Review of Specifications

Contents

1 Executive summary and recommendations

SQA commissioned this report to support the ongoing review of its qualifications, it was written by Jennie Kelly Associates in April 2008.

The views expressed in the report are those of the author(s) and do not necessarily reflect those of SQA or any other organisation(s) by which the author(s) is/are employed. SQA is making this research report available online in order to provide access to its contents for those interested in the subject.

The aim of the research was to review the systems for specifying units, assessments and qualifications which are currently used in the UK and Ireland.

The existing arrangements in Northern Ireland, England, Wales and the Republic of Ireland were investigated through the websites of the principal awarding bodies operating locally. All of the awarding bodies had introduced some form of updated arrangements in recent years.

The conclusion of the research was that SQA already leads the way in terms of innovation but that there are opportunities to learn from other awarding bodies — particularly in making qualification structures readily understandable.

SQA should:

1   adopt an uncomplicated model when specifying Units and use this as the basis for the development of a simplified approach

2   study the composition of its vocational qualifications before revising the structure of the Unit specifications for its general qualifications

3   consider using flexible and devolved assessment and including assessment details in Unit structures

4   consider the Northern Ireland CCEA GCE in Design and Technology (Appendix 8), the Edexcel Diploma in Engineering (Appendix 9) and the OCR Certificate/Diploma for IT Professionals (Appendix 10) as useful sources of information when designing new qualifications

5   commission research in this area to obtain the most up-to-date information and gain access to plans for the future

The research was carried out by Jenny Kellie Associates during March 2008.

2 Introduction

2.1 Remit

The aim of this project was to review systems that are currently used to specify units, assessments and qualifications — and to consider their relevance to developments in Scottish education.

2.2 Methodology

The existing arrangements in Northern Ireland, England, Wales and the Republic of Ireland were examined — as far as these were described on the websites of the principal awarding bodies operating locally. All of the awarding bodies had introduced some form of updated arrangements in recent years.

The consultant also considered how SQA specifies its further education, higher education, vocational education and 'Skills for Work' provision.

The work involved extensive desk research (mainly web-based) into the delivery, assessment, verification, certification and learning support for qualifications (broadly equivalent to SCQF levels 4–5) that are being delivered in England, Wales and Northern Ireland, as well as a review of awarding body practice in the Republic of Ireland.

Particular attention was given to the possibility of a simplified approach to unit specification, based on a distillation of the other approaches studied.

The report concludes with a number of recommendations. However, it must be recognised that this type of research can only uncover existing or formally planned and announced future arrangements. Some further research would be needed to unearth future arrangements that are still at the internal planning stage. Unfortunately, the timescale for the research did not allow for interviews with representatives of the awarding bodies.

3 Review of the present position

3.1 SQA

At present, SQA has a framework of qualifications embracing:

♦ Advanced Higher, Higher, Intermediate and Access levels
♦ Standard Grades
♦ Core Skills
♦ Skills for Work

There is also a large range of vocational qualifications.

Within this framework, the qualifications are defined in terms of Units, each clearly specified. There are also free-standing Units that are taken and certificated on their own. On the basis of the achievement of Outcomes (defined in the Units), appropriately assessed and recorded, SQA can award certificates showing the nature and the level of the qualifications gained.

As an awarding body, SQA approves centres to deliver specific qualifications and publishes and oversees the criteria for these approvals. SQA defines the administrative arrangements that are required to monitor the progress of candidates and to implement assessments, tests and examinations. SQA also provides guidance on how the Units should be delivered and how the Outcomes should be assessed.

In addition to these arrangements for the delivery of its qualifications (Courses and Units), SQA provides over-arching guidance for its qualifications together with support for learners, teachers and administrators involved in these arrangements. For example, *Introducing Sustainable Development: An Outline for Unit Writing Teams* (FF3392) and *Introduction to Enterprise and Employability: An Outline for Unit Writing Teams* (FF3393), both of which can be downloaded from **www.sqa.org.uk** › Services for appointees › downloads.

3.2 Other places

Overview

In the last few years there have been some very important developments in the other parts of the United Kingdom and also in the Republic of Ireland.

