

# Primary education

Last updated: (doc) 22/8/24

Last updated: (web) 17/9/24

<b>Overview</b>	<b>1</b>
<b>Headlines</b>	<b>2</b>
<b>Landscape &amp; contexts</b>	<b>4</b>
<b>Case studies</b>	<b>14</b>
<b>Future research questions and gaps</b>	<b>21</b>
<b>Relevant Institutions</b>	<b>22</b>
<b>Journals/publications</b>	<b>25</b>
<b>Data sources</b>	<b>27</b>



## Overview

This section provides resources for "making the case" for careers education, referring to both challenges that it can tackle and evidence that interventions produce positive outcomes.

Career learning in primary education is relatively less mature than secondary education. However, the interest in starting young people to think about the world of careers at an early age is many decades old. Over the last few years, UK researchers have started to implement and evaluate programmes in schools with the aims of starting to introduce young people to the idea of 'careers' from an early age.

Research has shown that limiting beliefs and stereotyping can be established at formative ages, particularly amongst disadvantaged or under-represented groups. Therefore, the aims of such interventions are often to create the foundations so that youngsters will look wider when thinking about careers in the years that follow.

## Headlines

The academic literature and many other publications have cited the importance of careers interventions at primary age. Amongst the common reasons that investment in careers education is important include:

There is a body of international evidence for strong relationships between skills developed in early childhood and later life outcomes ([Schoon et al, 2015](#))

Stereotypical and limiting views, usually related to gender, are attributed to learning in the first 5-6 years of life. (e.g. [Bian et al, 2017](#))

Increased career aspirations amongst primary school children can weaken the link between family poverty and externalising factors ([Flouri and Panourgia, 2012](#))

Parental influences on a child's career choices, despite good intent, can be biased and limiting (e.g. [Barnes et al, 2020](#))

There is an advantage of starting early, to build the skills and knowledge needed to succeed in life (e.g. [Magnusson 2001](#))

Early careers learning provides the ability to link with social and emotional learning, to derive beneficial synergies (e.g. [Howard and Ferrari, 2023](#))

In England, there are still considerable gaps in provision in developing a mature capability across schools with only 1 in 10 having a designated leader and 2 in 3 not targeting particular groups ([Davenport and Padwick, 2022](#))

Interest in skills that are in demand for society, particularly STEM, are most effectively initiated in earlier years (e.g. [DeWitt, 2015](#); [Caspi et al, 2023](#)).

There are a range of literature reviews and studies that demonstrate the positive impact of careers education, for example:

An international literature review shows that many benefits are gained from primary-level career learning, though the literature is not as well established as secondary education. There are also some enabling practices within schools, such as leadership, that support the quality of the support that is delivered ([Kashefpakdel, E., Rehill, J., and Hughes, D., 2018](#))

An excellent, comprehensive review and a national study was written by [Percy et al \(2021\)](#) showing international impacts of early years and primary careers education that include a) increased engagement in learning, b) social mobility enhancement and c) consideration of broader career options.

A major longitudinal study in Derbyshire found a series of very positive impacts on students by way of their curiosity, engagement, confidence and

learning, which can be achieved from a career learning programme ([Hughes, D and Hughes, R., 2022](#))

Interest can be increased in STEM education and careers, particularly amongst girls ([McMaster et al, 2023](#))

Education programmes at primary age can concurrently raise aspirations and improve educational progress ([Gordard et al, 2017](#)).

## Landscape & contexts

Selected publications, listed below, cover literature reviews and specific studies that help to make the case for careers investment by describing the context in which it operates, and reviewing literature to show the overall impact:

Publications tend to provide one or more of the following types of insight for practitioners, decision-makers or policy makers, denoted in the "Purpose" column below: U = Understanding users, needs and experiences, P = Practices and their evaluation, C = Supporting or informing the investment case for careers, E = Understanding enablers of success in systems, processes and workplaces, T= Developing and criticising theories and frameworks.

NB: We have generally tried to include resources that are free to access, but have included a few important studies that require payment. These are denoted by "(Paid)" next to the URL link in the title column.

Case studies are described in the section below this one, which reference particular studies [including ones where theory](#) has been applied to the design of a service, to generate particular outcomes.

Title	Type	Brief description	Location
Trice, A. D., Hughes, M. A., Odom, C., Woods, K., & McClellan, N. C. (1995). The origins of children's career aspirations: IV. Testing hypotheses from four theories. The Career Development Quarterly, 43(4), 307-322. <a href="#">(Link)</a> (Paid)	U C T	This was the fourth in a series of papers by US researchers that sought to gain a deep understanding of the formation of career aspirations in elementary level students. In this particular paper, a study of n=949 elementary students, mixed support was found for four theoretical positions concerning the role of childhood in career development. The paper were subsequently well referenced in studies of aspiration-formation, particularly in US based research.	US
Barnes, A. (1998). Career-Related Learning in Primary Schools. Report on a NICEC/CRAC Invitational	T	This publication represents the report from a consultation of n=29 primary school head teachers, advisers, trainers, and specialists in career- and work-related learning to discuss the role of career-related learning in primary schools in the United Kingdom. The paper resulted in a proposed framework for careers	UK

