

Policy and New Products

Research Report 7



Investigating Creativity in SQA Qualifications

Contents

Executive summary	1
Recommendations	1
1 Introduction	2
Policy context	2
What is creative thinking?	2
Methodology	3
2 Findings	5
2.1 Audit of Arrangements documents	5
2.2 Feedback from Principal Assessors	6
2.3 Feedback from teachers/lecturers and others	8
3 Conclusion	10
4 Recommendations	11
5 References	12
Appendix 1: the qualifications covered	13
Art and Design	13
Graphic Communication	14
Mathematics	15
Care	16
Appendix 2: Interview questions	17

Executive summary

This report was commissioned by SQA and written by Pat Toner, Consultant from PT Associates in April 2008. The report explores the extent to which creativity and creative thinking is currently taught and assessed in National Courses. The report concludes that the inclusion of creativity and creative thinking varies significantly in each subject area studied. Factors influencing this include:

- ◆ perceived relevance and value of creativity in the subject area
- ◆ agreed criteria to recognise and reward creativity
- ◆ acquisition of the prerequisite skills
- ◆ maturity and life experience
- ◆ articulation with higher education
- ◆ teaching methods employed
- ◆ time constraints
- ◆ knowledge and expertise of teachers/lecturers

Recommendations

Arrangements documents in all subjects should include a section on creativity. This could highlight where creativity and creative thinking are taught and where they are assessed in all National Courses.

SQA should issue generic guidance on how to write grade descriptions in relation to creativity and creative thinking to assist Principal Assessors in the assessment and acknowledgement of creativity.

The grade descriptions for Graphic Communication should be revised and updated to credit creativity and reflect the work that candidates are producing.

1 Introduction

The research brief for this investigation was to:

- ◆ define creativity based on current research and policy
- ◆ audit existing qualifications and arrangements for National Courses to determine the extent to which creativity is currently assessed
- ◆ assess how creativity can be encouraged in teaching and assessment and identifying ways in which this might be done

This report examines the extent to which creativity included in the description of the qualification content is assessed currently. The report indicates whether creativity in the subjects is, or should be, encouraged in teaching and in the generation of evidence for assessment. The report identifies approaches which might make this possible.

Policy context

A Curriculum for Excellence was published in 2004 as the first stage of a review of the 3–18 curriculum covering pre-school, primary, secondary, and schools' work with colleges. The review identified the principal purpose of education as enabling all children and young people to become successful learners, confident individuals, responsible citizens and effective contributors. Among the skills required to be a successful learner is the ability to 'think creatively and independently'. Effective contributors should be able to 'create and develop'.

Determined to Succeed (DtS), the Executive's strategy for enterprise in education, was launched in March 2003. Its aim is ensuring that young people in Scotland are prepared for the world of work when they leave school. Young people are being given the opportunity through DtS to develop creative approaches and enterprising attitudes by experiencing new and exciting activities in the classroom. They are also being encouraged and empowered to improve their self-esteem and self-motivation.

What is creative thinking?

The National Advisory Committee on Creative and Cultural Education's (NACCCE) report, *All Our Futures*, defines creative processes as having four characteristics: emphasising imagination, pursuing a purpose, being original and making judgements of value. The report says that creativity can be developed in all areas of the school curriculum, including the sciences as well as the expressive arts. The paper *Creativity in Education* (2001), published by the IDES Network (which promotes innovation in Scottish education), says that we are all, or can be, creative if we are given the opportunity. Creativity has a number of important facets:

- ◆ it is always about originality — forming or making something new
- ◆ it involves purposeful application of knowledge and skills
- ◆ it includes various ways of thinking, doing and communicating
- ◆ it is evident in the thinking and actions of individuals and communities
- ◆ it is not a good thing in itself — it must be values-driven

Learning, Thinking and Creativity, a staff handbook published by Learning and Teaching Scotland in 2004, identifies the following skills and strategies to foster creative thinking.

