Summary

The RSE recognises the high priority afforded to closing the attainment gap and the implications this has for the time available to put in place measures for assessing progress. However, valid and reliable assessments of attainment can only be made if there are appropriate measurement tools and data. To help ensure the credibility of the proposals, the RSE recommends that the Scottish Government reflect further on potential measurement tools, rather than risk implementing unsuitable approaches that could undermine its commitments on closing the attainment gap.

• The Scottish Government proposes that the Scottish Index of Multiple Deprivation (SIMD) be used for identifying the most and least disadvantaged young people. However, to measure the attainment gap there is a need for individual-level data. As an area-based measure of deprivation, SIMD is incapable of providing these data. It would not be appropriate to use SIMD unless it were to be supplemented with data on individual children.

• The Scottish Government should consider how its work in response to the recommendations of the Commission on Widening Access, particularly that relating to the potential of giving every learner a unique learner number to facilitate better data linkage and tracking of individuals, could support its ambitions for measuring the attainment gap.

• The Scottish Government intends to use teacher judgement data for assessing performance in literacy and numeracy in the broad general education phase of Curriculum for Excellence ( CfE). However, evidence has shown that teachers are much too optimistic about their own pupils’ attainment. Without valid data, there is a clear risk that the National Improvement Framework (NIF) will become implausible, and, even worse, it will be impossible for anyone to know whether it is working.

• This being so, the most important methodological task is to understand the extent to which teacher judgements disagree with the new Scottish National Standardised Assessments, and why. Research of this kind can contribute to the development of teachers’ capacity to make accurate judgements.

• While the proposals focus on putting in place arrangements for measuring attainment, this needs to be linked to providing clarity to schools and practitioners on effective interventions for closing the attainment gap. Interventions need to be evidence-based, including evidence of impact. The Scottish Government should consider how the Education Research Strategy can support and inform these developments.

Introduction

1 The Royal Society of Edinburgh (RSE) welcomes the opportunity to respond to the Scottish Government’s consultation, Measuring the Attainment Gap and Milestones Towards Closing It.¹ This response has been prepared by the RSE Education Committee, which identifies and promotes priorities for education in Scotland at all levels.² In preparing this response we have drawn upon input from those with education and social research expertise. Our response focuses on matters of principle and we have not commented on every question. Where we have felt it appropriate to do so, we have grouped together responses to related questions. The RSE should be pleased to engage further with the Scottish Government on its plans.

² More information about the RSE Education Committee is available from: https://www.rse.org.uk/policy/standing-committees/education-committee/
**Question 1:** Are the proposals based on the right principles?

**Question 2:** Do you agree with having a basket of key measures to assess progress made?

**Key Measures for identifying the most and least disadvantaged young people**

The Scottish Government believes that SIMD data should be used to identify the most and least disadvantaged young people for the purposes of measuring attainment. The Government considers that SIMD is more appropriate and nuanced than free school meals (FSM) registration, which is the other measure referred to in the consultation. However, as the Scottish Government acknowledges, SIMD is not a measure of poverty, it is a measure of area-based deprivation. To be able to measure the attainment gap there is a need for individual-level data. SIMD is, however, incapable of providing these data. SIMD poses additional challenges for rural areas where compared to urban areas it is more difficult to identify deprivation due to it being more spatially dispersed and because some of the components of the SIMD – such as geographically convenient access to services or owning a car – have different social significance in rural areas than they have in towns or cities. The SRUC’s report, *Rural Scotland in Focus* (2014) provides a very useful exposition of the issues pertaining to rural poverty and disadvantage. SIMD will also be unable to capture the specific circumstances of children in care.