Policy Consultation (Cambridge, England, October 26-27, 1998). CRAC NICEC Conference Briefing. ( <a href="#">Link</a> )		education while key issues for curriculum planning and design were identified. An action agenda was developed that detailed actions for schools and local and national agencies in support of schools to take. The paper provides an indication of a milestone in careers education.	
McGowan, B. and Law, B. (2000). Exploring Career-Related Learning in Primary Schools. NICEC Briefing. ( <a href="#">Link</a> )	P	The paper provides context by describing practices in careers at the time of writing: "Career-related learning is already widespread in primary schools (although teachers do not usually refer to it in these terms)". The paper describes links between careers and the curriculum, case studies, a model of progression, and perceived gaps that could be addressed. The paper culminates with recommendations for the various actors in the system.	UK
Auger, R. W., Blackhurst, A. E., & Wahl, K. H. (2005). The development of elementary-aged children's career aspirations and expectations. Professional School Counseling, 322-329. ( <a href="#">Link</a> )(Paid)	U	This US study compared the different aspirations and ideas about careers between n=123 different aged-students at elementary level. "Older children desired careers that were more socially prestigious and less sex-typed compared to those of the younger children. The career thinking of older elementary-aged children was no more specific or realistic than that of younger children, with older children being more likely to aspire to fantasy occupations."	US
Holloway, S. L., & Pimlott-Wilson, H. (2011). The politics of aspiration: neo-liberal education policy, low parent aspirations, and primary school Extended Services in disadvantaged	U C T	The paper addresses the way that aspiration is created in a primary school environment, with the context for the study being primary schools under the New Labour government. The role of extended services is described. The authors discuss the ethical factors related to efforts in primary school to raise education, while also providing insight into the different perspectives of teachers, parents and children in the formation of aspiration..	UK

communities. Children's Geographies, 9(1), 79-94. ( <a href="#">Link</a> )			
Flouri, E., & Panourgia, C. (2012). Do primary school children's career aspirations matter? The relationship between family poverty, career aspirations and emotional and behavioural problems. Institute of Education. University of London ( <a href="#">Link</a> )	U C	The authors reported a study in the UK which used the UK's Millennium Cohort Study (MCS) to report on the relationship between student background and their career aspirations at age 7, and developed a statistical model. found that career aspirations were related to maternal qualifications but not family poverty or externalising problems, and were higher in girls. Family poverty was significantly associated with both externalising and internalising problems. Aspirations moderated the association between family poverty and externalising problems, such that the association between family poverty and externalising problems was weaker among children with higher career aspirations. The results therefore appeared to suggest that raising aspirations reduces childhood problems.	UK
Moulton, V., Flouri, E., Joshi, H., & Sullivan, A. (2015). Fantasy, unrealistic and uncertain aspirations and children's emotional and behavioural adjustment in primary school. Longitudinal and Lifecourse Studies, 6(1), 107-119. ( <a href="#">Link</a> )	U	The research provides a national survey and segmentation of primary school children into different types of aspiration they possess at aged 7. The authors "examined the aspirations expressed by 7-year-olds in association with their emotional and behavioural problems, based on data from 12,014 children in the UK's Millennium Cohort Study (MCS). We classified their written responses to the question 'when you grow up, what would you like to be' as aspirations for rare (34.7%) or non-rare (56.8%) occupations, fantasy aspirations (1.1%), aspirations for non-work related future states (2.3%), and uncertain aspirations (5.1%)." The study provides a useful typology of aspirations and discussion of their determinants.	UK
Welde, A. M., Bernes, K. B., Gunn, T. M., &	P C E	A teacher-training program was introduced in Southern Alberta, Canada, to enable intern teachers to	Canada

Ross, S. A. (2016). Career education at the elementary school level: Student and intern teacher perspectives. Journal of Career Development, 43(5), 426-446. ( <a href="#">Link</a> ) (Paid)		integrate career education projects into their mainstream elementary school courses. The researchers evaluated 25 career education projects and their corresponding 56 types of career education interventions that were implemented by intern teachers. A survey of n=555 students found that they benefited from engaging in a variety of developmentally appropriate learning experiences that allowed them to engage in self-exploration and identify potential careers of interest. Implications for future research and practice are provided.	
Howard, K. A., Castine, E., & Flanagan, S. (2017). Promising career and workforce development practices in elementary school settings. In The Handbook of Career and Workforce Development (pp. 163-179). Routledge.. ( <a href="#">Link</a> ) (Paid)	P C	The paper provides a review of the practices of career learning in US elementary schools. It describes two main models that are deployed. Outcome research is also reviewed, which shows the promise of the techniques used.	US
Chambers, N.,Kashefpakdel , E., Rehill, J. and Percy, C. (2018) Drawing the Future. Education & Employers ( <a href="#">Link</a> )	U C	This report represents the results of a collaboration between the charity Education and Employers, Tes, UCL Institute of Education (IOE), the National Association of Head Teachers (NAHT) and the Organisation for Economic Cooperation and Development Education and Skills(OECD). The study involved asking elementary pupils aged 7-11 to draw a picture of their ideal job. It gives insight into the level of development at this age, and the forming ideas that prove important for later choices in education and employment paths	England
Healy, K. (2019). Adolescents'	U	The aim of this research study is to explore adolescents' views on the	Ireland