The creative thinking key skills are:

- ◆ generating ideas
- ◆ making connections
- ◆ altering perspectives
- ◆ applying imagination
- ◆ fashioning outcomes

Strategies for developing creative thinking include:

- ◆ brainstorming to generate and develop ideas to make connections
- ◆ role play, group work
- ◆ predicting outcomes, anticipating consequences, visualising goals, situations and problems
- ◆ creating and designing in visual arts and technology
- ◆ developing three dimensions of divergent thinking — fluency, flexibility and originality

Methodology

Desk research

The desk research comprised a review and comparative analysis of arrangements and assessments for a selection of externally assessed National Courses. Arrangements documents produced by SQA include guidance on learning and teaching approaches, and details of the assessment arrangements for each subject.

Arrangements documents were audited for references to creativity and creative approaches to problem solving. The subjects covered were:

- ◆ Art and Design Standard Grade, Intermediate 1, Intermediate 2 and Higher
- ◆ Graphic Communication Standard Grade, Intermediate 1, Intermediate 2 and Higher

- ◆ Mathematics Standard Grade, Intermediate 1, Intermediate 2 and Higher
- ◆ Care Intermediate 1, Intermediate 2 and Higher (there is no provision at Standard Grade in Care)

Interviews and consultation

A range of stakeholders from each subject area were consulted and interviewed.

- ◆ Principal Assessors
- ◆ SQA Qualification Managers
- ◆ SFEU subject advisors
- ◆ Teachers
- ◆ FE lecturers

2 Findings

2.1 Audit of Arrangements documents

The Arrangements documents were analysed first for how they specified the assessment or grading of creativity. They were then analysed further against the four characteristics of creativity:

- ◆ Originality — the forming or making of something new
- ◆ Purposeful application of knowledge and skills
- ◆ Includes various ways of thinking, doing and communicating
- ◆ Evident in the thinking and actions of individuals

Art and Design

Creativity was explicitly stated as an aim of the Courses at Intermediate 1, 2 and Higher. At all levels the learning and teaching approaches were designed to encourage creative approaches to problem solving and there was explicit guidance on encouraging creativity in the course content. Creative techniques and creative use of materials were expressly stated in the grade related criteria at all grades A, B and C, and at all levels.

The evidence from the Arrangements documents would indicate that creativity is fostered and assessed throughout the Art and Design National Courses.

There was clear evidence throughout the Arrangements documents at all levels of all of the characteristics of creativity.

Graphic Communication

Creativity was explicitly stated as an aim of the Courses at Intermediate 1, 2 and Higher. Learning and teaching approaches were designed to encourage creative approaches to problem solving. Creative techniques and creative use of materials were expressly stated in the grade related criteria.

The evidence from the Arrangements documents would indicate that creativity is fostered and assessed throughout the Graphic Communication National Courses.

There was clear evidence throughout the Arrangements documents at all levels of all of the characteristics of creativity.

Mathematics

Creativity was explicitly stated as an aim of the Courses at Standard Grade and creative thinking at Intermediate 1 and 2, but not at Higher. Learning and teaching approaches were designed to develop investigative skills at Intermediate 1 and 2. However there was no mention of creativity or creative thinking in the Grade related criteria for all levels.

The evidence from the Arrangements documents would indicate National Courses in Mathematics contribute to the development of creative thinking, but it is not explicitly taught or assessed.

There was clear evidence throughout the Arrangements documents at all levels of the following characteristics of creativity:

- ◆ Purposeful application of knowledge and skills
- ◆ Includes various ways of thinking, doing and communicating

Care

The evidence from the Arrangements documents would indicate that creativity is not explicitly assessed or graded in National Qualifications in Care.

There was clear evidence throughout the Arrangements documents at all levels of the following characteristics of creativity:

- ◆ Purposeful application of knowledge and skills
- ◆ Includes various ways of thinking, doing and communicating

2.2 Feedback from Principal Assessors

Art and Design

The summary from the Arrangements documents did not fully reflect the extent to which creativity and creative thinking are taught and assessed. Grade criteria in relation to creativity were extremely difficult to express in words.

