

# Future Schooling, Education & Learning Approaches: 2030 and Beyond

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# The Goodison inquiry

**What** do we want children and young people to develop? (in 2030 and beyond)

**How** should children and young people be educated and **Who** provides this?

**When** should education take place? Pre-school, primary, secondary, tertiary?

**Where** should children and young people be educated?

**Success** - How should education, learning be measured?

**Values** - What values, behaviours and conditions are necessary for change in the education system to be successful and sustainable?



# What would we want for Scotland in 2030?

- A fair, just and stable social and political environment
  
- A strong economy



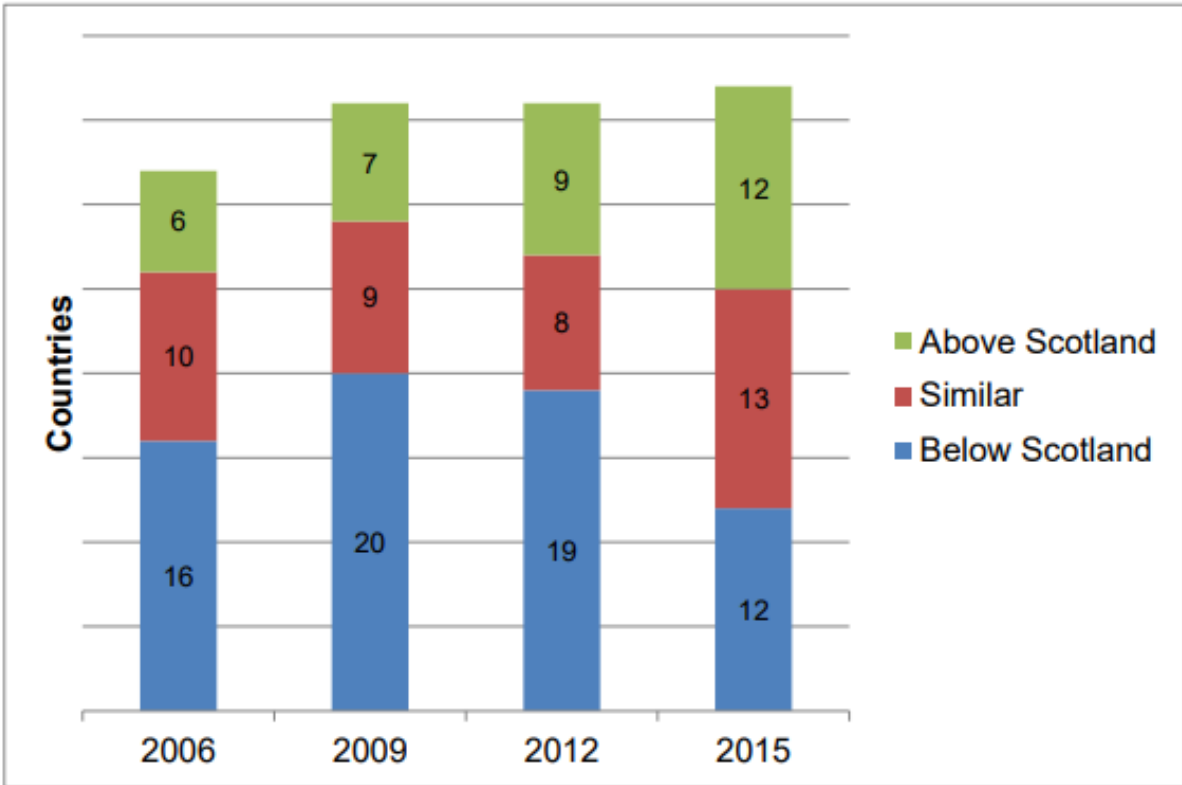
# How can we make the transition from here to there?

