

Creativity Across Learning 3-18

September 2013

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Foreword

Scotland needs to prepare its young people for life and work in an uncertain economic and social environment if they are to thrive in an era of increasingly rapid change. The need for a well-developed set of higher-order skills will be a key part of the toolkit they will need and the ability to think creatively will be one of the most important tools in that toolkit.

Creativity skills are skills that are exercised in a wide variety of contexts. At its best, creativity draws on deep levels of knowledge and understanding in specific fields of learning but takes the learner to genuinely new places. It often draws together knowledge and insight from diverse areas of learning, combining them in truly inter-disciplinary ways. Creativity is very clearly at the heart of the philosophy of Curriculum for Excellence and is fundamental to the definition of what it means to be a 'successful learner' in the Scottish education system.

This report pulls together our developing thinking about creativity and creativity skills and how they can most effectively be developed in educational contexts. During the initial phase of the project, the opportunity to engage in dialogue with a wide range of practitioners was invaluable in helping us refine our own knowledge and understanding.

The report also draws on stimulating dialogue with other national agencies and delivery partners. We look forward to supporting the implementation of Scotland's Creative Learning plan in partnership with Creative Scotland and other organisations committed to developing creativity in Scotland.

While the findings presented here tell us that we still have some way to go in building confidence and expertise in the development of creativity, it also tells us that we are working with a rich array of opportunities and a great willingness amongst practitioners to create and learn from each other. Many should be reassured that their current practices, developed within the framework of Curriculum for Excellence, provide examples that are worthy of wider dissemination for the benefit of others.

In reading the report three key themes stood out particularly strongly for me. Firstly, it comes through repeatedly that a key element in enabling children and young people to develop creative skills was to help them to take greater responsibility for planning and managing their own learning. Secondly, the need to establish open-ended approaches to learning, where learners and teachers worked together to explore a theme, is a constant theme. Then thirdly, the potential to use external partnerships to broaden and enhance the learning experience is a theme which has especially high resonance for promoting creativity, albeit it also has relevance in all areas of learning.

Looking forward, Education Scotland is committed to continuing to work with partners and practitioners to take forward the recommendations of the report. I hope you find it valuable and invite you to join with us in addressing the exciting agenda for development that it sets out.

Bill Maxwell
Chief Executive
Education Scotland

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“Creativity is intelligence having fun.”

Albert Einstein

Introduction

This curriculum impact project report evaluates current practice in Scotland in the development of creativity skills in children and young people from age 3 to 18, across all curriculum areas. It proposes a definition what creativity is and identifies what part it plays in Scottish education. The project reflects thinking around Curriculum for Excellence as the broad general education becomes increasingly embedded and the senior phase develops. It is intended that this web-based report will act as a hub for ongoing professional discussion and development.

The project is the latest in a series designed to gauge the impact of changing practice on learners' experiences and achievements. It reports on successful partnership initiatives with one of Education Scotland's key partners [Creative Scotland](#), the national agency for the arts, screen and creative industries, which aim to develop creativity across learning. The curriculum impact project has harnessed the expertise in creativity developing in local authorities through the [Creative Learning Networks](#). It builds on national and international research into creativity, which will continue to influence thinking within Scotland as knowledge and expertise develop across the world. There are many examples of research and presentations by experts on the [Creativity Portal](#) a partnership resource jointly managed by Education Scotland and Creative Scotland.

Evidence for this project came from the following sources:

- A review of relevant literature to take account of key messages pertinent to creativity.
- Analysis of Education Scotland inspection documents and task reports.
- Engagement in professional dialogue with practitioners, specialists across Education Scotland and those with expertise in creativity from within and outwith Scotland.
- A series of focused inspection visits to a sample of pre-school centres, primary, secondary and special schools and to one college during the period December 2012 to June 2013. A list of educational establishments visited for this project is in Annex 1.

Education Scotland shared a briefing paper and the proposed topics for discussion and observation with schools and pre-school centres prior to visits. The topics used for discussions and classroom observation are in Annex 3 of the report. This enabled staff to consider our proposed definitions and to carry out informal self-evaluation in relation to their approaches to creativity. Professional dialogue about approaches to creativity identified during these visits was enhanced by findings from observations of learning and teaching, discussions with children and young people, staff and managers and where possible, local partners. The project team observed and discussed subject areas across the whole curriculum, with most lessons focusing on the broad general education. Almost all the staff observed in secondary schools had volunteered for an observation because they felt that their lessons would demonstrate aspects of creativity. Similarly, in primary schools, most

