

CLOSING THE ATTAINMENT GAP IN SCOTTISH EDUCATION

Children from low-income households in Scotland do significantly worse at school than those from better-off homes. This review explores the nature and consequences of this educational ‘attainment gap’. It considers the need for better research and evaluation evidence to improve policy and practice and proposes actions to reduce the gap.

Key points

- The gap between children from low-income and high-income households starts early. By age 5, it is 10–13 months. Lower attainment in literacy and numeracy is linked to deprivation throughout primary school. By age 12–14 (S2), pupils from better-off areas are more than twice as likely as those from the most deprived areas to do well in numeracy. Attainment at 16 (the end of S4) has risen overall, but a significant and persistent gap remains between groups.
- Parental socio-economic background has more influence than the school attended.
- Children from deprived households leave school earlier. Low attainment is strongly linked to destinations after school, with long-term effects on job prospects.
- A range of evidence-based approaches can reduce the attainment gap. These span: high-quality, pre-school education; whole-school reforms based on timely, relevant data; and closer partnerships between home and schools.
- The researchers conclude that:
 - advice about developing the curriculum, improving educational outcomes for all pupils and inspecting schools should explicitly provide guidance on reducing the link between poverty and attainment;
 - lack of data, research and evaluation evidence for schools and local authorities currently hampers progress. The Scottish education community needs a national evidence base of what works and professional development in how to use evidence. This will help practitioners differentiate proven, promising and unproven approaches and inform choices about: appropriate curriculum design, resource allocation and how to monitor and evaluate practice for impact.

The research

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BACKGROUND

Scottish education serves many children well, but the attainment gap between pupils from the richest and poorest backgrounds is wider than in many similar countries.

- **Preschool:** Children from higher-income households significantly outperform those from low-income households at ages 3 and 5. By age 5, there is gap of 10 months in problem-solving development, 13 months in vocabulary.
- **Through school:** A clear literacy gap in Primary 4 (ages 7–9) widens by Primary 7 (ages 10–12). By S2 (ages 12–14), more than twice as many students from the least deprived areas (as distinct from households) performed well in numeracy as those from the most deprived. The Scottish Survey of Literacy and Numeracy found an attainment gap of 14–17 per cent for reading, 21 per cent for writing, and 12–28 per cent for numeracy from primary through to secondary school. Although overall attainment has risen slightly at the end of S4 (ages 14–16), the gap between the most and least deprived remains.
- **Leaving school:** Those from the most deprived families are consistently less likely to go into further/higher education, employment, training, or voluntary work. They are only one-third as likely as the least deprived to go into higher education (Scottish School Leavers Survey).
- **Employment:** Studies show that, by age 22–23, low attainers are more likely to be unemployed (12 per cent vs 4 per cent), work part-time (12 per cent vs 6 per cent), earn less (difference of £23.45 per week for men, £44.94 for women) and be in low-status jobs.

A 2007 OECD report indicated that parents' socio-economic background mattered more for children's attainment than their school. The 2009 PISA (Programme for International Student Assessment) report showed a stronger association between parental background and poor reading in Scotland than the OECD, English or Welsh averages. Findings from the 2012 PISA survey suggest that the attainment gap in Scotland narrowed slightly in comparison to the 2009 survey. While this is welcomed news, the impact of disadvantage on attainment was still substantial.

Policy responses and the evidence gap

Currently, the Scottish Government's policy group, Improving Performance to Raise Attainment (IPRA), is supporting demonstration projects in schools and taking evidence for recommendations to the Cabinet Secretary for Education and Lifelong Learning. The new Child Poverty Strategy for Scotland (2014–17) also emphasises addressing the attainment gap. Various policies (e.g. Curriculum for Excellence, Formative Assessment, Early Years Collaborative) and programmes (e.g. Early Intervention Programme, Schools of Ambition, Good Practice Advice to Schools) have been implemented in Scotland in recent years. However, this review found very little research on some of these and insufficient data, evaluation or evidence to build useful practical knowledge of what works.

Across Scotland, the quality and quantity of attainment data for primary and early secondary school pupils vary widely. This makes data-driven project design and evaluation difficult. Many schools and local authorities pay for external assessments of literacy and numeracy, but sometimes results arrive too late to be useful.

These are major limitations. More reliable – and easily accessible – evidence is needed. Education Scotland currently provides some information about which projects local authority managers judge successful. But Scotland needs more ambitious ways of identifying which approaches have the greatest impact and how to adapt them to local circumstances.

What approaches do work?

