

STEM-ED Scotland

The next generation of National Qualifications in Scotland

A response to consultation

Consultation questions: "Next generation of National Qualifications in Scotland"

Note: the Respondent Information Form MUST be returned with our response.

Name/Organisation: STEM-ED Scotland

OVERARCHING COMMENTS

STEM-ED Scotland is a grouping of stakeholders in STEM education, with partners from universities, industry, schools, colleges and public sector agencies. We identify six key issues in this response that have implications for the proposals as a whole. In our responses to individual questions these are re-referenced briefly where appropriate, alongside other comments, which we regard as less fundamental.

The Consultation Paper presents the proposals in a context of "high ambitions" that embracing the values, purposes and principles of Curriculum for Excellence can provide an education "to meet the needs of Scotland in the 21st century". The proposals must be considered as a package in terms of how well they will support these aspirations and how well they will meet the needs of pupils and the post-school world. Whatever the precise details of the finally implemented package, we believe it should be designed to take account of the following six key issues.

- 1. a radical change will be required in the style of examination assessment**
 - *to be much more open in context, requiring application of understanding in new settings*
 - *with fewer but individually more substantial questions to be addressed, possibly with choice, requiring more extended answers and un-led multistep analysis*
 - *with courses re-designed very carefully so as to sustain the right level of overall subject difficulty, with question design and marking criteria tuned to be appropriate across the range of abilities*
 - *giving great weight to the important note on p10, para 4, about "being much more rigorous and explicit about the development ... of essential skills" as a requirement for "all pupils".*
 - *thus providing an incentive for corresponding and radical changes to the way in which subjects are taught, progressively building broadly applicable skills and understanding*

- 2. the unitised structure of school courses, at all levels, is counterproductive:**
 - *it substantially increases the burden of summative assessment*
 - *it acts to narrow the learner's focus of study at any stage, making study more disjointed and distracting attention from the wider picture*
 - *we do support teacher-driven internal assessment, graded and weighted in the final assessment*
 - *we recognise that NQ units are selected individually to support more flexibly designed bridging and training courses in further education and we would urge that alternative design mechanisms be enabled for that purpose*

- 3. the commitment to reinforce broad learning should be followed through in the senior phase:**
 - *to reduce the range of study in S4 to "a maximum of five courses leading to qualification" (p27, para 13) would be a significant retreat from Scotland's past strength in this regard: excessive specialisation will have occurred too soon!*
 - *we strongly urge that the new regime should continue to allow for up to eight courses to be*

followed through till the end of S4, albeit that not all pupils need take exams in all areas: we feel it important that pupils expecting to complete five Highers should have some level 5 certification in other areas, and also that less able intending school leavers might sensibly present for a subset of their potential S4 exams

- *we recognise that NQ courses, under current definitions, are specified as requiring 120 hours of classroom time: when offered as stand-alone courses (eg in FE) this might be appropriate, but where achievements in S3 are being built on, it should be possible to sit level 4 and 5 exams on the basis of a shorter "syllabus bespoke" class time in S4, particularly if assessment design is appropriately reformed*
 - *breadth of education depends not only on the number of courses studied at a given point, but also on the range of perspectives embedded in these courses; S4 study programmes should continue to require to range across the key curriculum areas, and individual courses should themselves be broad in perspective: we urge that the number of subjects offered at the S4 stage should be more similar to the number of S-grade subjects than to the full range of Intermediate subjects, and that there should be a careful analysis of what these subjects should be*
 - *in particular we are concerned to ensure that all pupils obtain a broad basic understanding across the STEM fields, rather than to focus on one or two narrower areas. We believe that engaging and educationally-valuable courses can be designed in core STEM areas for all pupils.*
- 4. opportunities to reduce the burden of national assessment should be taken in full**
- *the facility to award a pass at the level below that examined ("compensation") should make it unnecessary for anyone judged to have a good prospect of succeeding at H-level to require to have been examined at level 4 or 5*
 - *we advocate that rules should deny the opportunity for any school pupil to be examined at two different levels in the same subject without an intervening interval of at least 12 months*
 - *we strongly support the principle that there should be no external examination required at level 3, and would urge that this principle be applied also to level 3 literacy and numeracy*
 - *pupils should not face public examinations prior to the S4 year, perhaps led off by (ungraded) literacy and numeracy confirmation tests in a winter diet*
 - *we do support teacher-designed internal assessment, graded and carrying a significant weight when deriving the final assessment outcome but its design and use should as far as possible be in tune with the "Assessment is for Learning" philosophy*
- 5. level 4 and 5 subject curricula should be purpose-designed for pupils for whom these might be the highest levels attained at school in the subject area concerned**
- *SCQF level 4 courses should be designed to engage the interest of pupils for whom this is at the time the appropriate level for study: they should not be designed as a first stage of approach to the topic agenda set at SCQF 5; by the same token, SCQF 5 courses should not be designed as a watered down first step approach to the Higher syllabus*
 - *in the STEM areas this would allow for level 4 and 5 courses that are more "applied" and "practical" in approach, so that those who leave school at these levels will be better prepared to enter work in technology-rooted companies; for others this might better engage interest and may spark their determination to progress to Higher over S5/S6*
- 6. for most capable pupils enrichment of study at earlier levels is educationally more beneficial**

