Education Endowment Foundation

Effectiveness of education and training interventions for young people aged 16–19: An Evidence and Gap Map

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Table of Contents

Background and review rationale

The persistent inequality in educational outcomes remains a critical global challenge, as children from socioeconomically disadvantage backgrounds experience persistent attainment gaps relative to their more advantaged peers even after age 16. In the UK, research indicates that high-attaining free school meal-eligible young people face structural barriers that reduce their likelihood of progressing to A-levels or university compared with equally capable peers from higher-income households (Crawford, 2014; Social Mobility Commission,2025; Education Policy Institute, 2025; Sutton Trust, 2025). This trend is mirrored across OECD countries, where only 26% of young adults whose parents' left education at the upper-secondary level attain a university degree, compared to 70% of those whose parents have tertiary education (OECD, 2018; OECD, 2021).These disparities are reflected in widening attainment gaps, elevated school dropout rates and substantial skill deficiencies. In the UK, for example, socioeconomically disadvantaged students face systemic barriers that make early exit from education at 16 disproportionately common and limit access to rigorous post-16 academic pathways (Education Endowment Foundation, 2020). Similar trends are observed in the U.S., where socioeconomically disadvantaged high schoolers face markedly lower graduation and college-entry rates (Henig, 2013; Hussar et al., 2020).

The core policy problem in high-income systems is that substantial schooling resources have failed to close the outcome gaps for socioeconomically disadvantaged learners in upper-secondary achievement and continuation. Many youth complete compulsory education without equitable access to learning opportunities required to build core literacy, numeracy and vocational capabilities, facing limited options in post-16 pathways. Even as general educational attainment rises, adult literacy and numeracy levels have stagnated or declined in many OECD countries, indicating a serious gap between credential attainment and true skill development (OECD, 2016). Evidence suggests that a range of targeted strategies can address these challenges, including generous need-based scholarships which have been shown to dramatically increase university enrolment among socioeconomically disadvantaged high-achievers (Dynarski, 2003; OECD, 2017). Furthermore, programmes that engage parents and communities in school governance are increasingly utilised to boost local accountability and tailor support to student needs (OECD, 2019).

Pedagogical and in-school interventions offer some of the strongest evidence for impact. Structured tutoring and small-group instruction consistently yield significant learning gains; for example, peer tutoring leads to approximately +6 months of additional progress, while small-group tuition produces +4 months of learning, with the largest learning gains observed for learners who have faced constrained access to high-quality learning provision previously (EEF, 2021). Metacognitive and self-regulated learning strategies, which teach students to plan, monitor, and evaluate their own learning, are associated with high levels of impact, with the Education Endowment Foundation estimating an average of eight additional months' progress for learners who receive these approaches (EEF, 2025).

Beyond pedagogy, improving teacher quality through professional development remains one of the most powerful levers for raising achievement (OECD, 2019; Office for Standards in Education [Ofsted], 2024). Addressing non-academic barriers is equally vital, as nutritional support such as free school breakfasts improves attendance and performance (Figlio & Winicki, 2008; CDC, 2014), and socio-emotional interventions like mentoring improve completion rates (Durlak et al., 2011). Furthermore, specialised support, such as speech and language therapy tailored to vocational coursework, has been shown to support positive learning progression for post-16 learners living with developmental language disorders (Ebbels et al.,2022).

Evidence syntheses play an important role in identifying effective interventions and highlighting areas where further research is needed. Internationally, the 3ie systematic review provides a comprehensive synthesis of interventions aimed at improving learning outcomes and access to education in low- and middle-income countries, identifying approaches that have shown promise across diverse contexts (Snilstveit et al., 2015). In the UK, similar evidence-mapping exercises have been undertaken to inform policy and practice. For example, the Youth Endowment Fund's Evidence and Gap Map (2021) identifies both effective strategies and areas where evidence remains limited regarding the prevention of youth violence and the improvement of educational outcomes. Likewise, the Youth Futures Foundation's evidence base, updated in 2023, highlights interventions designed to improve youth employment outcomes, including vocational training and employability support.

Although these interventions have shown promise, much of the evidence from the education sector focuses on primary and secondary education, leaving gaps in understanding the most effective strategies for learners aged 16–19, particularly in high income countries and for technical or vocational pathways. Furthermore, existing reviews often focus on specific domains such as mental health (Clarke et al., 2021), whole-school approaches to risk prevention (Bakasooriya- Lekamge et al., 2025), or physical activity (Hynynen et al., 2015) rather than capturing the full range of academic, behavioural, and structural interventions relevant to post-16 education. Recent practice reviews by the Education Endowment Foundation have helped clarify on-the-ground provision across the English post-16 sector, including research on post-16 GCSE resit teaching (Crisp et al., 2023) and recent 16–19 sector professional development practice (Education Endowment Foundation, 2025). While these studies strengthen understanding of current sector practice, they also highlight the need to broaden the evidence base across more diverse post-16 settings.

This project aims to address these gaps by conducting an Evidence and Gap Map (EGM) to systematically identify and map available evidence on interventions supporting learners aged 16–25, including both academic and vocational qualifications. In addition to mapping the evidence, the review will record contextual characteristics of included studies (e.g., country, educational setting, learner population, and intervention features) to enable an assessment of the potential applicability of findings to the English post-16 education system.

The findings will directly inform the Education Endowment Foundation's ongoing 16–19 strategy and guide future commissioning decisions to address key evidence gaps, particularly for socioeconomically disadvantaged learners.

Theoretical framework

The conceptual framework for this Evidence and Gap Map (EGM) is illustrated in Figure 1. This study considered established theoretical structuring approaches, including micro-meso-macro tiered models and broader ecological systems frameworks, before finalising the final intervention categorisation. The categorisation was further refined and finalised in consultation with the EEF and the advisory group to ensure that high-priority themes of interest to the sector were included within the project scope. (See the Stakeholder Engagement section for further details).

The framework defines five separate, non-overlapping groups of interventions designed to improve educational outcomes for learners aged 16–19. The first group, Teaching and Learning Strategies, includes interventions focused on instructional practice, curriculum design, individual skill-building, metacognition, and learner support. The second group, Practitioner Professional Development, comprises interventions aimed at improving teacher expertise, professional learning, and the quality and consistency of instructional delivery. The third group, Progression and Retention Support, includes interventions designed to enhance learner progression, attendance, and retention through targeted academic, vocational, and pastoral support. The fourth group, Parent and Community Engagement, includes interventions that influence learners' home, family, and community environments. The fifth group, Systems, Organisation and Funding, comprises interventions operating at institutional, organisational, and policy levels Together, these categories distinguish between classroom-level practice, workforce capability, learner progression mechanisms, and wider contextual influences, providing a structured framework for analysing interventions across the post-16 education system

Teacher- and learner-focused interventions form the core pathways and are grounded in established educational theory as well as systematic reviews conducted by the Education Endowment Foundation (EEF, 2023), widely regarded as a leading authority on educational evidence in the UK. Teacher-focused interventions including formative assessment , and peer tutoring are informed by key theoretical frameworks (Daniels, 2016) and principles of collaborative learning. Feedback mechanisms, as conceptualised by Hattie and Timperley (2007), and social interaction play a central role in enhancing instructional quality. These approaches strengthen instructional practice, with EEF (2021a) evidence confirming that structured feedback delivers measurable improvements to student assessment results, with particularly pronounced gains observed for socioeconomically disadvantaged learners. Existing research indicates such interventions may correlate with lower disengagement and support sustained learning trajectories that can support improved qualification completion over time, though longitudinal evidence tracking direct feedback impacts on dropout and long-term qualification attainment remains limited within the post-16 evidence base .Learner-focused

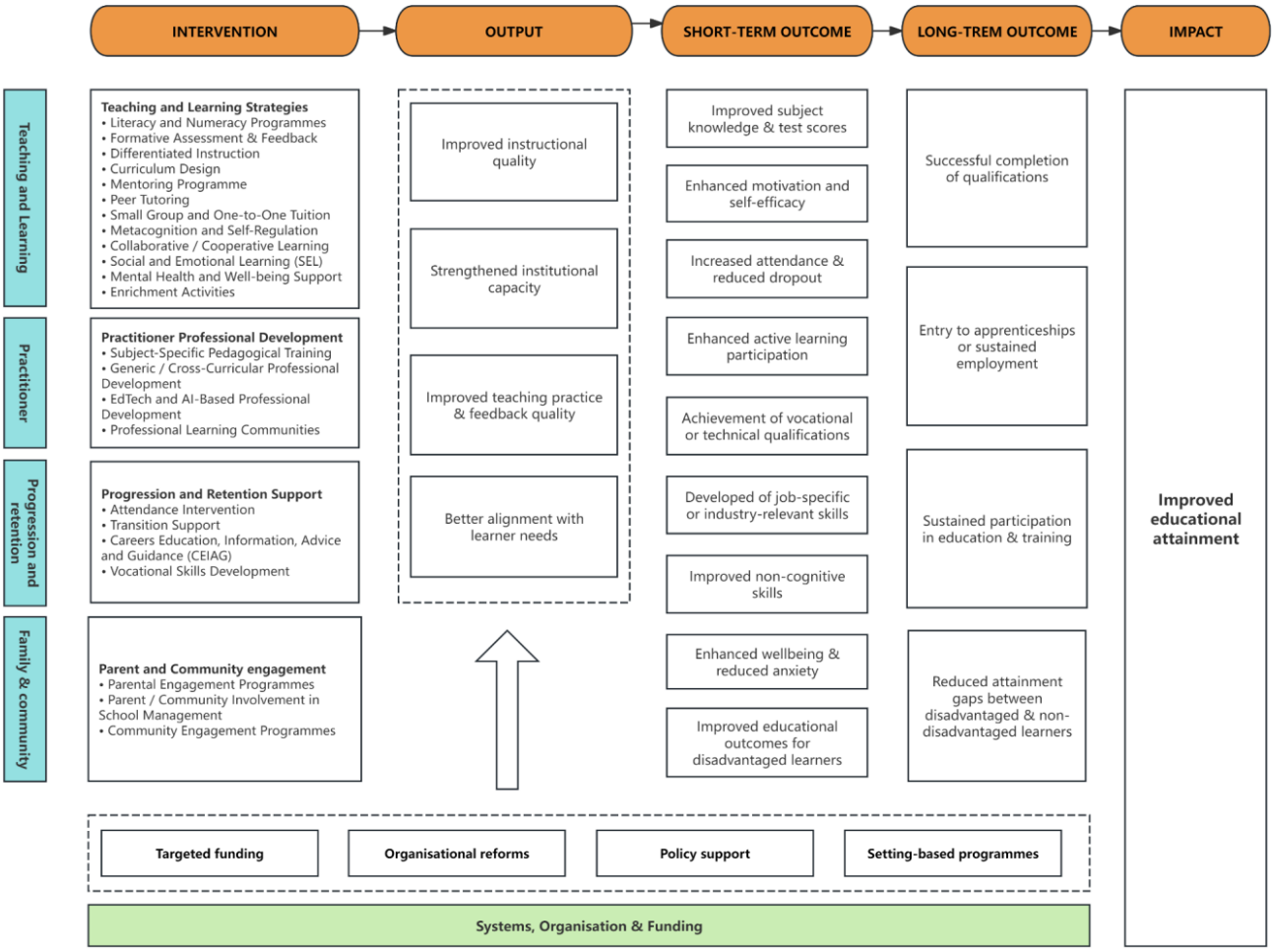
interventions including metacognition, self-regulated learning, social and emotional learning (SEL), and vocational skill development are grounded in theories of self-regulation and social cognition (Lent, Brown, & Hackett, 2000). These interventions support learners in developing independent learning strategies, improving vocational skill acquisition, and reducing anxiety (EEF, 2021c). As a result, they have potential to enhance learner engagement, improved attainment, and more equitable outcomes for learners aged 16–19.