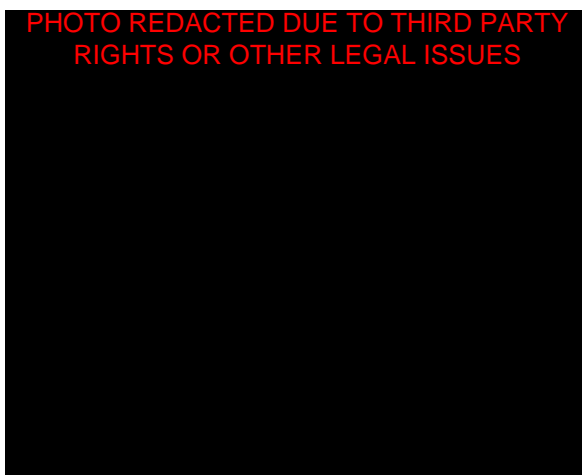
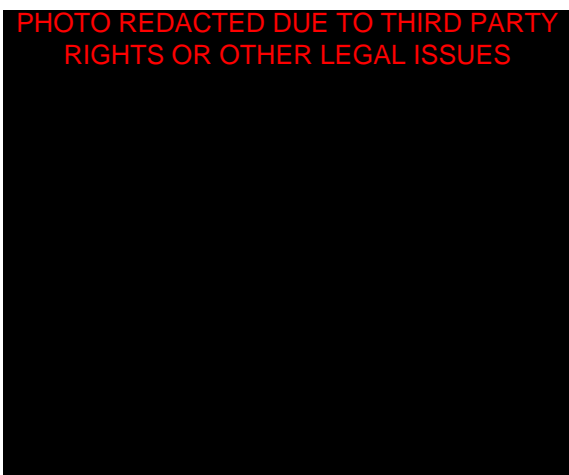
lessons observed had an element of creative intent. The college visit focused on a specific school, college and employer partnership project. In each of the pre-school centres and special schools the project team observed a normal day in progress.

The report is organised in five sections. Following the **introduction**, the report looks at the **context** for creativity. This includes exploring what creativity is, what creativity skills are, and why they are so important in Scottish education. The project has drawn extensively on national and international research to inform this section, and links and references to other publications are provided to support further investigation and study.

The next section details the **findings** identified mainly through the focus inspection visits, and seeks to answer the key question: *how well are creativity skills being developed in children and young people?* This section looks at leadership, planning and self-evaluation; staff understanding and confidence in creativity; the curriculum; learning and teaching approaches; impact on children and young people and on achievement. This part of the report includes several case studies, which describe a range of approaches being taken across education sectors to develop creativity skills in children and young people.

Finally, the project's **conclusions** are detailed, along with **next steps for improvement**.

Annexes provide further detail about aspects of the review. Annex 1 details the establishments which we visited or which provided information for the project. Annex 2 provides guidance about **what is currently in place to support creativity in Scotland**, with links to the key partner organisations which are working together to promote creativity as part of Scotland's Creative Learning Plan. Other annexes provide further detail about creativity within Curriculum for Excellence and include detail of the themes the project team used for classroom visits and discussions. Practitioners may find these useful to inform approaches to self-evaluation in their own establishments.



What is creativity?

Creativity has a high profile in Scottish education at present. It is a term that features prominently in Scottish Government policy, in Education Scotland's values and in support material and literature about Curriculum for Excellence. Scotland is not alone in exploring and focusing on creativity in education. It is also being talked about in other parts of the world, and there is a great deal of [national and international research](#) available which analyses what it is, why it is important and how best to nurture it¹.

The implementation of Curriculum for Excellence across Scotland continues to inform a national view about what education is for and how best to prepare young people for their future lives. Within Curriculum for Excellence creativity has a particular role to play in providing young people with the skills to manage the uncertainty and rapid change which will inevitably feature in their lives.

There are many [definitions of creativity](#), but most have common characteristics. They focus on the analysis and identification of problems and issues, the exploration of ideas and the processes by which these ideas are realised, implemented, evaluated and refined. Following analysis of relevant literature, and for the purposes of this project, Education Scotland has defined creativity in the following way:

Creativity is a process which generates ideas that have value to the individual. It involves looking at familiar things with a fresh eye, examining problems with an open mind, making connections, learning from mistakes and using imagination to explore new possibilities.

Creativity is a complex concept which can impact on children and young people in many ways. It sits at the top of the revised Bloom's Taxonomy of Skills, as detailed within the [Scottish Government Higher Order Skills Excellence Group report of 2011](#). Of course, the whole suite of higher-order skills, which include understanding, application, analysis, synthesis, evaluation, systems thinking and creation are interdependent and not truly hierarchical. Indeed, [other versions of the revised Bloom's taxonomy](#) are portrayed as intertwined spirals or cogs in a wheel. It is also emphasised within the Higher Order Skills Excellence Group report and in other relevant literature that all skills are based on knowledge and understanding, certainly a central tenet of creativity.