than "acceleration" to the next level formal curriculum

- *we do believe it is important to challenge able pupils to develop their intellectual capabilities and interest throughout their education, but in most instances an accelerated rush through the standard curricula at successive levels will not produce the depth of skill and capability that could be developed through studying at an "enriched" level.*
- *in particular there could be concern on maturity grounds if significant numbers of pupils were enabled to enter university education at too young an age*
- *our argument above that school SCQF level 4 and 5 courses should be "purpose-designed" to engage pupils for whom these might be the final levels studied whilst in school should enable more academic pupils, in bypassing those examinations, to have the opportunity to take a rather longer study time in an "enriched" programme designed for H-grade presentation*
- *in the same spirit we welcome the proposal to enable study for a course to extend over longer than a single school year: in addition to providing a more enriching approach to Higher for able pupils from the start of S4, this could apply to pupils progressing to Higher level after sitting level 5 exams in S4, taking the new level over 18 or 24 months*

PROPOSAL 1

National Qualifications at Access, Higher and Advanced Higher will be retained as points of stability. Highers, in particular, will remain the 'gold standard' of the Scottish education system. The content of all National Qualifications will be updated to reflect the values, purposes and principles of *Curriculum for Excellence*. Some aspects of the structure of these qualifications will also be reviewed.

Q1. Do you welcome the intention to update all qualifications at Access, Higher and Advanced Higher in line with *Curriculum for Excellence*? Please comment on any implications to be considered.

YES

1. *key issue 1: examination style*
2. *key issue 2: review the value of unitisation*
3. *embrace continuing enhancement of numeracy and literacy in course design and assessment*
4. *design the courses to suit schools but, separately from this review, support different course designs for further education (eg for access courses)*

PROPOSAL 2

A new qualification will replace the present Standard Grade General and Credit levels and Intermediate 1 and 2 (SCQF 4 and SCQF 5) qualifications. The new qualification will be available in a wide range of subjects, as at present. The new qualification will reflect the best features of Standard Grade and Intermediate. Standard Grade Foundation level will be removed and Access 3 will provide certification at SCQF level 3. (See Annex A Table 1 for illustration of new qualifications on SCQF framework.)

Q2. Early consultation has identified the 'best' features of Standard Grade and Intermediate qualifications as:

- the 'inclusive' approach to certification contained in Standard Grade; and
- the 'unit based' structure of Intermediate qualifications.

Are there any other features in the present Standard Grade and Intermediate qualifications which should be included in the new qualification at SCQF levels 4 and 5?

- (a) key issue 2: review the value of unitisation*
- (b) key issue 5: design level 4 & 5 courses to engage those who most need them*
- (c) key issue 4: reduce the burden of national assessment*
- (d) key issue 3: ensure breadth of learning (especially through S4)*
- (e) ensure that all pupils obtain a broad basic understanding across the STEM fields, rather than an inward-looking focus in one or two specialisms*

Q3. One of the proposals is to grade units. Do you agree that units should be graded A-C rather than pass/fail?