Bridging classroom learning and long-term educational destinations, progression and retention support interventions serve a pivotal mediating role in the framework's causal chain (Figure 1). Rooted in vocational career development theory (Lent et al., 1994), attendance interventions, transition guidance and careers education mitigate disengagement risks. They generate short-term gains like stable attendance and active participation, which sequentially deliver long-term outcomes including qualification completion and apprenticeship entry. Unlike instructional strategies targeting academic skill growth, this strand directly addresses structural dropout barriers, particularly for socioeconomically disadvantaged cohorts prone to fragmented post-16 learning trajectories.

Complementing these core pathways, family and community interventions and enabling system-level interventions provide essential contextual support. Family and community interventions, underpinned by the foundational ecological systems theory (Bronfenbrenner, 1979), emphasise the role of parental and community engagement in addressing barriers to learning. These interventions contribute to improved attendance, increased motivation, and more equitable educational outcomes (EEF, 2020).

Enabling systems, including funding mechanisms, policy frameworks, and organisational structures, support the effective implementation of all other interventions. Targeted funding has been shown to reduce attainment gaps (EEF, 2023), while aligned national upper-secondary qualification and accountability policies streamline coherent and coherence of educational delivery (OECD, 2023). These system-level factors help to create a sustainable educational ecosystem that promotes long-term improvement and reduces inequality. This perspective is consistent with institutional theory (Greenwood, Oliver, & Lawrence, 2008) and aligns with principles of self-regulated learning (Panadero, 2017).

Figure 1: Theory of Change



Objectives

The aim of this review is to examine the available evidence on the effectiveness of interventions designed to improve engagement, progression, and attainment among post-16 learners, particularly in GCSE resits, technical qualifications, and vocational pathways, and to identify gaps in the existing research to support evidence-informed decision-making.

The review will address the following research questions:

1. What evidence exists on the effectiveness of interventions aimed at improving post-16 learners' engagement, progression, and attainment in education and training?

2. What outcome measures are used in studies examining approaches to improve outcomes for young people aged 16–19?

3. How is existing evidence distributed across different post-16 learning settings (colleges, vocational provision, and workplace learning)?

4. How rigorous and reliable is the existing evidence base?

5. What research gaps exist, particularly regarding interventions supporting socio-economically disadvantaged learners?

Methodology

Inclusion and exclusion criteria for the review

Population / Sample

The target population for this Evidence Gap Map (EGM) includes learners aged 16-25. Wherever possible, the review will differentiate among the following subgroups:

- Core population: Learners aged 16–19 – the primary focus of the review, including those undertaking GCSE resits and technical or vocational qualifications in the UK and comparable equivalent credential pathways in other country contexts.

- Pragmatic search inclusion boundary: To avoid missing evaluations relevant to the 16–19 cohort, studies including participants aged 16–25 will be eligible for screening[1]. Studies will be retained where at least 50% of participants fall within the 16–25 age range and where the findings are considered relevant to post-16 education and training. During data coding, participant age ranges will be recorded and, where possible, findings will be disaggregated into the subgroups 16–17, 18–19, and 20–25 to enable evidence specific to the core 16–19 population to be identified. Studies in which fewer than 50% of participants are aged 16–25 will be excluded from the EGM

- Socio economically disadvantaged learners – particularly those eligible for free school meals, from low-income households, or experiencing other socioeconomic barriers.

- Vulnerable subgroups – including care leavers, learners with special educational needs, ethnic minority learners, and other groups at higher risk of disengagement or lower attainment.

- Qualification level: Eligible studies cover upper secondary education (ISCED Level 3), post-secondary non-tertiary education (ISCED Level 4), and short-cycle tertiary vocational programmes (ISCED Level 5). Studies focused exclusively on bachelor's degrees or equivalent undergraduate programmes (ISCED Level 6) are excluded, even where participants fall within the eligible age range. This boundary reflects the focus of the review on post-16 education and training pathways. Where studies include participants across multiple qualification levels, only evidence relating to ISCED Levels 3–5 will be retained where this can be disaggregated; otherwise, the study will be excluded [2].

In addition to the pre-defined subgroups of care leavers, learners with SEND, and ethnic minority learners, the review will also capture evidence focused on other narrowly defined vulnerable cohorts including young carers and teenage parents. Studies centred exclusively or predominantly (≥50% sample share) on these narrow vulnerable subgroups satisfy our inclusion criteria and will be formally coded within the vulnerable population category in Annexure 4's coding framework. During data extraction, bespoke subgroup labels will be logged under open-text descriptive fields to distinguish these specific groups for subsequent subgroup analysis in the final EGM mapping.

[1] OECD Education at a Glance 2025 reports the average age of students enrolled in upper secondary education. For general programmes (i.e., academic pathways), the average age across OECD countries is 17 for both females and males. In vocational upper secondary programmes, the average age is higher, at approximately 22 for females and 20 for males. Given this age distribution, and to ensure comprehensive coverage of relevant evidence, the review will include learners up to the age of 25.

[2] In the International Standard Classification of Education (ISCED), developed by UNESCO, ISCED Level 3 corresponds broadly to upper secondary education. In the UK context, this includes education typically undertaken between ages 16–19, such as A levels and vocational qualifications delivered in schools and colleges. ISCED Level 4 refers to post-secondary non-tertiary education, and ISCED Level 5 refers to short-cycle tertiary education, often vocational or technical in nature. These levels are used in this review to ensure comparability of post-16 education and training pathways across countries. UNESCO Institute for Statistics (UNESCO Institute for Statistics. (2012). *International Standard Classification of Education: ISCED 2011*. Montreal: UNESCO Institute for Statistics. https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf)

Geographic scope

The review will include studies conducted in high-income countries, as defined by the World Bank income classification or OECD membership (the high-income countries are listed in Annex 6). This restriction reflects the distinct institutional, curricular, and labour-market contexts of upper secondary education in these systems, including:

1. Common ages 12–15 for lower secondary education with near-universal participation (World Bank, 2020) while upper secondary and further education generally align with our review's 16–25 target population, with modest cross-country variation in school-leaving ages,
2. differentiated academic and vocational pathways (OECD, 2023; Stronati, 2023),
3. structured qualification systems and accountability frameworks (OECD, 2022; Nusche, 2023).

Studies conducted in low- and middle-income countries will be excluded unless they are part of multi-country analyses with separately reported high-income findings.

Intervention / Practice / Phenomena of Interest

This review will cover a broad range of strategies aimed at improving educational outcomes for young people aged 16–25. Interventions are organised into categories that reflect both the type of support provided and the level at which they operate at individual, relational, classroom, and school/system level. Intervention categories are intended to be non-mutually exclusive. Studies may be coded to multiple intervention categories where interventions contain several components. The categories are as follows:

Table 1: Intervention categories and sub- categories

S. No	Intervention Categories and Sub-Categories	Definition
1	**Teaching and Learning Strategies**	**Instructional, developmental, and learner-support interventions designed to improve academic outcomes, learner engagement, self-regulation, and social-emotional development.**
1.1	Literacy and Numeracy Programmes	Structured programmes to improve attainment in reading, writing, and numeracy. Includes general literacy and numeracy interventions as well as those specifically designed for GCSE English and maths resit learners within post-16 education and training settings.
1.2	Formative Assessment and Feedback	Structured approaches to providing information to learners to improve performance and guide learning strategies, including written, verbal or peer-based feedback.
1.3	Differentiated Instruction	Tailored instructional approaches integrated into routine whole-class teaching to meet diverse learner needs. This includes flexible in-lesson one-to-one check-ins and short-term small group breakout activities designed to adapt task difficulty, pace and resources for learners with uneven skill
1.4	Curriculum Design	Design of delivery, structure, sequencing, content, resourcing and assessment of courses, including vocational, technical and academic pathways.
1.5	Mentoring Programme	One-to-one or small group support from older peers or adult mentors, focusing on confidence, resilience, and aspiration.
1.6	Peer Tutoring	Structured sessions in which learners teach each other, including cross-age, same-age or reciprocal tutoring, with peer assessment components.
1.7	Small Group and One-to-One Tuition	Standalone targeted instruction delivered in dedicated withdrawal sessions or separate timetabled slots outside mainstream whole-class teaching. Delivered either in small cohorts or individual one-to-one formats, this provision is explicitly designed to accelerate progress and narrow attainment gaps for identified lower-attaining learners
1.8	Metacognition and Self-Regulation	Supporting learners to develop strategies to plan, monitor, and evaluate their own learning, while setting and working towards personal goals.
1.9	Collaborative / Cooperative Learning	Group-based learning tasks where learners work together on shared or interrelated activities to achieve common outcomes.
1.10	Social and Emotional Learning (SEL)	Structured programmes to develop social skills, emotional regulation, interpersonal competencies, positive relationships, learner engagement, and well-being.
1.11	Mental Health and Well-being Support	Interventions and services designed to safeguard learners' psychological health, relieve emotional distress, and foster positive well-being.
1.12	Enrichment Activities	Non-qualification activities that develop learners' character, broader skills, and attitudes, supporting progression. Includes trips, visits, arts participation, and aspirational interventions.
1.13	EdTech and AI Embedded Learning	Digital platforms, software, or AI learning tools deployed directly with learners to personalise student learning, boost classroom engagement, and improve educational outcomes.

