶⁷ and the gig economy means that fewer workers can count on employers who have a long-term interest in their development. Similarly the challenge of automation may impact more on lower-skilled and lower-income workers who may feel less empowered and have less financial support to seek upskilling or reskilling opportunities.
- Demographic shifts are leading to an ageing workforce and increased globalisation has internationalised labour markets such that skilled labour can be gained from outwith the Scottish post-school education and skills system and likewise learners from the Scottish system may choose to work outwith Scotland. The Scottish system therefore needs to be mindful of its ageing workforce and its need to maintain global presence to attract and retain workforce.
- It can take several years to design, test, approve and market new courses. There is a challenge to the system to increase the pace of response with shorter courses and micro-credentials often seen as an answer to develop a more agile and responsive system.¹⁶⁸ However, the type of pathway needed will depend on the nature of the skills gaps and the prior learning and experience of prospective learners. Micro-credentials will have a place but so will responsive longer form courses. Both will necessitate strong collaborative relationships such that employers can directly commission and fund training in order for

providers to be reasonably assured that places on courses will be taken up and paid for by employers and/or government.

Even if it was possible to accurately articulate skills needs, gaps and shortages, and providers could exactly respond, that is only one side of the equation. The other is the demands and expectations of the learner. For example, forthcoming data from SDS based on questions placed in Ipsos's Young People in Scotland survey shows that the interests of young people often bear little relation to skills shortages. Literature on the barriers to lifelong learning also suggests that there are a range of obstacles to filling skills gaps including dispositional (where an individual's attitudes and expectations limit participation); situational (where an individual's personal circumstances limit participation, being unable to afford training for example); and institutional (where structural and organisational factors limit access to training).¹⁶⁹

The same review shows that the international literature provides some general lessons for the provision of lifetime skills, work-based learning, upskilling and retraining, although evidence on the strengths and weaknesses of the Scottish skills system are limited. These general lessons are in line with the issues discussed in Chapter 3 including: the importance of awareness raising and accessible opportunities; the need for stakeholder engagement and for government, employers, training providers and stakeholders to work in partnership; the importance of overcoming barriers to learning; and the need to ensure quality training provision.

4.6. Work-Based Learning

In defining work-based learning there seems to be two key differentiating factors:

- whether someone is primarily employed / self-employed or primarily a student when they undertake the work-based learning;
- whether knowledge and skills acquired are industry specific or transferrable.

Apprenticeships are one traditional work-based pathway but there are other connections between work and study. Many learners are already in the workplace and accessing learning as part of their job, others will undertake work integrated learning such as clinical practice or work placements as part of their course.

Students will also often work alongside their study. In Jan-Dec 2022, around 37.4% of individuals aged 16-24 who were in full-time education were also in employment while 81% of those in part-time education were in employment.¹⁷⁰ Students may be employed for a variety of reasons, including to financially support themselves throughout their period of study, but during this they will

be developing useful work-relevant meta-skills. A 2011 Higher Education Academy paper¹⁷¹ highlights that “A definition of work-based learning for the Higher Education level could involve any of the following work-based learning types; learning for work, learning through work and learning at work”.¹⁷² Using this categorisation as a broad basis, Annex D sets out the breadth of work-based learning.

5. The Research, Innovation and Knowledge Exchange Context

The post-school education, skills and research system has a vital role in creating the strong foundations that allow Scotland to drive long-term, real-world impacts. Being willing to adapt, innovate and learn will be critical to delivering economic and societal benefits and greater, greener and fairer prosperity. Growing research and knowledge exchange activity and ensuring institutions remain at the forefront of the knowledge frontier will be central to tackling the major challenges Scotland faces.

Scotland's research base has a global reputation for excellence, and each of Scotland's universities conduct world-leading research.¹⁷³ Initiatives like Innovation Centres,¹⁷⁴ Research Pools¹⁷⁵ and Interface¹⁷⁶ have developed a critical mass of excellence and harnessed these research and knowledge exchange capabilities. The system's knowledge, expertise and innovation are strengthened by extensive collaborations across Scotland and worldwide.

Scotland's newly published National Innovation strategy highlights the central role of research in innovation and sets out a vision and roadmap for Scotland to become 'one of the most innovative small nations in the world'.¹⁷⁷

However, despite world-leading strengths, the current research and knowledge exchange system is not without challenges.

5.1. Transparency and Sustainability of the Dual Funding Support System

Investment in Higher Education research and development has consistently ranked highly internationally over the last 20 years - Scotland was first among the OECD countries for its Higher Education research and development (HERD) (public and private) spend as a percentage of GDP in 2020 (1.06%), above 0.43% in the OECD, 0.66% in the UK, and 0.49% for EU27.¹⁷⁸

The Scottish research and knowledge exchange funding landscape is an ecosystem of funding from different complementary and synergistic sources. It is supported through a dual system of core funding grants provided by the Scottish Government via the Scottish Funding Council, and of project funding from a range of public, charity and private sources. Multiple national and international drivers can affect either or both funding streams and impact the system's overall stability and sustainability, including differing government budgets, priorities and policies.

The core funding grants provided via the Scottish Funding Council support research across all disciplines and are vital in providing institutions with stable and flexible funding that can be invested according to individual institution's own distinct needs. However, there is scope to increase transparency on how

the funds are used. While some qualitative data is currently gathered through the SFC outcome agreement process, better evidence gathering would increase understanding of how investment flows across the broader research, innovation and knowledge exchange landscape.

Increasing accountability and transparency was a major feature of the SFC Review of Coherent Provision and Sustainability and work is underway within SFC to respond to the recommendations by building on the current outcome agreement process to develop and introduce new research accountability and assurance processes for academic year 2024/25.

Project funding, the second strand of the dual support system, is leveraged from a variety of both domestic and international sources, including from the Research Councils which are part of UK Research and Innovation (UKRI), charities and businesses.¹⁷⁹ The funding from SFC and UKRI together formed more than 50% of the university research income in Scotland in 2020/21.¹⁸⁰ A diversity in different funding streams may be beneficial as might allows researchers to respond to new ideas and opportunities across a broad range of disciplines and projects.

Improving transparency, understanding and evidence on how both elements of the dual system support research and knowledge exchange activity, is complex, but important in ensuring Scotland's continuing research excellence.

5.2. Maintaining International Competitiveness

Around half (49%) of Scottish research is undertaken with an international collaborator and it is this research which has the greatest impact.¹⁸¹ These collaborations open up access to new ideas and research infrastructure and build Scotland's soft power influence which in turn supports researchers to maintain competitiveness and leverage international funding.¹⁸² Maintaining strong global links and partnerships appears to be crucial for the Scottish research sector's future success.

Scotland performs well in securing competitively won grants, for example winning approximately €870 million over the period of 2014-2020 in Horizon Europe's predecessor programme Horizon 2020.¹⁸³ However, Scotland faces significant and growing competition internationally.¹⁸⁴ Future access to European programmes such as Horizon Europe is currently uncertain as a result of the UK's withdrawal from the EU, which is impacting stability and capacity in international endeavours.

Attracting the very best researchers to Scotland will also be essential in ensuring the future competitiveness of the sector, with non-UK staff making up 37% of the Scottish academic workforce.¹⁸⁵ There is therefore a need to ensure the UK Government's immigration policy better supports mobility and collaboration, and aligns with the Research, Innovation and Knowledge Exchange sector's aspirations and needs.

5.3. Researcher Development and Culture

More broadly, ensuring Scotland not only attracts, but also trains, retains and nurtures the top talent - by providing an environment that supports equality, diversity and inclusion – is an essential part of sustaining research excellence.

The Scottish Government supports the development of a well-trained workforce through a number of initiatives, for example through investment in the Research Postgraduate Grant provided via the Scottish Funding Council. This funding enables institutions to develop Postgraduate Researcher training and support as best fits their individual circumstances, e.g. through skills training, professional development opportunities and PhD scholarships. Scottish Government investment also supports a number of pan-Scotland Graduate Schools and activity that provide training and opportunities to researchers across Scotland. In addition, Scotland has good levels of participation in UK-wide activity associated with improvements in research culture, e.g. Athena Swan and the Concordats on Researcher Development and Research Integrity.

But, research culture was highlighted in the SFC Review of Coherent Provision and Sustainability as a challenge facing the sector, and led, among other measures, to the establishment of the SFC Advisory Group on Supporting Scotland's Postgraduate Researchers.¹⁸⁶ Research culture has also received increased attention at UK-level, both through the recent Nurse review of the Research, development and innovation organisational landscape and the 2021 UK R&D People and Culture Strategy.¹⁸⁷

The competitive project element of the dual support system and measures of excellence can result in an overreliance on short-term project funding and focus on output rather than quality. This can breed unhealthy competition and work practices - a 2020 survey of more than 4000 researchers in the UK and globally, found that 78% of researchers reported that high levels of competition created unkind and aggressive conditions. It also showed that it can lead to career instability and precarity and limit opportunities for progression, particularly for early career researchers and those re-entering the workforce.¹⁸⁸

In addition, as universities become ever-more international, researchers must adapt and respond to the pressures that come with this, with agendas around research security for example becoming ever more important. There is likely to be scope to establish best practice in this space and embed positive behaviours through levers such as the Research Excellence Framework, the SFC future Outcome Agreement process and the Research Postgraduate Grant.

5.4. Building Translational Research Capability

Investment in research delivers a rich and varied array of social and economic benefits. Researchers find solutions to some of the biggest challenges we face, from health, climate change and poverty - almost half of Scottish Research linked to the UN's Sustainable Development Goals.¹⁸⁹ Research and development also delivers significant economic impact by generating jobs and improving productivity - firms that consistently invest in research and development are found to be 13% more productive than firms that don't.¹⁹⁰

Similarly, the small businesses founded at Scottish institutions drive growth – in 2021/22, over 1,200 active university spin-off businesses founded at Scottish HEIs generated an estimated turnover of £489 million. There were 853 active student start-ups founded at Scottish HEIs in 2021-22.¹⁹¹ Research also benefits our wider educational system by exposing students to world-renowned expertise and new knowledge development.

Translating ideas into impact and fully harnessing benefits from Scotland's research excellence requires a strong knowledge exchange infrastructure and innovation ethos. Scotland has a number of long-term initiatives that have sought to promote this, such as ten years investment in Innovation Centres in order to build connections across the knowledge exchange and innovation ecosystem. Other initiatives have included Interface, Research Pools and Alliances for Research Challenges as well as the University Innovation Fund which aims to incentivise collaborative working to exploit research to improve Scotland's economy.¹⁹²

However further work is required to enhance understanding of the full impact of Scottish investment in research (for example much of the evidence on benefits from university research is UK-wide). Both the 2019 [Muscatelli report](#) and the recently published Nurse review identified a number of barriers within the current Knowledge Exchange system, including lack of incentivisation for researchers and limited permeability of ideas, tech and people across business and industry.¹⁹³

Scotland's National Innovation Strategy and the forthcoming Entrepreneurial Campus Blueprint aim to address some of these barriers, by improving the innovation and knowledge exchange environment within universities, increasing creation, scaling and spinouts and encouraging an entrepreneurial culture and mindset.

6. Improving Collaborations

Scotland is a small country with a significant range of tertiary institutions, research and skills providers. While the learner-employee relationship provides a significant connector across the system, as important is the connection between the different delivery partners, skills and education providers, research organisations and employers in the system. The more effective the partnerships and collaborations between different parts of the system, the more agile and responsive the system can be, matching skills, products, processes and knowledge to the benefit of individual partners and the wellbeing economy.

6.1. Professional Exchange and Partnerships

One key connection across the system is through formal exchanges as staff move to work in different sectors or different institutions. For example, data at UK level shows that around 20% of inflow to the UK HE academic staff population came from other UK HE providers, but a further 52% came from a UK practitioner source such as NHS or dental practice, or public or private sector, with the remaining 12% coming from overseas and 16% unknown or from the voluntary sector. The destination of over 50% of those leaving the sector is unknown, but of those that are known around 4,000 move from academia to practice (NHS, public or private), either in UK or overseas.