- Look at the evidence
- Adapt and apply
- Think about how to change behaviours



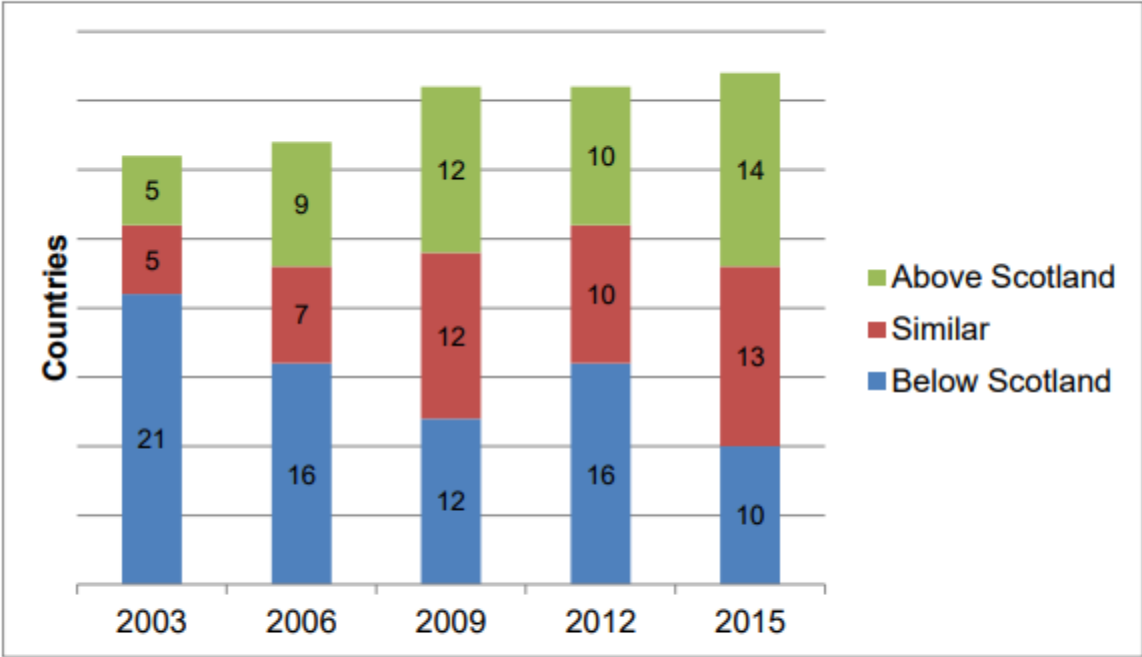
# Scotland's relative performance declining - science

Chart 3.2: Numbers of OECD countries and UK administrations scoring above, below or similar to Scotland in science in PISA since 2006