2	**Practitioner Professional Development**	**Activities to enhance practitioner instructional quality, pedagogical skills, and subject knowledge.**
2.1	Subject-Specific Pedagogical Training	Targeted professional development integrating deep subject knowledge with pedagogical skills, including industry exchanges opportunities and sector-specific training for technical and vocational teaching contexts.
2.2	Generic / Cross-Curricular Professional Development	Non-subject-specific professional development targeting transferable teaching practices such as assessment, inclusion, behaviour management, and learner support.
2.3	EdTech and AI-Based Professional Development	Use of digital platforms, software, or AI tools specifically to personalise and enhance practitioner professional development and instructional-planning practices for educators.
2.4	Professional Learning Communities (PLCs)	Ongoing, inclusive, and reflective collaborative professional development among staff, with a focus on enhancing student learning through shared practice and evidence.
3	**Progression and Retention Support**	**Supporting 16–19 learners to maintain participation and progress within post-16 education toward further learning, employment or training.**
3.1	Attendance Intervention	Monitoring systems, incentives, and tailored support to reduce absenteeism and improve learner retention.
3.2	Transition Support	Programmes supporting learners moving into the 16–19 phase or transitioning to college, vocational training, or apprenticeships.
3.3	Careers Education, Information, Advice and Guidance (CEIAG)	Professional and targeted support helping learners aged 16–19 make informed choices about further education, training, and future careers, using structured CEIAG frameworks.
3.4	Vocational Skills Development	Training focused on developing practical, technical, and occupation-specific competencies through applied learning in vocational, technical, or work-based contexts. This includes structured vocational education, apprenticeships, work-based training, work placements, and simulated occupational practice.
4	**Family and Community Engagement**	**Involving parents, carers or communities to enhance accountability, engagement, and learner outcomes.**
4.1	Parental Engagement Programmes	Activities that inform parents and carers in their young person's education, progression and well-being.
4.2	Parent / Community Involvement in School Management	Involving parents or community members in institutional committees or governance structures.
4.3	Community Engagement Programmes	Activities that engage community organisations and stakeholders in supporting young people's education, progression, and well-being. Note: community-led activities may also be captured under Progression and Retention Support.
5	**Systems, Organisation & Funding**	**Structural frameworks, management mechanisms, and financial resources that sustain and optimise educational provision.**
5.1	Targeted Funding	Material or financial support to reduce barriers to participation and improve retention, including bursaries and learner support funds.
5.2	Institutional / Organisational Reforms	Setting-level structural changes to optimise institutional operation, management, and service delivery.

5.3	Policy Support	System-level policies, regulations, funding mechanisms, accountability frameworks, and other supportive measures implemented by governments, regulators, or educational authorities to strengthen education, student services, and vocational training. This includes policies related to attendance, behaviour, exclusion, retention, progression, and participation in education and training.
5.4	Setting-Based Programmes	Educational and support initiatives designed, implemented, and managed within individual settings (e.g. colleges, sixth forms, training providers), tailored to the needs of their own learners.

Study design

This EGM will include a range of study designs to systematically map the evidence on interventions supporting learners aged 16–19.

The EGM will include both primary studies and evidence syntheses that assess the causal effects of educational interventions on key outcomes. Eligible studies must aim to establish a causal relationship between the intervention and the observed outcomes. This includes studies using quantitative experimental or quasi-experimental designs that explicitly link interventions to outcomes.

Quantitative studies eligible for inclusion comprise randomised controlled trials (RCTs) and quasi-experimental designs (QEDs). RCTs involve the random assignment of learners, groups, or schools to intervention or control conditions, while QEDs employ non-randomly assigned comparison groups, including natural experiments, difference-in-differences designs, regression discontinuity, synthetic control, and propensity score matching. These study designs are appropriate for assessing causal effects at varying scales, including large-n, middle-n. Studies that rely solely on before-and-after comparisons without a control or comparison group will be excluded, as they cannot robustly demonstrate intervention effects.

Notably, methodological quality and evidence rigour will not be used as an inclusion or exclusion criterion for this review. All studies meeting the preset population, intervention, geography and design criteria will be incorporated into the EGM regardless of their methodological strength. Rigour assessment will take place post-data extraction in the critical appraisal stage, and the final confidence codes will be embedded in the EGM as filter options for end-users to separate evidence by quality level.

The EGM will systematically map all eligible studies by intervention type, study design, outcomes, and target population. The EGM will visually present where evidence exists and where gaps remain, supporting decisions about future evidence generation and policy development.

Outcomes

Eligible outcome domains and sub-domains are presented in Table 2. An outcome is eligible for inclusion only if it aligns with one of the five predefined core and secondary categories below: core (or primary) outcome domains include academic attainment (e.g., test scores, qualifications), course progression and retention (e.g., attendance, completion, progression), and vocational and technical outcomes (e.g., skills development, employability, work-based learning); secondary outcomes cover non-cognitive skills, wellbeing (e.g., motivation, self-regulation, resilience) and socio-economic outcomes and equity (e.g., improved outcomes for disadvantaged learners, reduction in attainment gaps). Any measured indicator must map to these established domains to be extracted and coded within the EGM framework.

Table 2: Outcome categories and sub- categories

Outcome Category	Definition	Outcome Sub-categories
Academic Attainment	Outcomes related to learners' academic performance and achievement in formal assessments and qualifications during the 16–25 education phase	• Short-term: Improvements in test scores, coursework, assignments, and subject-specific assessments (e.g., English and mathematics). • Long-term: Successful completion of formal qualifications such as A-Levels, diplomas, or GCSE resits.
Course Progression and Retention *	Outcomes relating to learners' continued participation, completion, and progression within education and training pathways. This includes retention within a course or programme, successful completion, and progression to the next stage of education, training, apprenticeships, or employment (including transitions between qualification levels, e.g., Level 2 to Level 3).	● Improved regular attendance; ● enhanced active learning participation; ● reduced dropout or withdrawal from courses; ● successful progression to the next stage of education, further training, apprenticeships, or employment.
Vocational and Technical Outcomes	Outcomes associated with practical and occupational skill development	• Achievement of vocational or technical qualifications; • development of job-specific or industry-relevant skills; • workplace readiness; • successful participation in apprenticeships, • internships, or work placements.
Non-Cognitive Skills and Wellbeing	Personal, affective and self-regulated learning outcomes	• Motivation and learning engagement; • metacognition; • confidence and resilience; • social-emotional skills; • overall learner wellbeing.
Educational Equity and Attainment Gaps	Equity-focused differences in educational outcomes between advantaged and marginalised groups.	• Short-term: Improved attainment and participation outcomes for socioeconomically disadvantaged learner groups (e.g., qualifications, assessments, engagement, progression within education and training). • Long-term: Reduced attainment gaps between non-socioeconomically disadvantaged and socioeconomically disadvantaged groups.

Granular destination outcome coding (immediate vs. sustained outcomes)

Within Course Progression and Retention and Vocational and Technical Outcomes domains, all study-reported post-programme destinations (including further learning, apprenticeships and employment) are supplemented with fine-grained temporal and quality coding where primary data permits. All destination outcomes are tagged to distinguish immediate post-programme outcomes and sustained longer-term outcomes**.** Where available, additional labour-market metrics including employment duration, contract quality, job stability and learner earnings are systematically recorded in dedicated extraction fields. This supplementary layered coding enhances interpretability of transition-related evidence without altering the core EGM outcome grid structure.

Conceptual distinction between progression and transition

Within this EGM framework, transition and progression are explicitly distinguished to avoid conceptual overlap. The review's primary focus is learners aged 16–19, while the broader 16–25 age band is only a pragmatic search parameter to capture relevant mixed-age research. Transition refers to cross-phase movement into or out of the 16–19 education system, most notably the school-to-post-16 transition into further education, vocational training or workplace learning; it also includes transitions from further education into higher education (FE to HE). Where studies include participants aged 20–25 (captured through our wider 16–25 search scope), cross-phase movement into graduate-level training or sustained employment is treated as supplementary transition data separate from the core 16–19 analysis. Course progression is defined as in-programme advancement within the 16–19 learning setting, specifically sequential movement between qualification levels (e.g., Level 2 to Level 3 vocational/academic courses) and progression through staged modules or year-on-year course completion within the same institution. Interventions under this strand focus on supporting in-course retention, reducing dropout and enabling structured within-setting level progression for the core 16–19 cohort; progression outcomes for learners aged 20–25 are coded as secondary contextual evidence only.

Inclusion and coding for employer-linked interventions

The review's intervention framework retains its core categorisation for careers guidance, mentoring, transition support and vocational skill development. To improve precision for post-16 provision that integrates education and employer-led delivery, all interventions involving formal employer collaboration — including work placements, on-the-job apprenticeship delivery, employer-based training and wage subsidy schemes — are assigned a consistent supplementary *employer-linked* coding flag during data extraction. This bespoke tagging enables targeted subgroup analysis of employer-connected provision within the existing intervention structure, refining categorisation without restructuring the core EGM taxonomy.

Treatment of community-oriented and policy-driven outcomes

Community-oriented intervention impacts are not coded as separate standalone outcomes. All measurable benefits generated via family or community-focused activities are mapped onto the five existing learner-centred outcome categories above. Studies that exclusively report community-level outcomes with no corresponding individual learner educational measures do not meet outcome eligibility and will be excluded from the EGM. Evaluations of policy initiatives are fully eligible where they satisfy core inclusion rules; policy-level intervention effects are coded against the standard outcome list, with systemic policy interventions formally classified under Category 5.3 Policy Support within the Systems, Organisation & Funding intervention grouping.