This movement of staff, if it is replicated in Scotland, shows one core aspect of connection between academia and the public and private sectors, highlighting the important role of professional exchange and collaborations to the university and college sector.¹⁹⁴

However, there are many other types of professional exchange and connection. Most of these do not have data to support them but good examples were found through engagement with the sector. A few are listed below but there will be many more:

- Staff collaboration on teaching and pathways, for example staff in colleges and universities working to agree articulation routes¹⁹⁵, staff in CLD and colleges working to support the most disadvantaged learners¹⁹⁶, staff in colleges and employers working together to establish apprenticeships or upskilling courses or utilize new technology.¹⁹⁷
- National and international practice development. Both colleges and universities have developed specialisms where they provide expert advice to build improved practice in public or private sector to support the economy or society. For example, development of dental hygiene

practice in Mongolia by New College Lanarkshire¹⁹⁸ or development and use of a curved wave tank at Edinburgh university.¹⁹⁹

- National and International research collaborations. There are a wide range of examples of how universities work together to develop new thinking and products. This can be commonly seen in international funding bids.²⁰⁰
- Industry academia partnerships through research, knowledge exchange. One key example here is the innovation centres which links researcher and knowledge exchange with business and a range of funding providers.²⁰¹ The Muscatelli report also identifies a range of research spin-offs and partnerships.²⁰²
- International student exchange is a key part of the financial sustainability of the Scottish system. However, it is also important for the breadth and exchange of views and learning and the development of global links.^{203, 204, 205}
- While most universities and some colleges will have international partners to which student exchanges can be made available, some have taken this a step further with international campuses, for example Heriot Watt University has campuses in Dubai and Malaysia.²⁰⁶

6.2. Spatial Connections

Different parts of the system have different missions, roles and responsibilities. While some institutions situate themselves in a global market, others are speaking more to the needs of the Scottish economy or society. Likewise while some employers situate themselves in a multinational sphere, able to tap into a wide range of people and assets, others will have a regional or local focus. Colleges generally see themselves more in terms of the local or regional society and economy and develop curriculum to suit, although some do have specialist international practice exchanges.²⁰⁷ CLD is planned, managed and works locally to engage and support learners.²⁰⁸

Separate work by Scottish Funding Council,²⁰⁹ College Development Network²¹⁰ and CLD Managers Scotland has examined spatial connections through governance arrangements. As part of the Shared Outcomes Framework there is ongoing work to develop pathfinders in two parts of Scotland to allow greater conversion of these connections at a regional level. Initial analysis is available on the SFC website and work on the heat decarbonisation pathfinder in Glasgow and Shetland will be available on the SDS website shortly. This work builds on the practice that was already operating in many part of the country between education and skills providers and local industry or employers.

7. Strategic Policy Environment – Increasing Cohesion

A final set of connections is driven by the complex quality assurance, accountability, regulatory and funding environment established by Scottish Government. This Chapter provides a broad and high level description of the funding and regulatory landscape.

7.1. Funding Landscape

The Scottish Government receives block funding from the UK Government for devolved responsibilities, which includes the provision of post-school education, research and skills. This block funding includes the contributions of businesses collected through the apprenticeship levy. Since the Scotland Act 2016 funding available to the Scottish Government is also raised through taxes, although within criteria set by the UK Government.²¹¹ This total funding is used to pay for all devolved public services within Scotland as set out in the annual Budget Bill.²¹²

Scottish Government has a broad Education and Skills funding portfolio which funds everything from early learning and childcare to the post-school system. Each year the total budget is announced in the Scottish budget. Funding supports research, institutions and course provision, including apprenticeships and other skills initiatives, and supports living costs for students. The exact nature of this support depends on the decisions taken by Scottish Ministers and the implementation of those decisions by Scottish Funding Council and Skills Development Scotland.^{213, 214, 215}

While this Scottish Government budgetary portfolio accounts for the bulk of funding, there are other sources of Scottish Government funding. First, other government portfolios may wish to commission and pay for specific skills development, for example health workers. This money is allocated to the Scottish Funding Council for onward distribution. Second, there are many other individual pots of funding which will have specific purposes, timescales and conditions and are more likely to be subject to bidding processes with separate reporting by institutions.

Funding for the post-school system is complicated with split funding models for provision of learning, student support and research. Table 3 below sets out elements of the current post-school budgets. The flow diagram in Annex F provides a visual illustration of the funding landscape which is described below.

Funding for Provision

Public funding for university research in Scotland is delivered by a dual support system comprising a core grant from Scottish Government which is allocated by the Scottish Funding Council (SFC), and competitively awarded project based grants from the UK-wide Research Councils alongside other private, public and charitable sources.

The vast majority of pathway provision is provider-driven managed by SFC and SDS and combines overheads, tuition and assessment fees, research funding, careers service, employer liaison and skills planning and other government priorities. The bulk of tuition fee support for colleges and universities is provided through block funding allocations to institutions with associated limits and controls on Scottish funded places. However there is also an additional flat-rate tuition fee element which is linked to learner applications and paid from SAAS to individual institutions.

Table 3: Post-School System Budgets.²¹⁶

Elements of Post-School System Budgets	£million 2023-24 Budget
Student support and tuition fee payments	328.2
Cost of providing student loans	149.0
Net student loans (advanced)	826.0
College operational expenditure (net - after subtracting 190.0 million college operational income)	675.7
College Net Capital	82.4
Higher Education Resource (universities)	789.2
Higher Education Capital (universities)	340.7
Skills Development Scotland (includes funding for Careers Service and Apprenticeships)	215.9
Employability and Skills (includes funding for DYW)	46.3
Scottish Attainment Challenge	1.15
Adult Learning and Empowering Communities Fund	1.25
Children, Young People & Family Intervention Fund	1.1
Local authorities (estimated expenditure on CLD)	100

Free University tuition for eligible Scottish domiciled students²¹⁷ is a key commitment of the current government.²¹⁸ In reality, free tuition covers more than university provision including all full-time undergraduate Higher Education courses at university or college for eligible Scottish students in Scotland and Graduate Apprenticeships.²¹⁹ Scottish Government also funds the majority of Further Education provision at college, works in partnership

with local authorities to fund community learning and development and some employability programmes, works in partnership with employers through SDS to fund apprenticeships, as well as making contributions to upskilling/reskilling pathways through initiatives such as the Flexible Workforce Development Fund.²²⁰

Modern Apprenticeship learning and assessment is provided through contribution rates to contracted providers. But, there is also an element which is fed to providers through the higher education tuition fee payments paid by SAAS direct to institutions, this includes the tuition fees for Graduate Apprenticeships.

Spend on CLD is determined by individual authorities, schools and colleges and follows individual reporting structures related to the area of delivery. For example local authorities will account spend for schools and report to the SG through the annual return, colleges will report CLD spend through the SFC. Third sector organisations carrying out CLD delivery will report to the organisation offering the grant and setting the outcomes, which is sometimes a trust or commercial partner.

Funding for student living support

The majority of funding for student living support is allocated to SAAS for onward distribution to individual learners. Eligible individual learners on full-time Higher Education courses also apply to SAAS for their student loan, but the payment and repayment is undertaken by the Student Loan Company.²²¹ But, in addition some elements of student support are allocated to institutions as part of core grant or additional funding streams for them to issue discretionary funding to individual learners according to need. Finally, some funding is allocated to SDS who provide additional funding direct to apprentices, for example travel funding.

The funding environment is complex from a learner perspective with many exemptions and exceptions. Table 4, and text below, provides an overview.

For students wishing to attend college or university to take a Higher Education course, tuition is free with full-time students eligible for a student loan to cover living costs. Part-time students taking a Higher Education course who are on a low income are also eligible for their fees to be paid by Scottish Government but are not eligible for a student loan.

A learner from elsewhere in the UK is required to pay the standard UK fee, which is currently up to £9,250 per year for a full-time degree course, whilst international students fees are higher. A range of bursaries, grants and discretionary funding are available for Scottish students depending on household income and specific status such as estranged students, care

experienced students, disabled students or for specific courses such as paramedic science, nursing and midwifery.

Table 4: Overview of fees for learning by learning type.²²²

Learner Type	Fees for learning provision	Living Costs
University or college degree or HND/HNC student – full-time	Tuition fee support 128,160 learners in 2021/22.	Student Loan (97,375 learners in 2021/22) or bursary or grant (53,305 learners) or fee loan (9,660 learners).
University or college degree or HND/HNC student – part-time	Tuition fee support for low earners with part-time fee grant scheme. 20,500 learners.	No assistance.
Further Education at college – full-time	Tuition fee support covered by College core funding.	Financial help may be available for people on low income (Discretionary funds, bursaries and Education Maintenance Allowance)
Further Education at college - part-time	Financial assistance may be available but only to those on low income.	No assistance. May be eligible for benefits or Education Maintenance Allowance.
Further Education – CLD	Provision is funded for first steps to learning and as a career pathway. Other interest courses are self financing with exemptions or concessions for low income.	No assistance, May be eligible for benefits and/or Education Maintenance Allowance.
Apprenticeship	Contribution based model with a proportion learning and assessment covered by SDS funding for Modern Apprenticeships. Foundation and Graduate Apprenticeships are fully funded.	Wages from employer for Graduate and Modern Apprenticeships. Foundation apprenticeships are senior phase provision.

A Scottish learner wishing to attend college to undertake Further Education courses full-time will also normally have their fees paid but with no cost-of-living support except for discretionary funding or bursaries. Learners wishing to study a Further Education course part-time also do not receive government support, except for discretionary funding for those on low income. Learners on Further Education pathways can be eligible for benefits, depending on the current eligibility criteria. They may also be eligible for Educational

Maintenance Allowance which supports young people from low income families to stay on in post-16 education. EMA is delivered by local authorities and colleges on behalf of Scottish Government.²²³

It may often be important for potentially low-income Further Education and CLD learners to have the option to remain part-time because on entering full-time study their status changes and they no longer receive benefits such as housing support. Asylum seekers can have their fees paid for full-time ESOL courses but with no living support payments.

This focus on full-time students has some rationale in assuming that part-time students have time to work to support themselves and also have access to benefits. But, this can disadvantage learners who through health or caring reasons can only manage a part-time course and have no additional time or resource to undertake paid work.

Apprenticeships are employed and paid by their employer at an apprenticeship wage, which must be at least the National Minimum Wage as set by UK Government.²²⁴ On-the-job learning will normally be combined with off-the-job learning at college or with an Independent Learning Partner. Fees for the learning element and assessment are paid by the Scottish Government with additional contributions sometimes requested from employers depending on the course and provider.

Funding of institutions

From an institutional perspective, colleges are part of the public sector and reliant on Scottish public core funding. The 2023-24 Budget identified £865.7 million operational expenditure for colleges assuming an operational income of £190 million and a further £82.4 net capital funding.²²⁵ For many years the college sector had been funded according to a 116,000 FTE target with each college being allocated money according to its delivery of credits.²²⁶

With increased understanding that this model did not recognise the broad span of work undertaken by colleges there are current plans to reform the funding model to something that interprets and measures the outcomes required from the system. Additional funding streams have been added over time to fill perceived gaps in provision or to meet current priorities. These funds often require separate bidding and reporting processes which increases the complexity of college financial management. Some of these are for provision such as Foundation Apprenticeships, Modern Apprenticeships, Flexible Workforce Development Fund and some are for student support including additional funding for discretionary hardship allocation, mental health or digital inclusion.

Universities are autonomous bodies. They have a split business funding model relying on a mix of Scottish public core funding for the institution and research base; Scottish public sector funding of tuition fees for Scottish domiciled places; fees from international and rest of UK students; research funding won through competitive bids to other public, third sector or private funders; and finally other inward investment from benefactors, alumni or private business. The proportion that each of these comprises varies considerably for each university with this composition impacting on their chosen business model and financial sustainability.

Overall, funding body grants made up 31% (or £1,363 million); tuition fee income from Scottish domiciled places 7% (or £306 million); tuition fee income from international (including EU and non-EU) and rest of the UK students 26% (or £1,133 million); and research grants and contracts 19% (or £847 million) of the total income received by HEIs (£4,381 million) in 2020/21, with the rest coming from investment, donations and endowments, and other income sources.²²⁷

Universities set the total number of places at their institution and the distribution by subject.^{228, 229} For Scottish students, the total undergraduate degree fees paid by Scottish Government depend on subjects with clinical medicine at £17,760 for academic year 2023-24 being the highest and classroom-based subjects being the lowest cost at £5,601.²³⁰ The only exception is controlled places where Scottish Government sets the intake targets from which SFC calculate the number of funded places for Scottish students for courses such as medicine, dentistry, nursing, midwifery, paramedicine and teacher r training.²³¹

7.2. Regulatory Landscape

Provision of higher and further education, community learning and development, provision of employability skills for those furthest from the labour market, and apprenticeships are all devolved to Scottish Government.

The following legislation governs Higher Education in the UK, including degree awarding powers, use of academic degree titles and regulation:

- Further and Higher Education Act (1992)
- Further and Higher Education (Scotland) Act (1992)
- Further and Higher Education (Scotland) Act 2005
- Further Education and Training Act (2007)
- Post-16 Education (Scotland) Act 2013
- Higher Education Governance (Scotland) Act 2016
- Higher Education and Research Act (2017)
- Tertiary Education and Research (Wales) Act 2022

- Education (Scotland) Act 1980
- The Requirements for Community Learning and Development (Scotland) Regulations 2013
- Education (Fees) (Scotland) Regulations 2022
- Student Support (Scotland) Regulations 2022

The Further and Higher Education (Scotland) Act 2005 sets out the Scottish Funding Council's duty to secure coherent, high-quality fundable Further and Higher Education, and to ensure provision is made for assessing and enhancing the quality of this provision.

Separate quality assurance processes are undertaken for Higher and Further Education, for colleges and universities and for CLD. The SFC meets its statutory obligation for assuring high quality provision through two frameworks How Good is Our College and the Quality Enhancement Framework for Higher Education. Local authorities meet their statutory obligations for CLD in a similar way to colleges through How Good is Our Community Learning and Development.²³²

The Quality Enhancement Framework (QEF) is Scotland's enhancement-led approach to quality assurance of Higher Education at colleges and universities.²³³ This is delivered in partnership with the Quality Assurance Agency (QAA), Universities Scotland, NUS Scotland and Student Participation in Quality Scotland (Sparqs). It supports institutions to manage the quality of learning experiences through five elements; institutional peer reviews; institution-based reviews including reviewing all course provision in a maximum of a 6 year cycle; encouraging and supporting students to share in the quality of their education; participating in national themes; and providing public information. Scottish universities are required to produce an annual report and up to 2020/21 were required to publish key performance indicators. Due to issues with the reliability and relevance of the indicators this data is currently not being reported.

