

## **EDUCATION AND SKILLS COMMITTEE**

### **Scottish National Standardised Assessments (SNSA)**

#### **SUBMISSION FROM Lindsay Paterson**

Further information relating to this submission is in the source cited at the end (a blog on the Reform Scotland website). That information includes some relevant technical statistical details, drawing upon information provided by Freedom of Information Requests 18-02228, 18-02327, and 18-02535.

#### **1. Arguments in favour of the new SNSA**

The new arrangements have several strengths:

1.1 They allow the tracking of individual pupils throughout their schooling. This is the most informative kind of educational data, taking account of the intrinsically longitudinal nature of learning. Longitudinal tracking is the only form of data that is truly student-centred, because it allows us to see how pupils grow. It is the only way of taking into account where pupils start from and thus the only way of assessing how they change. Surveys that take place only at one moment of time cannot do this.

1.2 The Scottish National Standardised Assessments are of a high technical quality, with levels of statistical reliability that are satisfactory by the standards of good-quality testing. Notably, the reliability is high at every relevant school stage, including at P1. (Statistical reliability in this context may be thought of as a measure of the extent to which a test consistently measures what it is intended to measure, which in this case is attainment according to the criteria in Curriculum for Excellence.) Nevertheless, some improvement is required to bring them to the even higher levels of statistical reliability that have been achieved by the National Curriculum Assessments in England.

1.3 The plans for the development of the assessments take advantage of the opportunity for longitudinal data by proposing to construct 'long scales'. These will enable each pupil to be placed on a scale that stretches from early P1 to the end of S3. The scale is based on the curriculum that covers these ages. In due course, it would be straightforward to link pupils' results on these scales to their results in SQA examinations beyond S3, and so the SNSA results will be able to make a valuable contribution to understanding how students enter higher education or the labour market.

1.4 Teachers will thus gain reliable information about each pupils' progress through the stages of the curriculum, and thus will be able to tailor their teaching to each pupil's needs. Only standardised assessments can provide this kind of educationally useful evidence. Teacher judgements are – with the best will in the world – not so reliable as standardised assessments. The reason is that teachers (at all levels, from pre-school to university) inevitably are biased towards optimism and towards the level of attainment that is officially expected of the students in their class. Evidence about the extent of this understandable bias was found by the Scottish Survey of Achievement (the predecessor to the Scottish Survey of Literacy and Numeracy). Standardised

assessments provide a useful reality check, allowing teachers to calibrate their own judgements against independent criteria.

1.5 Pupils can benefit from this independent assessment, because it gives them realistic targets to aim for, and reliable evidence about how well they are doing. For pupils to benefit in this way requires that teachers use the results of the assessments to set realistic targets for each pupil and to explain to the pupil what progress they are making.

1.6 The same comment also applies to parents, who can be better informed about their child's progress than with any other system of parental information.

1.7 The systems of assessment used by many local authorities before the advent of the SNSA suffered from two disadvantages:

(a) They were not based as closely on the Scottish curriculum as the SNSA, whose development has been monitored by the same types of committees of teachers and other educational professionals as produced the curriculum in the first place. The basis in the curriculum strengthens the validity of the SNSA.

(b) The results of these previous systems of assessment were not statistically standardised on any representative group of Scottish pupils. The standardisation of the SNSA ensures that the expectations of what pupils might achieve is realistic for pupils going through Scottish schools today.

1.8 One particular feature of basing the assessments on the curriculum is worth emphasising: the tests for P1 were closely based on the curriculum for P1, and so if the tests are not thought to be valid for P1 then the same doubt must apply to the curriculum there.

1.9 Obtaining information on almost every pupil (at the relevant stages) in each school provides the most reliable possible information to the teachers, headteacher, local authority, and school inspectors about the development of the school. Only for the senior years of secondary school (through SQA results) has similarly reliable information been available hitherto.

## **2. Arguments for surveys of pupils**

Despite these arguments in support of the SNSA, there also are arguments in favour of dedicated surveys of pupils. The models for such surveys in Scotland are the Scottish Survey of Literacy and Numeracy (SSLN, 2011-2016) and the Scottish Survey of Achievement (SSA, 2005-2009).