Calibrated inclusion rules for systemic policy evaluations

A clear distinction is maintained between discrete targeted programme interventions and large-scale systemic policy reforms. While all eligible interventions require causal evaluation designs, the review accommodates methodological constraints inherent to national policy rollouts. System-level policy initiatives that cannot feasibly be evaluated via randomised controlled trials are still eligible if they adopt rigorous quasi-experimental causal designs, including difference-in-differences, regression discontinuity design, propensity score matching and natural experiment approaches. Pure uncontrolled pre–post policy evaluations without valid comparison groups remain excluded to uphold the EGM's causal evidence mapping standards.

Structured operationalisation of disadvantage and equity reporting

Given the review's explicit focus on equity and marginalised learner groups, disadvantage is fully operationalised as a mandatory extraction field. For all included studies, reviewers systematically record the precise disadvantage definition applied in primary research, including free school meal (FSM) eligibility, low household income, area-based

deprivation metrics, care leaver status, SEND classification, ethnic minority background, or composite disadvantage criteria. Equity-focused outcome analyses remain visually prominent as a core filter and reporting dimension in the final EGM outputs.

Setting as a core EGM filter and stratified analysis dimension

Delivery setting is prioritised as a prominent, mandatory filter within the interactive EGM. All studies are coded by institutional context, including sixth form provision, further education colleges, standalone vocational training providers, and workplace/apprenticeship learning environments. Post-descriptive analysis stratified analyses will systematically report evidence distribution, intervention effects and outcome patterns sliced by setting, to account for substantive structural and contextual differences across post-16 learning environments.

Search recall and false-negative quality assurance

To mitigate under-detection of transition and employment-focused evidence across heterogeneous post-16 provision, the review team will conduct formal post-screening quality checks of search recall and false-negative rates, stratified explicitly by delivery setting and intervention type. Specific attention is paid to FE college and workplace-based studies to ensure transition, progression and labour-market outcomes are comprehensively captured and not disproportionately excluded from the evidence map.

Other criteria

Duration

The studies from 2000 onwards shall be included to align with major UK post-16 curriculum and qualification reforms (Department for Education and Employment, 2000) and the inception of standardised OECD cross-national education evaluation frameworks from 2000 onwards (OECD, 2000, 2001).

Languages

Studies published in English will be included due to feasibility constraints and the dominance of English-language publication in OECD and high-income country intervention research.

Search strategy for identification of studies

A systematic and comprehensive search will be conducted to identify relevant studies evaluating interventions aimed at improving learning outcomes for the core 16–19 learner cohort. A pragmatic expanded age boundary of 16–25 is used within all search terms to capture mixed-sample research containing 16–19 participants, including both academic and vocational pathways. Electronic databases to be searched include:

1. Bibliographic databases & Search Platforms

Searches will be conducted in the following databases (provider or platform indicated in parentheses), as follows:

- Web of Science Core Collection (Social Science Citation Index (SSCI)-1900-present, Science Citation Index Expanded (SCI-EXPANDED)-1900-present, Emerging Sources Citation Index (ESCI)-2005-present) (Clarivate)
- Scopus (Elsevier)
- Education Research Complete *(EBSCOhost)*
- Teacher Reference Centre *(EBSCOhost)*
- British Education Index *(EBSCOhost)*
- EconLit *(EBSCOhost)*

- Education Resources Information Center (ERIC) (EBSCOhost)
- APA PsycINFO *(EBSCOhost)*

All database subscriptions are institutional access via the university library, and searches will be run separately for each named database within the EBSCOhost platform to ensure full coverage.

2. Systematic review and evidence synthesis databases

- Campbell Collaboration Library
- Cochrane Library
- EPPI Centre Database of Education Research

3. Grey Literature and policy database

In addition to electronic databases, organisational repositories and evidence platforms such as:

- Education Endowment Fund
- UK Department for Education (DfE)
- Education Policy Institute (EPI)
- Organisation for Economic Co-operation and Development (OECD)
- ProQuest Dissertations & Theses Global
- National Foundation for Educational Research (NFER)
- What Works Clearinghouse (WWC)
- Institute of Education Sciences (IES)
- Youth Endowment Fund (YEF)
- Youth Futures Fund (YFF)
- Sutton Trust
- Save the Children
- Innovations for Poverty Action (IPA), and J-PAL

Additional search methods: Relevant trial registries (e.g., Cochrane, Campbell Collaboration, PROSPERO, ISRCTN) will also be examined to identify ongoing or recently completed studies. Reference lists of all included studies and existing systematic reviews will be screened for additional relevant publications. Subject-matter experts, practitioners, and relevant organisations or universities will be contacted to identify unpublished or in-progress evaluations that meet the review criteria.

All identified records will be imported into EPPI Reviewer (Thomas et al., 2023), which will be used to manage references, remove duplicates, and support the screening and prioritisation process. This review will focus exclusively on quantitative research, including randomised controlled trials, quasi-experimental studies, and controlled before-and-after studies. Qualitative research, while potentially informative for context, will not be

included in the review. The search strategy will be documented in detail, including search strings and dates, to ensure replicability and transparency.

Search terms will be systematically developed by combining keywords across three key domains: Search strings will be iteratively refined and tested against benchmark studies (Annexure 1) to ensure both sensitivity and specificity, thereby maximizing the accuracy and efficiency of the search strategy. Full search strategies are provided in Annexure 2.

Selection of studies

A standardised screening tool incorporating the inclusion and exclusion criteria will be developed and implemented within EPPI Reviewer (Annexure 3). The screening tool will be piloted against a sample of studies to ensure that the criteria are applied consistently and that reviewers share a common understanding of the eligibility requirements. Following piloting, the screening process will be conducted in two stages: title and abstract screening, followed by full-text screening for studies identified as potentially relevant.

Electronic records identified through the search strategy will be imported into EPPI Reviewer. Titles and abstracts will be screened independently by two reviewers using the piloted screening tool. Any disagreements regarding study eligibility will be resolved through discussion and consensus between the reviewers. Where consensus cannot be reached, a third reviewer will adjudicate and make the final decision. Studies considered potentially eligible at the title and abstract stage will proceed to full-text screening. The full texts of these studies will be obtained and assessed independently by two reviewers against the inclusion criteria. For studies excluded at the full-text stage, the primary reason for exclusion will be recorded and documented.

In addition, this review will evaluate the use of Large Language Model (LLM) tools integrated within EPPI Reviewer to support the screening process at the title and abstract stage. This will be conducted by an EPPI Centre methodologist and Education subject expert. Once at least 300 items have been screened by two reviewers and reconciled, the items will be divided using stratified random sampling into three groups (10:20:70). A prompt will be developed based on the inclusion/exclusion criteria and applied to the first 10% using OpenAI GPT-4.1. The LLM decision will be compared to the human decision, with any discrepancies used to refine the prompt. Iterations of the prompt will continue using the first 10% until recall of at least 95% has been achieved. That prompt will then be used on the 20% group to validate its efficacy. Should the prompt continue to achieve 95% recall, it will then be used on the remaining 70% of human screened data as a final evaluation. If the results achieve 95% recall or above, the prompt will then be deployed on the remaining items to be screened on title and abstract, with no human screening used. To ensure that no items have erroneously been excluded by the LLM, the ‘Check Screening’ function will be used in EPPI Reviewer. This uses machine learning to identify the similarity between any items given an ‘exclude’ code and those given an ‘include’ code, and therefore the likelihood that they should have been an include.

Once studies are identified for full-text screening, the integrated Zotero plug-in within EPPI Reviewer will be used to retrieve PDFs, with any remaining full texts obtained through manual searching or by contacting study authors where necessary. The full-text screening process will first be piloted on a blinded sample of 100 items, during which reviewers will independently apply the screening tool to assess consistency in the interpretation of eligibility criteria. This pilot phase will also allow the review team to refine the screening tool and clarify eligibility definitions where required. Inter-rater agreement will be assessed during the pilot (e.g., using Fleiss’ kappa) to inform consistency of application. Following piloting, full-text screening will be conducted in duplicate by two independent reviewers, with any disagreements resolved through discussion or, where necessary, adjudication by a third reviewer acting as arbitrator. Outputs generated by the LLM will therefore be checked and validated by human reviewers, and the final inclusion or exclusion of studies will be determined by humans

The study selection process will be reported transparently in accordance with Campbell reporting standards for EGMs. This will include the presentation of a PRISMA flow diagram summarising the number of records identified,

screened, excluded, and included at each stage of the review, along with documentation of the reasons for exclusion at the full-text stage.

Data extraction and management

Information from included studies will be extracted using a structured data extraction form developed in EPPI Reviewer and aligned with the EGM framework (Annexure 4). Prior to full-scale data extraction, the form and corresponding coding framework will be piloted on a random subsample of included studies to test the clarity, feasibility, and consistency of variable definitions and coding categories. Following pilot testing, the framework and extraction tool will be iteratively refined and modified as required to resolve ambiguities, standardise coding rules, and address inconsistencies identified during piloting.

Data from each included study will be extracted independently by two reviewers to ensure accuracy and consistency. Any discrepancies between reviewers will be resolved through discussion and consensus. Where disagreements cannot be resolved through discussion, a third reviewer will adjudicate. The use of duplicate data extraction is intended to minimise errors and ensure the reliability of the extracted information.

The extracted information will include key descriptive and methodological characteristics of each study. Specifically, data extraction will capture: author(s), year of publication, country and region of study, study design, participant characteristics, intervention category and sub-category, outcome domain and sub-domain, and the implementation context. Additional study-level characteristics such as the target population (e.g., learner group), and whether the study is completed or ongoing will also be recorded where available. These variables will enable studies to be systematically mapped across intervention and outcome domains within the EGM framework.

To support the efficiency of the data extraction process, the review will also evaluate the use of Large Language Model (LLM) tools integrated within EPPI Reviewer. These tools allow reviewers to interrogate study texts directly within the EPPI Reviewer interface and automatically extract specified information from titles, abstracts, or full-text documents. LLM prompts will be developed for individual codes, designed to identify relevant study characteristics, such as population details, intervention descriptions, and outcome measures. For example:

```
participants_from_Australia: boolean // return true if participants were located in Australia
```

The use of LLM tools will be implemented on an evaluation basis to support the extraction process, and all outputs generated by the model will be reviewed and verified by human reviewers before being incorporated into the dataset. Automated extraction will therefore assist reviewers in identifying relevant information, but final data extraction decisions will remain the responsibility of the review team.