This curriculum impact project draws clear distinctions between the creative process, creativity skills, creative learning and creative teaching. Though they are different things, there is a natural relationship between them. The project has been based on the following definitions:

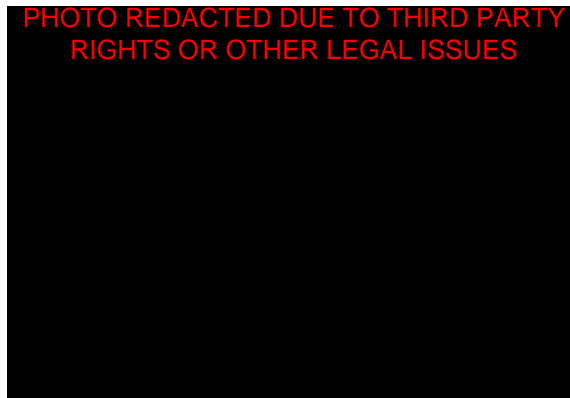
¹ See also, for example:

<http://ericbooth.net/>

and

Centers for Research on Creativity at <http://www.croc-lab.org/>

- A typical **creative process** involves investigating a problem or issue, exploring multiple viewpoints and options, generating and testing out ideas, developing, refining and communicating solutions and evaluating whether or not they have worked.
- **Creativity skills** are those skills which contribute to an individual's capacity to understand and apply a creative process.
- **Creative learning** describes the range of activities and approaches undertaken by an individual which supports the development of creativity and other skills.
- **Creative teaching** describes approaches and activities, developed and delivered by those who lead learning, which are usually exciting, innovative and often use unexpected techniques to engage learners. Though often associated with the development of creativity skills in learners, creative teaching approaches might not necessarily do this. They might for example, be used to help learners acquire knowledge and understanding effectively, rather than on the development of creativity skills in learners.



What are creativity skills?

The main focus of this project is on the development of **creativity skills** in children and young people. Within the project, the word *skills* encompasses attributes, capacities and dispositions, all terms which are used extensively in research literature. The project identifies the factors which support the development of creativity skills and some of the challenges which hinder it.

The project highlights four key creativity skills (in bold below), and identifies the type of attributes and learning approaches which support the development of these skills. These have been drawn from the literature available on creativity, much of which is available on the [Creativity Portal](#). Our definitions reflect the language of [the four capacities](#) and within [Building the Curriculum 3](#), for example: applying critical thinking in new contexts, being open to new thinking and ideas, demonstrating an enterprising attitude, demonstrating self-reliance and thinking creatively and imaginatively. The following list aims to exemplify further the language of Curriculum for Excellence. Although not an exhaustive list, Education Scotland proposes that creativity skills include being:

constructively inquisitive, by:

- being curious;
- registering patterns and anomalies;
- making use of previous knowledge;
- researching productively; and
- formulating good questions.

open-minded, by:

- using lateral thinking;
- using divergent thinking;
- hypothesising;
- exploring multiple viewpoints; and
- being flexible, adaptable and functioning well with uncertainty.

able to harness imagination, by:

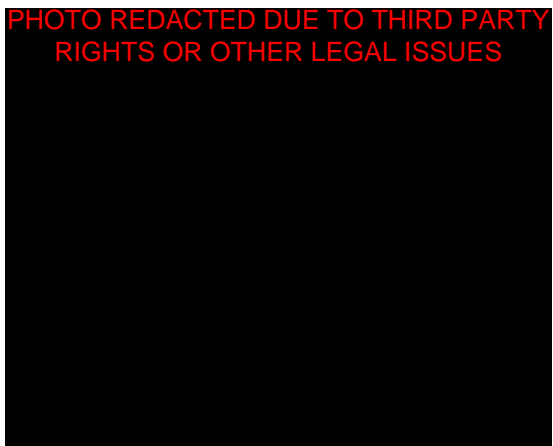
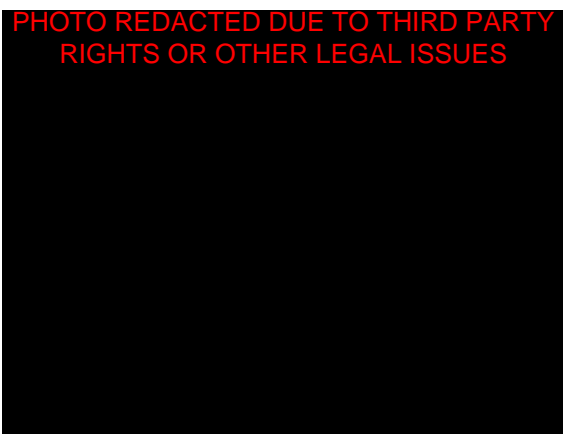
- exploring, synthesising and refining multiple options;
- generating and refining ideas; and
- inventing.

able to identify and solve problems, by:

- understanding and defining problems;
- crafting, delivering and presenting solutions;
- demonstrating initiative, discipline, persistence and resilience;
- evaluating impact and success of solutions; and
- identifying and implementing next steps in refinement or development process.