YES, for in-course grading

- (a) we oppose the continued compartmentalisation of school courses into units but, if units are retained, we agree they should be graded internally by teachers*
- (b) grading is essential to encourage pupils always to strive to do their best, rather than to do the minimum to achieve a bare threshold level*
- (c) external moderation should be random sample based rather than comprehensive, and supported by teacher CPD including active peer group interaction*

Q4. Do you want graded units to count towards the final award?

YES, for in-course grading to count

In-course assessment is vital to confirm that achievement through the whole period of the course is important. We would be happy for up to a 30% weighting be allocated. We do not support retention of units (key issue 2), or their end-assessment, as a necessary or good mechanism to generate this contribution.

Q5. Which option for introducing compensatory arrangements would you most support?

Please tick one option or suggest an alternative.

Option A Extend the range of grading in course awards

- (a) we support provision for compensatory awards, which should be referenced to the specific course that was studied: option A is best amongst those suggested*
- (b) in analogy to the practice where an unclassified degree can be awarded after examination at honours level: we suggest a special "grade" descriptor to indicate performance sufficient to exempt the candidate from examination in the subject at the next-lower level - perhaps designation "AG" could signal this from a Higher assessment - this could be awarded on its own, but also alongside Grade D where merited*
- (c) key issue 5: design level 4 & 5 courses to engage those who most need them*
- (d) key issue 4: reduce the burden of national assessment*

Q6. The proposed name for the new award is General (SCQF 4) and Advanced General (SCQF 5). Please indicate if you are content with this suggestion. If not please offer an alternative and explain your choice.

YES or NO??

A COMMENT TO CONSIDER: The use of the term 'Advanced' might reasonably be exclusive to the highest possible level of study at school.

SUGGESTIONS?	SCQF 3	SCQF 4	SCQF 5	SCQF 6	SCQF 7
	Access	Standard	Intermediate	Higher	Adv H
	Access	General	Credit	Higher	Adv H
	Access	Basic	Intermediate	Higher	Adv H

PROPOSAL 3

New awards in literacy and in numeracy will be available at SCQF levels 3 to 5.

Curriculum for Excellence brings a sustained focus on developing literacy and numeracy skills in our young people. To help strengthen this focus, the Scottish Government is proposing new separate awards to accredit young people's literacy and numeracy skills – the Scottish Certificate for Literacy and the Scottish Certificate for Numeracy. The awards will be available at SCQF levels 3 to 5. The expectation is that all young people will be presented for these awards unless there are exceptional reasons for not doing so. The intention is also to ensure that the structure of these awards is flexible enough to make them available to adult learners.

Q7. Do you agree with the proposal to offer literacy and numeracy awards at a range of SCQF levels (3 to 5)? If not please offer an alternative.

YES

- (a) *Given that literacy and numeracy skills development is intended to pervade delivery of all subjects across the curriculum, it presumably must follow that progress will be logged by pupils and some form of **portfolios of evidence** will be built up, with achievement level being monitored fairly regularly through the 3 - 15 years of education. We further presume that the relevant skills will regularly be reused in work across subjects. This represents a considerable long-term exercise that deserves formal recognition, which we believe should be the main component underlying assessment of these skills.*
- (b) *Literacy and numeracy have extensive lists of outcomes specified for the 3-15 age range, up to level 4. The skills listed for assessment in para 9 (p26) appear rather incomplete. We believe that the literacy skills at the higher levels should give some weight to being able to explain ideas or argue a case logically. Under numeracy there should be a strand involving assessing quantities, using units, and recognising scale in terms of orders of magnitude, skills critical to a basic understanding of science.*
- (c) *We do not believe that it would be consistent with CfE for literacy or numeracy to become separate and distinct subjects of study at any stage in secondary schooling.*

Q8. National Qualifications at Access 3 (SCQF level 3) do not have an external examination. Do you agree that any new awards in literacy and numeracy at SCQF level 3 should have an external examination?

NO

We believe the level 3 award could be based entirely on portfolio evidence, verified by teachers, subject to peer-peer and some (light touch) external moderation..

Q9. Should the weighting between the internal and external assessments for the literacy and numeracy awards be equal? If not should more weight be attached to the internal or external assessment? Please explain.