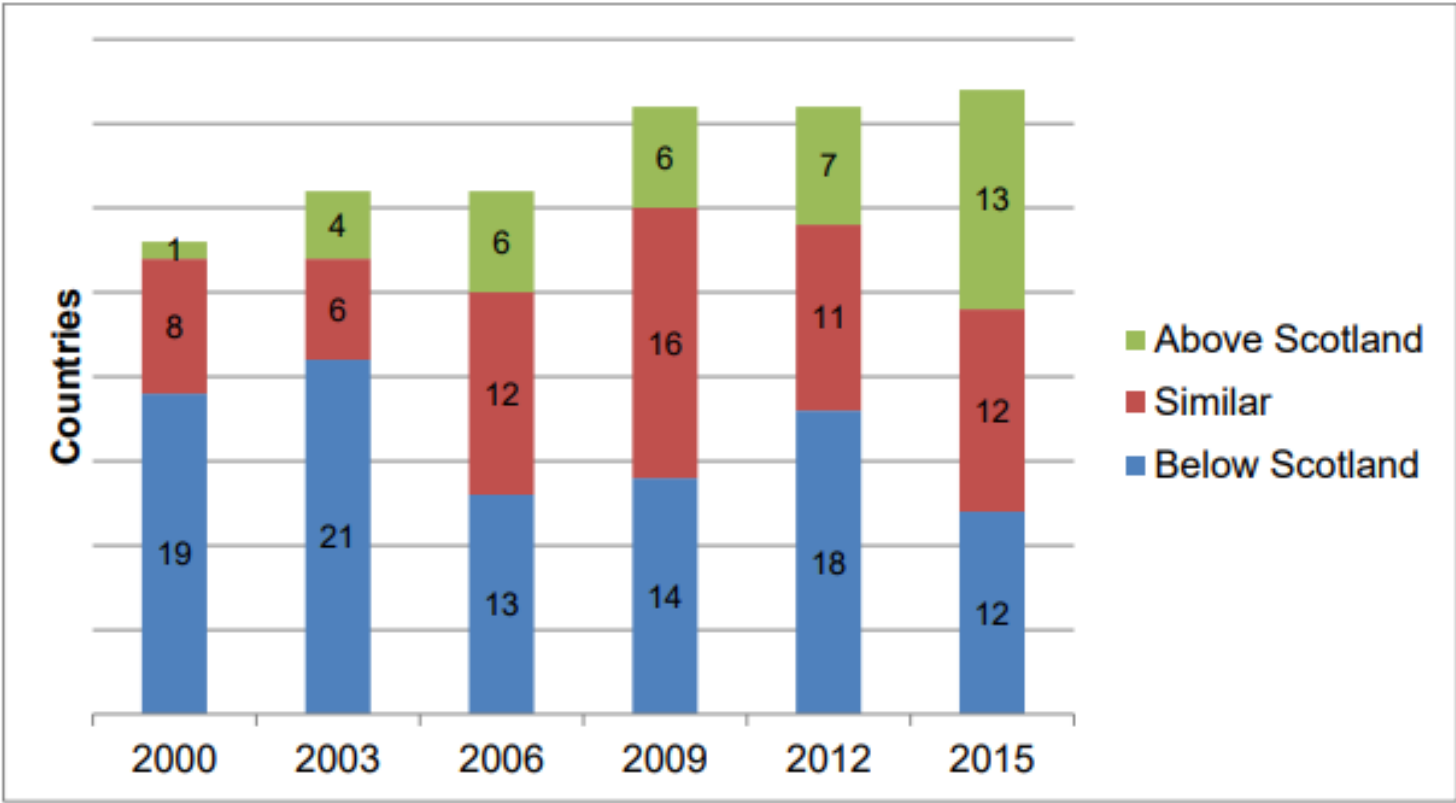
# Scotland's relative performance declining - maths

Chart 4.2: Numbers of OECD countries and UK administrations scoring above or below Scotland in maths in PISA since 2003<sup>9</sup>



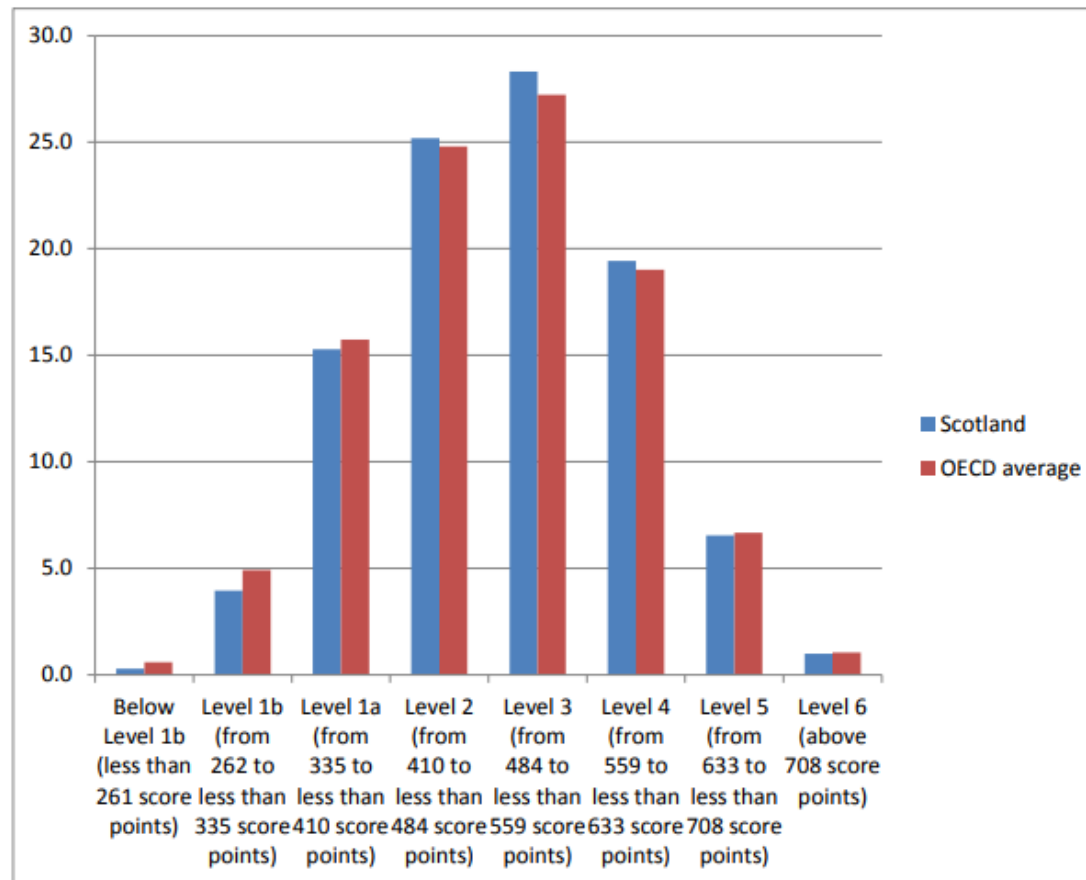
# Scotland's relative performance declining - reading