QAA works in each of the four nations to advise the funding and regulatory bodies and to advise on applications for degree-awarding powers. The UK Quality Code for Higher Education is a key reference point for UK Higher Education and sets out expectations for providers. It is coordinated by the QAA and developed by the UK Standing Committee for Quality Assessment (UKSCQA) which includes representatives from universities and colleges, Higher Education funding bodies and student members.

For Further Education at colleges the approach 'How Good is my College' is developed in collaboration with Education Scotland and based on annual evaluative reports and enhancement plans and an ongoing cycle of engagement between colleges, Education Scotland (His Majesty's Inspectors) and SFC outcome agreement managers. Education Scotland is contracted by

SFC to provide external assurance on quality, to support improvement in the College sector and to provide periodic overview reports. Colleges are required to produce annual reports and publish key performance indicators.

As colleges provide both Higher and Further Education they need to be involved in both of the above assurance processes. Guidance is provided by SFC to outline the approach. A similar process is in place for CLD provision as for FE provision at college, but without any involvement of SFC.

In addition, many technical and vocational Higher Education qualifications are awarded by the Scottish Qualifications Authority (SQA) Awarding Body. Technical and vocational qualifications from SQA and other Awarding Bodies can be accredited by SQA Accreditation. Both Education Scotland and SQA have a role in ensuring the quality of course curriculum and teaching modes remain high and relevant. This type of provision is primarily found in colleges. Audit Scotland also has a responsibility to check the financial resilience of Colleges.²³⁴

The Scottish Government publish guidance to provide direction to local authorities on the outcome and achievement priorities for learners in communities, schools and colleges in relation to CLD delivery.²³⁵

"How Good is Our CLD" (HGIOCLD) is the quality improvement framework for CLD. The framework is developed by Education Scotland in consultation with CLD providers in local authorities and third sector organisations in communities. HGIOCLD assists HM Inspectors of Education (HMIE) evaluate and report on, the quality of Community Learning and Development (CLD) provision within local authorities, in line with The Requirements for Community Learning and Development (Scotland) Regulations 2013 and associated guidance for local authorities.²³⁶ HM Inspectors have developed interim arrangements for implementation from academic year 2023-24 and will evaluate the progress local authorities and their CLD partners are making to improve the quality of provision and services.²³⁷

CLD practitioners work to a competency framework which is maintained and administered by the CLD Standards Council for Scotland. The competency framework includes the practice standards, ethics and values expected of practitioners in delivering person centred learning opportunities and programmes for young people, adult learners, families and communities.²³⁸ The quality of service delivery is guided through the competency framework set by the CLD Standards Council for Scotland, focussing on the ethics and values required in achieving outcomes for our learners. All qualifications for the delivery of CLD practice offered by universities, colleges or other service providers are also approved by the CLD Standards Council.

Across both youth and adult CLD there are significant data and evidence gaps which hamper our understanding of who accesses and benefits from CLD support and therefore the extent to which it provides return for public funding.

Apprenticeship frameworks are developed in partnership with employers, employer groups, relevant trade bodies, trade unions and other key stakeholders. Skills Development Scotland is then responsible for managing apprenticeship contracts to ensure they deliver what is expected and are value for public money. SFC also has a role related to their funding for Foundation and Graduate Apprenticeships.

The end-to-end development of apprenticeships in Scotland is overseen on behalf of employers by the Scottish Apprenticeship Advisory Board (SAAB) and its groups. SAAB supports policy at a strategic level. It's remit is to work with Scottish Government and its delivery partners, qualification bodies, trade unions, training and learning providers, and membership and industry groups to ensure the prioritisation of apprenticeships. It also aims to ensure that apprenticeships lead to fulfilling job opportunities – and that they align with the principles of Fair Work, sustainability, equality, diversity and inclusion.

The development of apprenticeship Frameworks is also led by SAAB. This is conducted via an SDS facilitated consultation process with employees and employers using Technical Expert Groups (TEGs) to define apprenticeship content and competence requirements. This is achieved in collaboration with respective trade federations/ industry groups, unions, delivery partners and sector skills organisations.

For Modern Apprenticeships the core apprenticeship qualification – a Scottish Vocational Qualification (SVQ) or alternative Competence-Based Qualification (CBQ) - is developed via awarding bodies and regulated by SQA Accreditation. Foundation Apprenticeships include units from the relevant SVQ or CBQ, plus a National Certificate or National Progression Award – both of which are awarded and quality assured by SQA. Current policy is that the core SVQ or CBQ in Modern Apprenticeships must be underpinned by National Occupational Standards (NOS). Graduate Apprenticeships are degree based, so although the Graduate Apprenticeship is developed through TEGs and approved by the Apprenticeship Approval Group (AAG), the degree is quality assured in the same way as other degrees.

The content of individual apprenticeships is monitored by the AAG which works closely with SAAB. Awarding bodies are responsible for quality assurance of the qualifications/ awards in Modern and Foundation Apprenticeships, while SQA Accreditation has responsibility for regulating approved awarding bodies and their qualifications. SDS (and SFC) have a role in quality assuring the delivery of apprenticeships. Education Scotland also provides external evaluation of Modern Apprenticeship delivery and recently led a review of Foundation Apprenticeships.

Recognising that the quality assurance approach had evolved differently in colleges and universities and was now highly complex, the Scottish Government agreed to the SFC Review of Coherent Provision and Sustainability's recommendation to explore the development of a single tertiary quality framework for Scotland's colleges and universities. This work is underway by SFC based on three key principles; external institutional peer review; institution-led activity including a strengthened focus on annual monitoring and sector-level enhancement activity, underlined by partnership with students.²³⁹

As described above this is a complex system which necessitates a detailed regulatory process to ensure quality is enhanced and value maximised. But as noted above the regulation process for each element contains several areas of complexity and duplication which ultimately is likely to detrimentally impact the effectiveness of accountability and measurement of outcomes and public value.

7.3. Evidence Gaps and System Data Improvement

The system is complex and it follows that data collections and reporting systems are also relatively complex. There is a large amount of data collected through administrative data sets in different parts of the system, but they are owned and managed by different organisations for specific purposes, making it difficult to link datasets or to undertake comparative analysis across the whole system in terms of outcomes for learners, performance of institutions and accountability of the system.

Colleges and universities have their own administrative data systems. University data is collected, collated and published by the Higher Education Statistics Agency (HESA), while colleges data is collected, processed and engineered into a student records dataset by SFC to allow for reporting of college statistics and performance reporting. Apprenticeship data is collected and analysed by SDS with new real-time data systems used to collect satisfaction and attainment. Some apprenticeship activity will also be included in both college and university data. Other funding initiatives will have a similar bespoke reporting requirement. This may be a risk of duplication, particularly for colleges and CLD. There is a general paucity of data around CLD and around employers' learning and development of their staff. There is an inability to report, compare and examine system-wide performance because of the different methodologies underlying data collections and reporting.

SDS manage the 16+ Data Hub on behalf of a range of partners. The 16+ Data Hub is a secure online portal which allows a range of partners to input to and access a combined database of information on individuals as outlined in legislation. It holds information on 16 to 24 year-olds in Scotland that can be securely shared between partners, including Local Authorities, Colleges, the

Scottish Funding Council, the Student Awards Agency for Scotland and the Department for Work and Pensions. The 16+ Data Hub contains information on young people's current status and other data fields, including school leaving dates, where young people intend to go after school, whether this be into a job, modern apprenticeship, college or university, and information on those who are receiving career services and welfare benefits. The combined database which is managed through the 16+ Data Hub is used to produce the Annual Participation Measure and School Leaver Destination statistics.

More generally, there are difficulties in sharing data across the systems, either at a population or an individual level. Despite substantial information being collected on individuals from school and post-school settings, these aspects are not routinely linked which means it is difficult to follow through from school attainment, to post-school attainment to long term outcomes. At an individual level, both learners and providers during engagement spoke about the frustrations of not being able to share data in order to plan support provision and so that individuals are not required to explain and evidence their long-term support needs several times.

There are also key areas of policy which would benefit from wider research and evaluations, including the economic and social impacts of widening access policies, what works in articulation and smoothing transitions and how best to understand and shape learner demand and expectations in the senior school phases.

Throughout the report robust data and evidence has been supplemented with stakeholders' views and experiences. These gaps in evidence should be a priority to fill to inform, monitor and evaluate the implementation of reform.

8. Conclusion

The report and its range of supporting material have introduced at a strategic level the different components of the post-school education, research and skills system including the pathways it generates and the connections it forms. The underlying theme has been complexity. Some of this complexity is necessary to provide the variety and flexibility of provision needed to meet the range of demands placed on the system. Some of it is inherent due to the complexity of, for example, aligning provision to economic and social needs and learner demands. But, some of it exemplifies outdated arrangements, duplication of funding or functions or inefficiency. The Purpose and Principles and its consequent reform programme will seek to build on our understanding of the system in order to retain complexity where it is helpful or necessary, but remove confusion and duplication.

9. Annex A – Approach and Methods

This report and its supporting reports are based on secondary analysis of data and reviews of relevant literature. It is a huge task and as such there are several weaknesses in the approach taken.

The report mainly refers to published data sources. On some occasions bespoke data has been sought from key delivery partners. This is clearly marked in the references.

Although data may be looking at similar concepts, much of it cannot be directly compared. This is again referenced in the text where appropriate. There are several areas where data is limited or there are data gaps. There is a huge variety of data available throughout the system. Given the time and resources available to the team and to keep the report to a reasonable length it has only been possible to include a small sample of the data available.

Literature has been included where relevant but this report does not aim to provide a comprehensive consideration of all literature available through the whole post school education, skills and research system.

Evidence has been supplemented with stakeholder views and experiences from engagement on the Purpose and Principles, the review of the Skills Landscape and other published reviews. This is clearly noted in the text.

The approach taken is to use standard terminology utilised when describing systems. These are set out below:

A system has two elements within its definition: a set of things working together (effectively or ineffectively) as part of an interconnecting network, and a set of processes that people (within the system or controlling the system) utilise to achieve a mission. The Purpose and Principles work articulates what Scottish Government aims to achieve through the post-school education, research and skills system. In so doing it aims to improve the joint understanding and effectiveness of the interconnecting network.

Perspective is important. These reports will aim to describe the system from a ‘Scottish Government and its delivery partners’ perspective. This has been chosen because it is most aligned with the purpose of this evidence work – which is to develop a shared understanding between key stakeholders of the current situation and to identify a route map for reform. In addition to this evidence based report, the perspectives of learners, employers and business interests have been gathered through engagement on both the Purpose and Principles and the [Skills landscape Review](#) and through the working groups of the National Strategy for Economic Transformation ([NSET](#)). The full range of

work will help us to understand the enablers and barriers in the current system for learners and employers and help to shape the path forward for policy and evidence development.

Time – the system is always changing and responding to a range of external drivers. It has recently been going through a particularly traumatic period with the cumulative impact of COVID, EU withdrawal, budgetary challenges and cost of living impacts. The system will be described in terms of how it is currently poised to move forward.

Depth – a huge range of statistics are produced around key pathways and providers. This report cannot aim to describe all of this data, but will highlight key, and where possible broadly comparable, data across the system to describe the system as a whole and its component parts.

Components – the key system components to be included are universities, colleges, Independent and third sector training providers, employer-led learning and Local authorities for their role in community learning and development. It is known at the outset that there will be limited data on some aspects including employer-led learning, independent learning providers and community learning and development.

Scale and Boundaries - the boundaries are similar to the Purpose and Principles as a whole with a focus on post- school ages. However, in addition this work's primary focus is on the learning element of the system and will focus primarily on the providers of education, skills and research not the delivery partners that fund or regulate them. Research, innovation and knowledge exchange will be introduced because it is key to global standing, curriculum development, institutional resilience and talent attraction, but this description will remain high level. Similarly, the report will primarily concentrate on the system for domestic students although again acknowledging the important role played by international students.

Connections – connections and pathways exist in a number of different spheres all of which are important and are described more fully in Supporting Paper 3.

To map and describe components in the system, Scottish Government analysts and analysts at the Scottish Funding Council (SFC) and Skills Development Scotland (SDS) collated and provided data for a chosen range of variables for universities, colleges and apprenticeships. The list of variables is shown below. Some of the data had not been previously published in that form, but the data is publicly available. Analysts assisted with checking data and charts to ensure that they were both accurate and fully represented the complexity in the system. Much of this data is not contained in this report but will be picked up in future supplementary papers.

The variables identified at the beginning to aim to collate included:

- Structure/formation of provider
- Influence of Scottish Government funding
- Research quantity
- Research quality
- Teaching subject breadth and mode
- Size - in terms of total students
- Level of study (% degree or postgrad and % not credited or below SCQF7)
- Mode of study (% full-time / part-time)
- Work-based learning
- Composition of student body including age, widening access
- Retention / completion rates
- Satisfaction rates

Literature was also examined to identify data available to describe components such as local authority and third sector delivery of community learning and development and employers role in training. Data was limited for both of these elements.

10. Annex B – Provision Tables

There are a wide range of post-school education and skills pathways which individual learners can enter depending on their starting position, circumstances and preferences. A broad overview of the system can be seen in the following tables.

Table 5 sets out the total numbers of people undertaking education or skills learning in 2021-22.