views on the provision of guidance counselling in an Irish post primary school (Doctoral dissertation, University of Limerick). ( <a href="#">Link</a> )		provision of guidance counselling in an Irish rural post primary school. The study evaluates in the context of a wellbeing focussed programme. A mixed method approach was deployed. 60% of students had made an appointment with a counsellor and 40% had not. 52% expressed satisfaction and 22% expressed dissatisfaction. Participants exhibited that they had experienced a mix of reasons for finding guidance useful. More than 2 in 3 students wanted to see more frequent appointments provided.	
Hughes, D., Kashfepakdel, E. (2019). Innovation in Career-Related Learning: Starting Early in Primary Schools. In: Maree, J. (eds) Handbook of Innovative Career Counselling. Springer, Cham. ( <a href="#">Link</a> ) (Paid)	P C E T	This book chapter contains four separate parts to a study on career related learning in primary schools: a literature review, quantitative survey with n=17 schools in England, a survey of n=43 informants and implications analysis. The paper derives successful approaches and offers a theory of change for practice.	England
Kashfepakdel, E., Rehill, J., and Hughes, D. (2018), What works? Career related learning in primary schools. Education & Employers and The Careers Enterprise Company ( <a href="#">Link</a> )	P C E	The paper compiles the "limited robust" evidence on the career-related learning of primary aged children at the time. However, the combination of existing literature alongside new and emerging evidence from teachers and other leading experts, provides support for evidence led practice.	Internat'l
Kashfepakdel, E., Rehill, J. and Hughes, D. (2019). "Career-related learning in primary schools.	P C E	In May 2018 Teach First commissioned Education and Employers to undertake research into career-related learning in primary schools. It contributed with international benchmarks of 12 OECD countries and primary research to inform objectives, good and interesting	Internat'l

<p>The role of primary teachers and schools in preparing children for the future". Education and Employers, Teach First and AKO. (<a href="#">Link</a>)</p>		<p>provision and a taxonomy of teachers' roles for primary careers learning programmes.</p>	
<p>Cull, N., Collins, R., Austin, K., O'Shea, S., Groves, O., &amp; Lamanna, J. (2021). Explore your future: A career exploration and mentoring program for primary-school students. Australian Catholic University (<a href="#">Link</a>)</p>	<p>U P C E</p>	<p>This report provides a set of case studies into career exploration and mentoring, with a focus on students from lower socio-economic backgrounds. Outcomes achieved included students' increased engagement and interest in higher education, and the reduction of gender stereotypes in careers thinking.</p>	<p>Australia</p>
<p>Education and Employers and Primary Futures (2021), Scaling Up: Developing and extending career-related learning in primary schools (<a href="#">Link</a>)</p>	<p>E</p>	<p>Primary Futures is a programme that connects primary schools with volunteers from diverse backgrounds and jobs. It has been shown to produce gains in attitude to school and learning. The report describes An evaluation of the pilot to understand how the Primary Futures programme could be scaled up and the impact of interventions in primary schools.</p>	<p>England</p>
<p>Moore,N., Clark, L., Neary, S., &amp; Blake, H. (2021). 'Crucial impacts on career choices: Research to understand the influences on young people's choices in primary and secondary schools:</p>	<p>U E</p>	<p>Research is summarised from a study into the career decision making processes and influences of primary and secondary children from five countries in Europe. It shows similarities, with some differences that are attributed to the local social and economic conditions. The paper helps to show developmental stages, such as when career thinking begins to form (usually aged 12), that youngsters make decisions in different ways, and that many experience anxieties up to age 15.</p>	<p>Europe</p>

Executive summary'. Derby: University of Derby. ( <a href="#">Link</a> )			
Percy, C., Amegah, A., & Chambers, N. (2021). Starting early: Building the foundations for success. Education and Employers Research. ( <a href="#">Link</a> )	C E	This report makes the case for career-related learning in primary schools, based on new in-depth research, the testimony of some 1,000 teachers and 10,000 children, insights from sector leaders like the National Association of Head Teachers (NAHT), and a growing international research base on what works and why. Benefits of career learning were found in three clusters: 1) increased motivation, 2) increased social mobility, and 3) the fact students don't rule out options prematurely.	England
The Research Base (2021). Primary Fund Evaluation: Impact Report July 2021. London: The Careers & Enterprise Company. ( <a href="#">Link</a> )	C E	The evaluation study examined the impact of the Primary Fund, which was set up by the Department of Education to spread good careers learning practices across primary schools in England. The evaluation showed examples of positive results and feedback though detailed conclusions were made challenging by COVID.	England
Edmonds, J., Lewis, F., & Fogg-Rogers, L. (2022). Primary pathways: elementary pupils' aspiration to be engineers and STEM subject interest. International Journal of Science Education, Part B, 12(3), 221-234. ( <a href="#">Link</a> )	U	This mixed methods research provides some deeper insights into attitude formation. It draws from the "Children as Engineers project" which is researching aspirations to a career in engineering. and the links between these aspirations and attitudes to STEM subjects. It explores findings that suggest that there is little relationship between aspirations and positive attitudes to individual curriculum subjects. Pupils' out-of-school activities and the links to aspirations in engineering are also researched and discussed. The article discusses the pupils' rationales for these choices and the implications for intervention and informal engineering experiences that rely on a science and maths context for elementary school activities and for fostering interest in engineering.	England