All of these do not apply all the time, but combined, and usually (though not always) in a loose sequence they form a suite of **distinct** skills, which support the **creative process** described earlier in this section. Of course, creativity is a complex concept, not governed by rules, so there may be occasions when things happen in a different order, or as a result of moments of inspiration, or in other ways not listed above. However, while the individual elements of this suite of skills can influence many learning situations positively, it is their **combination** and the consequent generation **of ideas**, which distinguishes creativity as a separate concept. Those familiar with [design processes](#) will recognise a similar concept.

Unlike in other studies, collaboration is not included in this project as a key skill, but that is not to downplay its significant contribution to creativity. Positive collaboration is critically important to the development of children and young people in general. Constructive approaches to communication, both in the generation of ideas and in realising and evaluating them are an important aspect of the creative process. Nevertheless, the project team takes the view that collaboration is not necessarily an essential part of the creative process, and there are many examples throughout history, particularly in the arts, of creativity as a successful and individual pursuit.



Why are creativity skills important for learners in Scotland?

In terms of impact, the development of creativity skills should enable children and young people to become increasingly:

- motivated and ambitious for change for the better, including in their own capabilities;
- confident in the validity of their own viewpoint;
- able to apply a creative process to other situations; and
- able to lead and work well with others, where appropriate.

The application of creativity skills as children and young people grow and develop skills for learning, life and work is particularly important. Creativity skills help children and young people not just to understand their world, but be sufficiently equipped to influence its shape and to exercise control over their interactions with it. In a climate of continuous uncertainty, change and challenge, this should enable young people to:

- interpret, anticipate and respond to developments and trends in, for example, technology, the economy, politics and social interaction;
- be adaptable and inventive in changing circumstances in, for example, the workplace or through enterprise activities;
- challenge the status quo constructively, and generate ideas for improving it;
- have a sense of control over their lives; and
- make a positive contribution to society.

Like many other countries, Scotland is reframing rapidly its economic future. The recent economic downturn has increased attention on the need for innovation based on high levels of knowledge and skill as the means to establishing a thriving economy. It is recognised that internationally, competition will be fierce, particularly in industries subject to rapid change and technological development. In its key document [The Government Economic Strategy for 2013](#), the Scottish Government identifies seven growth sectors where 'Scotland typically has distinctive capabilities and businesses with the potential to be internationally successful.' While all of these would benefit from creativity, innovation and inventiveness, there are three which are particularly oriented towards it. These are energy, (including renewables), life sciences and creative industries (including digital). It is anticipated that young people leaving school today will have many different careers in their lives. This

means they will have to be imaginative, flexible, adaptable, able to identify quickly their next steps and be able to implement them – all skills which sit within the realm of creativity.

Many employers are looking for individuals who will be sufficiently confident to make an effective contribution to economic performance, by being able to think creatively around problems and have the initiative to take forward ideas. Scotland, like many countries, recognises that it needs increased levels of entrepreneurship, but also, increasingly ‘intrapreneurship’ where employees commit to improving organisational performance from within. Countries across the world, notably China, South Korea, the USA and parts of Australia have begun to recognise the importance of creativity to future economic development and are taking steps to establish it within their school systems.

While there is a strong economic case for young people to have creativity skills, there are other arguments which support their place in education thinking. Scotland’s education system, through Curriculum for Excellence, strives to provide all learners with the means to lead fulfilling lives and make a positive contribution to society. There is a significant body of national and international research² about the social dimension of creativity, and how the development of creativity skills helps everyone to realise their potential, develop positive habits of mind and influence positively all areas of their lives. In a paper entitled [Researching, measuring and teaching, creativity and innovation: a strategy for the future](#), by Petra M^a Pérez Alonso-Geta of the Institute of Creativity and Educational Innovation, University of Valencia, the human dimension of creativity is described thus:

‘Human beings need to innovate and be creative within their surroundings in order to live and progress. Creativity is a trait all human beings possess to a greater or lesser extent. Creativity is a human characteristic, archetypal of the ‘being that ponders’ that thinks, that senses the relation of cause and effect. Humans are capable of imagining, formulating hypotheses, planning and carrying out ‘something new and worthy’, establishing objectives and putting in order one’s priorities.’