The extracted information will be used to populate the EGM database and enable studies to be categorised according to the intervention and outcome framework. This structured dataset will subsequently be used to produce the final Evidence and Gap Map, allowing users to explore the distribution of evidence across intervention types, outcome domains, and study characteristics.

Appraisal of included studies

Confidence in the evidence will be assessed using an approach developed by the Campbell South Asia for Evidence and Gap Maps, which evaluates key aspects of study design, conduct, and reporting. This assessment considers factors such as the type of study design, clarity of the evaluation question, description of the intervention and outcomes, sample size, attrition, and the quality of outcome measurement (see Annexure 5).

Studies assessed as being of high confidence are expected to incorporate methodological features that support reliable estimation of intervention effects. The confidence assessment will be used to categorise the strength of evidence represented in the EGM, enabling users to interpret the reliability of the available studies. Importantly,

studies will not be excluded from the map on the basis of quality; rather, the confidence rating will serve as an informative filter to help users identify areas where the evidence base is stronger or weaker.

Systematic reviews will be independently evaluated using the AMSTAR 2 critical appraisal checklist, a validated 16-item tool designed to assess methodological rigor and risk of bias for systematic reviews with or without meta-analysis. Ratings will be categorised as high, moderate, low, or critically low confidence based on compliance with core methodological standards covering search comprehensiveness, eligibility criteria specification, risk-of-bias assessment of included primary research, and appropriate synthesis methods.

Data synthesis

Dependency

A single study may be reported across multiple publications or reports using the same dataset and methodology. Bibliographic information will be recorded at the document (paper/report) level in EPPI-Reviewer, with each publication entered as a separate record and coded independently. Where multiple publications report findings from the same underlying study, these records will be linked and assigned a shared study identifier to enable aggregation at the study level in the EGM.

Identification of linked publications will be undertaken using a combination of bibliographic matching (e.g., author names, datasets, sample characteristics, intervention details, and outcome measures), manual review, and structured coding within EPPI-Reviewer. Where appropriate, automated or semi-automated tools, including AI-supported similarity checking where available, may be used to assist in identifying related publications. All grouping decisions will be checked and validated by the review team to ensure consistency and avoid double counting of evidence.

Where a single study evaluates multiple interventions, each intervention will be coded separately within the framework to ensure full representation across intervention categories. Conversely, where multiple studies evaluate the same intervention type, each study will be coded independently to reflect the distribution of the evidence base.

To address current technical constraints in EPPI-Reviewer, which does not support automated merging of multiple records into a single study entry, a structured manual grouping process will be applied. This will include:

- Pre-extraction identification: Two reviewers will independently identify potential duplicate publications during full-text screening by comparing author details, study design, sample characteristics, data collection period, and outcome measures. Discrepancies will be resolved through discussion or adjudication by a third reviewer where necessary.
- Study linkage coding: A dedicated coding field (“Linked publications – single underlying study”) will be used to assign a common identifier to all publications arising from the same study.
- Post-export aggregation: Following data export from EPPI-Reviewer, records sharing the same study identifier will be aggregated in Excel or EPPI-Mapper to produce a single study-level entry for the final EGM, ensuring that evidence is not double-counted.

Planned Analyses

The analysis will primarily consist of descriptive statistics to examine the distribution of studies across the key dimensions of the EGM framework. This will include analysing the overall evidence base according to intervention categories, outcome domains, study design, population characteristics, and geographic context.

Where appropriate, subgroup analyses will be conducted to explore variation in the distribution of evidence across selected variables. These may include differences by region, study design, publication year, intervention type, or target learner population. Such analyses will help identify areas where evidence is concentrated as well as areas where important evidence gaps remain.

To ensure full methodological clarity and alignment with the review's research aims, the analytical approach corresponding to each research question is specified below:

RQ1: What evidence exists on interventions to improve educational and training outcomes for 16–19-year-old?

Analysis will quantify the overall volume and distribution of available evidence, prioritising results relevant to the core 16–19 learner cohort captured via our pragmatic 16–25 search scope. This includes total study counts, publication trends over time, and the balance of peer-reviewed versus grey literature, to establish the overall landscape of existing intervention research applicable to 16–19 young people.

RQ2: What categories of intervention are most widely studied within the post-16 education context?

Analysis will apply frequency tabulation across the EGM's intervention pathway taxonomy (integrated teaching and learning, practitioner professional development, progression and retention support, family and community engagement, and systemic/organisational enabling interventions) to map the prevalence and distribution of distinct intervention types and identify dominant and understudied intervention approaches.

RQ3: What educational, personal, and systemic outcomes have been evaluated within existing intervention research?

Descriptive cross-tabulation will be used to examine the distribution of measured outcome domains across included studies, detailing which learner-level, institutional, and systemic outcomes are most commonly evaluated and highlighting outcome areas with limited empirical investigation.

RQ4: How is existing evidence distributed across different post-16 learning settings (colleges, vocational provision, workplace learning)?

Setting-specific subgroup analysis will compare evidence volume and intervention distribution across different post-16 learning environments, clarifying the extent of empirical coverage for college-based, vocational, and workplace-based learning contexts.

RQ5: How is evidence distributed across disadvantaged and vulnerable learner subgroups?

Stratified subgroup analysis will map the proportion of studies targeting socioeconomically disadvantaged learners and vulnerable learner groups (e.g., care leavers, learners with special educational needs), identifying gaps in equity-focused intervention evidence for marginalised post-16 populations.

RQ6: What methodological characteristics define the current evidence base?

Analyses will summarise the distribution of study designs, sample sizes, evaluation rigour, and analytical approaches across the included corpus, to characterise the methodological strength and limitations of the existing evidence landscape.

Presentation of the Evidence and Gap Map

The findings will be presented through an interactive Evidence and Gap Map (EGM). In the primary version of the map, intervention categories and subcategories will form the rows, while outcome domains and subdomains will form the columns. Each cell of the matrix will represent the number of studies evaluating a specific intervention–outcome relationship.

The map will also include a range of filters to allow users to explore the evidence according to additional study characteristics. These filters may include study design, geographic region, population group, and publication status (completed or ongoing studies).

The EGM will be generated using EPPI-Mapper, a specialised application developed for Evidence and Gap Maps that uses data exported from EPPI-Reviewer. EPPI-Mapper allows the coded variables to be used flexibly as row and column headings, enabling alternative visualisations of the evidence base. For example, additional maps may present the distribution of evidence by region, study design, or other relevant characteristics, allowing users to explore the data from different perspectives and identify potential geographic or methodological gaps.

In addition to the visual representation of the map, the results of the review will be summarised using narrative descriptions and summary tables. These will highlight key patterns in the evidence base, including areas where research is concentrated and areas where further research is needed. The narrative descriptive analysis will centre on insights relevant to the core 16–19 education cohort with supplementary context drawn from studies captured via the pragmatic 16–25 search scope and discuss the policy, practice and future research implications of interventions targeting this age group

Together, the interactive EGM and accompanying narrative descriptive analysis will provide a comprehensive overview of the existing evidence and research gaps relating to interventions designed to improve outcomes for learners in post-16 education.

Stakeholder Engagement

To ensure that principles of equality, diversity, inclusion, and equity (EDIE) are reflected throughout the review process, including the design, analysis, interpretation, and dissemination of findings, stakeholder engagement has been incorporated from the outset of the project.

An external Advisory Group comprising researchers, policy experts, and practitioners with expertise in education, vocational education and training (VET), post-16 transitions, and evidence synthesis was convened to inform the development of the review. Prior to the first advisory meeting, members were provided with draft versions of the intervention framework, outcome framework, and review scope and were invited to provide written feedback. Sufficient time was allowed for members to review these materials and provide comments in advance of discussion.

The first Advisory Group meeting was held in May 2025 and focused on reviewing and refining the proposed scope of the review, intervention and outcome frameworks, target populations, and key methodological considerations. Feedback from advisory members informed revisions to the protocol, including refinement of intervention categories, clarification of the review scope, consideration of policy-level interventions, and strengthening of EDIE and applicability considerations. Following the meeting, additional written feedback from members was incorporated into the final protocol and EGM framework.

The Advisory Group will continue to provide guidance throughout the project. Members will contribute by:

- Identifying relevant studies and resources, including grey literature and key organisations.
- Advising on the relevance and applicability of evidence to the English post-16 education context.
- Providing feedback on project outputs, including the EGM and final report.
- Supporting interpretation of findings, particularly the policy and practice implications.
- Advising on dissemination strategies to ensure findings reach relevant stakeholders.
- Providing input on EDIE considerations, including the representation of diverse groups and outcomes.
- Highlighting emerging policy, practice, and research developments relevant to the review.

A minimum of two Advisory Group meetings will be held during the project. The first meeting has already taken place and informed the finalisation of the review scope, intervention and outcome frameworks, and protocol. A second meeting will be convened following completion of the evidence mapping stage to discuss emerging findings, evidence gaps, and implications for policy, practice, and future research. Additional consultations may be undertaken as required to support interpretation and dissemination of findings.

Advisory Group Members

- Steve Higgins – Durham University
- Nadia Siddiqui – Durham University
- Louise Gascoine – Durham University
- Leonor Rodriguez – University of Edinburgh
- Brian Reichow – University of Potsdam
- Chris Goulden – Youth Futures Foundation
- Sarah Miller – Queen's University Belfast
- Ciara Keenan – National Children's Bureau
- Seaneen Sloan – University College Dublin
- James Robson – Oxford University Centre for Skills, Knowledge and Organisational Performance (SKOPE)

Timeline

	Feb				March				April				May				June				July				August				September				October			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Start-up – Grant signing Consultation with foundation on framework, inclusion and exclusion criteria																																				
Protocol development and final protocol submission																																				
Search- Database and Grey																																				
Screening																																				
Coding																																				
Draft report																																				
Final report																																				

Team

Team members	Designation	Roles
Suchi Kapoor Malhotra	Director Research, CSA / Senior Fellow, GDN	Technical Lead/Manager
Ashrita Saran	Director, Evaluation and Evidence Synthesis at the Global Development Network (GDN)	Quality assurance lead
Prof Howard White	Senior Research Associate, REC	Advisor
Melissa Bond	Research Fellow at the EPPI Centre	Subject expert
Liping Guo	Senior researcher, Center for Evidence-based Social Science, Lanzhou University	Senior Research Assistant
Varsha Nair	Research Assistant, Campbell South Asia	Research Assistant
Sarah Young	Principal Librarian, Carnegie Mellon University Libraries	Information Specialist

Conflicts of interest

The author(s) declare that there are no conflicts of interest.