Northern Ireland

The provision of a national curriculum and the oversight of its implementation are the statutory responsibility of the Northern Ireland Council for the Curriculum, Examinations and Assessment (NICCEA).

The 'New Curriculum' was introduced by NICCEA in 2005 and its implementation followed in 2006 and 2007. A further revision was introduced in September 2007 when it became statutory for Key Stages 3 and 4.

Aim

The aim of the New Curriculum is to empower young people to achieve their potential and to make informed and responsible decisions throughout their lives.

Objectives

The curriculum objectives are to develop the young person as an individual, as a contributor to society, and as a contributor to the economy and environment. These stand comparison with the four capacities of Curriculum for Excellence.

The aim, objectives and further details are contained in a chart entitled the 'Big Picture' (see also Appendix 1 of this report). Within this diagram, the area entitled Learning for Life and Work comprises Personal Development, Local and Global Citizenship, and Employability.

Other parts of the United Kingdom have introduced changes more recently and although the concepts in these new curricula do not match exactly those in the NICCEA New Curriculum, they are sufficiently close to suggest that further major revisions to the New Curriculum arising from these developments are unlikely in the short term.

The proposed NICCEA arrangements include internal assessment of the coursework project, externally moderated, amounting to 60% of the total marks. This model could offer something to SQA in terms of devolved assessment.

England and Wales

Responsibility for the National Curriculum in England and Wales rests solely with the Qualifications and Curriculum Authority (QCA) which is responsible for its definition, its dissemination and its implementation. QCA is revising the existing National Qualifications Framework to produce a simple and effective structure that allows for the accumulation and transfer of credit achievement. This is called the Qualifications and Credit Framework. In Wales it will form part of the wider Credit and Qualifications Framework for Wales (CQFW).

QCA has broadened its base of awarding bodies by allowing employers to gain official awarding body status. They will, however, need to comply with the requirements of the National Assessment Agency (NAA) which has responsibility for the National Curriculum and its implementation. Ofqual (Office of the Qualifications and Examinations Regulator), is now the regulatory body in England and Wales, and is independent of the NAA.

The details of the New Secondary Curriculum for England and Wales are available online (see Appendix 2 for a summary). It is to be implemented by schools from September 2008 to 2011. A statement of the aims of the Curriculum, a summary of it (called 'A Big Picture of the Curriculum'), links to support, and a statement of the

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General Teaching Requirements, are all available though the QCA website.
Programmes of study, support and guidance, and case studies are also available
through the website.

Aims

The stated aims of the New Secondary Curriculum are 'to enable young people to
become:

♦ successful learners — who enjoy learning, make progress and achieve
♦ confident individuals — who are able to live safe, healthy and fulfilling lives
♦ responsible citizens — who make a positive contribution to society'

These aims match three of the four capacities of Scotland's Curriculum for
Excellence.

Every Child Matters

One theme that pervades all of the curriculum and its implementation is the Every
Child Matters (ECM) policy: that every child should be healthy, stay safe, enjoy and
achieve, make a positive contribution and achieve economic wellbeing.

The idea that every child matters is one that might be considered by SQA in
developing the delivery of Curriculum for Excellence qualifications.

Awarding bodies

The five leading awarding bodies for General (school) Qualifications in England,
Northern Ireland and Wales (AQA, City & Guilds, Edexcel, OCR, CEA and WJEC)
have come together to form the Joint Council for Qualifications (JCQ). Under the
umbrella of JCQ, the awarding bodies have published common regulations for
schools, colleges and other organisations which are examination and assessment
centres.

The existence of these General Regulations, and the fact that all of these five
awarding bodies award qualifications within the same curriculum and are regulated
and accredited for this by Ofqual, suggests that their approaches must be very similar,
if not identical. The flexibility within the system lies with the delivery of the
curriculum by the schools and colleges. QCA believes that there is sufficient
flexibility within the framework for schools to build their own curriculum reflecting
their local context and meeting their learners' needs, capabilities and aspirations,
while retaining the essentials of the New National Curriculum.