As well as fulfilling the very human need to explore and make new, creativity skills can support increased empowerment, resilience, self-discipline and increased involvement in society. In other words, being creative can have an impact on individual self-esteem, wellbeing and a sense of control. This can impact positively on communities, cultural, sporting and environmental activities, social awareness, health and relationships. A number of international studies, many based on activity within the arts³, emphasise the development of generic creativity skills which lead to better social engagement.

² See for example:

Big Thought in Dallas, USA <http://www.bigthought.org/research-evaluation>

Project Zero at Harvard University, USA <http://www.pz.harvard.edu/>

³ See for example:

Doing Well and Doing Good by Doing Art, James S Catterall, I-GROUPBOOKS.CO.UK, 2009

The Wow Factor, Anne Bamford, WaxmannVerlag, 2006

There is also [national and international support](#) for the idea⁴ that developing creativity skills helps people to learn better, whatever the subject area being studied. There are clear links between this aspect of creativity and the development of critical thinking skills. A focus on creativity can make learning interesting, relevant, personal and engaging. It motivates people to find out more, to apply prior knowledge productively, analyse and synthesise information purposefully, to build confidence in personal efficacy, and to develop resilience. It has the potential to ‘hook’ learners into an engaging and unfolding learning story over which learners can exercise influence. Anyone who has become deeply immersed in a creative task will recognise the concept of creative ‘flow’, a highly rewarding state of mind which involves intense concentration, a sense of deep engagement and personal agency with a task, and an apparently seamless flow of ideas and thoughts. Creativity at this level is the very epitome of deep learning, one of the primary aims of Curriculum for Excellence.

Everyone can develop, practise and improve creativity skills, whatever their starting point. While some individuals may have a stronger innate inclination towards creativity, everyone can develop their creative capacity to an extent. A number of studies have attempted to define measures of creativity⁵ in order to monitor how well creativity skills are being developed, so that teachers and policy-makers can be helped to identify these skills and promote and evaluate their development.



⁴ See for example:

Out of Our Minds, Ken Robinson, Capstone, 2011

Unlocking Creativity, ed Robert Fisher and Mary Williams, pub David Fulton, 2010

⁵ See for example:

Progression in Creativity: Developing new Forms of Assessment at

<http://www.creativitycultureeducation.org/progression-in-creativity-developing-new-forms-of-assessment>

Next Generation Creativity Survey Handbook: Assessing Creative Thinking, Behaviors, and Motivation in the Arts, Sciences and Social Problem Thinking at <http://www.croc-lab.org.uk>

Findings

How well are creativity skills being developed in children and young people?

Creativity skills: Leadership, planning and self-evaluation

There is strong agreement amongst leaders and staff across all education sectors that it is important to support children and young people to develop creativity skills, in order for them to function well in the future. There is also broad agreement that the definition of creativity skills within this project is appropriate, with much of the language already a familiar part of the learning landscape. However, while many school staff are familiar with the individual elements of the suite of skills, they rarely 'badge' them as creativity, or combine them to form a distinct creative process. The focus visits to schools as part of this project stimulated considerable professional discussion about creativity. In many instances, these discussions reduced the mystique that can surround creativity as a concept and reassured practitioners that they were already doing many activities associated with it. Discussions also ensured that practitioners understood that creativity skills can be developed in all areas of the curriculum, and not just in obvious areas, like expressive arts. Although most staff are familiar with the interrelated skills within the [revised Bloom's Taxonomy](#), there is general agreement that understanding of the creative process and associated creativity skills as distinct concepts needs to be enhanced across education sectors, so that their particular characteristics can be developed for the benefit of children and young people.

In almost all schools, Curriculum for Excellence has been a major catalyst for change in how learning is conceived and delivered. While confidence in new approaches is still building, most leaders and teaching staff acknowledge that Curriculum for Excellence has provided a helpful framework within which to open up and explore different approaches to learning and to focus on the development and tracking of learners' progress in skills. Up until the present time, there has been a strong focus on implementing the broad general education, with approaches to the senior phase currently evolving. Very few schools have a clearly articulated strategy for developing or monitoring creativity skills as such, but within school improvement plans, most are supporting clearly the progression of skills in enquiry, critical thinking, learner project management and learner self-efficacy, all of which sit within the creativity suite. Most school leaders acknowledge the need for clearer and more consistent processes to help learners identify and track their own skills development, including in creativity.