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Annextures

Annexure 1: Benchmarking studies

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Annexure 2: Search strategies

Search Strategy Drafting

Database Platform: Web of Science (Social Science Citation Index (SSCI, 1900-present), Science Citation Index Expanded (SCI-Expanded, 1900-present), Emerging Sources Citation Index (ESCI, 2005-present),)

1 16-25 year olds	TS=(((16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25) NEAR/0 ("years old" OR "years of age" OR "year olds")) OR teen* OR adolescent* OR adolescence OR "young adult*" OR ((secondary OR high*) NEAR/1 (school* OR education)) OR "highschool*" OR "pre-college" OR college* OR "post-secondary" OR postsecondary OR "higher learning" OR "degree program*" OR "academic institution*" OR "first generation student*" OR "first time student*" OR "four-year institution*" OR "4 year institution*" OR "two-year institution*" OR "2-year institution*" OR "post-high-school*" OR "post-compulsory education" OR "institution* of higher learning" OR polytechnic* OR (("last-chance" OR remedial OR vocational OR environmental OR alternative OR special OR home OR selective OR online OR blended OR residential OR reform* OR boarding OR therapeutic OR forest OR "arts-based" OR "experiential learning" OR "project-based" OR outdoor OR charter OR montessori OR waldorf OR sudbury) NEAR/0 (school* OR education)) OR youthreach OR homeschool* OR schome OR "life centre*" OR "centre* of learning" OR "center* of learning" OR "life center*" OR "line project*" OR "project school*" OR "community training centre*" OR "community training center*" OR "career academ*")
2 Teaching and Learning Strategies	TS=(((educat* OR curricul* OR pedagog* OR teach* OR instruct* OR classroom*) NEAR/2 (method* OR approach* OR improv* OR develop* OR reform* OR design* OR change* OR strateg* OR literacy OR literacies OR numeracy OR reading OR writing OR "GCSE English" OR "maths resit" OR "GCSE Maths" OR "English resit" OR personal* OR individualized OR individualised OR tailored OR "small group*" OR "one-on-one" OR "one-to-one" OR differentiated)) OR ((educat* OR teach* OR academ* OR schol* OR school* OR pedagog* OR classroom*) NEAR/2 (electric* OR computer* OR PC OR laptop* OR internet OR tech* OR ipad* OR tablet* OR notebook* OR technolog* OR "artificial intelligence")) OR "ed-tech" OR "educational technology" OR "digital learning" OR "e-learning" OR "blended learning" OR "online learning" OR "computer-assisted instruction" OR "self-monitoring" OR "self monitoring" OR "study skills" OR "learning strategies" OR "learning strategy" OR "AI-embedded learning" OR "AI-based learning" OR "adaptive learning" OR "personalised learning" OR ((peer* OR reciprocal OR "cross-age") NEAR/2 (tutor* OR learn* OR teach* OR assess*)) OR (("same-age" OR "same age") NEAR/2 (tutor* OR learn* OR teach* OR assess*)) OR "formative assessment*" OR "one-to-one tuition" OR ((collaborat* OR cooperat* OR "group-based") NEAR/1 (learn*)) OR ((remedial) NEAR/1 (instruction OR training OR education)) OR ((feedback NEAR/1 (strateg* OR written OR "in writing" OR verbal* OR peer*)) OR ((learner* OR student*) NEAR/2 ("self-regulat*" OR "social-emotional" OR "socio-emotional" OR socioemotional OR "personal development" OR social OR emotional OR "meta-cogniti*" OR metacogniti*)) OR ((learner* OR student*) NEAR/2 (relationship* OR engagement OR confiden* OR resilien* OR aspiration* OR interpersonal)) OR "social and emotional learning" OR mentor* OR mentee* OR ementor* OR "e-mentor*" OR protege* OR ((life OR personal) NEAR/2 (coach*)) OR ((peer* OR "faculty-led" OR "staff-led") NEAR/2 (support* OR guide* OR guidance OR assist* OR coach*)) OR ((mental* OR psychological* OR emotional OR stress) NEAR/1 (support* OR program* OR service* OR health OR intervention*)) OR ((learner* OR student*) NEAR/2 ("well-being" OR wellness OR enrichment OR "personal character" OR "character development" OR "life skill*")) OR "field trip*" OR "arts participation" OR "aspirational intervention*" OR "enrichment activit*" OR excursion* OR "educational visit*" OR "museum visit*" OR "co-curricular" OR "co-curriculum" OR "cultural participation")

3 Practitioner Professional Development	TS=(((teacher* or schoolteacher* OR "school teacher*" OR tutor OR tutors OR educator* OR ((educat* OR teach* OR academ* OR schol* OR school* OR pedagog*) NEAR/3 (staff OR personnel))) NEAR/3 (train* OR "continuing education*" OR mentor* OR workshop* OR coach* OR course* OR upskill* OR "peer learning" OR "professional development" OR performance OR incentiv* OR "professional learning communit*" OR "community of practice" OR "professional education" OR "in-service" OR inservice OR "communities of practice" OR "continuing development" OR "continuing learning")) OR ((teacher*) NEAR/1 (competenc* OR improvement*)) OR (("continuing education*" OR "professional development" OR "professional learning" OR "professional education" OR "continuing development" OR "continuing learning") NEAR/3 (digital* OR "artificial intelligence" OR AI) NEAR/3 (personali*)))
4 Progression and Retention Support	TS=("school complet*" OR GED OR "general education development" OR "high school diploma*" OR "alternative high school*" OR "alternative education" OR "flexible education" OR ((student* OR school*) NEAR/1 (retain* OR retention)) OR (("drop* out" OR dropout*) NEAR/2 (school* OR highschool*)) OR "career academ*" OR "accelerated education" OR (school NEAR/0 absen*) OR (chronic* NEAR/0 absen*) OR "school enrollment" OR "high school equivalency" OR "school failure" OR "high school reform*" OR "educational attainment" OR "grade promotion" OR "grade retention" OR "school nonattendance" OR "graduation rate*" OR "school refusal" OR truancy OR "safe learning space*" OR "educational counseling" OR "educational counselling" OR "transition support" OR ((vocation* OR career* OR job or jobs or occupation* or work OR skill*) NEAR/2 (train* OR learn*)) OR "job counselling" OR "employment counselling" OR "job counseling" OR "employment counseling" OR "matching program*" OR "vocational guidance" OR "work skill*" OR "vocational skill*" OR "job skill*" OR "career skill*" OR "vocational development" OR "technical training" OR "technical education" OR "practical education" OR "training course*" OR "educational course*" OR "career education*" OR "practical skill*" OR "soft skill*" OR TVET OR "Technical and vocational education and training" OR apprenticeship* OR internship* OR ((business OR entrepreneur*) NEAR/4 (training* OR workshop* OR mentor* OR support)))
5 Family and Community Engagement	TS=("parent-teacher partnership*" OR ((communit* OR civil* OR citizen* OR local*) NEAR/3 (empower* OR accountab* OR transparen*) NEAR/3 (educat* OR school*)) OR (((parent* OR family OR familial OR community) NEAR/3 (particip* OR engage* OR support*)) AND (student* OR educat* OR school*)) OR (((community OR parent*) NEAR/3 (association OR board* OR council* OR committee* OR governance)) NEAR/3 (educat* OR teach* OR academ* OR schol* OR school* OR pedagog*)))

6 Systems, Organization and Funding	TS=(((((financial* OR monetary) NEAR/1 (aid OR gift OR grant OR assist* OR benefit* OR help*)) OR subsidy OR subsidi* OR stipend* OR subvention* OR donation OR ((fee* OR tuition) NEAR/3 (reduc* OR abolish* OR abolition* OR stop* OR eliminat* OR waiv*)) OR "tuition tax credit" OR "fee free" OR "non-fee paying" OR "merit aid" OR "merit-based aid" OR "merit award" OR "conditional cash transfer*") AND (educat* OR teach* OR academ* OR schol* OR school* OR tuition)) OR scholarship* OR bursary OR bursaries OR "tuition relief" OR (uniform* NEAR/1 (school OR student*)) OR ((voucher* OR credit*) NEAR/3 (education* OR school*)) OR "school aid" OR ((financ* OR aid OR provide* OR provision OR free) NEAR/2 ("school material*" OR textbook* OR "text book*")) OR ((transport* OR bus*) NEAR/2 (school* OR student* OR pupil*)) OR ("schoolbased-management" OR "school based management" OR "school-based budgeting" OR "collaborative school management" OR "shared school governance" OR ((school*) NEAR/2 (inspection OR accountability OR oversight OR transparen* OR monitor* OR audit OR assessment* OR "report card*" OR scorecard OR "score card" OR quality OR govern* OR leadership OR policy OR policies OR reform*) OR (("class size" NEAR/3 (reduc* OR small*)) OR (class NEAR/3 size) OR ((student* OR pupil*) NEAR/3 number*) OR ((ratio NEAR/3 teacher*) NEAR/3 (student* OR pupil*)) OR "school size") OR ((lesson* OR learn* OR educat* OR teach* OR class* OR pedagog* OR instruct* OR "school term*" OR "school day*" OR "school week") NEAR/3 (hours OR time* OR timing* OR length OR duration OR flexible)))))
7	#2 OR #3 OR #4 OR #5 OR #6
8 Causal studies (RCT, quasi-experimental, etc.)	TS=(((experiment*) NEAR/2 (design or study or evaluation)) or ((random or randomi?ed or randomly) NEAR/2 (trial or assign* or treatment or control* or allocat* or experiment*)) OR ((impact* or effect*) NEAR/2 (evaluat* or assessment)) OR ((match*) NEAR/2 (propensity or coarsened or covariate or neighbor)) or "propensity score" or "difference* in difference*" or "difference-in-difference*" or "differences-in-difference*" or "double difference*" or quasi-experiment* or "quasi experiment*" or (estimator and evaluat*) or "instrumental variable*" or ((IV) NEAR/2 (estimation or approach)) or ((Heckman) NEAR/3 (model* or approach*)) or ((two-stage or "two stage") NEAR/3 (control* or function* or "least squares")) or "regression discontinuity" or "synthetic control*" or "time series" or counterfactual or "segment* regression" or (non NEAR/2 participant*) or ((control or comparison) NEAR/2 (group* or condition* or area* or village* or household* or intervention* OR farm*)))
9 Systematic reviews	TS=("systematic review" OR "systematic literature review" OR metaanalysis OR "meta-analysis" OR "evidence synthesis" OR "evidence and gap map" OR "evidence gap map")
10	#8 OR #9
11	#1 AND #7 AND #10