SIMD has, therefore, serious limitations as far as the purposes of the present consultation are concerned. Reliance on SIMD would mean that at least one third of deprived children would not be included in the Government’s plans for measuring the attainment gap as they do not live in deprived areas. It would also result in more than one quarter of children living in what are regarded as deprived areas being identified as deprived when in fact they are not. It would therefore not be possible to determine to what extent any improvement in attainment in the most deprived areas is actually as a result of attainment improving among the most deprived learners, as opposed to the significant minority of non-deprived learners who live in areas of high-deprivation. The RSE believes that given the significance of these issues it would not be appropriate to use SIMD for identifying those who are the target for the current proposals unless it were to be supplemented with data on individual children.

It is interesting that the consultation paper dismisses FSM as a means for identifying the most disadvantaged children. Since FSM eligibility is based on receipt of income-related benefits, it is actually more nuanced at the individual level than SIMD. Using FSM as a measure would also help support policy alignment and continuity given that the Scottish Government allocates the Pupil Equity Fund (PEF) on the basis of free school meals with the aim of closing the poverty-related attainment gap. That being said, FSM as a measure is also problematic since it comprises only those pupils who are claiming free school meals as opposed to all eligible pupils and, as recognised by the consultation document, FSM can provide only limited information on the relative position of pupils. Relying on SIMD or FSM, whether separately or together, cannot give an adequate account of the educational resources available in a child’s home.

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3 Rural Focus in Scotland Report; SRUC; 2014 https://www.sruc.ac.uk/info/120428/rural_scotland_in_focus/1265/2014_rural_scotland_in_focus_report

4 Based on proportion of low-education, low-status and low-income households in the 60% least deprived neighbourhoods, and on the proportion of high-education, high-status and high-income households in the 20% most deprived neighbourhoods; Growing Up in Scotland, sweep 6 of cohort 1, 2011, and the Scottish Household Survey, 2015.
5 It would be instructive for those leading the National Improvement Framework (NIF) developments to consider work undertaken by the Commission on Widening Access to university. The Commission convened an expert working group in 2016 that considered the use of currently available measures, including SIMD and FSM, for identifying individuals from disadvantaged backgrounds. The working group overlaid FSM with SIMD and found that more than half of those receiving FSM do not live in SIMD 20 areas. Notwithstanding, the Commission concluded that, despite its limitations, SIMD is currently the most suitable measure of disadvantage. It did, however, state that “it is important that decisions about individuals and the support they require are not made using SIMD alone.” In its final report, the Commission recommended that every child be given a unique learner number to facilitate better data linkage and tracking of individuals across all education sectors and into employment. The Scottish Government has been exploring the feasibility of this.

Proposal to use teacher judgement data to measure attainment in literacy and numeracy in the broad general education (BGE)

6 The Scottish Government intends to use teacher judgement data on the achievement of Curriculum for Excellence (CfE) levels to show performance in literacy and numeracy in the BGE. In a recent response to the Government’s Education Research Strategy, the RSE highlighted that there are very large discrepancies between teachers’ subjective judgements and attainment measured by standardised assessments. The Scottish Survey of Achievement, which ran annually up to 2009, enabled comparison to be made between teacher judgements of pupils’ attainment with the pupils’ actual attainment as measured by reliable tests. This evidence demonstrated that teachers are much too optimistic about their own pupils’ attainment. Consciously or unconsciously, teachers may try to fulfil the policy desire to reduce the attainment gap and raise overall attainment, thereby assessing their students more positively than they should.

7 Without valid data, there is a clear risk that the NIF will become implausible, and, even worse, it will be impossible for anyone to know whether it is working. This being so, the most important methodological task is to understand the extent to which teacher judgements disagree with the new Scottish National Standardised Assessments, and why. Work with the now discontinued Scottish Survey of Literacy and Numeracy (SSLN) has shown that such research can contribute to the development of teachers’ capacity to make accurate judgements, by using examples of assessment items to discuss why the discrepancies have arisen. This reinforces the need to use the results from the new assessments as an opportunity for teachers to develop their capacity for exercising judgement. The precedent of the Scottish Survey of Achievement shows that the anonymity of individual schools, teachers and pupils can be protected while nevertheless providing data that allow an assessment of the extent of, and the explanations for, any discrepancies between judgements and the results of the assessments.