In many schools, enterprise initiatives have a high profile and provide a clear focus for the development and realisation of ideas, effective collaboration and understanding of market forces. Initiatives like [Micro-Tyco](#) have the potential to introduce children and young people to processes which require strong creativity, as well as skills in research and planning. However, while many enterprise projects lead to enhanced understanding of business practices in children and young people, they do not always demand in-depth analysis of an enterprise challenge or exploration of ideas using a genuinely creative process. It is also rare for schools to highlight to children and young people that a creative process is an intrinsic part of enterprise projects, so they may not always make the connection. Because

creativity is considered to be such an important part of entre- and intrapreneurship, there is a need for all education sectors to enhance their understanding of the skillset required for both, ensure that learners recognise that creativity skills have a practical application in their future careers.

In all education sectors there is a clear demand for more guidance and practical resources for teachers about what creativity is and how to nurture it. While most local authorities provide helpful guidance and support for the development of skills in general, including higher-order skills, specific guidance on developing creativity skills is at an early stage in many local authorities. School leaders and staff would benefit from increased contact with their local authority's [Creative Learning Network](#) with its potential to support creativity or creative partnership working and build practitioner confidence.

CASE STUDY 1: LOCAL AUTHORITY SUPPORT FOR CREATIVITY

Creative Conversations are City of Edinburgh's strategic response to developing a Creative Learning Network for the city. This successful approach has been picked up and adapted in other areas. Creative Conversations are high level discussion events of interest to anyone involved in creativity and learning. They are held approximately every six weeks. The purpose is to stimulate professional dialogue, reaching a shared understanding of creativity across sectors. At the core are the following ideas and questions:

- *What do we mean by creative learning within Curriculum for Excellence?*
- *How do the arts and culture support creative learning?*
- *What are the core capacities of creativity that the arts can help develop?*
- *What are we doing to further the agenda?*
- *How do we know if learners are developing creativity skills and attributes?*

The overall aim of Creative Conversations is to develop creative leaders and practitioners, contributing to improved outcomes for children and young people through the development of creativity skills. Throughout 2011/12 and 2012/13, 13 Creative Conversations were attended by around 480 teachers, head/depute head teachers, managers and creative practitioners. Each Creative Conversation has a different Creative Catalyst in the form of influential national and international figures and focuses on a high level theme. Discussion is about creativity and the new curriculum. Themes have included creative approaches to self-evaluation and inspection, arts and science, technologies, flipped classroom, and the role of the arts in creativity. Discussions have considered resources available to support creative learning, the challenges of exams and assessment and the opportunities to work in partnership with the arts sector. All Creative Conversations have been excellent professional learning for practitioners, stimulating further debate and action in schools. As a result of Creative Conversations more teachers have a better understanding of creativity and are engaging in creative learning and teaching. Creative Conversations are continuing with increasing levels of participation. Practitioners are working collaboratively to develop creative learning resources and trialling City of Edinburgh's self-evaluation toolkit *How Good Is Our Creative Learning?* in a range of learning environments.

CASE STUDY 2: LEADERSHIP FOR CREATIVITY THROUGH A SCHOOL

Leadership for creativity is a strength in the Royal School of Dunkeld. It is manifested in collegiate, joined-up approaches to planning which place creativity at the centre of the thinking and planning. The headteacher has worked very closely with staff to focus on classroom and whole-school activities which encourage children to generate ideas and demonstrate initiative. A major influence on creativity in the school is the role of the pupil voice and the leadership of children within the school. All children are involved in at least one school committee to develop the work of the school. This impacts positively on planning of learning as well as on practical and environmental aspects of school life. This has resulted in many learning activities in which children take a lead role by suggesting areas of study, devising learning approaches and working together to explore themes. The result is a school community in which children and teaching staff discuss and exchange ideas and ensure learning is interesting, based as far as possible on real-life situations and is purposeful with challenge. There has been sustained improvement in the personal and social skills of children of all ages. Children have led conferences with parents about Curriculum for Excellence and demonstrate growing confidence in recognising, applying and evaluating higher order skills.

Schools and pre-school centres are well practised in self-evaluation, and many carry this out very effectively, with a positive impact on learners. Most teachers reflect on their practice constructively, and most evaluate their learning and teaching approaches rigorously. Increasingly, teaching staff evaluate their practice with colleagues and build effective shared approaches to learning, many of which encompass aspects of the suite of creativity skills. Nevertheless, self-evaluation very seldom focuses specifically on creativity skills, and again, reflects the limited profile that they have within education and within quality frameworks at present. Education Scotland's strategy *Building Capacity for Continuous Improvement*, to be launched in the near future, will provide a clear framework within which education authorities and establishments can look ahead and draw down approaches to learning which will transform the experience for children and young people. A number of local authorities are beginning to address the development of creativity across learning specifically in self-evaluation toolkits. (See case study 1)

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Creativity skills: staff understanding and confidence

Curriculum for Excellence has instilled greater understanding amongst teachers about how children and young people learn. In general, there has been an increase in collegiate approaches to planning and more frequent sharing of ideas amongst staff about new approaches, especially through Teacher Learning Communities. This has led to growing confidence in exploring innovative approaches aimed at developing skills, including those within the creativity suite. This inevitably leads staff into discussions which encompass creativity skills, though seldom articulated as such.