12	TS=(afghanistan or albania* or algeria* or "american samoa*" or angola* or "antigua and barbuda" or antigua* or barbuda* or argentin* or armenia or armenian or aruba or azerbaijan* or bahrain or bangladesh or barbados or belarus or byelarus or belorussia or byelorussian or belize or "british honduras" or benin or dahomey or bhutan or bolivia or "bosnia and herzegovina" or bosnia or herzegovina or botswana or bechuanaland or brazil* or brasil* or bulgaria* or "burkina faso" or "burkina fasso" or "upper volta" or burundi or urundi or "cabo verde" or "cape verde" or cambodia or kampuchea or "khmer republic" or cameroon or cameron or cameroun or "central african republic" or "ubangi shari" or chad or chile or china or colombia or comoros or "comoro islands" or "iles comores" or mayotte or "democratic republic of the congo" or "democratic republic congo" or congo or zaire or "costa rica" or "cote d'ivoire" or "cote d' ivoire" or "cote divoire" or "cote d ivoire" or "ivory coast" or croatia or cuba or cyprus or czech or czechoslovakia or djibouti or "french somaliland" or dominica or dominican or ecuador* or egypt or "united arab republic" or "el salvador" or "equatorial guinea" or "spanish guinea" or eritrea or estonia or eswatini or swaziland or ethiopia or fiji or gabon or gabonese or gambia or "georgia republic" or georgian or ghana or "gold coast" or gibraltar or greece or grenada or guam or guatemala or guinea or "guinea bissau" or guyana or "british guiana" or haiti or hispaniola or honduras or hungary or india or indonesia or timor or iran or iraq or "isle of man" or jamaica or jordan or kazakhstan or kazakh or kenya or korea or kosovo or kyrgyzstan or kirghizia or kirgizstan or "kyrgyz republic" or kirghiz or laos or "lao pdr" or "lao people's democratic republic" or latvia or lebanon or "lebanese republic" or lesotho or basutoland or liberia or libya or lithuania or macau or macao or "macedonia republic" or macedonia or madagascar or "malagasy republic" or malawi or nyasaland or malaysia or "malay federation" or "malaya federation" or maldives or "indian ocean islands" or "indian ocean" or mali or malta or micronesia or "federated states of micronesia" or kiribati or "marshall islands" or nauru or "northern mariana islands" or palau or tuvalu or mauritania or mauritius or mexico or moldova or moldovian or mongolia or montenegro or morocco or ifni or mozambique or "portuguese east africa" or myanmar or burma or namibia or nepal or "netherlands antilles" or nicaragua or niger or nigeria or oman or muscat or pakistan or panama or "papua new guinea" or "new guinea" or paraguay or peru or philippines or philipines or phillipines or phillippines or poland or "polish people's republic" or portugal or "portuguese republic" or "puerto rico" or romania or russia or "russian federation" or ussr or "soviet union" or "union of soviet socialist republics" or rwanda or ruanda or samoa or "pacific islands" or polynesia or "samoan islands" or "navigator island" or "navigator islands" or "sao tome and principe" or "saudi arabia" or senegal or serbia or seychelles or "sierra leone" or slovakia or "slovak republic" or slovenia or melanesia or "solomon island" or "solomon islands" or "norfolk island" or "norfolk islands" or somalia or "south africa" or "south sudan" or "sri lanka" or ceylon or "saint kitts and nevis" or "st. kitts and nevis" or "saint lucia" or "st. lucia" or "saint vincent and the grenadines" or "saint vincent" or "st. vincent" or grenadines or sudan or suriname or surinam or "dutch guiana" or "netherlands guiana" or syria or "syrian arab republic" or tajikistan or tadjikistan or tadzhikistan or tadzhik or tanzania or tanganyika or thailand or siam or "timor leste" or "east timor" or togo or "togolese republic" or tonga or "trinidad and tobago" or trinidad or tobago or tunisia or turkey or turkmenistan or turkmen or uganda or ukraine or uruguay or uzbekistan or uzbek or vanuatu or "new hebrides" or venezuela or vietnam or "viet nam" or "middle east" or "west bank" or gaza or palestine or yemen or yugoslavia or zambia or zimbabwe or "northern rhodesia" or "global south" or "africa south of the sahara" or "sub-saharan africa" or "subsaharan africa" or "africa, central" or "central africa" or "africa, northern" or "north africa" or "northern africa" or magreb or maghrib or sahara or "africa, southern" or "southern africa" or "africa, eastern" or "east africa" or "eastern africa" or "africa, western" or "west africa" or "western africa" or "west indies" or "indian ocean islands" or caribbean or "central america" or "latin america" or "south and central america" or "south america" or "asia, central" or "central asia" or "asia, northern" or "north asia" or "northern asia" or "asia, southeastern" or "southeastern asia" or "south eastern asia" or "southeast asia" or "south east asia" or "asia, western" or "western asia" or "europe, eastern" or "east europe" or "eastern europe" or "developing country" or

	"developing world" or "less developed countr*" or "less developed nation*" or "less developed population*" or "less developed world" or "lesser developed countr*" or "lesser developed nation*" or "lesser developed population*" or "lesser developed world" or "under developed countr*" or "under developed nation*" or "under developed population*" or "under developed world" or "underdeveloped countr*" or "underdeveloped nation*" or "underdeveloped population*" or "underdeveloped world" or "middle income countr*" or "middle income nation*" or "middle income population*" or "low income countr*" or "low income nation*" or "low income population*" or "lower income countr*" or "lower income nation*" or "lower income population*" or "underserved countr*" or "underserved nation*" or "underserved population*" or "underserved world" or "under served countr*" or "under served nation*" or "under served population*" or "under served world" or "deprived countr*" or "deprived nation*" or "deprived population*" or "deprived world" or "poor countr*" or "poor nation*" or "poor population*" or "poor world" or "poorer countr*" or "poorer nation*" or "poorer population*" or "poorer world" or "developing econom*" or "less developed econom*" or "lesser developed econom*" or "under developed econom*" or "underdeveloped econom*" or "middle income econom*" or "low income econom*" or "lower income econom*" or "low gdp" or "low gnp" or "low gross domestic" or "low gross national" or "lower gdp" or "lower gnp" or "lower gross domestic" or "lower gross national" or lmic or lmics or "third world" or "lami countr*" or "transitional countr*" or "emerging econom*" or "emerging nation*" OR afghan or afghani or albanian or algerian or "american samoan" or angolan or antiguan or barbudan or argentine or argentinian or argentinean or armenian or aruban or azerbaijani or bahraini or bangladeshi or bangalees or bajan or belarusian or byelorussian or belizean or beninese or bhutanese or bolivian or bosnian or botswana or batswana or brazilian or brasilian or bulgarian or burkinabe or burkinese or burundian or "cape verdean*" or "cabo verdean*" or cambodian or khmer or cameroonian or "central african*" or chadian or chilean or chinese or colombian or comorian or congolese or "costa rican*" or ivorian or croatian or cuban or cypriot or czech or djiboutian or ecuadorian or egyptian or salvadoran or "equatorial guinean*" or equatoguinean or eritrean or estonian or swazi or swati or ethiopian or fijian or gabonaise or gambian or georgian or ghanaian or gibraltarian or greek or grenadian or guamanian or guatemalan or guinean or "bissau guinean" or guyanese or haitian or honduran or hungarian or indian or indonesian or iranian or iraqian or iraqi or manx or jamaican or jordanian or kazakhstani or kenyan or kirabati or kirabatian or "north korean*" or korean or kosovar or kosovan or kyrgyz or lao or laotian or latvian or lebanese or lesothan or lesothonian or mosotho or basotho or liberian or libyan or lithuanian or macanese or macedonian or malagas or madagascan or malawian or malaysian or maldivian or malian or maltese or marshallese or mauritanian or mauritian or mexican or micronesian or moldovan or mongolian or mongol or moroccan or mozambican or burmese or myanma or namibian or nauruan or nepali or nepalese or "netherlands antillean*" or nicaraguan or nigerien or nigerian or "northern mariana islander*" or mariana or omani or pakistani or palauan or panamanian or "papua new guinean*" or paraguayan or peruvian or philippine or philipine or phillipine or phillippine or filipino or filipina or polish or pole or poles or portuguese or "puerto rican*" or romanian or russian or "soviet people" or "soviet population" or rwandan or rwandese or ruandan or ruandese or samoan or "sao tomean" or santomean or "saudi arabian*" or saudi or senegalese or serbian or montenegrin or seychellois or seychelloise or "sierra leonean*" or slovak or slovene or "solomon islander*" or somali or "south african*" or "south sudanese" or "sri lankan*" or ceylonese or kittitian or nevisian or "saint lucian*" or vincentian or sudanese or surinamese or syrian or tajik or tajikistani or tanzanian or tanganyikan or thai or timorese or togolese or tongan or trinidadian or tobagonian or tunisian or turk or turkish or turkmen or tuvaluan or ugandan or ukrainian or uruguayan or uzbek or vanuatu or venezuelan or vietnamese or yemeni or yemenite or yemenese or yugoslav or yugoslavian or zambian or zimbabwean or african or asian or "pacific islander*" or "latin american*" or "central american*" or "south american*" or caribbean or "west indian*" or "iberoamerican*" or "middle eastern*")