<p>Hughes, D., &amp; Hughes, R. (2022). Career-related learning in Derbyshire and Nottinghamshire primary schools: Year 3 evaluation and impact report. Education and Employers (<a href="#">Link</a>)</p>	<p>P C E T</p>	<p>This paper describes an evaluation of careers work undertaken with Year 4 pupils in a primary school. In this school, a yearly careers week was held when structured activities were organized around talks about their work given by parents. The researcher found that 5 months after the careers work, the Year 4 pupils remembered much of significance. These findings are then related to a number of theories of career development which support such work early in pupils' careers. The paper concludes by outlining the benefits that careers work in the primary school offers</p>	<p>England</p>
<p>Outhwaite, D., Banham, J., &amp; Cummings, A. (2022). A Case Study of the Benefits of the Science Learning Partnerships in Early Years and Primary Education in England. Education Sciences. (<a href="#">Link</a>)</p>	<p>E</p>	<p>This paper looks at a career-related programme, rather than careers education directly, to increase engagement with STEM from the early years. It charts the recent history of the STEM Learning UK contracts with local Science Learning Partnerships (SLPs) and identifies the level of leadership support that has been made available to support the Early Years and Primary school sector.</p>	<p>England</p>
<p>Raynham, H., &amp; Jinks, G. (2022). Do teaching staff in primary schools perceive any impacts of school-based counselling on school engagement? British Journal of Guidance &amp; Counselling, 50(2), 230–247. (<a href="#">Link</a>)</p>	<p>U P C E</p>	<p>The paper evaluates the effect of career learning on primary students through the observations of n=186 teachers and teaching assistants. The research was conducted in Cambridgeshire. Perceived effects were significant on pupils' social engagement, emotional engagement and cognitive engagement.</p>	<p>England</p>
<p>Azad, A., (2023), Transforming early childhood education and</p>	<p>P C E</p>	<p>The paper provides a review of five countries that have undergone transformations to early childhood education, and the outcomes. The work</p>	<p>Intern't</p>

care: Sharing international learning, Report for the Fawcett Society ( <a href="#">Link</a> )		provides the context for careers learning and success factors for education.	
Davenport, C. and Padwick, A. (2023), Career-related learning in primary school: A snapshot of current practice. Report by NUSTEM, Northumbria University ( <a href="#">Link</a> )	P	This report looks at current provision of career-related learning in English primary schools. It has been written by NUSTEM (Northumbria University), supported by the North East Local Enterprise Partnership. A survey of more than 2,000 primary school teachers was used to gather evidence. The report comes in the context that the Dept of Education had recently started to fund a primary school programme called 'Start Small, Dream Big', a career-related learning project involving 300 primary schools across 55 disadvantaged areas of England. Key results from this particularly study include that 100% of teachers agreed that schools should break down stereotypes, and more than 2/3 of teachers said that at least one of several career learning activities had taken place in their school over the academic year. However, only 1 in 10 schools has a designated leader and many primary schools are not offering targeted learning.	England
Forrester, G., Hudson, R., Rowley, J., & Pugh, J. (2024). Mind the aspiration gap: how primary school pupils perceive their future adult selves and the perspectives and expectations of parents and teachers. Educational Review, 76(4), 732-752. ( <a href="#">Link</a> )(Paid)	U C	This article reports on research investigating the aspirations of pupils in primary schools located in low-socioeconomic areas in one English county. The research adopted a qualitative approach to explore aspirations, self-efficacy, opinions regarding the merits of investment in education, and notions of perceived future selves. The research also considered the expectations of parents and teachers providing insight into how they support children's aspirations and expose them to opportunities and ideas. Parents and extended family are the predominant idea source for aspirations and their assistance is recognised, above all, as important by pupils. Aspirations are also fashioned by pupils' gender-specific ideas about	England

		certain jobs and cultural exposure to the media. . Pupils discern the importance of working hard and performing well at school. Results help to provide the challenges and opportunities for careers learning in primary school	
--	--	---	--

## Case studies

Some case studies, and collections of case studies, that show outcomes from different practices are listed below (We denote cases where the study represents the explicit application of a theory to the design or interpretation of a practice in the Themes column).

<b>Title</b>	<b>Themes</b>	<b>Brief description</b>	<b>Location</b>
Careers and Enterprise Company (n.d.), Case studies. ( <a href="#">Link</a> )	Applying Gatsby benchmarks Good practice	This resource provides a series of case studies completed by the Career and Enterprise Company in primary schools. The case studies clearly explain the approach, people involved, cost, principles employed of good careers education and of building skills.	England
Careers Hub Cornwall and Isle of Scilly (n.d.) ( <a href="#">Link</a> )	Applying Gatsby benchmarks Life skills	The Careers Hub demonstrates a range of creative case study projects in primary and secondary schools, linking many to the attainment of the Gatsby benchmarks.	England
OECD (n.d.) Effective career guidance. ( <a href="#">Link</a> )	Good practice	This resource provides links to a series of international case studies that represent examples of good practice in early years and primary education. The studies are written up in short format (typically 1-2pp) and include an example of the implementation of practices and theories and objectives behind them.	International
Gothard, W. (1998). Careers Education in a Primary School. Pastoral Care in Education, 16, 36-41. ( <a href="#">Link</a> )	Parent talks	This paper describes an evaluation of careers work undertaken with Year 4 pupils in a primary school. In this school, a yearly careers week was held when structured activities were organised round talks about their work given by parents. The researcher found that 5 months after the careers work, the Year 4 pupils remembered much of significance. These findings are then related to a number of theories of career development which support such work early in pupils' careers. The paper concludes by outlining the benefits that careers work in the primary school offers	England
Nazli, S. (2007), "Career development in primary school children", Career	Super's Career Development Model Narrative approaches	The paper had three aims to both determine the level of primary school students' career development, and to test Super's childhood years career development model. The research examined structured essays written by n=145 students which then underwent a	Turkey