2.1 Good-quality surveys can be as closely based on the curriculum as the SNSA, and can use assessments that are as reliable as in the SNSA. In addition, the great strength of surveys is that they can gather a much wider range of information than the SNSA currently has access to that is relevant to understanding the development of pupils and of the school system as a whole.

2.2 The main disadvantage of the kinds of surveys that have been used in Scotland is that they do not provide the detailed information about the progress of each individual pupil that the SNSA can. That is for two reasons: the surveys do not include every

pupil, and they do not track their samples over time. (See below, paragraph 3.1, for the way this problem has been successfully dealt with in England.)

2.3 The SSLN and SSA gathered evidence about pupils' own attitudes to studying, which could then be analysed in relation to the pupils' results in the assessments which these surveys conducted. Such analysis allows, for example, an investigation into whether pupils with high attainment tend to enjoy learning more than pupils with low attainment.

2.4 Another example is that the surveys gathered a much richer set of background information about pupils' homes than the SNSA in its present form will have access to. Properly designed survey questions of this kind then allow a more reliable investigation of the effects of poverty on educational attainment than the SNSA will provide.

2.5 A further strength of the surveys was that they gathered evidence from teachers as well as pupils. However, the SSA was much stronger in this respect than the SSLN, because it allowed the survey responses of each teacher to be linked individually to the survey responses and assessment results of each pupil whom they taught. This linkage allowed subtle analysis of how the practices of teachers related to the achievements of their own pupils. Amongst the conclusions which this provided was the discrepancy between the results of pupil assessments and the teacher judgements of the same pupil, noted in paragraph 1.4 above.

2.6 A well-designed survey can also give us insight into what makes an effective school, but only if the sample size in each school is large enough to give reliable data. The SSLN did not meet that criterion, essentially because it was designed to have a small sample from almost every school rather than, as the SSA had, a large sample from a representative sample of schools. The purpose of this kind of analysis is not to monitor individual schools, but rather to investigate whether certain kinds of school policies are associated with high attainment. For example, it would then be possible to investigate what kinds of school policy on discipline or on homework are associated with the strongest attainment.

2.7 Both the SSLN and SSA gave information about the whole of the Scottish school system, notably including independent schools. The SNSA at present will give information only on publicly funded schools. That gap in the SNSA deprives the Education and Skills Committee of the capacity to understand Scottish school education as a whole. Not including independent schools is regrettable for all stages of schooling, but is particularly serious for stages beyond age 16, where, for example, probably as many as one in six pupils who enter university come from independent schools.

### **3. Can the advantages of the SNSA and of the surveys be combined?**

3.1 The strengths of both approaches could be combined. One functioning example of doing so is the National Pupil Database (NPD) in England, which tracks every pupil in publicly funded schools from entry to formal schooling up to the end of schooling (and can also now be linked, where appropriate, to their entry to and progress in post-school education). The data on attainment is linked to data from the annual school census, allowing detailed analysis of, for example, the effects of poverty or of ethnicity on pupils' progress.

3.2. A similar system could be developed in Scotland, because the necessary legislative consent to allow the linking of relevant data has been given (subject to stringent safeguards to protect the anonymity of individual pupils): see the response from the Scottish Chief Statistician to the Education and Skills Committee on 28 November 2018).

3.3 It is to be hoped that, if Scotland were to develop a data base similar to the NPD, two kinds of improvement would be made. One would be to include all schools, not only publicly funded ones. The other would be to draw upon the experience of the SSLN and the SSA in also adding questions to teachers and headteachers about school policies and practices. The resulting data base would give an invaluable source of insights into how pupil progress might benefit from school policies, from the ways in which school resources are used, or from policies affecting the wider community. A data base of this kind could also record, as well as the results of standardised assessments, other relevant outcomes of education, such as children's emotional well-being, their levels of physical fitness, and their engagement in activities that are not included in the formal assessments.

### **Further information**

For further discussion of several of the points made in this submission, see

<https://reformscotland.com/2018/11/scottish-national-standardised-assessments-professor-lindsay-paterson/>