Link between measuring the attainment gap and interventions for closing the gap

8 While we appreciate that the focus of the current consultation is on putting in place arrangements for measuring attainment, this needs to be linked to providing clarity to schools and practitioners on effective interventions for closing the attainment gap. Otherwise the Government runs the risk of developing an approach that seeks to measure changes in attainment nationally, but without being able to determine the effectiveness of individual interventions aimed at reducing the attainment gap.

References:
6 A Blueprint for Fairness; the final report from the Commission on Widening Access; March 2016 http://www.gov.scot/Resource/0049/00496535.pdf
7 Implementing a Blueprint for Fairness; A report on progress; Scottish Government; May 2017 http://www.gov.scot/Resource/0051/00518613.pdf
In 2014, the Joseph Rowntree Foundation reported that: “…lack of data, research and evaluation evidence for schools and local authorities currently hampers progress [on addressing the poverty-related attainment gap]. 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.”

We are conscious that recent developments including the adoption in Scotland of the Education Endowment Foundation’s Learning and Teaching Toolkit and Education Scotland’s Interventions for Equity have been developed to address the issue of a lack of evidence on ‘what works’. Interventions for Equity was established to support schools deploy their PEF as effectively as possible. However, the evidence base and criteria for the selection of interventions showcased is unclear, as is whether they have been subject to independent evaluation. It is crucially important that this is addressed to ensure that interventions are underpinned by empirical evidence, including evidence of impact. The Scottish Government should therefore ensure that its Education Research Strategy, which has as its focus the NIF, is used to support and inform these developments. This will be dependent on the strategy being properly resourced, and enabling meaningful input from independent researchers, and those with expertise in translating research into practice.

Overarching comments on the approach being taken

The Scottish Government has simplicity of measurement as one of its principles for the proposals. However, there is a need to recognise that this is a hugely complex landscape. Overly simplistic approaches reliant on inappropriate existing tools, including the SIMD, could run counter to the Scottish Government’s commitment of making demonstrable progress in closing the poverty-related attainment gap during the lifetime of the current Parliament. There is also the potential for unintended consequences, whereby the measures and sub-measures proposed in the consultation could come to be regarded as proxies for disadvantage and attainment, and consequently drive behaviour in the system, even though many of them, as pointed out in this response, are unsuitable. This is also closely related to our earlier point on the lack of synergy between the measures suggested and interventions being deployed by schools and others.

We recognise the high priority afforded to closing the attainment gap and the implications this has for the time available to put in place measures for assessing progress. However, the comments we have made in the preceding sections of this response make clear the risks of applying existing measures to circumvent the fact that more appropriate measures are currently unavailable. The RSE believes that the Education Research Strategy provides the Government with scope to investigate the potential introduction of new tools that would provide a more nuanced picture at the individual level, linked to the attainment data, to help ensure the reliability of attainment measures. It is the responsibility of national government to ensure that appropriate measures are in place and that the requisite data is identified and collected to underpin its policies. Otherwise it would be impossible to make valid and reliable assessments on the extent to which the attainment gap is closing, and whether attainment is increasing overall. This aligns with the principle stated in the proposals that measures should be credible. These points emphasise the importance of ensuring that data needs, research and evaluation are considered at the outset of educational reforms.

The most valid statistical research in education requires a series of surveys over time, and surveys that follow individual pupils longitudinally throughout their whole time in school, and preferably also into their time in college, university or other education, training and post-school destinations. Only repeated measurement of each learner at several stages in their school and broader education careers can tell us about how their education experiences and their social context have influenced their learning.
**Question 3: Are the proposed measures the right ones?**

The proposed measures outlined in table one of the consultation document indicate that the proposals are principally concerned with measuring attainment at school. However, recognising the diversity of learning pathways open to young people, especially the role played by Scotland’s colleges, which are not mentioned in the document, consideration should be given to applying attainment measures based on age and/or stage, rather than mode of education. In addition, while the consultation states that measures should extend beyond SQA qualifications, the consultation’s focus on school attainment, where SQA is the predominant provider of school-based qualifications, means that it is difficult to look beyond SQA qualifications. This emphasises our earlier point on the need for the proposals to recognise the breadth of learner journeys.