Development International, Vol. 12 No. 5, pp. 446-462. ( <a href="#">Link</a> )		content analysis. Students were found to demonstrate 9 characteristics from Super's model for career development in childhood years.	
Dorrington, L., & van Nieuwerburgh, C. (2015). The development of peer coaching skills in primary school children: An exploration of how children respond to feedback. International journal of information and education technology, 5(1), 50. ( <a href="#">Link</a> )	Peer to peer coaching	Although not career related, this paper provides a review of peer to peer coaching amongst primary school students with relevant learning. The intervention was applied in the context of a disadvantaged area in East London and with children being mainly of Bangladeshi origin. A qualitative evaluation was carried out of an activity where children gave and received feedback, and the research explored the effect on the recipient. It was found peer coaching and feedback could work, based on the child already feeling valued and the feedback building on existing strengths.	England
Gorard, S. et al (2017) Children's University Education Endowment Foundation. ( <a href="#">Link</a> )	Raising aspirations and increasing motivation for education	This project was run to raise aspirations of young children: "Children's University (CU) aims to improve the aspirations, attainment, and skills of pupils aged 5-14 by providing learning activities beyond the normal school day. The scheme saw participation from n=68 primary schools and n=1,452 children participated (compared to a control group of n=1,152). The project evaluated outcomes through attitude surveys. Some of the impacts included a) Children made 2 additional months' progress in reading and maths, b) small gains in 'teamwork' and 'social responsibility', c) gains for children eligible for free school meals, d) a greater propensity to choose professional occupations.	England
Carvalho, R. G., Pocinho, M., & Fernandes, D. (2018). Fostering career awareness in	Gaining engagement from a short career programme	Research literature has been increasingly focusing on children's career development, especially when school contexts are considered. In the present study, we evaluate the efficacy of a short-term intervention program designed to foster career awareness in	Portugal



<p>elementary schools: Evaluation of an intervention proposal. The Spanish journal of psychology, 21, E16. (<a href="#">Link</a>)(Paid)</p>		<p>elementary school. The sample consisted of 155 Portuguese fifth- and sixth-grade students, aged nine to fifteen years old (M = 11, SD = 1) The paper explored the participation of students in the programme.</p>	
<p>Smith, K., Fitzgerald, A., Deefholts, S., Jackson, S., Sadler, N., Smith, A., &amp; Lindsay, S. (2018). Reinvigorating primary school science through school-community partnerships. Navigating the changing landscape of formal and informal science learning opportunities, 87-103. (<a href="#">Link</a>)(Paid)</p>	<p>Community engagement</p>	<p>The paper describes how introducing primary-aged children into community activities is mutually beneficial, using a particular case study of science learning: "Through an exploration of three case studies, we demonstrate situations where primary teachers and schools intentionally take steps to ensure their students have a sense of connectedness to their local community and environment by developing mutually beneficial learning relationships with both formal and informal science partners. By doing so these schools actively broaden the primary school science curriculum to include aspects of contemporary science with a particularly strong emphasis on social and emotional aspects of learning. The result is a wider range of learning outcomes than were ever intended or anticipated for students, teachers and the community in general. Finally, the chapter identifies the characteristics that make school-community partnerships educationally valuable for science learning and teaching."</p>	<p>Australia</p>
<p>Emembolu, I., Padwick, A., Shimwell, J., Sanderson, J., Davenport, C. and Strachan, B. (2020) Using action research to design and evaluate sustained and</p>	<p>Action research</p>	<p>This study is one of few that investigates the impact of a project that delivered career-driven STEM interventions on young children's (7-10 years old) career knowledge and perceptions over time. Using an action research approach, this study outlines 10 distinct features for designing child-centred STEM interventions. These were delivered in 6 primary schools across North-East England over a 2-year period. A STEM Career Knowledge and Aspirations Tool</p>	<p>England</p>

<p>inclusive engagement to improve children's knowledge and perception of STEM careers. International Journal of Science Education, 42 (5). pp. 764-782. ISSN 0950-0693 <a href="#">(Link)</a></p>		<p>was used to collect data to evaluate the impact of these interventions. Children sorted 30 job cards (mix of STEM and non-STEM) into jobs they knew, and also into jobs they would like to do. Baseline data and follow up data were collected in 2015 (n=352) and 2017 (n=356). Some different outcomes were seen between girls and boys.</p>	
<p>Madden, W., Green, S., &amp; Grant, A. M. (2020). A pilot study evaluating strengths-based coaching for primary school students: Enhancing engagement and hope. Coaching researched: A coaching psychology reader, 297-312. <a href="#">(Link)</a></p>	<p>Strengths based coaching</p>	<p>This pilot study examines the impact of an evidence-based strengths coaching program on male primary school students' levels of engagement and hope: 38 Year students (mean age 10.7 years) participated in a strengths-based coaching program. Student engagement with lessons and their sense of hope both increased.</p>	
<p>Education and Employers and Primary Futures (2021), Scaling Up: Developing and extending career-related learning in primary schools <a href="#">(Link)</a></p>	<p>Community engagement  Volunteer participation</p>	<p>This is one of several articles/publications from the Primary Futures programme, which examines ways that the scheme can be scaled up. Primary Futures connects primary schools with volunteers from a wide range of diverse backgrounds, with different career journeys and doing different jobs. There was some report that depicted a broadening of horizons, with 25% of children also stating that they had changed their mind about what they want to be when older.</p>	<p>England</p>
<p>Outhwaite, D., Banham, J., &amp; Cummings, A.</p>	<p>Learning partnerships and support</p>	<p>This paper looks at the history and present of the model of Science Learning Partnerships in England and</p>	<p>England</p>