Republic of Ireland

The National Qualifications Authority of Ireland (NQAI) was set up in 1999 to
develop and promote the implementation of a National Framework of Qualifications
across education and training in Ireland. Its principal tasks are to:

♦ establish and enable the implementation of the National Framework of
    Qualifications
♦ enable improved arrangements for access, transfer and progression for learners

♦ facilitate the recognition of international awards

The NQAI website has a link to the latest version of the National Framework of Qualifications (NFQ). This framework has 10 levels (see Appendix 3).

Education in Ireland

Although not required to start primary education until the age of six, most pupils are enrolled in infant classes at primary schools by the age of five. The schools follow an eight-year programme consisting of Junior and Senior Infants followed by classes 1 to 6. The arrangements emphasise a child-centred approach and the recently revised primary curriculum provides a variety of approaches to teaching and learning in the following key areas:

♦ Languages
♦ Mathematics
♦ Social, environmental and scientific education
♦ Arts education (including visual arts, music and drama)
♦ Physical education
♦ Social, personal and health education

There is no formal examination at the end of primary education.

The secondary education sector comprises secondary, vocational, community, and comprehensive schools. All these schools provide the Certificate courses prescribed by the Department of Education and Science and enter their students for the same national examinations.

Secondary education starts at the age of 12 and consists of a three-year Junior cycle leading to the Junior Certificate and a three-year Senior cycle leading to the Leaving Certificate, normally taken at age 18. All students must take a minimum of five subjects including English, Irish and Mathematics. However, students entering the Irish education system after the age of 11 are not required to take Irish language examinations. Other subjects can be chosen from arts, languages, science and other applied subjects like Mechanical Drawing or Woodwork. The Senior cycle also offers a 'Transition Year' providing an opportunity for students to experience a wide range of educational inputs, life skills and work experience away from the examination focus.

There are three versions of the Leaving Certificate Programme; the first uses this title, is the most commonly taken version, and can lead to higher education. The second is the Leaving Certificate Vocational Programme (LCVP). Students taking this programme must take five Leaving Certificate subjects including two vocational subjects, a modern European language and Experience. The third is the Leaving Certificate Applied (LCA), a person-centred programme to prepare students for working life. Although it does not qualify students for direct entry to higher education, they may be able to proceed to many Post-Leaving Certificate courses. The course consists of a number of modules covering General Education, Vocational Education and Vocational Preparation.

These three strands divide the schools population into those for higher education, those for vocational education, and others.

3.3 Unit structures in other places

An examination of the arrangements adopted by the awarding bodies in England and Wales has disclosed that the unit structures used by AQA, City & Guilds, CEA, EDEXCEL, OCR and WJEC all feature on the National Database of Accredited Qualifications. Their very existence on this database tends to impose a high degree of uniformity in the sort of information that they provide for inclusion, resulting in a high degree of overlap in the nature of the information.

Appendix 4 shows the various unit structures that they use, derived from typical qualifications at the GSCE-and-A-levels equivalent to the Higher, Intermediate and Access levels used by SQA.

A distillation of this information produces the following simple formula for the specification of a unit:

♦ Unit title
♦ Summary description
♦ Learning outcomes
♦ Knowledge, skills and understanding
♦ Assessment (including evidence required)

This suggests that the Unit specification currently used by SQA has little to gain from a close examination of the approaches used elsewhere in the United Kingdom, and that these approaches would certainly not simplify things. However, that is not to say that the overall approach used by SQA is beyond improvement, particularly when taking into account the requirements imposed by the adoption of Curriculum for Excellence. It is possible that minor elements of these approaches might be imported to advantage.

These will be examined later in this report. However, it is already clear that in order to simplify things, SQA should adopt a straightforward uncomplicated model for its qualifications.

The Northern Ireland Council for the Curriculum, Examinations and Assessment introduced its New Curriculum in 2005 with some further refinements in 2008. A typical example of a unit taken from this curriculum shows its structure as being:

♦ Unit title and descriptor
♦ Key questions
♦ Developing pupils' knowledge, understanding and skills
♦ Links with other learning areas
♦ Developing pupils' thinking skills and personal capabilities
♦ Learning intentions
♦ Possible learning, teaching and assessment activities

- ♦ Development of learning outcomes
- ♦ Links with key elements
- ♦ Links with learning for life and work

Although there are significant differences between this and SQA's Unit structure, additional items could be accommodated in the current SQA approach, if it were found desirable to do so, and if it took into account the separate responsibilities for qualifications and curriculum in Scotland.