Table 6 sets out the SCQF level of that education or skills learning.

Table 7 sets out the full-time equivalent of provision.

Table 8 shows that colleges in particular provide a lot of part-time and short courses.

Table 9 sets out the origins of students showing how the system provides for a Scottish, rest of UK and international demand.

Due to the way that some pathways are captured in administrative data there will be some duplication between the different rows. For example, many apprenticeships are taught at college and will appear in both sets of figures. The tables highlight where duplication may occur, but are still useful in showing the breadth of provision.

Table 5: People undertaking education or skills learning, 2021-22.²⁴⁰

Sector of Provision	Type of Provision	Total enrolments for college/university Total headcount for apprenticeships
University	Full-time Undergraduate	166,200
	Full-time Postgraduate Taught	54,785
	Full-time Postgraduate Research	11,090
	Part-time Undergraduate	38,260
	Part-Time Postgraduate Taught	28,275
	Part-Time Postgraduate Research	2,610
	University Total*	301,230
College	Full-time FE	40,113
	Full-time HE	28,923
	Part-time FE	237,195
	Part-time HE	16,101
	College Total*	322,332
Apprenticeship	FA – Opportunities	4,122
	MA – in-training**	38,504
	GA – in-training	3,374
	Apprenticeship Total*	46,000

*Note that some people can be enrolled on multiple courses in each sector
 **2022-23 MA stats are available but not used to provide consistency with year.

Table 6: SCQF level of education or skills training, 2021-22.²⁴¹

SCQF Level	Apprenticeships			College (enrolments)	University (enrolments)
	Foundation (Opportunities)	Modern (In-training)	Graduate (Starts)		
1				635	
2				4,675	
3				6,735	
4				25,945	
5	1,610	5,682		51,840	
6	2,512	16,327		56,450	
7		13,258		29,700	10,040
8		839		20,310	4,685
9		1,256	*	2,290	25,010
10		102	1,048	785	153,015
11		*	57	85	95,120
12					13,360

Note:

FAs – SCQF 4/5 (Pilot) counted as SCQF 5

MAs – SCQF 11 suppressed, 796 MAs at VQ3 not included

GAs – SCQF 9 suppressed. SCQF 10 includes some GA starts published as 10/11. SCQF 10 Engineering: Instrumentation, Measurement and Control suppressed so not included, 38 undisclosed frameworks not included (In 2021/22, 38 individuals recorded their gender as either ‘prefer not to say’ or ‘in another way’. To ensure that they cannot be identified, the frameworks on which they have enrolled are not provided.)

College – NRQs excluded

University – SCQF estimated from COURSEAIM

Table 7: Full-time equivalent provision, 2021-22.²⁴²

Sector of Provision	Type of Provision	Total FTEs
University	Total University FTE	243,775
College	Further Education	91,878
	Higher Education	37,297
	Total College FTE	129,175

Table 8: Short course provision at College, 2021-22.²⁴³

Type of Short Course and College Provision	Total Enrolments
Short course (under 10 hours)	12,984
Non-Recognised Qualifications (NRQs) and over 10 hours	113,752
School pupils (s1-6, Primary and others)	63,234*

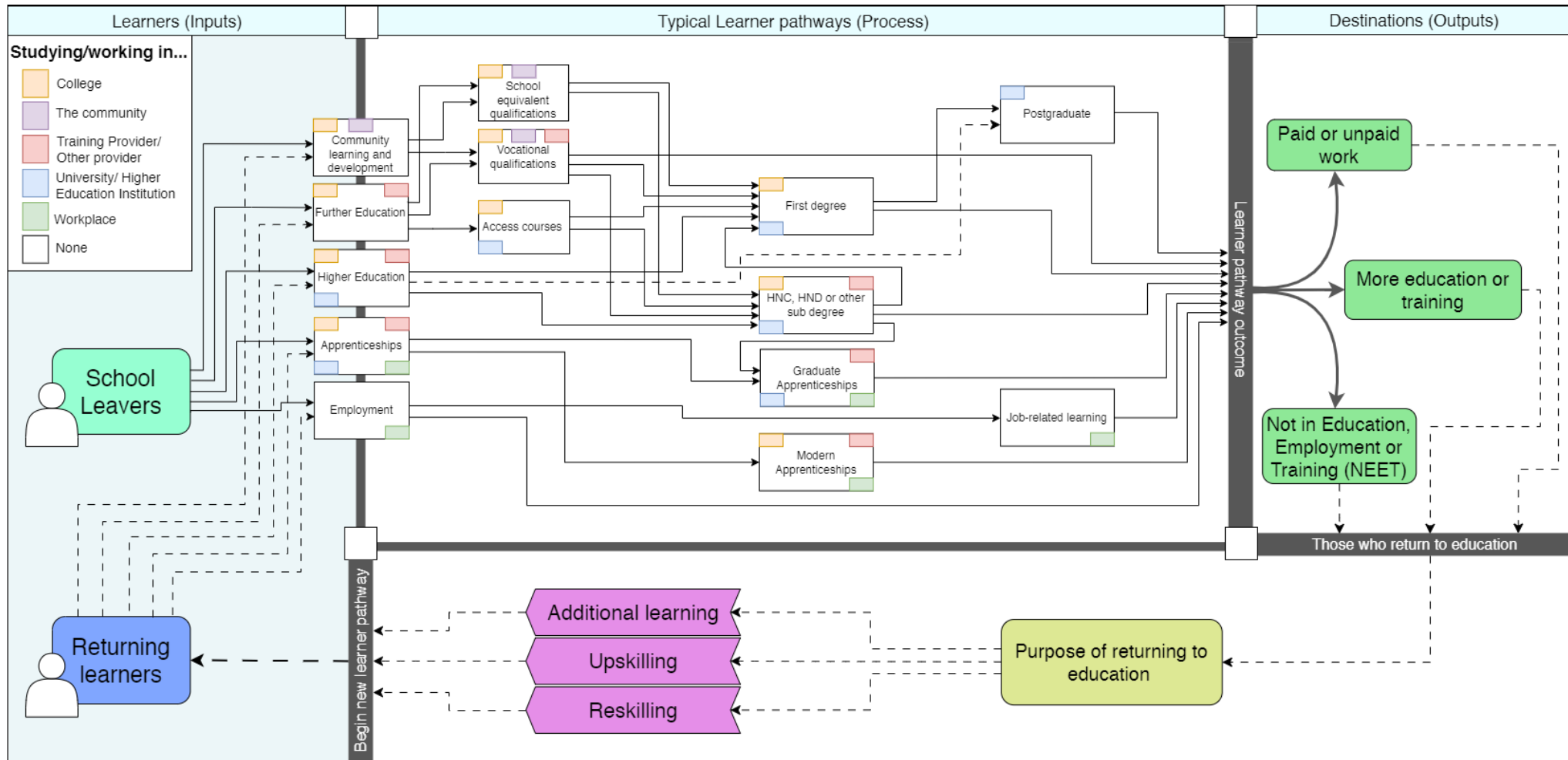
*Includes NRQs and short courses

Table 9: HE Students at College (2020-21) and University (2021-22).²⁴⁴

Type of Provision	Total No. Scottish domiciled	Total No. Rest of UK	Total No. International	Total
Full-time University Undergraduates	113,360	26,220	30,050	166,200
Part-time University Undergraduates	35,120	1,515	1,600	38,260
Full-time University Postgraduate Taught	11,390	2,790	40,600	54,785
Full-time University Postgraduate Research	3,165	1,870	6,055	11,090
Part-time University Postgraduate Taught	18,465	6,265	3,545	28,275
Part-time University Postgraduate Research	1,525	495	590	2,610
All HE at College	48,620	580	740	49,940

Note: Undergraduate includes both first degrees and other undergraduate provision including HNC/HND, Certificates of HE etc.

11. Annex C - Pathways Diagram



[1] The flowchart only displays typical learner pathways. Many learners will take pathways which differ from the above highlighted routes.

[2] Many different people will begin a new learner pathway for a variety of reasons. They may be older learners looking to upskill or reskill, those who require additional learning or qualifications to progress in their existing careers, or those who previously dropped out of education and are looking for a fresh start to their learner journey.

12. Annex D – Work-Based Learning

Learning FOR work is based on learners building transferable knowledge and skills through subject based courses and wider institutional and community opportunities alongside improved awareness of work opportunities and career paths. This type of learning usually takes place, is organised or encouraged by or undertaken with the permission of educational settings. The exceptions being careers services and learning employability skills which could be a mix of school or institution-based and other external providers. This is indicated in Figure 3.

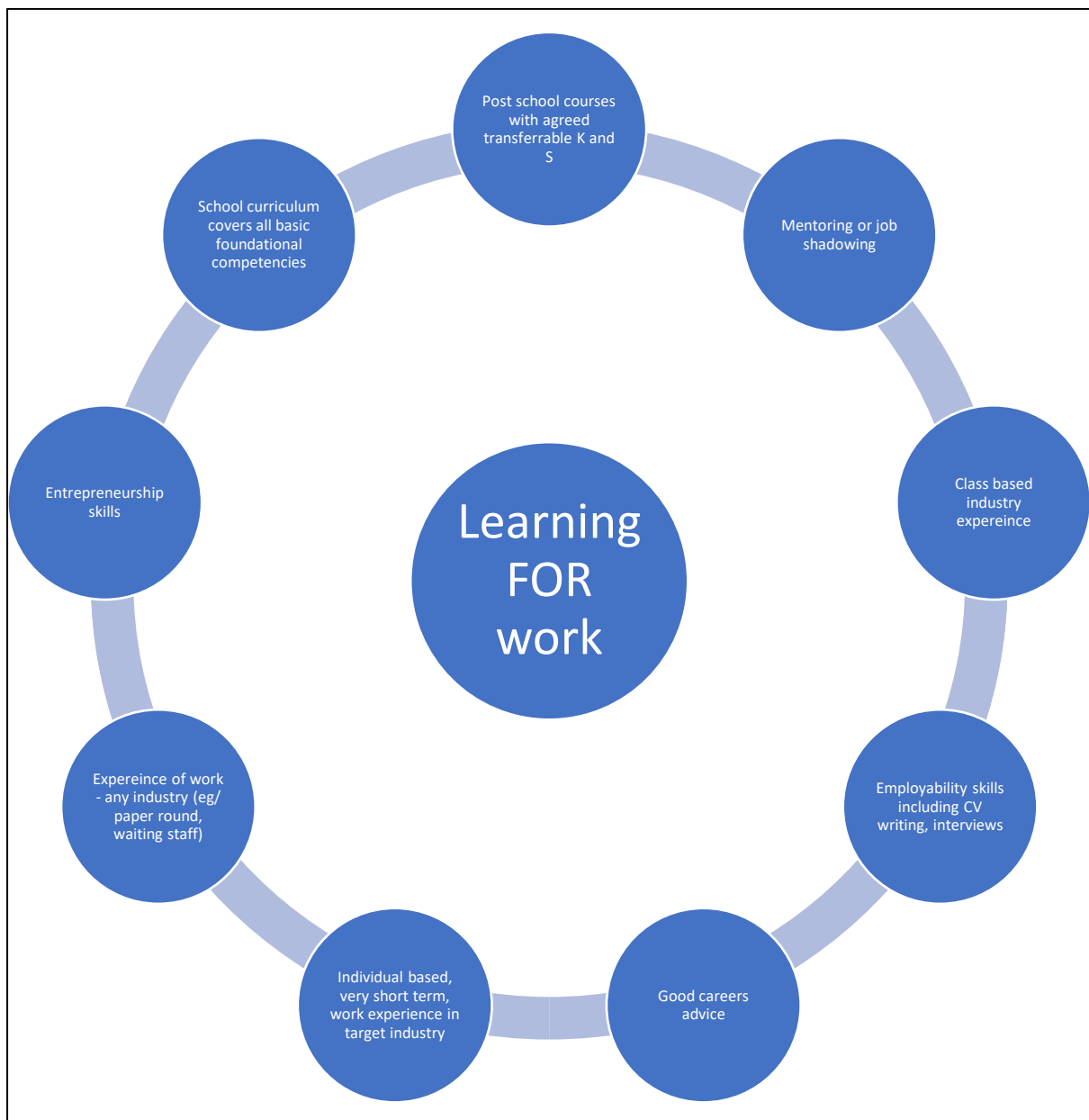


Figure 3: Learning FOR Work

Learning THROUGH work includes opportunities which are based on an individual commitment/contract to both 'do the job' by working in an industry and to learning. Learning would be delivered through a meaningful partnership between students, employers and the education provider. Apprenticeships have been included here but could as easily sit in the third category learning at work. This is indicated in Figure 4.