(2022). A Case Study of the Benefits of the Science Learning Partnerships in Early Years and Primary Education in England. Education Sciences. <a href="#">(Link)</a>	networks for teachers	the teacher support networks. A case study approach is taken. This paper charts the changes to the Early Years (EY) and Primary teacher support networks, in science particularly, and examines what they provide and how this can be improved, and discusses, through session evaluation and feedback, what teachers have appreciated the most.	
Skills Development Scotland (2021), Wallace Hall Primary – CES/My World of Work session Feb 21 <a href="#">(Link)</a>	Professional learning for teachers	The case study shows a targeted intervention to increase a school's capabilities to deliver career learning: Skills Development Scotland's Education team led a session with staff at Wallace Hall Primary to increase the teachers' knowledge of the Career Education Standard and the resources available to help them meet the expectations of the standard. The school were left equipped with a framework to embed their career learning activity.	Scotland
Hughes, D. and Hughes, R. (2023), Career related learning in Derbyshire and Nottinghamshire Year 3 Evaluation and Impact report <a href="#">(Link)</a>	Gatsby benchmarks  Good practice	The report provides an evaluation of careers learning in two counties - Derbyshire and Nottinghamshire. There is a particular focus on social mobility for children from disadvantaged backgrounds. The structure of the programme governance and management was discussed, which involved each area creating an 'Opportunity Area Partnership Board'. The evaluation ultimately covered 9,000 children in 2022, having been launched in 2019. Outcome results pointed to a broadening of horizons, with more children saying that they can do any job when they grow up and there are lots of jobs for them.	England
Lidyasari, A. T., Hidayah, N., Triyono, & Hambali, I. M. (2023). A career guidance model design-based	Borg, Gall and Branch development model	This research aims to develop a career guidance model design based on blended learning for primary school learners. This research combines the development model of Borg and Gall and Branch. The syllabus, lesson plan, inventory, guidance, and blended learning materials are developed for increasing career awareness, which was	Indonesia

blended learning in primary schools. International Journal of Learning and Change, 15(3), 255-280.		found to be increased with a pre-test and post-test measurement.	
McMaster, N., Carey, M. D., Martin, D. A., & Martin, J. (2023). Raising primary school boys' and girls' awareness and interest in STEM-related activities, subjects, and careers: An exploratory case study. NAER: Journal of New Approaches in Educational Research, 12(1), 1-18. ( <a href="#">Link</a> )	Increasing interest in STEM careers, particularly amongst girls, with an intervention.	<p>The study is motivated by the shortage of students who pursue STEM careers, particularly females. Amongst the research questions asked: Can early STEM experiences raise awareness of, interest in, and aspirations for STEM-related high school subjects and careers?</p> <p>The case study is an education intervention in Year 6, at the end of primary education, to offer a positive experience of STEM. The research involved surveying n= 107 Year 6 boys' and girls' interests, ability beliefs and expectations in STEM school subjects and careers. Students' awareness and interest in STEM-related subjects and careers increased significantly following the intervention.</p>	Australia
About Skills Builder Partnership (n.d.), Ashington Learning Partnership ( <a href="#">Link</a> )	School - employer partnerships	The About Skills Partnership is an example of a partnership model running from 2009, that links schools with employers. In the case study, a model is deployed where schools are helped to develop the transferable skills of primary aged pupils with transferable skills. The About Skills Builder have a range of other case studies ( <a href="#">Link</a> ).	England
Inspiring the Future (n.d.), Welton Primary ( <a href="#">Link</a> )	Primary Futures Curriculum integration	This is an interview with an innovative head teacher that describes the activities that are run to enhance career learning as part of the Primary Futures programme. A range of activities are described, including daily teacher conversations and making use of secondary school facilities to host tech or science events.	England
Now Press Play (n.d), St Fidelis	Social enterprise	Now Press Play are an example of a social enterprise and a social innovation, working internationally: providing a	England / International

<p>Catholic Primary School: National Grid and now&gt;press&gt;play partnership (<a href="#">Link</a>)</p>	<p>Learning</p>	<p>range of different education activities aimed at primary aged pupils which include but transcend careers learning. Interventions use sound, story and movement. In this case study, the school engage primary school children in National Grid's programme to reduce CO2 and learn about renewable energy and net zero.</p>	
---	-----------------	--	--

## Future research questions and gaps

The CDI discusses research questions and gaps with expert academics, as well as practitioners. Amongst the common topics that we hear proposed for future research studies, to close gaps in our knowledge, include:

- Understanding mid- and longer-term results from early career learning
- Understanding outcomes at all stages of career education
- Developing a pedagogy for career learning.
- Developing and validating outcome metrics that correlate with later life outcomes.
- Understanding the motivations and barriers to adopting career education in schools.

Related research agendas also exist in parallel disciplines or areas, which might reference relevant questions for the careers sector. These include:

Primary education ([National Institute of Teaching](#))

Places and young children's health ([Medical Research Council, Chief Scientist Office and the University of Glasgow](#))

## Relevant Institutions

To understand more about this area, it is worth reviewing the work of the following organisations who are active in commissioning or producing research.

These are organisations who regularly conduct or commission research related to career and/or CEIAG for this group.

Where content is restricted to memberships or requires payment, this is noted next to the name of the organisation in the first column.