Chart 5.2: Numbers of OECD countries and UK administrations- scoring above below or similar to Scotland in reading in PISA since 2000<sup>11</sup>



# The spread of scores in Scotland does is not much different from the OECD average

Chart 3.3: Percentage of Scottish students by proficiency level in science performance (per cent)





# Do these skills matter?

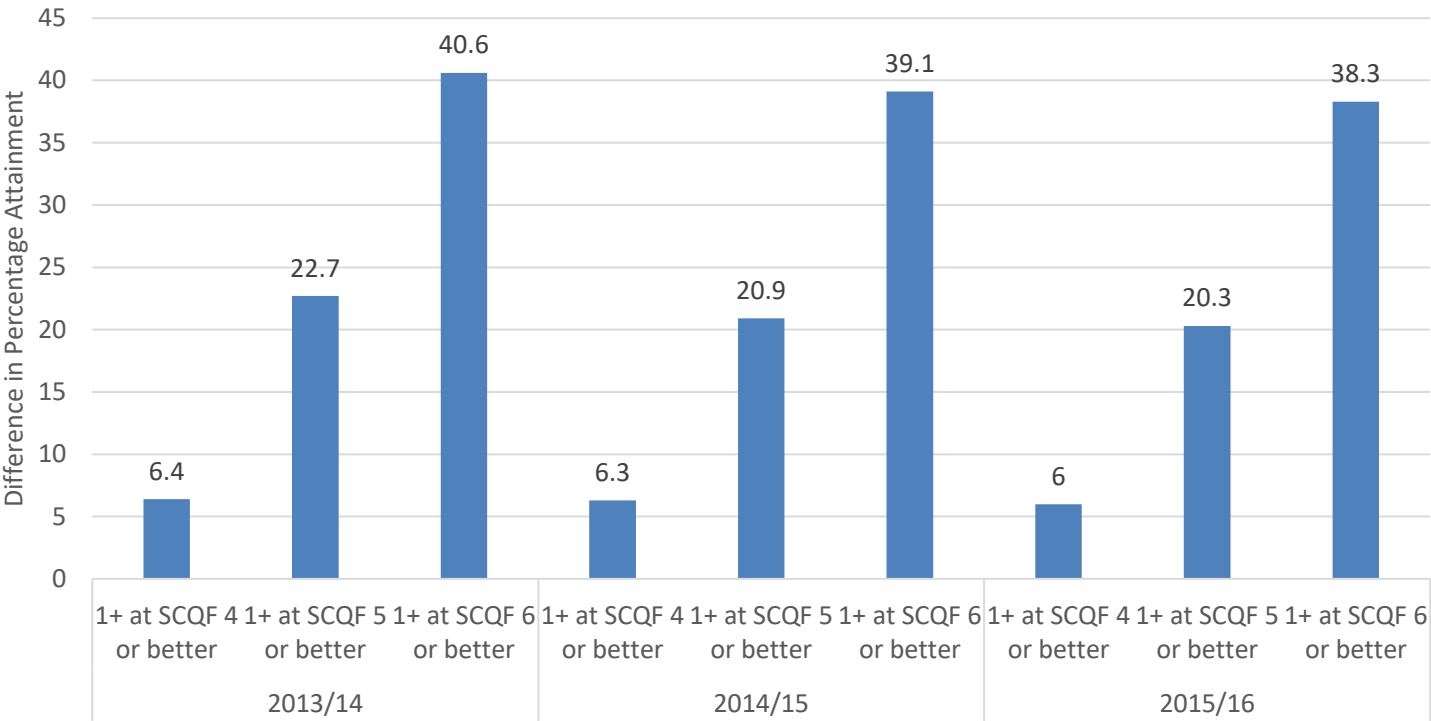
- “Cognitive skills are related, among other things, to both the quantity and quality of schooling. But schooling that does not improve cognitive skills, measured here by comparable international tests of mathematics, science, and reading, has limited impact on aggregate economic outcomes and on economic development.”
- Eric A. Hanushek and Ludger Woessmann, *Journal of Economic Literature* 2008, 46:3, 607–668