Many staff have benefited from Continuous Professional Learning events which have focused on higher-order skills, critical thinking skills, cooperative learning, enquiry-based approaches or which have helped them to give learners more responsibility for their learning. A small number of staff have undertaken professional development specifically in creativity, which they have found useful and stimulating. On occasions, live or video presentations by external experts in creativity have been used to stimulate constructive discussions amongst staff. Though teachers work well together in their schools, and sometimes across clusters, only a few have used [Glow](#) to collaborate with colleagues about the development of creativity skills. Most school leaders and staff could make better use of the [Creativity Portal](#) and its potential to inform professional learning through access to creative professionals, learning resources, research findings and presentations.

Across most schools within the past few years, there has been a significant shift in relationships between staff and learners. This has resulted in increasing levels of trust and responsibility placed on learners, which involves them more in planning their own learning. Many teachers are increasingly confident about making learning more active and more open-ended, helping learners to take more responsibility for their learning and, increasingly, including skills development in planning. There is a recognition that children and young people need a balance of learning approaches and, that while there are times when didactic teaching is useful and welcomed by children, this should not preclude the development of creativity skills.

While most teaching staff are enthusiastic about developing further their own understanding of how creativity skills can benefit learners, there are a few barriers to implementing the learning and teaching approaches which support it. Not all teachers are comfortable with the open-ended approaches required to support the development of creativity skills and a fair number acknowledge that they would require a lot of support to develop their own understanding of and confidence in creativity. Almost all teachers agree that learners need a good base of knowledge and practical skill at an appropriate level as an essential basis for creativity. Some teachers and parents are cautious about an over-focus on creativity and other broad skills at the expense of content knowledge in subject areas. For many secondary teachers, a key focus at present is preparing courses and programmes leading to the new National Qualifications, and many staff feel that a focus on creativity, while important, might not necessarily be a priority in the coming year. Most teachers also acknowledge that a significant amount of time is required to plan and prepare properly for the development of creativity skills and the evaluation of associated learning activities, and this needs to fit in with other time pressures. In a number of

secondary schools in particular, timetabling approaches can result in relatively short blocks of time for learning, which can mean that there is too little time to explore thoroughly a creative challenge.

CASE STUDY 3: WHOLE-SCHOOL APPROACH TO CREATIVITY

St Luke's High School in Barrhead has a specific strategy for the development of enterprise and creativity, and dedicated posts in place to support them. This is having a strong impact on the creative culture within the school, and has established a sense of constructive adventure in planning. Staff at all levels and young people are encouraged to suggest and lead on creative initiatives, and well supported when they do so. There has been a concerted effort to ensure that staff are familiar with the terminology of higher order skills and are mapping them in their planning. Young people in the school are confident and well able to discuss their skills development, including in creativity. Key approaches to building staff expertise include CPD sessions on creativity and an expectation that all staff will communicate and share ideas with each other as a matter of course. The school also regularly involves external partners within the curriculum, for example the [Forestry Commission](#), which enhances young people's understanding of the skills requirements they will need in their future lives. Another key feature of the school is involvement in external competitions with a focus on innovation and enterprise, including national engineering and stock market challenges. These provide high-quality opportunities for young people to apply their creativity skills.

CASE STUDY 4: CREATIVITY IN PLANNING

A group of six young people in S6 at Inveralmond Community High School, in collaboration with two members of staff and a teaching artist, formed a steering group to design a creative learning project for young people in S2. Initial planning sessions explored the nature of creativity, and students eloquently expressed their own experiences of creative learning and their ideas about how school could promote creativity in young people more fully. The group identified an initial prompt question - "What's the point of a zebra?" - which stimulated plans for an interdisciplinary experience exploring issues of identity, self and prejudice through drama and personal, social and health education. The senior students felt a strong sense of ownership and were actively involved in both planning and delivering the learning experiences. The presence of a teaching artist on the steering group encouraged a challenge approach to traditional ideas about teaching and learning and to explore a wide range of possibilities before agreeing on a final plan. As a result of carrying out the project, the S2 young people were able to develop skills such as teamwork and problem solving through a range of activities such as costume design, creative writing, performance and discussion. Throughout, they were encouraged to take risks, experiment and to make connections across subject areas. Teaching staff adopted facilitator roles and many activities were led by the young people. For example, one learner's suggestion that music could be used to support someone who was feeling isolated or depressed grew into a rich activity combining song lyrics, art and filmmaking. Theatrical elements such as a classroom

visit from a 'zebra' helped engage and motivate learners, while the use of a blog allowed pupils to interact with each other – and the zebra! – outside of class time. Evaluations from all the young people involved showed that they enjoyed the project very much and were conscious of having used and developed a range of key skills associated with creativity.