3.4 Other qualifications

New draft GCSE specifications

New draft specifications were issued by OCR on the 4 April 2008 and are available online. They are due to be implemented in September 2009.

A key feature of the new specifications is that they provide flexible assessment allowing teachers to choose whichever assessment approach best suits their pupils. The new assessment is arranged into units which can be taken at the end of the course in a linear fashion, or used to support a modular approach.

The revised specifications are intended to make the assessment process more manageable for teachers and to make subjects more interesting and enjoyable for pupils.

An example of the use of the new specification is the specification for the GCSE in Design and Technology: Control Systems. Appendix 5 indicates how to locate the specification on the OCR website.

Each of the units is introduced with a description of what it contains, followed by a statement of the outputs on which the candidate will be assessed. This can include knowledge and understanding.

The unit assessments are each defined separately. They can involve internal or controlled assessment, marked internally and moderated externally. By its nature, some of the work might take place outside school. A portfolio of assessment evidence is built up for each pupil and this may be submitted on paper or electronically. Schedules of marks and grades are included.

For controlled assessments, centres can choose one of a number of theme-based tasks offered by OCR. These tasks are available for use directly or by adaptation to suit local needs. Several important controls are included covering: authenticity, feedback, time, collaboration, and resources.

There is clear guidance on task marking, including how to apply the assessment criteria and the use of 'best fit' marking grids. There is also a clear explanation of what is meant by moderation.

Teachers mark the tasks using the assessment criteria and guidelines provided. The sample of work presented to the moderator for moderation must show how the marks have been awarded in relation to the marking criteria. OCR moderators externally

moderate the teachers' marking to ensure that the assessment criteria have been applied fairly and consistently to the national standard. They may recommend re-scaling the teachers' marks.

This approach, including its flexible approach to assessment, could well be adopted by SQA in the delivery of its qualifications. However, SQA might wish to include the assessments in the Unit specifications, for a better overview.

In addition to the specification and assessment materials, the package also contains promotional materials and advice on teacher training. This whole package is quite bulky but it provides helpful guidance to the user and offers SQA a useful example of how this type of flexible assessment might be utilised.

SQA Product Design (Intermediate 2)

This qualification is covered here (see also Appendix 6) to enable comparison with the other three qualifications that follow. It uses the following headings:

♦ Structure (Units)
♦ Recommended entry
♦ Progression
♦ Core Skills
♦ Credit value
♦ Rationale
♦ Aims
♦ Course content (three mandatory Units): Designing, Communicating, Manufacturing
♦ Assessment – Units
♦ Assessment – Courses
♦ Relationship between Unit and Course assessment
♦ Added value of the Course
♦ Grade descriptions
♦ Estimates and appeals
♦ Quality assurance
♦ Approaches to learning and teaching
♦ Relationship between Intermediate 2 and Higher
♦ Special needs
♦ Product design in a broader context

Initial reaction to this structure suggests that it could be made more user-friendly. Also, the learning objectives could be stated with greater clarity and be more closely related to the assessment of their achievement.

OCR Design and Technology GCSE

Compared with the SQA information about the Product Design Qualification (Appendix 6), the OCR information (Appendix 5) appears to be better organised and presented. The key information for the user comes in the first five sections. They cover:

Section 6 contains administrative and 'technical' information, and could possibly be relegated to a separate document along with the appendices. Section 7 addresses more general issues:

♦ overlap with other qualifications
♦ progression from these qualifications
♦ spiritual, moral, ethical, legislative, economic and cultural issues
♦ sustainable development, health and safety considerations, and European developments consistent with international agreements
♦ avoidance of bias
♦ language
♦ Key Skills
♦ ICT
♦ Citizenship

Although all of the information in Sections 6 and 7 is relevant and helpful, it is not immediately essential to the front-line provider of the qualifications and could be relegated. On the other hand, the overall information about SQA's Product Design qualification comes in a sequence that is less helpful to the front-line user, who has to do more searching to find the key information.

Much of the information in both the OCR and SQA documents could be extracted and placed in a separate document. The OCR presentation almost achieves this separation by the sequencing of the information within the document.