In table one it is proposed that two measures of attainment be based on the proportion of learners achieving one or more SCQF level 5 qualification or above, and one or more SCQF level 6 qualification or above, upon leaving school. These measures should be re-considered. As the focus is on raising attainment for the most disadvantaged learners, coupled with raising attainment for all, then there is a need to set measures at levels that can be regarded as markedly improving an individual’s life chances. There is therefore a need to either substitute the proposed measures with more ambitious ones, or at least introduce more ambitious measures in addition to those listed. For illustration purposes, the Commission on Widening Access used an estimate of the number of leavers from SIMD 20 who achieved at least four ‘B’ grades in their Highers as a proxy for a minimum level of attainment required to undertake a full-time degree course at a more selective institution. While we are not suggesting that this measure be used, it serves to demonstrate a level of ambition that is absent from the current proposals.

**Question 5: Is 3rd level the right measure to use of attainment at S3?**

Table one indicates that for secondary school literacy and numeracy achievement at level three or better is the proposed measure. However, achievement of fourth level by the end of S3 would represent a more appropriate and ambitious measure since the fourth level outcomes provide the platform for progression to the senior phase qualifications. Given that the SSLN assessed third level performance near the end of S2, if performance at the end of S3 is to be used as a measure of attainment, this suggests that it needs to be at the fourth rather than third level.

There is also a need to have some performance indicators which go beyond achieving a level and provide more detailed information on performance within the level considered, and whether that level has been exceeded. SSLN, for example, distinguished between performing well, very well and beyond that level. This kind of information is essential to establish not only the achieved competencies but also how well that level has been achieved.

**Question 6: Does the use of SCQF levels reflect a sound approach to measuring senior phase attainment? Are there other options such as Insight tariff points?**

In relation to the first part of this question, the RSE believes that SCQF levels are appropriate, but there is a need to look beyond school-based attainment measures.
The second part of this question refers to potentially making use of Insight tariff points. The RSE should like to draw attention to two issues here. First, use of Insight could potentially result in perverse incentives if schools were to promote approaches that seek to maximise the number of Insight tariff points over the needs of individual learners. Secondly, Insight is a professional tool for secondary schools and local authorities, and so reliance on Insight would constrain attainment to school-based measures.

**Questions 9 and 10 on the use of stretch aims**

Annex A on the proposed stretch aims shows attainment rising overall, but with the largest attainment gains being made by the most disadvantaged learners, resulting in the attainment gap reducing to five percentage points across all but one measure by the stated end points. However, it is unclear as to how the trajectories and end points have been arrived at. We believe it is important that the Scottish Government publishes the analysis underpinning the stretch aims to allow conclusions to be reached on their reasonableness. It is important that milestones are both ambitious and realistic. It also needs to be borne in mind that changes in attainment will not necessarily follow this targeted trajectory. The Government needs to consider what its response will be to alternative outcomes, especially if the results indicate a widening of the attainment gap, or if the attainment gap closes, but only as a result of worsening performance among the more affluent groupings. Either of these scenarios could arise, so the Government needs to factor them into its thinking.

The measures proposed in the consultation aim to provide a picture at the national level. However, it needs to be recognised that there is likely to be a considerable variability in attainment as defined by the proposed measures at the level of individual local authorities. Clarity is required on whether the stretch aims will be applied to all local authorities on the same basis as the proposed national trajectories. While the consultation paper suggests that the stretch aims will assist local authorities as well as the Scottish Government, we contend that differential stretch aims will be needed to cater for different circumstances in local authorities.
**Additional Information**

This Advice Paper has been signed off by the General Secretary of the RSE.

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