More weight to internal assessment ✓

We believe that these qualifications are of an analogous nature to ECDL, or the English Language score for foreign students. The awards should not be graded. Short tests at SCQF 4 and 5 should verify that the skills evidenced in a portfolio have been retained and can be applied in new contexts. The internal school-based assessment should determine for which level the awards are sought.

Q10. When should young people be assessed for literacy and numeracy awards? Please tick one option.

Option B In the winter of S4

- (a) There is some merit in examinations in numeracy and literacy being tackled in a different diet from individual subjects. these generic areas should be examined first.*
- (b) Pupils not credited at level 5 should be encouraged to upgrade their numeracy and/or literacy assessments in S5 and/or S6, provided this is backed by internal evidence in the form of an enhanced portfolio.*

PROPOSAL 4

Increased flexibility to better meet the needs of young people. Suggestions include:

- studying National Qualifications over 18 months (or 2 years) as well as one year;
- introducing a winter diet of examinations; and
- encouraging the most able young people to bypass lower level qualifications and to study Highers from S4 onwards.

Q11. Do you agree with the proposal to allow the study of Highers and Advanced Highers over 12 months, 18 months and 2 years?

YES

- (a) this can address long-standing concern with the "2 term dash" for Higher courses .*
- (b) key issue 6: for most enrichment is more educationally beneficial than acceleration*
- (c) key issue 5: design level 4 & 5 courses to engage those who most need them*
- (d) key issue 4: reduce the burden of national assessment*
- (e) for pupils whose record suggests that they will readily reach level 7 by S6 it could be appropriate, from the beginning or mid-point of S4, to begin study at the more academic level required for Higher (ie level 6), aiming to take the exam at the end of S5*
- (f) we can see some attractions in a winter diet in S5 for SCQF 4 or SCQF 5 examinations, for pupils planning to leave at this stage, though note our strong concerns about the disruptive potential of such a diet*

Q12. Do you agree with the proposal to introduce a winter diet of examinations?

NO in general, except possibly in some very specific contexts

- (a) an additional diet risks very substantial disruption to education*
 - it would be disastrous if current revision and study leave practice was duplicated*
 - preoccupation with external exams would dominate two periods of the year, both for pupils and for schools making returns of information to the SQA*
 - if only some courses being studied were assessed in the earlier diet, pupil attention*

- is likely to be distracted from other on-going courses*
- *results from a mid-session diet would not be known before the next courses of study were well under way*
- (b) it does not seem unreasonable to run suitably designed winter examinations*
- *in literacy and numeracy*
 - *at levels 4 & 5 in S5, exclusively for pupils intending to leave at this stage*
- (c) early January might be more propitious than December for such limited diets*
- (d) key issue 4: reduce the burden of national assessment*

Q13. If you agree with the proposal to introduce a winter diet of examinations, what subjects and levels of qualifications might first be offered?

See our comments under Qs 10 - 12 above.

Q14. Would you agree with changes to the system which allowed the most able students to bypass qualifications at lower levels and begin study for Highers from S4 onwards?

YES

- (a) key issue 4: reduce the burden of national assessment*
- (b) key issue 5: design level 4 & 5 courses to engage those who most need them*

Q15. Do you have any other ideas for increasing flexibility within the senior phase (S4 to S6)?

Suggestions

TIMELINE

Q16. It is intended that planning for the new curriculum should commence in 2008/09, with approaches based on the new curriculum introduced from school year 2009/10. This suggests that the new and revised qualifications and any increased flexibilities would be required from 2012/13 onwards to ensure smooth progression between the curriculum and qualifications. Is this indicative timeline realistic? Please comment on any implications to be considered.

YES NO

We support this aim in principle. However, it is of overriding importance that the more fundamental educational issues raised in this response are explicitly and adequately addressed ahead of any rush to implement new structural arrangements.

ANY OTHER COMMENTS?

OUR RESPONSE HAS INCLUDED OUR MOST IMPORTANT COMMENTS AT THE START. WE ARE AWARE THAT THE QUESTIONNAIRE DESIGN MADE NO PROVISION FOR COMMENT AT THAT POINT, SO WE REPEAT THOSE COMMENTS HERE,

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