Principal Assessors acknowledged that creativity and originality is expected from candidates studying this subject, so it was possible for teachers to encourage and enable pupils to think and work creatively.

The development of creativity and creative thinking was considered an essential element of the teaching and assessment of Art & Design. Despite this, creativity was considered hard to define in grade related criteria. Assessment of creativity, in terms of marks and grades awarded, remained subjective, and objective criteria were difficult to define.

However, the fostering and development of creativity and creative thinking was considered to be fundamental to the teaching of Art & Design throughout the curriculum. Teaching methods in the subject were designed to encourage creativity.

Graphic Communication

The summary from the Arrangements documents did reflect the extent to which creativity and creative thinking in Graphic Communication are currently being assessed. This is a rapidly evolving area, and changes in Advanced Higher Graphic Communication, with its greater emphasis on developing creativity and creative thinking, are filtering down to the teaching of the subject at other levels. The assessment of the subject at Intermediate 1, 2 and Higher levels does not give sufficient credit for creativity and creative thinking in the grade related criteria. Creativity and creative thinking were more apparent in the work produced at A and B grades, and grade related criteria should reflect this.

Principal Assessors considered it essential that grade related criteria be revised to recognise and reward creativity and creative thinking. However, they acknowledged that teachers in the subject area would themselves require some professional training and development to develop the skills to nurture creativity and creative thinking in teaching methods and approaches.

Graphic Communication is a subject area that lends itself extremely well to the fostering and development of skills in creativity and creative thinking, but this depends on the teaching methods, materials and approaches employed by individual teachers and lecturers. Graphic Communication has evolved rapidly as a curricular area — having, in the past, emphasised technical drawing — but teaching methods may not have evolved at the same pace.

Mathematics

The summary from the Arrangements documents in Mathematics did accurately reflect the extent to which creativity and creative thinking are taught and assessed in Mathematics.

Although creativity and creative thinking were desirable at Intermediate 1, the emphasis then shifted to the development of mathematical knowledge and techniques. These are required for problem solving, which is the focus of Mathematics Courses at levels from Intermediate 1 to Higher.

Principal Assessors thought that this shift in emphasis from creative thinking to investigative skills was adequately expressed in the grade related criteria. Creativity and creative thinking did not need to be reflected to a greater extent than at present.

Teaching methods, approaches and materials employed, particularly at Intermediate 1, did develop at least two characteristics of creativity and creative thinking, in that they involve purposeful application of knowledge and skills and included various ways of thinking, doing and communicating.

Care

The summary from the Arrangements document did reflect the extent to which creativity is assessed in Care, but did not reflect the extent to which creativity and creative thinking were encouraged in teaching. Principal Assessors reported that group discussion using stimulus materials was a favoured teaching method at all levels. Candidates were also encouraged to provide insight and apply approaches at all levels.

Creativity was considered a desirable feature of courses in Care to enable candidates to make connections with the different elements of the Course and apply their learning to case studies in the exam. The development of creative thinking enables candidates to apply their knowledge to new situations. Applying knowledge to new situations is an essential skill in the care sector.

However, Principal Assessors considered the development of creativity and creative thinking more relevant to teaching than assessment. Teaching methods, approaches and materials employed at all levels incorporated a wide range of stimulating and creative activities. Teaching materials were designed to enable candidates to make links between the components of the Course, particularly in relation to psychology and sociology, and to apply these both to case studies and their own lives. Teaching methods included research exercises, debates and discussion. Self assessment, peer assessment and reflection were encouraged as part of teaching and learning.

2.3 Feedback from teachers/lecturers and others

Mathematics

Teachers of Mathematics encourage communication and exchange of ideas, but time constraints often meant that investigations involving creative thinking and problem-solving skills were options that were not exploited fully. These kinds of investigations had been used in the past, but there were concerns that, particularly in schools, the work could not always be authenticated as being the candidates' own. Investigations involving creative thinking were then dropped as assessed elements.