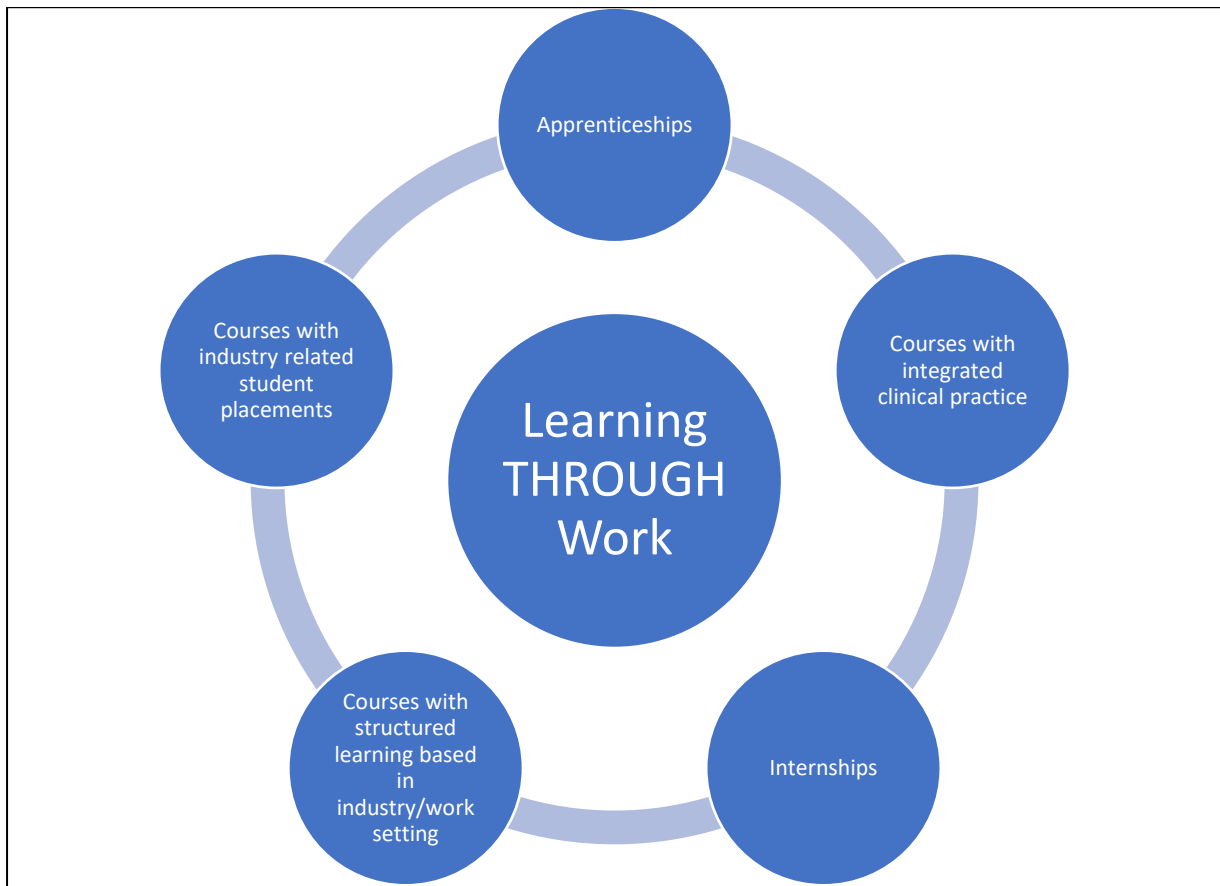


Figure 4: Learning THROUGH Work

Learning at work. The final grouping recognises that skills are required throughout life. Once within an industry ongoing personal development is key. For large employers this will often be provided by on-site company training schemes/programmes, for SMEs they may use independent training providers, professional bodies, colleges or universities to train their staff. Ongoing personal development can be industry related, seeking more advanced courses or future-proofing skills or it can be general business related training such as personnel management, finance, procurement processes. In addition individuals may wish to progress their own careers within their industry with employer permissions and resources, or seek to retrain in their own time by returning to the learning for work or learning through work options. This is indicated in Figure 5.

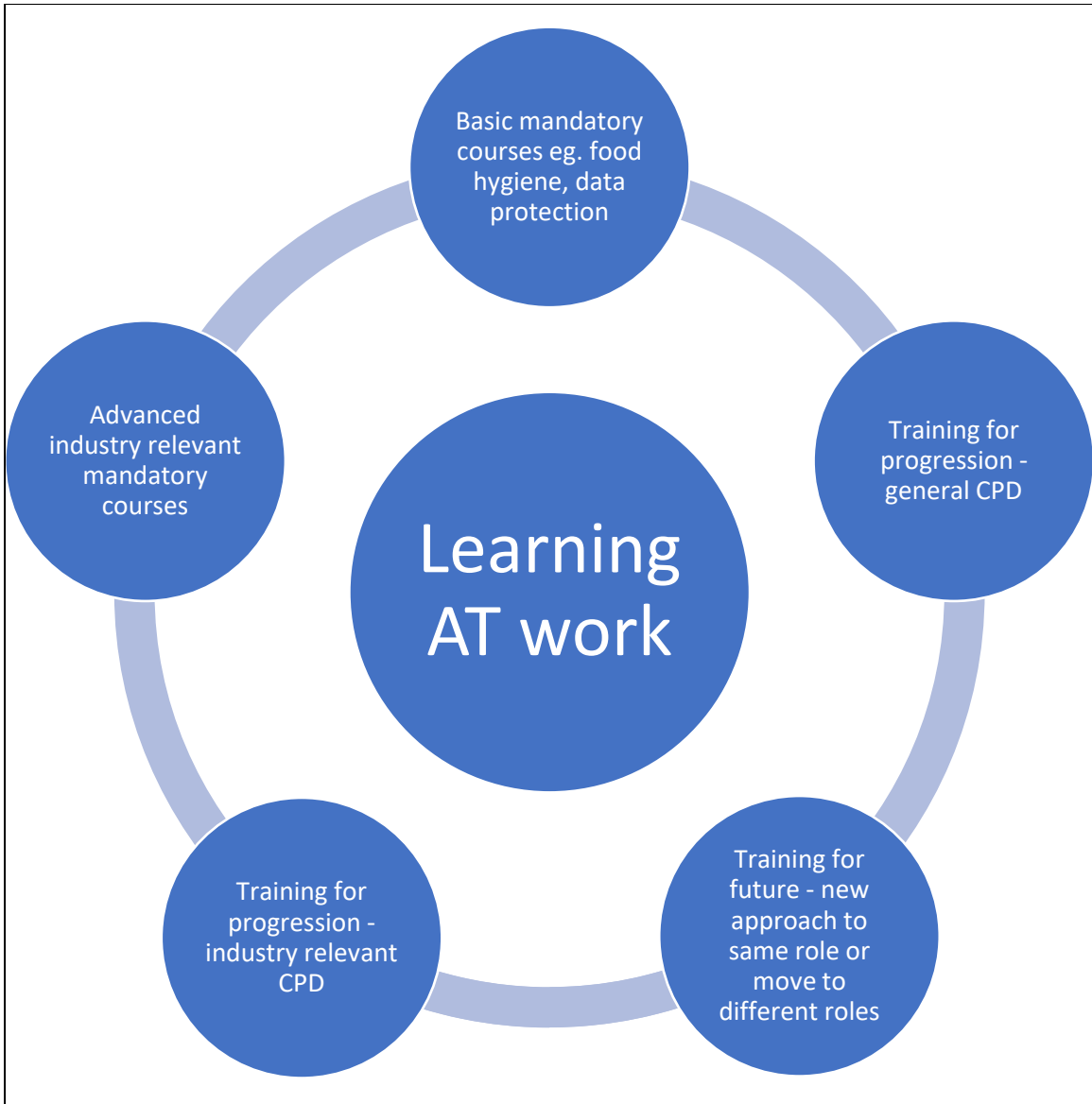


Figure 5: Learning AT Work

13. Annex E - Apprenticeship Pathways

Apprenticeships are normally when people are employed but undertake on and off-the job learning alongside their employment. It is a type of learning pathway which tends to be flexible in duration allowing learners to develop at their own pace with continuous assessment of performance.

National Picture

There are 3 discrete levels of apprenticeship; Foundation Apprenticeships (FA); Modern Apprenticeships which include technical and professional apprenticeships (MA) and Graduate Apprenticeships (GA). Recruitment to MAs and GAs is undertaken by employers because apprenticeships are primarily jobs.

Skills Development Scotland (SDS) is responsible for conducting demand assessments for the apprenticeship family (Foundation Apprenticeships (FA), Modern Apprenticeships (MA) and Graduate Apprenticeships (GA)). SDS commissions and conducts the FA and GA demand assessments in partnership with SFC. The demand assessment process provides SDS and partners with the intelligence required to identify where funding is needed to meet employer skills needs. However, it is only one of a number of factors taken into account when final apprenticeship volumes are allocated.

The demand assessment process comprises three key stages: baseline analysis of existing labour market information and current/past provision; consultation and validation with industry and other key stakeholders; and reporting. Engagement with the Scottish Apprenticeship Advisory Board ([SAAB](#)) is key to this process.

MAs enable employers to develop their workforce by training new staff and upskilling existing staff. For the learner it combines a job with a qualification with the skills assessment based on their competence and ability to perform the job.²⁴⁵ There are currently 103 occupational MA frameworks developed by sector skills councils in consultation with industry and approved by the Apprenticeship Approval Group.²⁴⁶ SDS monitor the quality of all delivery and undertake scrutiny of their funded provision. Education Scotland undertake external review of the quality of MA delivery.²⁴⁷

ITPs play a significant role in the delivery of MAs. Of the 25,401 starts in 2021-22, ITPs delivered 75.3% of starts; colleges delivered 13.7% of starts, private sector employers delivered 3.1% of starts; public sector employers delivered 4.4% of starts and public sector training providers delivered 2.7% of starts. More than one training partner can be involved in an apprenticeship training plan with for example, ITPs contracting with colleges to provide some off-the-job training and colleges or employers contracting with ITPs to deliver some of the work-place assessment.²⁴⁸

The latest data shows that as of 31 March 2023 there were 39,006 MAs²⁴⁹ in training with 85.9% being at SCQF6 or higher.²⁵⁰ There is a tradition of high usage of apprenticeships by the craft trades. This is still the case but has been supplemented by a wide range of other occupations. Just over a quarter of all starts in Quarter 4, 2022/23 were in construction and related fields with just over a fifth in sport, health and social care. Other significant sectors were IT and other services; engineering and energy related and hospitality and tourism.²⁵¹

Although apprenticeships have been seen to rise significantly in recent years, Scotland is still somewhat behind international comparators. For example, Switzerland has three times and Germany has double the number of apprentices relative to its total workforce.²⁵²

A 2022 OECD review²⁵³ of the MA system in Scotland concluded that there had been impressive development with strongly positive outcomes for employer and apprentice. However, they noted a need to go further to develop common skills planning and funding frameworks and to implement a more employer driven system.

They made 4 specific recommendations; to introduce demand led funding for apprenticeships, to rebalance the funding bias from Higher Education towards apprenticeships; to establish minimum requirements for the length of apprenticeship programmes and for the proportion of off-the-job learning; to develop a non-apprenticeship route to the qualifications currently realised through apprenticeships for experienced adult workers; and to establish 'mastercraftperson' qualifications so that they open up future learning opportunities.

A Foundation Apprenticeship (FA) qualification provides a balance of academic and employer-led work-based learning experiences for senior phase pupils in S3-S6, aiming to close the gap between the classroom and workplace. Although this pathway is specifically for school age children it is currently provided in partnership with the post-school system. Around 212 unique employers supported FAs during 2021-22. The FA can last one or two years, during which young people spend time out of school at a local employer and with another learning provider such as colleges, local authorities or independent learning providers.²⁵⁴

Latest data in the Annual Progress Report published in 2022 shows that there were 2,512 FAs at Level 6 in the 2021 Cohort. Most SCQF level 6 opportunities in 2021 were in social services, children and young people (679) followed by social services and healthcare (467) followed by creative and digital media (294), business skills (266) and engineering (258).²⁵⁵

In 2019, pilot FAs were introduced at SCQF levels 4 and 5 in automotive, construction and hospitality with this diversity reflecting local economic need. In total there were 1,610 enrolments on pilot FAs in 2021.²⁵⁶