EDEXCEL GCSE in Design & Technology: Systems and Control Technology

Appendix 7 indicates how to locate the qualification specification on the Edexcel website.

The presentation resembles that used by OCR and appears to concentrate initially on the essentials that would be of most help to a front-line provider of these qualifications. The important elements come first in the documentation and the less central information comes at the end. This suggests that it could be divorced from the main part of the specification and published separately.

The actual content of the units is expressed in terms of what the students should be taught and, at a greater level of detail, the specific content. The real content is expressed in the assessment criteria and the supporting 'Key Features'. The terminology used in the assessment criteria is explained, and the grade descriptors in particular are explained clearly.

Overall, the document is clear and, although it is lengthy, the explanations are put together carefully. It is necessary, however, to study the assessment criteria in order to understand the section on what is to be taught. This could be overcome by writing the learning objectives in different terms.

The accompanying Teacher's Guide is similarly detailed but well expressed and provides very helpful support for the teacher. It includes, for example, a section on teaching citizenship with design and technology.

However, there would appear to be little, if any, advantage to be gained by SQA adopting this form of presentation because of the problems with the sequencing of the information and the need to refer to the assessment criteria in order to determine the real content of a unit.

Northern Ireland CCEA GCSE in Design and Technology — Product Design

This qualification specification covers both the full course and the short course. Appendix 8 indicates how to locate the specification.

The information in this specification appears under five simple headings:

♦ Introduction
♦ Scheme of Assessment
♦ Subject Content
♦ Grade Descriptions
♦ Guidance for Teachers on Internal Assessment and External Moderation

The introduction also includes the Aims, the Assessment Objectives and the Qualification Structure. All of this tends to make the Introduction extremely 'heavy' — there is much information to be digested before arriving at the main purpose of the specification. Furthermore, one has to examine the Appendices to the Specification, which include sample exam papers, to see how the learning objectives are to be assessed. For instance, the exemplification of Key Skills demonstrates the sort of information that can be provided on performance, evidence and context.

The accompanying handbook is helpful in terms of learning and teaching and provides useful information on coursework assessment.

As with the other examples of specifications relating to the GCSE qualifications in England and Wales, the information is voluminous and not presented in the most helpful sequence. Also, the statements of the learning objectives are dependent on information provided elsewhere in the document. There are lessons to be learned from reviewing these sample specifications, particularly in relation to the sequencing of material and the way learning objectives are stated, but none could be adopted directly by SQA. Nevertheless, SQA could gain much from further consideration of this approach.

Diplomas

New qualifications called Diplomas have been introduced in England and Wales by Ofqual, the Office of the Qualifications and Examinations Regulator. The diplomas will be available at three levels, Foundation, Higher and Advanced, and across 17 subject areas ranging from humanities to engineering. They are being rolled out nationwide between 2008 and 2011.

These new qualifications for 14 to 19 year-olds provide a mixture of classroom learning, creative thinking and hands-on experience. In addition to the three levels, there will be a Progression Diploma for those who cannot take the complete Advanced course.

The longer term intention for Diplomas is that they should establish a position for themselves next to apprenticeships, and to GCSEs and A levels.

In March of 2008 the Government announced New Extended Diplomas. These will be larger than the main Diplomas and will appeal to students who want to do more in-depth and independent study.

Edexcel Diploma in Engineering

The Edexcel Diploma in Engineering is an example of a specification for a diploma that includes all three levels (see Appendix 9). Edexcel uses a standard format for the units in its Principal Learning qualifications. The headings for the unit structure are these:

- Unit title
- Level
- Internal/external assessment
- Guided learning hours
- About this unit
- Learning Outcomes
- What you need to cover
- QCF unit summary
- How you will be assessed
- Marking grid
- Guidance for teaching this unit

This standard format is helpful to those who are providing Edexcel qualifications. The specification differentiates between Principal Learning which is subject related and Generic Learning which includes:

- Functional skills in English, ICT and Maths
- Personal Learning and Thinking Skills (PLTS)
- A project
- Work experience

The functional skills are offered as stand-alone qualifications at level 1 for the Foundation Diploma and at level 2 for the Higher and Advanced Diplomas. Opportunities to develop Personal Learning and Thinking Skills are embedded throughout the Principal Learning and are assessed as part of these qualifications. Generic skills are integrated into, and reinforced within, the Principal Learning allowing learners to achieve Personal Learning and Thinking Skills. These are all achieved within sector-related contexts, but further opportunities to demonstrate these skills may be offered in the project and in the work experience.