13	#11 NOT #12
14	2000-present
15	2010-present

Annexure 3: Screening Tool (Inclusion / Exclusion)

Q	Criteria	Response	Decision
A1	Language Is the study published in English?	No	Exclude
		Yes	Continue to A2
A2	Publication Date Was the study published in 2000 or later?	No	Exclude
		Yes	Continue to A3
A3	Population Does the study include learners aged 16–25 (post-16 education)? Note: at least 50% of participants fall within the 16–25 age range	No	Exclude
A3 (B)	Operational Guidance Sample + Qualification		
	16–19-year-olds in FE college studying A-levels (ISCED 3)	Yes	Continue to A4
	16–19-year-olds in FE college studying technical or vocational programmes (e.g., T Levels, BTECs, apprenticeships where relevant) ISCED 3–4 (depending on the qualification)	Yes	Continue to A4
	18–24-year-olds in vocational diploma programme ISCED 4–5	Yes	Continue to A4
	Mixed sample: 16–25-year-olds, 60% ISCED 5 and 40% ISCED 6	Yes, if ISCED 3–5 findings can be disaggregated	Continue to A4
	19–22-year-olds on bachelor's degree programme (ISCED 6)	No	Exclude
	Mixed sample: 16–25-year-olds, qualification level not separable	No	Exclude

Q	Criteria	Response	Decision
	Unclear (At TA screening stage)	Yes	Continue to A4
A4	Intervention Relevance Is the study about an intervention aimed at improving outcomes for 16–19 learners in at least one of the following categories? Teaching and learning strategies Practitioner professional development Learner personal development Progression and retention support Family and community engagement Systems, organisation and funding	No	Exclude
		Yes	Continue to A5
	Unclear (At TA screening stage)	Yes	Continue to A5
A5	Geographic Scope Was the study conducted in a high-income country (World Bank classification or OECD member)? Multi-country studies including low- or middle-income countries may be included only if high-income country findings are reported separately.	No	Exclude (unless HIC data separable)
		Yes	Continue to A6
	Unclear (At TA screening stage)	Yes	Continue to A6
A6	Study Design Does the study use an eligible causal or synthesis design? Randomised controlled trial (RCT) Quasi-experimental design (DiD, RDD, PSM, synthetic control, natural experiment) Controlled before-after study with a comparison group Systematic review / meta-analysis of eligible studies Exclude: before-and-after studies without a control or comparison group.	No	Exclude

Q	Criteria	Response	Decision
		Yes	Continue to A7
	Unclear (At TA screening stage)	Yes	Continue to A7
A7	Outcomes Does the study measure at least one eligible outcome? Core: Academic attainment; course progression and retention; vocational and technical outcomes Non-core: Non-cognitive skills and wellbeing; socio-economic outcomes / equity	No	Exclude
		Yes	Include
	Unclear (At TA screening stage)	Yes	Include for Full text Screening

Annexure 4: Coding framework

		Codes	Coding's
	Bibliographic Information		
	Year of publication		*Publication year (2000 onwards)*
	Study Status		*Completed / Ongoing*
	Publication type		*Journal article / Report / Working paper / Conference paper / Thesis*
	Country of study		*Country where the intervention was implemented*
	Population		*Learners aged 16–19* *16–17 / 18–19 / Mixed 16–19 / 19-25 / Wider age group (explicitly flag studies with >50% non-16–25 participants as ineligible)*
	Population		*Mean age*
	Gender composition		*Male / Female / Mixed / Not reported*
	Socioeconomic status		*Socioeconomically disadvantaged / Mixed / Not reported*
	Care leavers		*Reported (describe) / Not reported*
	Learners with special educational needs and disabilities (SEND)		*Reported (describe) / Not reported*
	Ethnic minority learners		*Reported (describe) / Not reported*
	English as an Additional Language (EAL)		*Reported (describe) / Not reported*
	Geographic scope		*High-income country per World Bank* *UK / Europe (non-UK high-income) / North America / Australia/New Zealand / East Asia (HIC only) / Mixed high-income countries*
	Unit of delivery		*Individual / Small group /Large group / Whole class / Setting-wide / System/policy level*
	Setting		*General (academic) upper secondary/ Vocational upper secondary/ General post-secondary non-tertiary / Vocational post-secondary non-tertiary / General short-cycle tertiary / Professional (vocational) short-cycle tertiary / Mixed / Other*
	Professionals Involved		*Teachers/lecturers / Teaching assistants / Careers advisors / Mentors/coaches / EdTech providers / School leaders / External trainers / Multi-professional teams / Tutors / Practitioners / Support Staff /*

		Codes	Coding's
			Technicians Programme Leaders / Course Leader / Trainers / Instructors / Expert Teachers / Advanced Practitioners / Not specified
	Study Methods		*Experimental design* *Quasi-Experimental Design* *Systematic review or meta-analysis*
	Study design		• *RCT* • Difference-in-differences designs, • Regression discontinuity, • Propensity score matching. • *Interrupted Time Series (ITS)* • ***Instrumental Variables (IV)*** • *Systematic review or meta-analysis*
	Intervention Coding		
	Teaching and Learning Strategies	*1.1*	Literacy and Numeracy Programmes
		1.2	*Formative assessment and feedback*
		1.3	*Differentiated instruction*
		1.4	*Curriculum design*
		1.5	*Mentoring programme*
		1.6	*Peer tutoring*
		1.7	*Small Group and One-to-One Tuition*
		1.8	*Metacognition and self-regulation*
		1.9	*Collaborative/cooperative learning*
		1.10	*Social and emotional learning (SEL)*
		1.11	*Mental health and wellbeing support*
		1.12	*Enrichment Activities*
	Practitioner Professional Development	*2.1*	*Subject-specific pedagogical training*
		2.2	*Generic / cross-curricular professional development*

		Codes	Coding's
		2.3	*EdTech and AI-based professional development*
		2.4	*Professional learning communities*
	Progression and Retention Support	*3.1*	*Attendance intervention*
		3.2	*Transition support*
		3.3	*Careers Education, Information, Advice and Guidance (CEIAG)*
		3.4	*Vocational skill development*
	Family and Community Engagement	*5.1*	*Parental engagement programmes*
		5.2	*Parent / community involvement in school management*
		5.3	*Community engagement programmes*
	Systems, Organisation and Funding	*6.1*	*Targeted funding*
		6.2	*Organisational reforms*
		6.3	*Policy support*
		6.4	*School-based programmes*
	Outcome Coding		
	Academic Attainment	*A1*	*Test scores (English)*
		A2	*Test scores (Maths)*
		A3	*Test scores (other subjects)*
		A4	*Coursework/assignment performance*
		A5	*GCSE resit attainment*
		A6	*A-level attainment*
		A7	*Vocational diploma attainment or C2*

		Codes	Coding's
		A8	*Other qualification completion or B2*
	Course Progression and Retention	*B1*	*Attendance rates*
		B2	*Course completion*
		B3	*Dropout/withdrawal rates*
		B4	*Progression to FE/HE*
		B5	*Progression to apprenticeship*
		B6	*Progression to employment*
	Vocational and Technical Outcomes	*C1*	*Technical skill acquisition*
		C2	*Vocational qualification attainment*
		C3	*Workplace readiness*
		C4	*Apprenticeship/internship completion*
		C5	*Work placement participation*
	Non-Cognitive Skills and Wellbeing	*D1*	*Motivation and engagement*
		D2	*Metacognition/self-regulation*
		D3	*Confidence and resilience*
		D4	*Social and emotional skills*
		D5	*Mental wellbeing*
	Socioeconomic/Equity Outcomes	*E1*	*Attainment gap reduction*
		E2	*Improved outcomes for FSM-eligible learners*
		E3	*Improved outcomes for SEND*
		E4	*Improved outcomes for marginalised ethnicity background*

		Codes	Coding's
		E5	*Improved outcomes for care leavers*
		E6	*Equity in progression/completion*
	Overall confidence rating		*High / Medium / Low*

Annexure 5: Critical Appraisal Tool

Item	Description	Key	Notes
Intervention	Is the intervention clearly named and described, including all relevant components?	High: full and clear description, so that the main components and how they are delivered are clear Medium: Partial description Low: Little or no description	
Evaluation questions	Are the evaluation questions clearly stated?	High: full and clear description, so that the main components and how they are delivered are clear Medium: Partial description Low: Little or no description	
Study design	Use the study design coding	High: Randomised study Medium: Non-randomised study (quasi-experiment) Low: single time-point before versus after	
Outcomes	Are the outcomes clearly defined? Where appropriate do they use an existing, validated measurement tool?	High: full and clear definition using validated instruments where available (a researcher wishing to use these outcomes would have sufficient information to do so) Medium: Partial definition. May use validated instruments but without sufficient references to source. Low: Little or no definition	

Item	Description	Key	Notes
Sample size (power calculation)	Do the authors report a power calculation as the basis for sample size?	High: Power calculation report and sample size meets necessary sample size Medium: Power calculation mentioned and sample size meets necessary sample size Low: No mention of power calculation.	
Attrition	Reported for endline and longest follow up. Calculate overall attrition and differential attrition (see example below). It is often necessary to calculate from table of results. If sample size varies by outcome calculate for highest attrition.	High: total attrition <20% and differential attrition <10 percentage points Medium: total attrition >20% or differential attrition >10 percentage points Low: total attrition >20% and differential attrition >10 percentage points	
Overall (including questions for all studies)	The overall score uses the weakest link in the chain principle i.e., is the lowest score on any item	High: High on all items Medium: No lower than medium on any item Low: At least one low	

Annexture 6: World Bank 2025-2026 High-Income Countries

World Bank 2025–2026 High-Income Countries Only	
Europe	Andorra, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom
Americas	Antigua and Barbuda, Bahamas, Barbados, Canada, Chile, Costa Rica, Grenada, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States, Uruguay
East Asia & Pacific	Australia, Brunei, Japan, New Zealand, Singapore, South Korea
Middle East	Bahrain, Israel, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates

World Bank 2025–2026 High-Income Countries Only	
Africa	Mauritius, Seychelles

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