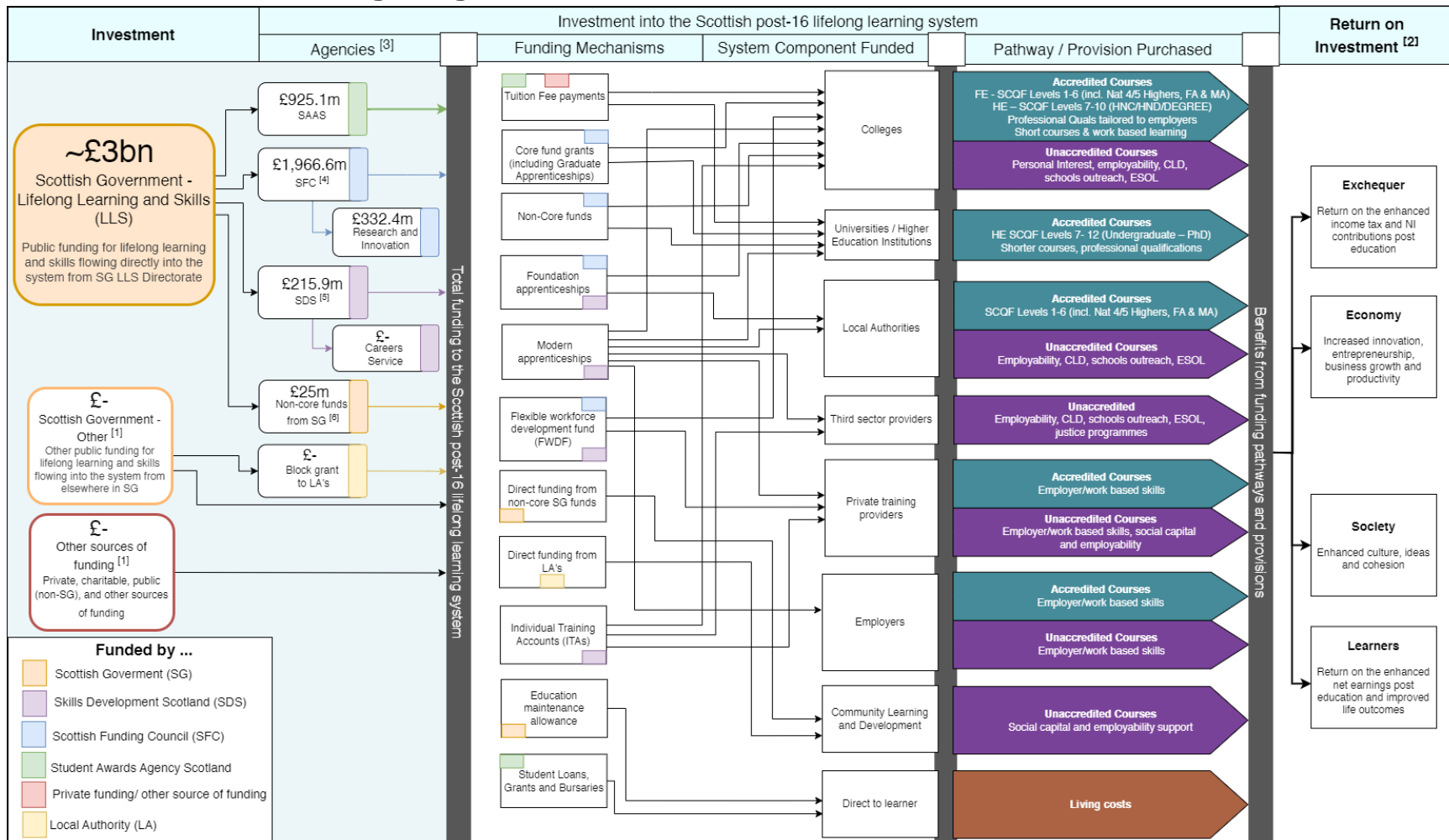
Between March 2020 and November 2021, Education Scotland undertook an evaluation of FAs in Scotland.²⁵⁷ The evaluation showed considerable positive impact for young people but noted that there was more to do to communicate and explain to learners the nature of an FA and the pathways from an FA towards either Higher Education or MAs and GAs. It also suggested more could be done to make tender frameworks more consistent and less complex, further reduce bias of FA programmes based on protected characteristics, improve the consistency of promotion and programming of FAs within schools, improve the development of meta-skills within programmes and ensure more consistent support to learners to improve achievement and retention. The report also suggested that FAs face additional system challenges with schools prioritising qualifications delivered in schools over non-school based learning and lacking the capacity to invest in good communication with FA providers.

Graduate Apprenticeships are a relatively new offering giving individuals aged 16 and over the opportunity to undertake a university degree while in paid employment. The most recent report is the first to be able to examine achievements from the first intake.²⁵⁸ GAs are delivered through tailored partnerships between employers and universities and currently account for less than 1% of university entrants with 1,166 enrolments in 2021/22.²⁵⁹

There are currently a number of universities and colleges working with over 500 employers delivering GAs.²⁶⁰ There are 12 frameworks the largest being business management accounting for a third of GAs, other large frameworks include construction and the built environment, engineering design and manufacture and IT software development each with just over 10% of total GA enrolments in 2020-21. In total 61% of GAs were considered to be STEM related.²⁶¹ Most GAs will start in Year 1 of their degree course but around 18% started in later years due to prior learning and attainment, in fact 81.8% of GAs in the 2021/22 intake were existing employees of the business with only 18.2% being new staff.²⁶²

Application processes vary for each level of apprentice. Many apprenticeships are advertised on apprenticeship.scot as well as employers own websites. Recruitment will include consideration of prior attainment/experience criteria agreed with the learning provider. Each application is therefore unique, targeting the appropriate employer and apprenticeship.

14. Annex F – Funding Diagram



[1] There are additional funding flows into the system that cannot be easily quantified, such as funding from i) Other directorates in SG. ii) Private funders iii) Other sources of funding.

[2] More detail on the return on investment (RoI) of post-school lifelong learning can be found in the recently published Education and Skills Impact Framework (ESIF) report.

[3] The funding allocated to agencies will include overheads, administration costs and other smaller funding outcomes, which may or may not feed into learner pathways or provisions.

[4] In addition to the costs outlined in [3], SFC's other funding outcomes includes £332.4m to Research and Innovation.

[5] In addition to the costs outlined in [3], SDS's other funding outcomes includes a significant budget proportion assigned to Careers services.

[6] The non-core funds from SG include the Education Maintenance Allowance the "No One Left Behind" (NOLB) employability funding.

15. List of Acronyms

AAG: Apprenticeship Approval Group
BTEC: Business and Technology Education Council
CBQ: Competence-Based Qualification
CIPD: Chartered Institute of Personnel and Development
DYW: Developing the Young Workforce
ESIF: Education and Skills Impact Framework
FA: Foundational Apprenticeship
FE: Further Education
FWDF: Flexible Workforce Development Fund
GA: Graduate Apprenticeship
GTCS: General Teaching Council of Scotland
GVA: Gross Value Added
HE: Higher Education
HGIOCLD: How Good is Our CLD
HNCs: Higher National Certificates
HNDs: Higher National Diplomas
IFS: Institute for Fiscal Studies
ITA: Individual Training Account
ITP: Independent Training Provider
MA: Modern Apprenticeship
MLA: Medical Licensing Agreement
NOS: National Occupational Standards
NDPBs: Non-Departmental Public Bodies
NSET: National Strategy for Economic Transformation
OECD: Organisation for Economic Co-operation and Development
OU: Open University
OUiS: Open University in Scotland
P&P: Purpose and Principles
PV: Progress Visits
RIKE: Research, Innovation and Knowledge Exchange
SAAS: Student Awards Agency Scotland
SCQF: Scottish Credit and Qualifications Framework
SCQFP: Scottish Credit and Qualifications Framework Partnership
SDS: Skills Development Scotland
SFC: Scottish Funding Council
SIMD: Scottish Index of Multiple Deprivation
SQA: Scottish Qualifications Authority
SRUC: Scotland's Rural College
STEM: Science, Technology, Engineering and Maths
SVQ: Scottish Vocational Qualifications
UCAS: Universities and Colleges Admissions Service

16. Endnotes

¹ Scotland's universities are performing at a "world-leading" and "internationally excellent" standard. 84.86% of Scotland's research has been judged to be 4* and 3* on the overall measure, the two highest categories of performance. [Home - REF 2021](#)

² Population aged 25-64.

³ OECD, February 2023 & Eurostat October 2022

[Education attainment - Adult education level - OECD Data](#)

[Executive summary | Education at a Glance 2022 : OECD Indicators | OECD iLibrary \(oecd-ilibrary.org\)](#)

[Education at a Glance | OECD iLibrary \(oecd-ilibrary.org\)](#)

Countries with higher levels in 2021 include Belgium (44%), Republic of Ireland (45%), Netherlands (41%), Switzerland (45%), Lithuania (45%) and Luxemburg (46%).

⁴ HESA [Higher Education Student Statistics: UK, 2021/22 - Student numbers and characteristics | HESA](#)

Figure 3 - HE student enrolments by level of study: Academic years 2017/18 to 2021/22.

⁵ In 2021-22 Full-time equivalent (FTEs) places increased from 128,559 to 129,175 FTEs. Source: SFC: College Statistics, February 2023.

<https://www.sfc.ac.uk/publications-statistics/statistical-publications/2023/SFCST012023.aspx>.

⁶ The final report of the Withers review of the Skills Landscape noted the "broad and pivotal role that colleges play in their regions". [Fit for the Future: developing a post-school learning system to fuel economic transformation - gov.scot \(www.gov.scot\)](#)

⁷ The total number of Modern Apprenticeship and Graduate Apprenticeship starts in 2022-23 was 26,543. This increased from 19,824 starts in 2020-21. Source: SDS Modern Apprenticeships, May 2023

⁸ [Scottish Employer Perspectives Survey 2021, page 16.](#)

⁹ [National Indicator Performance | National Performance Framework 2021](#)

¹⁰ [Education attainment - Population with tertiary education - OECD Data](#)

¹¹ [Our Colleges \(collegesscotland.ac.uk\)](#)

¹² [Key College Facts \(collegesscotland.ac.uk\)](#)

¹³ SFC/ST/01/2023 [College Statistics 2021-22 \(sfc.ac.uk\)](#)

¹⁴ [Universities - gov.scot \(www.gov.scot\)](#)

¹⁵ [More Scottish students than ever in Scotland's universities - gov.scot \(www.gov.scot\)](#)

¹⁶ [Figure 9 - HE student enrolments by domicile 2017/18 to 2021/22 | HESA](#)

¹⁷ [Figure 9 - HE student enrolments by domicile 2017/18 to 2021/22 | HESA](#)

¹⁸

[240321 strategic analysis of scotlands higher education sectors distinctive assets.pdf \(britishcouncil.org\)](#)

¹⁹ Source: HESA Student Statistics, January 2023

²⁰ <https://cldstandardscouncil.org.uk/>

²¹ Withers (2023) [Fit for the Future: developing a post-school learning system to fuel economic transformation - gov.scot \(www.gov.scot\)](#)

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- ²² [OECD Learning Compass 2030. Learning Compass 2030 - Organisation for Economic Co-operation and Development \(oecd.org\)](#)
- ²³ [OECD Future of Education and Skills 2030 project. About - Organisation for Economic Co-operation and Development \(oecd.org\)](#)
- ²⁴ [OECD Learning Compass 2030, page 9. OECD Learning Compass 2030 concept note.pdf](#)
- ²⁵ For example in the guiding values: “Learner focused. Placing the needs of all learners of all ages, abilities, talents, throughout their active lives, at the centre.” [Post-school education, research and skills: interim purpose and principles - gov.scot \(www.gov.scot\)](#)
- ²⁶ <https://www.gov.scot/publications/adult-lifetime-skills-literature-review/pages/3/>
- ²⁷ [What is the Scottish Credit and Qualifications Framework \(SCQF\)? - SQA](#)
- ²⁸ [What is Community Learning and Development \(CLD\)? | CLD Standards Council for Scotland](#)
- ²⁹ [STF | Scottish Training Federation - The Voice of Scottish Training Providers Home \(ukstandards.org.uk\)](#)
- ³⁰ [Home \(ukstandards.org.uk\)](#)
- ³¹ [Diploma in Professional Legal Practice | Law Society of Scotland \(lawscot.org.uk\)](#)
- ³² [The licence to practise - GMC \(gmc-uk.org\)](#)
- ³³ [Home - APEAS](#)
- ³⁴ [Electrical Training in Scotland - Electrical Careers](#)
- ³⁵ Felstead, A. and Unwin, L. (2017) “Learning outside the formal system – what learning happens in the workplace, and how is it recognised?” London: Government Office for Science (Government Office for Science Foresight Report on Future Skills and Lifelong Learning), p. 27.
- ³⁷ [Scottish Employer Perspectives Survey 2021 - gov.scot \(www.gov.scot\)](#)
- ³⁸ UCAS (2021) Where next? What influences the choices school leavers make? page 17. [download \(ucas.com\)](#)
- ³⁹ Page 10. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁰ page 10. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴¹ Table 5, page 21. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴² Table 5, page 21. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴³ Table 5, page 21. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁴ Page 19. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁵ Page 24. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁶ Chart 4, page 23. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁷ Chart 4, page 23. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁸ Table 6, page 25. [Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition \(www.gov.scot\)](#)
- ⁴⁹ Page 7. [Summary statistics for follow-up leaver destinations, no. 5: 2023 edition](#)

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- ⁵⁰ Table 2, page 16. Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition (www.gov.scot). Here, deprivation is based on Scottish Index of Multiple Deprivation (SIMD) 2020.
- ⁵¹ Page 12. Summary Statistics for Attainment and Initial Leaver Destinations, No. 5: 2023 Edition (www.gov.scot)
- ⁵² Widening access (sfc.ac.uk)
- ⁵³ Gender Action Plan Annual Progress Report (sfc.ac.uk); equality-action-plan-2020.pdf (skillsdevelopmentscotland.co.uk)
- ⁵⁴ Student Mental Health and Wellbeing Working Group - gov.scot (www.gov.scot)
- ⁵⁵ Maintaining the Momentum Towards Fair Access: annual report 2022 - gov.scot (www.gov.scot)
- ⁵⁶ The Scottish Health Survey 2021 - volume 1: main report - gov.scot (www.gov.scot)
- ⁵⁷ 2021 entry UCAS Undergraduate reports by sex, area background, and ethnic group | Undergraduate | UCAS; <https://www.hesa.ac.uk/data-and-analysis/sb265/figure-5>
- ⁵⁸ Modern Apprenticeship Statistics, up to the end of Q4 2022/23 (skillsdevelopmentscotland.co.uk)
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- ⁶⁰ Introduction - Gender equality in education: Scottish Youth Parliament research - gov.scot (www.gov.scot)
- ⁶¹ Fifth annual report of the Commissioner for Fair Access (published May 2022) Page 12, Maintaining the Momentum Towards Fair Access: annual report 2022 - gov.scot (www.gov.scot)
- ⁶² UniScot-Prosperity-Inclusion.pdf (universities-scotland.ac.uk)
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- ⁶⁴ Social Mobility Commission (2020), Apprenticeships and social mobility. [Title] (publishing.service.gov.uk)
Sutton Trust (2020). The-recent-evolution-of-apprenticeships.pdf (suttontrust.com)
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SG (2022), Context - Education and Skills Impact Framework (ESIF) - modern apprenticeships provision: contextual summary report 2022 - gov.scot (www.gov.scot)
SDS (2023), Modern Apprenticeship Statistics, up to the end of Q4 2022/23 (skillsdevelopmentscotland.co.uk)
- ⁶⁶ foundation-apprenticeship-report-2022-published-version.pdf (skillsdevelopmentscotland.co.uk)
Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx (skillsdevelopmentscotland.co.uk)
- ⁶⁷ Apply for a student loan - mygov.scot
- ⁶⁸ New research: College students in Scotland report significant symptoms of depression with more than one-third experiencing food insecurity | Mental Health Foundation
New research: College students in Scotland report significant symptoms of depression with more than one third experiencing food insecurity (collegesscotland.ac.uk)
- ⁶⁹ How is the rising cost of living affecting students? (parliament.uk)

4. Key findings: Feedback on student loans - Student funding in further education - gov.scot (www.gov.scot)

⁷⁰ <https://www.skillsdevelopmentscotland.co.uk/what-we-do/employability-skills/sds-individual-training-accounts/>

⁷¹ [College Performance Indicators 2021-22 \(sfc.ac.uk\)](http://sfc.ac.uk) page 11

⁷² [Measure for measures | HESA](#)

⁷³ SAAS (bespoke analysis.)