# But the low scores are concentrated in the more deprived areas

## This is the “attainment gap” which is closing very slowly

The attainment gap - difference in qualifications between most and least deprived quintile



# Skills needed to support a vibrant economy

- Skills development is not the sole responsibility of the educational sector
  - Schools – both quantity and quality matter
    - Design of curriculum an important aspect of quality
    - “the broad consensus is that “teacher quality” is the single most important school variable influencing student achievement” OECD
  - Family
  - Individual
  - Other – health, labour market experience etc.



# The German model of education – work transitions

- **“At its core, the German model is built on a medieval (!) practice of guild-based structures in the trades..** Young people undergo a multi-year training program, blending firm-level training with time spent in technical schools provided by the government.
- **The apprenticeship system is really one gigantic microeconomic management exercise that involves all the relevant stakeholders in society.** It spans from young people and their teachers to the local companies and small businesses, chambers of commerce, industry associations, commercial banks, to trade schools, technical universities and multinational companies. Indeed, the core lesson from Germany is that this is not a top-down approach, but really a bottom up one. Every company, every school principal, every mayor, every non-governmental organization, and every church can make a difference. It is the focus to detail and a keen interest in young people’s future path that counts the most—not lofty white papers or grandiose policy announcements issued in the national capital.” **Klaus Zimmerman**
- <http://blogs.worldbank.org/jobs/trade/more-higher-education-may-not-be-right-approach-youth-unemployment-problem>



# Universities for all?

- “Germany has pursued a different model than the U.S. While Germany has long relied on universities as a tool for professional qualification, it has traditionally done so in rather small numbers. Broadly speaking, about 30 percent of young Germans leaving high school enter university. The percentage in the United States is more than twice as high.
- In Germany, vocational training plays a critical role in shaping the national economic strategy. In fact, while 60 percent of young Americans graduate from college, in Germany a slightly larger share—about two-thirds—become apprentices.”