Investigations also require candidates to be competent in a wide range of analytical and technical skills, so the focus, particularly in schools, is on development and acquisition of these skills.

Mathematics is used in a creative way in further and higher education within other subjects, such as Engineering. Mathematics helps students develop skills which they use in practical applications and modelling in a host of other subject areas.

Care

Care is primarily taught in further education rather than schools, and the majority of candidates are mature students with some life experience. Group work and discussion are widely used as teaching methods. Candidates are encouraged to

reflect and relate theory to personal experiences or case study scenarios. Verbal and written feedback on candidate work praises creative and innovative approaches. However, this is very much at the discretion of the individual teacher/lecturer.

Some interviewees expressed concern about articulation with higher education courses leading to professional qualifications in the wider care field. They felt that creative thinking, ideas and approaches may not be as accepted or valued here. There was a perception that, instead, there was more emphasis on citing established sources and references than on creativity and innovation.

3 Conclusion

The results highlight the variation in the recognition given to creativity and creative thinking in the four subject areas studied, and identified the factors that impact on how creativity is rewarded in the assessment and grade criteria for National Courses.

The perceived relevance and value of creativity in the subject area is the main influencing factor. Art and Design is perceived as the expression of creativity, and there is an emphasis on creativity in the assessment and grade criteria. Graphic Communication is evolving rapidly with the application of new technologies. There is an increasing emphasis on creativity but this is not reflected in the assessment and grade criteria.

Writing criteria to assess creativity against was highlighted in the responses from Principal Assessors as being difficult and challenging.

The time taken to teach the prerequisite skills, particularly in Mathematics, leaves little room to develop creativity and creative thinking. Creativity was more likely to be expressed through the application of mathematical skills in other subjects at a more advanced level. However, this would not be possible without mastery of the prerequisite skills.

The application of theoretical knowledge to a variety of situations required in Care depends on candidates having a certain level of maturity and life experience.

National Courses are the recognised passport into higher education, and they develop knowledge and skills to provide articulation into studying at a more advanced level. The extent to which creativity is valued in particular subjects in higher education is reflected in the assessment and grade criteria in National Courses.

The development and encouragement of creativity and creative thinking is fostered by interactive teaching methods including role play and discussions to generate and develop ideas. Teaching materials need to be structured to develop the key skills of creative thinking.

Teachers and lecturers require the knowledge and expertise to foster, recognise and reward creativity objectively and confidently.

4 Recommendations

A section on creativity should be included in the Arrangements documents. This could highlight where creativity and creative thinking are taught and where they are assessed in all National Courses.

There should be generic guidance issued by SQA on how to write grade descriptions in relation to creativity and creative thinking to assist Principal Assessors in the assessment and acknowledgement of creativity.

The current grade descriptions for Graphic Communication should be revised and updated to credit creativity and reflect the work that candidates are producing.

5 References

'Promoting Creativity in Education: Overview of Key National Policy Developments across the UK' an Information Paper by SEED (September 2006)

All Our Futures: Creativity Culture and Education (NACCCE 1999)

Roberts, Paul (July 2006): *Nurturing Creativity in Young People: a report to Government to inform future policy*

Learning, Thinking and Creativity — a staff handbook (Learning and Teaching Scotland, 2004)

Appendix 1: the qualifications covered

Art and Design

	Standard Grade	Intermediate 1	Intermediate 2	Higher
Course Structure	Expressive Activity Critical Activity Design Activity	Expressive Activity Design Activity Art & Design Studies	Expressive Activity Design Activity Art & Design Studies	Expressive Activity Design Activity Art & Design Studies
Aims		Develop creativity Promote and apply creative thinking	Develop creativity Promote and apply creative thinking	Develop creativity Promote creative thinking
Teaching Learning Approaches		Creative approaches to problem solving	Creative approaches to problem solving	Creative approaches to problem solving
Content		Guidance on encouraging creativity	Guidance on encouraging creativity	Guidance on encouraging and developing creativity
Assessment	Expressive Activity exam Critical Activity externally assessed by SQA Design activity – folio of work internally assessed	Folio of work externally assessed	Folio of work externally assessed Question paper exam	Folio of work externally assessed Question paper exam
Grade Descriptions		A creative techniques C – creative techniques	A creative techniques C – creative techniques	A – show creative use of materials