⁷⁴ [How many students complete tertiary education? | Education at a Glance 2019 : OECD Indicators | OECD iLibrary \(oecd-ilibrary.org\)](#)

⁷⁵ [Drop-out rates: UK students at Scottish universities – SPICe Spotlight | Solas air SPICe \(spice-spotlight.scot\)](#)

⁷⁶ Modern apprenticeships achievement rate shows achievers as a percentage of leavers in each year

⁷⁷ Achievement rate for MAs only count full achievers (not partial) and include all individuals irrespective of when they drop out. [Modern Apprenticeship Statistics, up to the end of Q4 2022/23 \(skillsdevelopmentscotland.co.uk\)](#) Page 30

⁷⁸ [Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx \(skillsdevelopmentscotland.co.uk\)](#) Page 19

⁷⁹ https://www.officeforstudents.org.uk/media/e97f99bd-ecd8-4eac-a121-3c2c408aba89/nss2019_summary_data_oct20.xlsx

⁸⁰ [SFC/ST/07/2022. Student Satisfaction and Engagement Survey 2021-22 \(sfc.ac.uk\)](#)

⁸¹ SFC/ST/07/2022, page 11.

[Student Satisfaction and Engagement Survey 2020-21 \(sfc.ac.uk\)](#)

⁸² [scottish-apprenticeships-performance-report-2023.pdf.pagespeed.ce.7WVCsuZmQm.pdf \(stf.org.uk\)](#)

⁸³ [Individual Training Accounts: evaluation - gov.scot \(www.gov.scot\)](#)

⁸⁴ [Student Loans for Higher Education in Scotland: Financial Year 2021-22 - GOV.UK \(www.gov.uk\)](#) [UK comparisons - to financial year 2023 - GOV.UK \(www.gov.uk\)](#)

⁸⁵ [Longitudinal Education Outcomes \(LEO\) from Universities: 2019/20: Scotland - gov.scot \(www.gov.scot\)](#)

⁸⁶ [Longitudinal education outcomes \(LEO\) from Scottish colleges: 2016-2017 - gov.scot \(www.gov.scot\)](#)

⁸⁷ [Overqualification in graduate labour market | Reports | CIPD](#)

⁸⁸ [Vertical and Horizontal Mismatch in the UK: Are Graduates' Skills a Good Fit for Their Jobs? - NIESR](#)

⁸⁹ This is not the case in many European countries who have continued to generate growth in high skill jobs, although throughout the western world there seems to be a hollowing out of mid-skill jobs. [What is happening to middle-skill workers? | OECD Employment Outlook 2020 : Worker Security and the COVID-19 Crisis | OECD iLibrary \(oecd-ilibrary.org\)](#)

⁹⁰ [education-skills-impact-measurement-report-enterprise-skills-strategic-board.pdf \(www.gov.scot\)](#)

⁹¹ Duta, Wielgoszewska and Iannelli (2021). Different degrees of career success: social origin and graduates' education and labour market trajectories. *Advances in Life Course Research*, Volume 47. [Different degrees of career success: social origin and graduates' education and labour market trajectories - ScienceDirect](#)

⁹² [The impact of undergraduate degrees on early-career earnings \(publishing.service.gov.uk\)](#)

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- ⁹³ [SFR Template NatStats \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)
- ⁹⁴ [Career Review | Skills Development Scotland](#)
- ⁹⁵ [My World of Work |](#)
- ⁹⁶ [Developing the Young Workforce | Skills Development Scotland](#)
- ⁹⁷ [Scottish Employer Perspectives Survey 2021 - gov.scot \(www.gov.scot\)](#)
- ⁹⁸ [career_review_final_report_230306_final.pdf \(skillsdevelopmentscotland.co.uk\)](#)
- ⁹⁹ [Discover Uni Home | Discover Uni](#)
- ¹⁰⁰ [UCAS | At the heart of connecting people to higher education](#)
- ¹⁰¹ [Modern Apprenticeship Statistics, up to the end of Q4 2022/23 \(skillsdevelopmentscotland.co.uk\)](#)
- ¹⁰² UCAS is intending to include apprenticeships in their application hub in future years.
- ¹⁰³ [Report on Widening Access 2020-21 \(sfc.ac.uk\) section 7 page 22](#)
- ¹⁰⁴ [Accelerating Articulation: Final Report from the National Articulation Forum — Universities Scotland \(Universities-scotland.ac.uk\)](#)
- ¹⁰⁵ [Pathways](#)
- ¹⁰⁶ [Case study: Student experiences of transition from further education to higher education - Office for Students](#)
- ¹⁰⁷ [Public Sector Employment In Scotland Statistics For 1st Quarter 2022 - gov.scot \(www.gov.scot\)](#)
- ¹⁰⁸ [Businesses in Scotland: 2022 - gov.scot \(www.gov.scot\)](#)
- ¹⁰⁹ [TSME Highlights FINAL formatted.pdf \(oecd.org\)](#)
- ¹¹⁰ [Oxford Economics – bespoke reports provided to Skills Development Scotland](#)
- ¹¹¹ [Forecasts for the UK economy - GOV.UK \(www.gov.uk\)](#)
- ¹¹² [Scotland's Productivity Challenge: Exploring the issues - The Productivity Institute](#)
- ¹¹³ [A Scotland for the future: opportunities and challenges of Scotland's changing population - gov.scot \(www.gov.scot\)](#)
- ¹¹⁴ <https://www.gov.scot/news/expanding-scotlands-talent-pool-1/>
- ¹¹⁵ <https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/>
- ¹¹⁶ [The Future of Work in a Digital Economy - Building trust in the digital era: achieving Scotland's aspirations as an ethical digital nation - gov.scot \(www.gov.scot\)](#)
- ¹¹⁷ <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-rethinking-skills-to-tackle-the-uks-looming-talent-shortage>
- ¹¹⁸ page 11 of [Scottish Employers Perspectives Survey \(EPS\)](#).
- ¹¹⁹ [Scottish Employer Skills Survey 2020 - gov.scot \(www.gov.scot\)](#)
- ¹²⁰ This was lower than 2017 when the figure was 16%. This may well be due to impact of COVID on business.
- ¹²¹ [Scottish Employer Skills Survey 2020, page 50](#)
- ¹²² [Scottish Employer Skills Survey 2020 \(www.gov.scot\), page 19](#)
- ¹²³ [Meta Skills Toolkit | Skills Development Scotland](#)
- ¹²⁴ Adapted from figure 11, page 23. [Scottish Employer Skills Survey 2020 \(www.gov.scot\)](#)
- ¹²⁵ <https://www.gov.scot/binaries/content/documents/govscot/publications/independent-report/2023/06/fit-future-developing-post-school-learning-system-fuel-economic-transformation/documents/fit-future-developing-post-school-learning-system-fuel-economic-transformation-skills-delivery-landscape-review-final-report/fit-future-developing-post-school-learning-system-fuel-economic-transformation-skills-delivery-landscape-review-final-report/govscot%3Adocument/fit-future-developing-post-school-learning-system-fuel-economic-transformation-skills-delivery-landscape-review-final-report.pdf>

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- ¹²⁷ [Which occupations are at highest risk of being automated? - Office for National Statistics](#)
- ¹²⁸ [Robot Density nearly Doubled globally - International Federation of Robotics \(ifr.org\)](#)
- ¹²⁹ [Oxford Economics, Skills Development Scotland \(unpublished\)](#)
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[Labour Market Statistics for 16 to 24 year olds: Scotland and the United Kingdom – January to December 2022 - gov.scot \(www.gov.scot\)](#)
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- ¹³⁵ [Climate Emergency Skills Action Plan Implementation Plan | Skills Development Scotland](#)
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- ¹³⁷ [Tertiary-Educations-Futures-online-report-2023.pdf \(rse.org.uk\)](#)
- ¹³⁸ [Vertical and Horizontal Mismatch in the UK: Are Graduates' Skills a Good Fit for Their Jobs? - NIESR](#)
- ¹³⁹ [ukcess13-employer-investment-in-training.pdf \(publishing.service.gov.uk\)](#)
- ¹⁴⁰ [Addressing employer underinvestment in training | CIPD Report](#)
- ¹⁴¹ [Data from Employer Skills Survey quoted in the CIPD report as footnote 4.](#)
- ¹⁴² [EIB Working Paper 2020 / 03 - Employer provided training in Europe: Determinants and obstacles See Figs 4 and 5](#)
- ¹⁴³ [Scottish Employer Skills Survey 2020 \(www.gov.scot\)](#)
- ¹⁴⁴ [Scottish Employer Perspectives Survey 2021 - gov.scot \(www.gov.scot\)](#)
- ¹⁴⁵ [Learning the ropes - skills and training in small businesses | FSB, The Federation of Small Businesses](#)
- ¹⁴⁶ [Flexible Workforce Development Fund \(FWDF\): evaluation \(SG, 2023\), page 62. Flexible Workforce Development Fund \(FWDF\): evaluation - gov.scot \(www.gov.scot\)](#)
- ¹⁴⁷ [CIPD \(2019\), Addressing Employer Underinvestment in Training, Page 7. addressing-employer-underinvestment-in-training_tcm18-61265.pdf \(cipd.co.uk\)](#)
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- ¹⁵² All apprenticeship figures are updated regularly on Skills Development Website [Statistics | Skills Development Scotland. Data for 2015-16 Modern Apprenticeship Statistics, Quarter 4, 2016/17 \(skillsdevelopmentscotland.co.uk\)](#)
- ¹⁵³ Modern Apprenticeship numbers are impacted by lower starts in 2020/21 due to COVID.
- ¹⁵⁴ [foundation-apprenticeship-report-2022-published-version.pdf \(skillsdevelopmentscotland.co.uk\)](#)
- ¹⁵⁵ [Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx \(skillsdevelopmentscotland.co.uk\)](#) Table 10
- ¹⁵⁶ [Scottish Employer Perspectives Survey 2021 - gov.scot \(www.gov.scot\)](#)
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- ¹⁵⁸ [Indicator A3. How does educational attainment affect participation in the labour market? | Education at a Glance 2022 : OECD Indicators | OECD iLibrary \(oecd-ilibrary.org\)](#)
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- ¹⁶⁰ CIPD (2022). [What is the scale and impact of graduate overqualification in the UK? | CIPD](#)
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- ¹⁶² [Gaps and opportunities: Employer views on skills policy in Scotland | CIPD](#)
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- ¹⁶⁴ [An evidence-based evaluation of transferrable skills and job satisfaction for science PhDs | PLOS ONE](#)
- ¹⁶⁵ Technology may reduce skills needs in one area while increasing them in others.
- ¹⁶⁶ [Scottish Employer Perspectives Survey 2021 - gov.scot \(www.gov.scot\)](#)
- ¹⁶⁷ [Trends in self-employment in the UK - Office for National Statistics \(ons.gov.uk\)](#)
- ¹⁶⁸ [What are microcredentials? Find out the benefits \(timeshighereducation.com\)](#) and [The Role of Microcredentials in Modular Learning \(lifelongeducation.uk\)](#)
- ¹⁶⁹ <https://www.gov.scot/publications/adult-lifetime-skills-literature-review/pages/3/>
- ¹⁷⁰ Source: Annual Population Survey, Jan-Dec 2022, ONS
Notes: 1. Full-time education is defined as those who responded 'At school (full-time)', 'Sandwich course' or 'Full-time at university or college' to the survey question.
2. Not in full-time education is defined as those who responded 'Part-time at school', 'Training in nursing', 'Part-time at university or college', 'Open college', 'Open university' or 'Other correspondence course' to the survey question.
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- ¹⁷³ Research Excellence Framework Results 2021 [Results and submissions : REF 2021](#)
- ¹⁷⁴ [Innovation Centres \(sfc.ac.uk\)](#)
- ¹⁷⁵ [How to engage with Scottish Universities Research Pools \(sfc.ac.uk\)](#)
- ¹⁷⁶ [Interface Online | Interface Knowledge Connection | Academia \(interface-online.org.uk\)](#)