The individual units define the learning outcomes and what is needed to cover them. The associated assessment criteria are expressed in terms of what the learner can do to demonstrate achievement.

For each focus of the assessment, there is a marking grid that gives guidance on how to differentiate between the three levels of marks to be awarded in each case. These unit marks are awarded by the assessors — but they don't grade the learners directly. Once the units have been completed and marked they are graded by Edexcel using a separate process involving professional judgement of performance, technical data and statistical data.

The overall grade for the Diploma will be based only on the grades obtained from the Principal Learning and the Project. Achievement of all of the components in the Diploma is required to gain a Diploma qualification. Points for the Principal Learning units (weighted as appropriate) are added to the points for the Project to get the Diploma score. The Diploma score is converted into a Diploma grade using published thresholds.

Unfortunately, this part of the marking and grading process is not very clear. It could give rise to concern over the uniformity of the application of the arrangements.

The guidance helpfully defines the difference between formative assessment, based on the short-term collection of evidence and its use to assist with learning strategies, and summative assessment which is used to inform an overall judgement of achievement perhaps leading to a certificate at the end of schooling.

Overall, these approaches have many advantages, particularly in the clarity of the presentation, and could provide useful information for SQA.

4 Implications of the review

4.1 SQA Qualifications

Range

SQA has an extensive range of qualifications covering secondary, further and higher education for which it is the sole awarding body. In the further education sector, SVQs are awarded by a number of awarding bodies accredited by SQA for the purpose. These involve the setting of National Standards by employers, thus including interests beyond those directly involved in education and training.

The range of qualifications delivered by, or for, SQA includes National Qualifications, Higher National Qualifications and Scottish Vocational Qualifications. National Qualifications include Standard Grades, National Units, National Courses and also Skills for Work Courses, National Progression Awards and National Certificates.

SQA needs to consider how its current qualification provision can deliver and fully support Curriculum for Excellence.

Scottish Vocational Qualifications (SVQs)

These vocational qualifications are accredited by SQA and are awarded by several awarding bodies including SQA. Each SVQ consists of a number of Units with the following structure:

♦ Title and brief summary
♦ Objectives, derived from National Occupational Standards
♦ Performance criteria
♦ Evidence of achievement
♦ Associated knowledge, skills and understanding
♦ Core Skills, either explicit or implicit

The objectives are actually learning objectives in the same way that learning outcomes define the results of the learning process. The performance criteria define the standard of performance required and also the conditions under which the performance is to be demonstrated. Although this approach is primarily behavioural, SQA should examine its own SVQs and how they are defined when deciding how the learning outcomes are specified in their other qualifications.

4.2 Other issues

There are several issues that came within the remit of this project which are considered below.

European Centre for the Development of Vocational Training (CEDEFOP)

In March 2007, the European Centre for the Development of Vocational Training published an article entitled 'Is it all just hot air?'. The focus of this article is on the use of learning outcomes to define the results expected of learning. CEDEFOP has proposed that this system be adopted throughout Europe. As far as Scotland is concerned, the principle of using learning outcomes in this way has already been adopted — and no doubt the Government would be happy to see it extended throughout Europe.

OCR Certificate/Diploma for IT Professionals — Level 3

The specification for this qualification contains an explicit statement of the learning outcomes for each unit, with statements of the assessment objectives, and the knowledge, skills and understanding related to each of the outcomes. It also details the form of assessment, the assessment tasks, and the sort of evidence that needs to be provided. It also supplies a sample assignment that students might follow. This specification could be used by SQA as an exemplar to improve existing guidance.

5 Conclusions and recommendations

1   One of the aims of Curriculum for Excellence is to simplify arrangements for the delivery of education and training in Scotland. As a first step in this direction, SQA should adopt a simple outline formula for the specification of a unit as the basis for the development of a simplified approach. For the qualifications used primarily in the secondary education sector this means using learning outcomes in a way that is parallel to the objectives used in further education and training, and contained in some of SQA's vocational and Higher National Qualifications.