Klaus Zimmerman



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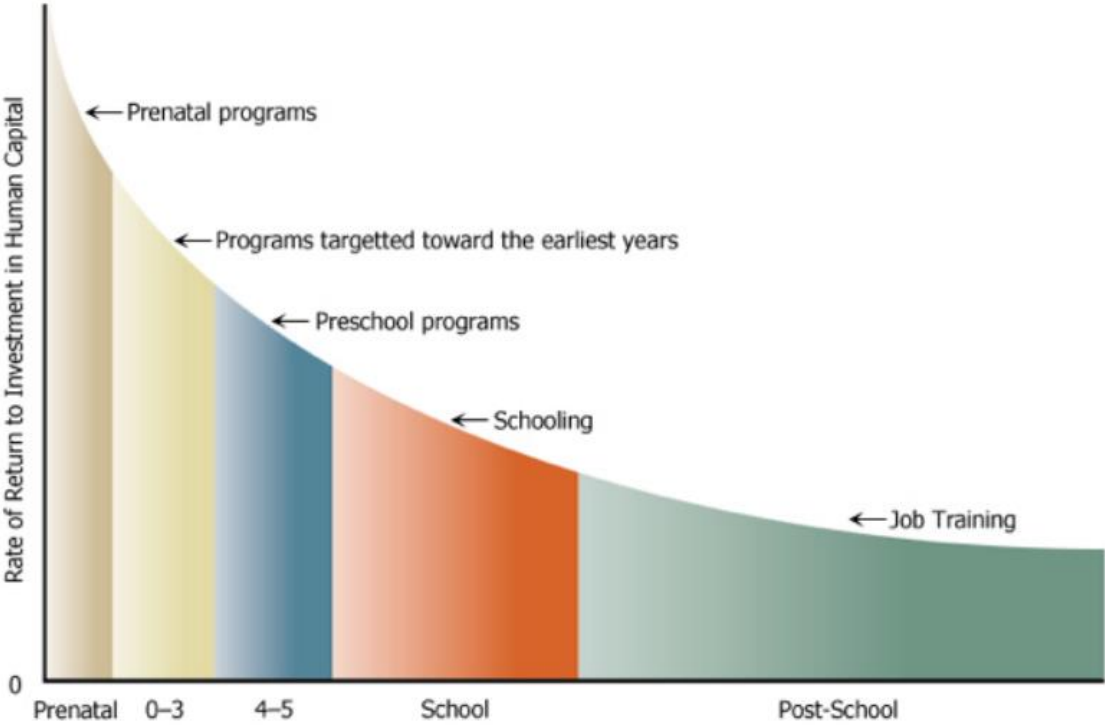
# OECD view of the Scottish schools environment

- Classroom behaviour generally better in Scotland
- Relationships with teachers in Scotland are generally better than across the OECD
- Teacher feedback is better than the OECD average
- There is more grouping by ability in Scotland
- Parents are more involved in school decisions
- But parents were less likely than the OECD average to report that they had "discussed child's progress on my own initiative" (25.5% versus 51.4%)
- Scottish parents also less likely to report that they had participated in local school government, volunteered in physical or extracurricular activities (6.2% versus 11.6%), "exchanged ideas on parenting, family support, or the child's development with my child's teachers" (19.4% versus 35.1%)



# When to invest in skills development?

Figure 19: Returns to a Unit Dollar Invested



Source: Heckman (2008)



# Epigenetics of child development

“Comprehensive clinical studies show that adverse conditions in early life can severely impact the developing brain and increase vulnerability to mood disorders later in life. During early postnatal life the brain exhibits high plasticity which allows environmental signals to alter the trajectories of rapidly developing circuits. Adversity in early life is able to shape the experience-dependent maturation of stress-regulating pathways underlying emotional functions and endocrine responses to stress, such as the hypothalamo–pituitary–adrenal (HPA) system, leading to long-lasting altered stress responsivity during adulthood.”

- Murgatroyd, Chris, and Dietmar Spengler. "Epigenetics of early child development." *Frontiers in psychiatry* 2 (2011).





# How to take the early learning agenda forward?

- The Children & Young People (Scotland) Act 2014 increased the annual entitlement to free Early Learning and Childcare to 600 hours for all three and four year olds, and eligible two year olds.
- The intention is to increase free ELC to 1140 hours per year by 2020 for all three and four year olds and eligible two year olds.



# Need to evaluate early years interventions rigorously

- In England, between 1999 and 2007, the proportion of three year-olds benefitting from a free nursery place rose from 37% to 88%.
- Although free part-time nursery places for three- year-olds enabled some children to do better in assessments at the end of Reception, but overall educational benefits were small and did not last.
- For every six children given a free place, only one additional child began to use early education. For the other five children, the policy was effectively giving parents “a discount on the early education they would have paid to use anyway” *IFS and University of Essex*



# Education: Scottish Government's new proposals include:

- Near doubling funding on funded early learning and childcare
- Introducing new standardised assessments in P1, 4 & 7 and S3
- Reforming school governance – giving more powers to headteachers, more support to teachers and strengthening the role of parents
- Increasing support to improve STEM learning and teaching in the school curriculum through the recruitment of specialist advisers
- Continuing to increase the number of modern apprenticeships, to 30,000 by 2020
  
- Will these set us on a new trajectory towards the desired 2030 outcomes?
  
- “the broad consensus is that “teacher quality” is the single most important school variable influencing student achievement” OECD