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- ¹⁷⁸ [Key Findings - Gross expenditure on research and development Scotland 2020 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/key-findings-gross-expenditure-research-development-scotland-2020-gov.scot/)
- ¹⁷⁹ [UKRI – UK Research and Innovation](https://www.gov.scot/publications/ukri-uk-research-innovation/)
- ¹⁸⁰ SFC research income was 27.2% and UKRI income 24.5% of the combined Research Grants and Contracts (£847m) and SFC Research and Knowledge Exchange (£317m) income in 2020/21, based on HESA Finance data. See [Table 7C - Funding body grants 2015/16 to 2021/22 | HESA](#) for SFC research income and [Table 7 - Income analysed by source 2015/16 to 2021/22 | HESA](#) for Research Grants and Contracts income.
- ¹⁸¹ [Leading the way in science - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/leading-way-science/)
- ¹⁸² [When Small is Beautiful: Lessons from highly innovative smaller countries | Nesta](#) and [International funding and support – UKRI](#)
- ¹⁸³ [Horizon Dashboard: R&I Country Profile - Key Figures - United Kingdom | Sheet - Qlik Sense \(europa.eu\)](#) [accessed in December 2022]
- ¹⁸⁴ [World University Rankings 2023 | Times Higher Education \(THE\)](#)
- ¹⁸⁵ HESA staff data, 20-21
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- ¹⁸⁸ [What researchers think about the culture they work in \(wellcome.org\)](#)
- ¹⁸⁹ [Report shows impact of Scottish research \(sfc.ac.uk\)](#)
- ¹⁹⁰ [Investing in UK R&D \(royalsociety.org\)](#)
- ¹⁹¹ [Table 4e - Intellectual property: Spin-off activities by HE provider 2014/15 to 2021/22 | HESA](#)
- ¹⁹² [University Innovation Fund \(sfc.ac.uk\)](#)
- ¹⁹³ [Media 700300 smxx.pdf \(gla.ac.uk\)](#) and [Nurse review of research councils: recommendations - GOV.UK \(www.gov.uk\)](#)
- ¹⁹⁴ [Where do they work, come from and go to? | HESA](#)
- ¹⁹⁵ [JAG-Articulation-information-for-colleges-and-universities-2021.pdf \(fairaccess.scot\)](#) and [Launch - Pathways](#)
- ¹⁹⁶ [CDN-Pathways-from-Poverty-Report.pdf](#)
- ¹⁹⁷ [Investment in 'all-round' learning sees students benefit from BT partnership. Borders College News; Scottish Power Smart Meter Engineer Course \(nclanarkshire.ac.uk\)](#). Note these are examples, there are many more.
- ¹⁹⁸ [International Dental Nursing partnership takes step forward \(nclanarkshire.ac.uk\)](#)
- ¹⁹⁹ [The Curved Wave Tank | School of Engineering](#)
- ²⁰⁰ [International research collaboration - Science and research - gov.scot \(www.gov.scot\)](#)
- ²⁰¹ [Innovation Centres \(sfc.ac.uk\)](#)
- ²⁰² [Media 700300 smxx.pdf \(gla.ac.uk\)](#)
- ²⁰³ [International University - Our partnerships | International | University of Stirling](#)
- ²⁰⁴ [University of Glasgow - International students - Study Abroad & Exchange](#)
- ²⁰⁵ [Stay in Touch | Alumni Relations | The University of Aberdeen \(abdn.ac.uk\)](#)
- ²⁰⁶ [Heriot-Watt Dubai University | A British University Campus \(hw.ac.uk\)](#)

²⁰⁷ This is articulated in the College Sector Visions Statement [Minister unveils ambitious vision for recovery and success at Scotland's colleges \(collegesscotland.ac.uk\)](#)

²⁰⁸ [Community Learning and Development Planning 2021 – 2024 | Self-evaluation | National Improvement Hub \(education.gov.scot\)](#)

²⁰⁹ [Review of Coherent Provision and Sustainability \(sfc.ac.uk\)](#)

²¹⁰ [Overview-of-the-External-Governance-Effectiveness-Reviews-for-Scotlands-Colleges.pdf \(cdn.ac.uk\)](#)

²¹¹ [Taxes - gov.scot \(www.gov.scot\)](#)

[Framework for Tax 2021 - gov.scot \(www.gov.scot\)](#)

²¹² [Scottish Budget: 2023-24 - gov.scot \(www.gov.scot\)](#)

²¹³ University Final Funding Allocations AY 2022-23

<https://www.sfc.ac.uk/publications-statistics/announcements/2022/SFCAN152022.aspx>

²¹⁴ [Indicative college funding allocations AY 2023-24 \(sfc.ac.uk\)](#)

²¹⁵ [annual-operating-plan-2022-23.pdf \(skillsdevelopmentscotland.co.uk\)](#)

²¹⁶ [Scottish Budget: 2023-24 - gov.scot \(www.gov.scot\)](#).

Figures extracted from published budget documents.

College and University figures amended to take into account the withdrawal of the £46m in additional funding as described in a letter (dated 2 May 2023) from the Minister for Higher and Further Education and Minister for Veterans to the Parliamentary Committee for Education, Children and Young People.

[Minister for Higher and Further Education; and Minister for Veterans \(parliament.scot\)](#)

²¹⁷ Eligibility criteria [Residence conditions for UK nationals - SAAS](#)

²¹⁸ [Humza Yousaf 'committed' to free tuition for Scots - BBC News](#)

²¹⁹ [Financial support for students - Universities - gov.scot \(www.gov.scot\)](#)

²²⁰ [Flexible Workforce Development Fund \(FWDF\): evaluation - gov.scot \(www.gov.scot\)](#)

²²¹ [Statistics at SLC - Student Loans Company - GOV.UK \(www.gov.uk\)](#)

²²² [National Statistics Publications - Higher Education Student Support in Scotland 2021-2022 \(saas.gov.uk\)](#)

²²³ <https://www.gov.scot/policies/young-people-training-employment/education-maintenance-allowances/>

²²⁴ [Employing an apprentice: Pay and conditions for apprentices - GOV.UK \(www.gov.uk\)](#)

²²⁵ SG/2022/73, Table 7.08, page 72. [Scottish Budget: 2023-24 - gov.scot \(www.gov.scot\)](#)

²²⁶ [Scotland's Colleges 2022 \(audit-scotland.gov.uk\)](#)

²²⁷ [What is the income of HE providers? | HESA](#)

²²⁸ [Briefing for the Citizen Participation and Public Petitions Committee on petition PE2009: Ensure fair access to Scottish universities for all residents in Scotland and the UK, lodged by Caroline Gordon \(parliament.scot\)](#)

²²⁹ [Briefing for the Citizen Participation and Public Petitions Committee on petition PE2009: Ensure fair access to Scottish universities for all residents in Scotland and the UK, lodged by Caroline Gordon \(parliament.scot\)](#)

²³⁰ Note there are two elements to fee payment. The first element is the same amount for all provision. Individual learners apply for the fee which is paid directly from SAAS to colleges and universities. The second element is part of the SFC

funding model which is distributed to universities. This element has 5 subject price differentials to reflect the different costs of provision.

²³¹ [Indicative university funding allocations AY 2022-23 \(sfc.ac.uk\)](https://www.sfc.ac.uk/indicative-university-funding-allocations-ay-2022-23) See Main document paragraph 18 and Annex Table 10

²³² <https://education.gov.scot/improvement/hgiocld/how-good-is-our-cld/>

²³³ [Quality Enhancement Framework in Scotland \(gaa.ac.uk\)](https://www.gaa.ac.uk/quality-enhancement-framework-in-scotland)

²³⁴ [Scotland's colleges 2022 | Audit Scotland \(audit-scotland.gov.uk\)](https://www.audit-scotland.gov.uk/scotland-s-colleges-2022)

²³⁵ <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2020/12/cld-plans-guidance-note/documents/cld-plans-guidance-note-2021-24/cld-plans-guidance-note-2021-24/govscot%3Adocument/cld-plans-guidance-note-2021-24.pdf>

²³⁶ [improving-life-chances-and-empowering-communities.pdf \(education.gov.scot\)](https://www.education.gov.scot/improving-life-chances-and-empowering-communities.pdf)

²³⁷ [Introduction | How good is our CLD | How good is our Community Learning and Development? | Inspection Frameworks | Inspection and Review | Education Scotland](https://www.education.gov.scot/introduction-how-good-is-our-cld-how-good-is-our-community-learning-and-development-inspection-frameworks-inspection-and-review-education-scotland)

²³⁸ [The Competences | CLD Standards Council for Scotland](https://www.cldstandards.gov.scot/the-competences)

²³⁹ [Tertiary Quality Project \(sfc.ac.uk\)](https://www.sfc.ac.uk/tertiary-quality-project)

²⁴⁰ Sources: HESA Student Data: <https://www.hesa.ac.uk/data-and-analysis/students>
SFC College Statistics: <https://www.sfc.ac.uk/publications-statistics/statistical-publications/2023/SFCST012023.aspx>

SDS Apprenticeship Statistics:

<https://www.skillsdevelopmentscotland.co.uk/publications-statistics/statistics/?page=1>

²⁴¹ Sources: HESA Student Data, SG Experimental Analysis
SFC Student Data, Secondary Analysis

SDS Apprenticeship Statistics:

<https://www.skillsdevelopmentscotland.co.uk/publications-statistics/statistics/?page=1>

²⁴² Sources: HESA Student Data: <https://www.hesa.ac.uk/data-and-analysis/students>
SFC College Statistics: <https://www.sfc.ac.uk/publications-statistics/statistical-publications/2023/SFCST012023.aspx>

²⁴³ SFC College Statistics: <https://www.sfc.ac.uk/publications-statistics/statistical-publications/2023/SFCST012023.aspx>

²⁴⁴ Sources: HESA Student Data: <https://www.hesa.ac.uk/data-and-analysis/students>
SFC HE Students & Qualifiers <https://www.sfc.ac.uk/publications-statistics/statistical-publications/2022/SFCST052022.aspx>

²⁴⁵ [Return on Investment - Education and Skills Impact Framework \(ESIF\) - modern apprenticeships provision: contextual summary report 2022 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/return-on-investment-education-and-skills-impact-framework-esif-modern-apprenticeships-provision-contextual-summary-report-2022)

²⁴⁶ [Apprenticeship Approvals Group | Skills Development Scotland](https://www.skillsdevelopmentscotland.co.uk/apprenticeship-approvals-group)

²⁴⁷ [Modern Apprenticeship reviews | Inspection and review - sector-specific guidance | Inspection and review | What we do | Education Scotland](https://www.education.gov.scot/modern-apprenticeship-reviews)

²⁴⁸ Bespoke data from Skills Development Scotland April 2023

²⁴⁹ Page 26, SDS: Modern Apprenticeship Statistics. Quarter 4, 2022/23. [Modern Apprenticeship Statistics, up to the end of Q4 2022/23 \(skillsdevelopmentscotland.co.uk\)](https://www.skillsdevelopmentscotland.co.uk/modern-apprenticeship-statistics)

²⁵⁰ Page 27, SDS: Modern Apprenticeship Statistics. Quarter 4, 2022/23. [Modern Apprenticeship Statistics, up to the end of Q4 2022/23 \(skillsdevelopmentscotland.co.uk\)](https://www.skillsdevelopmentscotland.co.uk/modern-apprenticeship-statistics)

²⁵¹ Page 10, SDS: Modern Apprenticeship Statistics. Quarter 4, 2022/23. Modern Apprenticeship Statistics, up to the end of Q4 2022/23 (skillsdevelopmentscotland.co.uk)

²⁵² [The next steps for apprenticeship \(europa.eu\)](https://european-council.europa.eu/media/e060424c-1230-4b21-8d59-98e97383862d/en/press_corner/press_releases/press_release_12304b218d5998e97383862d.html)

²⁵³ Strengthening Skills in Scotland (oecd.org); Strengthening Apprenticeship in Scotland, United Kingdom | en | OECD

²⁵⁴ foundation-apprenticeship-report-2022-published-version.pdf (skillsdevelopmentscotland.co.uk)

²⁵⁵ foundation-apprenticeship-report-2022-published-version.pdf (skillsdevelopmentscotland.co.uk) Table 2A

²⁵⁶ foundation-apprenticeship-report-2022-published-version.pdf (skillsdevelopmentscotland.co.uk) Table 2B

²⁵⁷ Foundation Apprenticeship Provision in Scotland Review (education.gov.scot)

²⁵⁸ Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx (skillsdevelopmentscotland.co.uk)

²⁵⁹ Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx (skillsdevelopmentscotland.co.uk) (page 8)

²⁶⁰ <https://www.skillsdevelopmentscotland.co.uk/media/49924/graduate-apprenticeship-annual-report-2022-final.pdf> (page 28)

²⁶¹ Microsoft Word - Graduate Apprenticeship Annual Report 2022 FINAL.docx (skillsdevelopmentscotland.co.uk) (page 7)

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