2   SQA has an extensive range of vocational qualifications based on National Standards defined by employers. These standards are transformed into learning objectives as the basis for the general qualifications. SQA could improve the learning outcomes for its qualifications by studying the composition of its vocational qualifications.

3   Some of the examples mentioned earlier in this paper suggested revised assessment arrangements. In particular the new structure introduced by OCR advocates both flexible and devolved assessment, but retains control over verification. These arrangements should be given serious consideration by SQA, as should the HN devolved-assessment arrangements, though teachers would need much more training to be effective in this role.

4   Having examined a variety of other relevant issues and other bodies in the same position, it is clear that SQA already leads the way in terms of innovation. There are things to learn however from some other awarding bodies, particularly in the way that their qualification structures are expressed in terms that are easily understood even by the lay reader. For instance, it is recommended that SQA should examine in particular the Northern Ireland CCEA GCSE in Design and Technology (Appendix 8), the Edexcel Diploma in Engineering (Appendix 9) and the OCR Certificate/Diploma for IT Professionals (Appendix 10).

5   Using web-based desk research means that the work is limited by the information which awarding bodies are prepared to make available. Further research is needed to access planning for future developments.

Appendices

1 NICCEA

2 QCA

3 Republic of Ireland NFQ

4 Unit Structures (England & Wales)

5 OCR GCSE in Design & Technology: Control Systems

6 SQA Product Design (Intermediate 2)

7 EDEXCEL GCSE in Design & Technology: Systems and Control Technology

8 Northern Ireland CCEA GCSE in Design & Technology: Product Design

9 EDEXCEL Diploma in Engineering

10 OCR Certificate/Diploma for IT Professionals — Level 3

Appendix 1: Northern Ireland

NICCEA

The 'Big Picture' of the Curriculum at Key Stage 3 can be found at:
www.ccea.org.uk/ks3/pdf/teacher_pack/big_picture.pdf

The curriculum objectives are to develop the young person as:

- an individual
- a contributor to society
- a contributor to the economy and environment

The Northern Ireland Curriculum aims to empower young people to achieve their potential and to make informed and responsible decisions throughout their lives through learning:

- for life and work
- personal development
- home economics
- local and global citizenship
- employability

And through:

- personal understanding
- mutual understanding
- personal health
- moral character
- spiritual awareness
- citizenship
- cultural understanding
- media awareness
- ethical awareness
- employability
- economic awareness
- education for sustainable development

Key elements are:

- using ICT
- self management
- working with others
- communication using mathematics
- managing information
- problem solving

- ♦ decision making
- ♦ being creative

Promoting /encouraging cross-curricular skills — eg using thinking skills and personal capabilities across areas of learning in:

- ♦ English (Irish in Irish-medium schools) — with Media Education
- ♦ Environment and Society
- ♦ Modern Languages
- ♦ Mathematics (with Financial Capability)
- ♦ Physical Education
- ♦ Science and Technology
- ♦ Religious Education

Appendix 2: QCA

New Secondary Curriculum Working Draft: April–June 2008

♦ Problem solving, reasoning and numeracy
♦ Physical development
♦ Personal, social and emotional development
♦ Knowledge and understanding of the world
♦ Communication, language and literacy
♦ Creative development

The curriculum is seen as an entire planned learning experience underpinned by a broad set of common values and purposes.

Whole curriculum dimensions and approaches to learning are important.

Components

♦ Every Child Matters outcomes
♦ Focus for learning

Curriculum aims

♦ Be healthy
♦ Stay safe
♦ Enjoy and achieve
♦ Make a positive contribution
♦ Achieve economic wellbeing

Attitudes and attributes

♦ Determined, adaptable, confident, risk-taking, enterprising

Knowledge and understanding

♦ Big ideas that shape the world

Skills

♦ Literacy
♦ Numeracy
♦ ICT
♦ Personal learning and thinking skills

The curriculum aims to enable all young people to become:

♦ successful learners who enjoy learning, make progress and achieve
♦ responsible citizens who make a positive contribution to society
♦ confident individuals who are able to lead safe, healthy and fulfilling lives