Name	Description
ADR Wales ( <a href="#">Link</a> )	ADR Wales publish widely on education, and include a section Early Years
Careers Enterprise Company ( <a href="#">Link</a> )	The Careers and Enterprise company are “the national body for careers education in England, supporting schools and colleges to deliver modern, 21st century careers education”. Although traditionally focussing on secondary education, they now offer dedicated resources for primary schools on their <a href="#">Primary Careers Resources platform</a> .
Careers Wales ( <a href="#">Link</a> )	Careers Wales is a public (government funded service) that provides careers information, advice and guidance service for Wales. Careers Wales works with the Welsh Government. Although a small number of Careers Wales publications have appeared, these remain sparse.
Cedefop ( <a href="#">Link</a> )	Cedefop is a decentralised agency of the European Union that supports the development of European vocational education and training (VET) policies and contributes to their implementation. As such it publishes a large number of papers and reports – both pan European and into member countries – across most aspects of CEIAG, but particularly covering policy and system level issues.
Child Trends ( <a href="#">Link</a> )	This is a US-based non profit that produce a significant amount of work in understanding earlier childhood development and the role of education and society: "Child Trends promotes the well-being of all children and youth through applied research that informs public policies, builds the evidence base for what works, and mines data to identify young people who are overlooked or ill served by public systems."
Department of Education ( <a href="#">Link</a> )	The Department of Education, along with the Department of Work and Pensions, are the two Government areas where agendas align with Careers. The Department of Education website provides a section on “Research and Statistics”, and “Policy papers and consultations” guidance and regulation to inform on the national education landscape and challenges.
Education and Employers ( <a href="#">Link</a> )	A UK based charity launched in 2009 which aims to “provide young people with the inspiration, motivation, knowledge, skills and opportunities they need to help them achieve their potential”. The charity works with state schools, employers, the national bodies that represent them and a wide range of other partners. Research

	informs education, policy and practice in the UK.
Education Policy Institute ( <a href="#">Link</a> )	The aim of the Education Policy Institute is to raise standards in education through rigorous data analysis, research and the exchange of information and knowledge to help inform the public and hold government and decision-makers to account. They publish policy research for different age- and protected groups.
Gatsby Foundation ( <a href="#">Link</a> )	Gatsby is a charitable foundation that support the development of employability skills and has since been both a funder and active in projects themselves. “Good Career Guidance” is one of the four themes of their work in education (while they also work in other Neuroscience and Plant Science). Their Eight Benchmarks are a framework for school leaders, headteachers, and careers advisors to assess the development of their pupils in employability skills.
International Centre for (iCeGS) ( <a href="#">Link</a> )	iCeGS have conducted a high volume of critical national and international studies, specifically into the areas of careers: education, development, and policy etc, for both academic journals, policymaking bodies and careers service providers. Consequently, their research library contains relevant papers and reports to this area, as well as many related topics.
National Association for Primary Education ( <a href="#">link</a> )	NAPE is a membership body that work to create resources, courses and other products that help to enhance primary school education.
National Careers Development Association (US) ( <a href="#">Link</a> )	The NCDA is the United States membership body for careers professionals. As well as publishing periodic larger scale research, practitioners actively contribute short practice articles by way of small-scale evaluation, reflection or learnings. All career stages are covered, including Elementary education, equivalent to Primary in the UK.
National Foundation for Educational Research ( <a href="#">Link</a> )	The foundation produce a wide body of research studies and evaluations aimed at improving education outcomes by informing different key decisions facing schools and policy makers. A number of their studies have covered careers explicitly, while there has been more still covering the relationship between education and employability.
Nuffield Foundation ( <a href="#">Link</a> )	The Nuffield Foundation is an independent charitable trust with a mission to advance educational opportunity and social well-being. Research informs social policy, primarily in Education, Welfare and Justice. Nuffield provides support for both Early Years and Primary-aged children.
OECD: Education ( <a href="#">Link</a> )	The OECD publish intensely both research studies and data sets into education. Topics span outcome measures, national policies, teacher capabilities, future/forecasting studies – but there is a specific section on <a href="#">career readiness</a> . The focus of the work appears more orientated towards secondary education.
Primary Futures ( <a href="#">Link</a> )	Primary Futures is a programme run in partnership with the NAHT that connects primary schools with diverse workplace volunteers to take part in aspirational activities and talk with



	children about their jobs. The resource provides a range of <a href="#">case studies</a> and <a href="#">success stories</a> .
PiXL Club ( <a href="#">Link</a> )	PiXL was born out of the DfE's 'The London Challenge', a school improvement programme set up by the government in 2003. It provides a network for collaboration and shared support between schools. Amongst their various proposition, they support primary schools. PiXL are not a research organisation, but do produce content that create insight for the sector.
Skills Development Scotland ( <a href="#">Link</a> )	SDS are “The national body supporting the people and businesses of Scotland to develop and apply their skills”, providing public career services. They have also published research to inform career sector development for the future.
Teach First ( <a href="#">Link</a> )	Teach First are the UK’s largest teacher training programme. They publish various research and policy reports that describe the sector’s challenges.
The Children’s Commissioner for England ( <a href="#">Link</a> ) Scotland ( <a href="#">Link</a> ) Wales ( <a href="#">Link</a> ) and Northern Ireland ( <a href="#">Link</a> )	The Children’s Commission provides a stream of ongoing research into children’s lives in the four nations of the UK, with a particular focus on disadvantage, offering context and insight into such groups.
UNESCO: Early Childhood and Care ( <a href="#">Link</a> )	UNESCO is the “UNESCO is the United Nations Laboratory of Ideas”. Research and data sources provide an international perspective, cross cutting themes and studies relating to wider global contexts to education, such as ‘sustainability’ and ‘democracy’.