Graphic Communication

	Standard Grade	Intermediate 1	Intermediate 2	Higher
Course Structure	Knowledge and interpretation Drawing abilities Illustration & presentation	Technical Graphics 1 Technical Graphics 2 Computer Graphics	Technical Graphics 1 Technical Graphics 2 Computer Graphics	Technical Graphics 1 Technical Graphics 2 Computer Graphics
Aims	Enable pupils to exercise imagination, creative ability and logical thinking	Develop technological creativity in relation to the use of computer packages	Develop technological creativity in relation to the use of computer packages	Develop technological creativity in relation to selecting information and evaluating its appropriateness for graphic communication
Teaching Learning Approaches	Pupil centred	Structured around a series of tasks	Graded tasks and information sheets occasional guidance	Resource based learning approach — demonstrations, practical exercises
Content	Design tasks	Basic graphic skills basic computer graphical skills	Gain experience and develop graphical skills	Develop competence and apply techniques
Assessment	Knowledge and interpretation and drawing abilities externally assessed by SQA Illustration & presentation portfolio internally assessed	External exam covering all Units and a graphic presentation folio internally assessed	External exam covering all Units and a folio of computer graphics internally assessed	External exam covering all Units and a thematic presentation internally assessed
Grade Descriptions	Credit Use creative layout techniques	Folio creative and effective in providing visual impact		DTP documents should include creative use of text styles

Mathematics

	Standard Grade	Intermediate 1	Intermediate 2	Higher
Course Structure		Mathematics 1 Mathematics 2 Mathematics 3 or Application of mathematics	Mathematics 1 Mathematics 2 Mathematics 3 or Application of mathematics	Mathematics 1 Mathematics 2 Mathematics 3
Aims	Displaying initiative and creativity and demonstrating the relevance of mathematics	Contribute to creative thinking	Contribute to creative thinking	
Teaching Learning Approaches	Participative and interactive	Investigative approaches to learning	Investigative approaches to learning	
Content	Number money measurement shape relationships	Introduce mathematical skills	Extend mathematical skills	Progressive Units
Assessment	External exam	External exam	External exam	External exam
Grade Descriptions				

Care

	Intermediate 1	Intermediate 2	Higher
Course Structure	Sociology and Psychology in Care Values and Principles in Care Health & Safety for Care	Psychology for Care Sociology for Care Values & Principles in Care	Psychology for Care Sociology for Care Values & Principles in Care
Aims			
Teaching Learning Approaches	Candidate centred, activity based. Group work class discussion using stimulus material	Candidate centred, activity based reflect on own experience Provide insight and apply approaches	Candidate centred, activity based reflect on own experience
Content	Apply a basic understanding of sociological psychological and care ideas in the context of care practice	Explore issues relating to caring relationships	Understand development, behaviour , social influences, caring relationship
Assessment	External exam	External exam	External exam
Grade Descriptions		A Express an opinion supported by relevant evidence.... Show development of thought in reaching a conclusion	A ...use of logical argument and originality

Appendix 2: Interview questions

Principal Assessors, Qualification Managers and SFEU advisors

1. Does the summary from the Arrangements documents accurately reflect the extent to which creativity and creative thinking is taught and assessed in your subject area?
2. Do you consider creativity and the development of creative thinking to be essential/desirable/unnecessary for your subject area?
3. If you believe that creativity and creative thinking should be reflected to a greater extent in the grade criteria than at present, how could this be done and should it be at all grades or just at A?
4. Do the teaching methods, approaches and materials employed in your subject foster and develop creativity and creative thinking?