Statutory expectations

These include overarching themes that are significant for individuals and society, and provide relevant learning contexts varied and matched to learning needs:

♦ identity and cultural diversity
♦ healthy lifestyles
♦ community participation
♦ enterprise
♦ global dimension and sustainable development
♦ technology and the media
♦ creativity and critical thinking

Learning contexts

These could include:

♦ enquiry
♦ instruction (active, practical, theoretical)

Assessment

Assessment must:

♦ be fit for purpose
♦ be integral to learning and teaching
♦ develop learners' self-esteem and commitment to their learning
♦ be personalised
♦ offer challenge and support to enable all learners to make progress and achieve
♦ cover a wide range of evidence to encourage learners to reflect on their own learning
♦ involve learners proactively in their own learning

Teaching and learning

Teaching and learning must include:

♦ opportunities for spiritual, moral, social, cultural, emotional, intellectual and physical development and be in tune with human development

Appendix 3: Republic of Ireland National Framework of Qualifications (NFQ)

There is a link to the 'Fan diagram' from the National Framework of Qualifications home page: www.nfq.ie/nfq/en/images/FanDec2006.jpg

Appendix 4: Unit structures used by other UK awarding bodies

EDEXCEL

♦ Unit summary
♦ Unit details
♦ Relationship to National Occupational Standards
♦ Learning outcomes
♦ Assessment criteria

OCR

♦ Unit title and descriptor
♦ Learning outcomes
♦ Links to other qualifications
♦ Entry restrictions
♦ Assessment objectives
♦ Knowledge, skills and understanding
♦ Assessment (forms of assessment, assessment tasks and evidence)
♦ Evidence checklist

WJEC

♦ Unit title
♦ Aims
♦ Other issues
♦ Knowledge, skills and understanding
♦ Scheme of assessment
♦ Subject content

AQA–CGLI

♦ Unit title
♦ Summary
♦ Unit details — level, subject area, credit value, additional assessment requirements, relation to national occupational standards
♦ Learning outcomes
♦ Assessment criteria

CEA

- ♦ Unit title and descriptor
- ♦ Key questions
- ♦ Developing pupils knowledge, understanding and skills
- ♦ Links with other learning areas
- ♦ Developing pupils thinking skills and personal capabilities
- ♦ Learning intentions
- ♦ Possible learning, teaching and assessment activities
- ♦ Development of learning outcomes
- ♦ Links with key elements
- ♦ Links with learning for life and work

Appendix 5: OCR Specification GCSE Design & Technology

The specification can be found at:

www.ocr.org.uk > Qualifications GCSE (for first teaching in 2009) > Design and Technology: Control Systems

http://www.ocr.org.uk/qualifications/gcsefor2009/dt_electronics/index.html

Appendix 6: SQA Intermediate 2 Product Design

Arrangements for Product Design can be downloaded from:

www.sqa.org.uk > NQ › Subjects > Product Design > Product Design Arrangements Documents and Specimen Question Papers

http://www.sqa.org.uk/sqa/3497.html

Appendix 7: Edexcel GCSE in Design & Technology: Systems and Control Technology (1974)

The specification can be found at:

www.edexcel.com > Qualifications > GCSE > Current GCSE > Design and Technology > Systems and Control Technology

http://www.edexcel.com/quals/gcse/gcse-leg/dt/1974/Pages/default.aspx

Appendix 8: GCSE in Technology and Design (Amended 2006)

The 2006 specification can be found at:

www.rewardinglearning.org.uk > Qualifications

http://www.rewardinglearning.org.uk/qualifications/results.aspx?g=2&t=4&c=r&s=8 7&v=0&f=0&q=34&d=d

The latest specification for teaching from September 2009 can be found at: http://www.rewardinglearning.org.uk/support/spec-changes/docs/gcse/draft/GCSE%20Revised%20Technology%20and%20Design%20S pecification.pdf

Appendix 9: Edexcel Diplomas in Engineering

The report referred to the draft specification. This was replaced by the final version in June 2008.

Final version is at:

http://www.edexcel.com/quals/diploma/engineering/Pages/default.aspx

Appendix 10: OCR Certificate/Diploma for IT Professionals

The specification can be found at: www.ocr.org.uk