## Journals/publications

Research is disseminated in a huge range of journals, grey literature and conferences or events. In our own database of papers, we found the following had produced several papers relating to careers, primary education and related themes.

Name	Description
Australasian Journal of Early Childhood ( <a href="#">Link</a> )	Aa peer-reviewed journal publishing in all aspects of research in the early years (birth to eight years).
British Journal of Guidance and Counselling ( <a href="#">Link</a> )	The aim of the British Journal of Guidance & Counselling is to publish work that sets trends and provokes fresh thought and innovation in the practice and understanding of counselling, psychotherapy and career guidance. The journal seeks to communicate, enrich and advance theory, research, policy and practice in these fields.
Career Development International ( <a href="#">Link</a> )	Career Development International provides a platform for research in the areas of Careers and Development that deals with questions of theories and theory development, as well as with organizational career strategy, policy and practice. (Formerly called the International Journal of Career Management)
Career Exploration and Development in Childhood ( <a href="#">Link</a> )	This one paper-collection explores career exploration and development in childhood from a range of international contexts. As well as covering theory and development, there is content on the 'facilitation of exploration and development'.
Child Development ( <a href="#">Link</a> )	Child Development, the flagship journal of the Society for Research in Child Development, has published articles, essays, reviews, and tutorials on various topics in the field of Child Development for almost 100 years. While few are directly related to careers education, research often provides deeper understand and context.
Early Childhood Education Journal ( <a href="#">Link</a> )	The journal covers contemporary early childhood education. Articles cover the social, physical, emotional, and intellectual development of children age birth through 8, analysing issues, trends, and practices from an educational perspective.
International Journal for Educational and Vocational Guidance ( <a href="#">Link</a> )	The publication is dedicated to promoting the importance of educational and vocational guidance globally. It publishes articles related to work, leisure, career development, counselling, guidance, and education, so including but broader that career guidance.
International Journal of Early Childhood ( <a href="#">Link</a> )	The journal publishes research with young children and children's early education and care, across various social and cultural contexts, with a focus on children aged from birth to 8 years.

International Journal of Early Years Education ( <a href="#">Link</a> )	A forum for researchers and practitioners to debate the theories, research, policy and practice which sustain effective early years education world-wide. It offers a comparative perspective on early years research and major new initiatives in the care and education of young children aged 0-8 years.
Journal of Career Development ( <a href="#">Link</a> )	The Journal of Career Development (JCD) provides professionals in counselling, psychology, education, student personnel, human resources, and business management with the most up-to-date concepts, ideas, and methodology in career development theory, research, and practice.
Journal of the National Institute for Career Education and Counselling ( <a href="#">Link</a> )	The journal covers all areas of careers education, counselling and advice and careers work in schools, colleges, universities, training providers, in the workplace, in organisational and in community settings.
The Journal of Educational Research ( <a href="#">Link</a> )	A 100+ year old journal dedicated to the advancement of educational practice in elementary and secondary schools by judicious study of the latest trends, examination of new procedures, evaluation of traditional practices, and replication of previous research for validation.

## Data sources

Some contextual data sources are provided below. These are particularly useful for studying the prevalence of different situations, trends over time, or for comparing situations with different geographies or groups.

Name	Description
OECD Data Explorer ( <a href="#">Link</a> )	The OECD measure a wide range of economic and social indicators including education and employment values. Metrics on primary schools include Inclusion time in education by country and subject.
Children's Commissioner (2024), The Big Ambition Survey ( <a href="#">Link</a> )	In March 2024, the England Children's Commission published a major study called 'The Big Ambition' which captured the experiences and hopes of more than 250,000 youngers from 6-18, from a cross-section of background. A specific survey was designed for 6-11-year-old, providing good context for the feelings and hopes of this age group.
Eurostat ( <a href="#">Link</a> )	Eurostat publish many datasets on all stages of education.
Gov.uk: Compare the performance of schools and colleges in England ( <a href="#">Link</a> )	The government produce data on school performance for primary, secondary and special needs schools and colleges: exam results, Ofsted reports and financial information.
Gov.uk: Key stage 2 attainment ( <a href="#">Link</a> )	This publication provides revised attainment and progress statistics for key stage 2 national curriculum assessments in England. It is an update to the provisional statistics published on 12 September 2023 and extends the Key stage 2: National headlines statistics published on 11 July 2023. Progress measures of pupils between key stage 1 and key stage 2 are included.
National Pupil Database ( <a href="#">Link</a> )	This is a nationwide resource compiled by the Department of Education from all mainstream schools and colleges that cater for students up to age 19. The NPD includes information, at an individual level, on learner's gender, ethnicity and socio-economic status; whether they are SEND or have disabilities, and also includes data such as attendance and attainment rates, allowing a wide range of correlations to be analysed.
Office of National Statistics, 'All data related to education and childcare' ( <a href="#">Link</a> )	The repository provides 38 data sets on various aspects of youth and childcare.
Parent Kind (2023), The National Parent Survey ( <a href="#">Link</a> )	This survey is now run annually by Parentkind and captures perceptions, hopes and fears of parents of children across education.
The Scottish Government, School	This resource collates and presents the statistics on school education in Scotland, including pupil and

Education Statistics ( <a href="#">Link</a> )	teacher characteristics, and attainment and qualification results.
--	--