Various interventions have reduced the attainment gap. This study explores eleven types of action, drawn from Scotland, the rest of the UK and abroad (mainly North America), and Box 1 suggests

Box 1: What can different bodies do?

| Body | Action |
|--|---|
| The Scottish Government | <p>Provide clear guidance about how to use policy to close the attainment gap.</p> <p>Make robust attainment data freely available to all schools.</p> <p>Require programmes/projects to have well-designed evaluation plans so that schools and teachers can choose projects that are likely to work for their circumstances.</p> <p>Establish and promote ways to share robust research on what works to close the attainment gap.</p> |
| Education Scotland: HM Inspectors and National Development Officers | <p>Routinely discuss the data on how well a school serves children from low-income families.</p> <p>Highlight projects and teaching approaches that successfully close the gap and provide guidance about how to implement them effectively.</p> |
| Local authorities: Education Directors and Quality Improvement Officers (QIOs) | <p>Develop robust and cost-effective ways for schools to monitor the poverty attainment gap.</p> <p>Adopt evidence-based approaches when spending the deprivation component within school budgets.</p> <p>Prioritise improved educational outcomes for pupils from economically disadvantaged homes in local authority and school development plans.</p> <p>Focus 'support and challenge' discussions on applying research knowledge of what might work in a particular school so that schools can learn from each other.</p> |
| Schools: management teams and teachers | <p>Prioritise mitigating the effects of poverty on attainment in school development and project planning.</p> <p>Prioritise increased knowledge of how the attainment gap might be addressed within staff development plans.</p> <p>Monitor how new initiatives affect the gap.</p> |
| Universities: teacher-training and research strategies | <p>Promote evidence-based knowledge through pre-service and career-long professional learning programmes to enable teachers to close the poverty educational attainment gap.</p> <p>Develop empirical research/evaluation to help educators understand educational inequality relating to poverty in Scotland and what can close the gap.</p> |

actions that specific bodies can take to help improve attainment for children from low-income households in Scotland.

- **High-quality, full-day preschool education.** Numerous studies show that early provision of this kind is effective. Full-day preschool produces significantly higher literacy and numeracy for children from low-income families. However, quality of provision matters more for disadvantaged children. The effect of full-day attendance may not last if quality is low.
- **Parental involvement programmes,** helping parents support their children's learning at home, appear promising. International evidence provides pointers but evidence of what works best in Scotland is needed.
- **Literacy teaching** works. PISA surveys show that increasing reading engagement could mitigate 30 per cent of the attainment gap. Reading also has long-term effects on vocabulary and achievement in other curricular areas.
- **Children working together in small groups** (co-operative learning) can work if thoroughly taught across the school and facilitated by teachers. Teachers benefit from coaching in group-work methods.

- **Nurture groups** and programmes to increase social, emotional and behavioural competencies show promise. However, the impact on attainment needs robust evaluation.
- **Academically focused, after-school activities:** many projects run extracurricular activities for children from low-income households (e.g. sports, music, dance, ICT and study skills). However, integrated academically focused activities, such as study support, have a significant impact on attainment.
- **Peer tutoring, meta-cognitive training** (helping children understand and improve their own learning) and **one-to-one tutoring** using qualified teachers, trained adults or trained peer tutors have improved literacy and numeracy in Scotland.
- **Mentoring** (usually matching a volunteer mentor with a disadvantaged student) can have a significant impact. But evidence is inconclusive and there is a need for further evaluation in Scotland.
- **Professional development** can boost attainment but needs to be evidence-based, intensive, long-term, contextualised, and incorporate systematic monitoring of impact and continued support for teachers.
- **Targeted funding** works in the context of collaboration between schools, better school leadership, strong school-level data, and systematic evaluation to monitor impact. Targeted funding can also raise awareness of the attainment gap.
- **Evidence-based, whole-school reforms:** Whole-school reforms make a difference when they incorporate a focus on improving attainment, a shared strategic plan for academic, social and emotional learning, significant staff development, and consistent monitoring of impact. Curriculum for Excellence has the potential to provide a framework to achieve this.

Conclusion: What can be done in Scotland?

Increasing and maintaining the focus on equity requires focused policy-making and practice. The education community in Scotland needs to get better at creating and sharing knowledge in ways that focus on outcomes for children in poverty. Better evaluation will help practitioners distinguish between proven, promising and unproven approaches and decide how to make curriculum design and planning decisions that raise attainment for economically disadvantaged groups.

Several bodies shape what happens in Scottish schools, although none directly controls curriculum design, content or implementation. A strong, shared focus on reducing the attainment gap over time requires deeper understanding of how poverty affects attainment.

About this project

These findings are based on an evidence review of the educational attainment gap between children from poorer and better-off households in Scotland. It was written by Edward Sosu and Sue Ellis of the School of Education, University of Strathclyde.

FOR FURTHER INFORMATION

This summary is part of JRF's research and development programme. The views are those of the authors and not necessarily those of JRF.

The main report, **Closing the attainment gap in Scottish education** by Edward Sosu and Sue Ellis, is available as a free download at www.jrf.org.uk

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