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Creativity skills: The curriculum

[Building the Curriculum 3](#) defines the curriculum as the *totality of planned learning* experienced across the four contexts of learning. This includes the ethos and life of the school, curriculum areas and subjects, interdisciplinary learning and opportunities for personal achievement. Increasingly, staff recognise the contribution of each of these contexts within the curriculum. There are good examples of creative learning activities which take place outside the classroom, some of which are described in the case studies throughout this report. Many children and young people were also able to describe activities which they undertook outside school which developed aspects of creativity, primarily in the expressive arts. However, because of a general lack of focus on specific creativity skills within most schools, creativity skills acquired outside the classroom were seldom incorporated into planning or monitoring of learner progression. Many staff have used the experiences and outcomes imaginatively to plan and deliver stimulating and effective learning. Many are developing confidence in planning for progression in skills in general, but others need to do this more systematically. There is little evidence so far of systematic approaches to the planning and monitoring of specific creativity skills in the classroom. Nevertheless, even though they may not have been planned for specifically, there are several examples of learning activities carried out across all sectors which are helping to develop creativity skills. These activities have a strong element of:

- personalisation and choice;
- thought-provoking starting points;
- open-ended enquiry;
- problem-solving activities;
- learner responsibility for learning approaches;
- constructive collaboration, between learners and teachers and, where appropriate, among learners; and
- teachers as facilitators or coaches.

CASE STUDY 5: CREATIVE CHALLENGE IN PRIMARY MATHEMATICS

As part of a mathematics task, P4 children at Cross Arthurlie Primary School were challenged to identify how to place seven objects within their classroom with the most efficient and logical routes between them. They used a grid in the shape of the room to map out existing furniture and on which they could explore different solutions. They worked in pairs and in groups with teaching staff supporting the task by asking open questions. The children responded well to the challenge. Almost immediately they posed well-considered questions about the nature of the task and what would work best and on how to take ideas forward, using phrases such as 'why should we do that' and 'what should we avoid.' Teaching staff and children enjoyed the challenge and had fun trying out their ideas together. The atmosphere was relaxed, and it was made clear to the children that there were no 'right' answers. There were several examples of particularly effective groupwork throughout the task, with children sharing ideas with each other constructively. The children were building on prior experience of group challenge tasks and demonstrated clear understanding of creative process terminology, for example, adapting, being flexible, working together to find a solution, problem solving. The school recognised the potential for a relatively simple task such as this to build awareness of areas such as architecture, interior design and ergonomics.

While some curriculum areas may be intrinsically more orientated towards the development and application of creativity skills than others, for example the expressive arts and technologies, it does not follow that creativity can only be or is always present in these areas. Nevertheless, many people consider the expressive arts and technologies to be the natural home of creativity, and there are several examples of [partnership projects](#), including a number based within the expressive arts, which develop creativity skills well. Many teachers of expressive arts and technologies have built up confidence and expertise over time in developing children's and young people's broader creativity skills. In many schools this is a valuable, but untapped resource. More could be done to use the experience of the arts and technologies to support the development of creativity in other curriculum areas.

CASE STUDY 6: CREATIVITY, ARTS AND CURRICULUM FOR EXCELLENCE

Following on from the success of the Creative Learning Partnerships and the Cultural Co-ordinators in Scottish School programmes, Dumfries and Galloway Council (DGC) established the Creative Education Arts Team (CREATE).

CREATE's core mission was to work with a well-established, high quality network of local, national and international cultural practitioners and bring them together with educational professionals to open up learning and facilitate engaged, relevant, meaningful and enjoyable ways to learn. As part of this strategic aim, the DGC policy entitled *Making Connections: a policy statement of creative and cultural education* explores Curriculum for Excellence (CfE) to showcase best practice in cultural partnership working. This includes partnership with the Wigtown Book

Festival, The Edinburgh International Book Festival, Imagine and a range of visual art exhibition spaces across Scotland. Whilst the policy recognises that creativity is not the preserve solely of the arts and culture, they can be a powerful catalyst for developing the creativity skills of young people in a range of ways. Examples of partnerships include the involvement of professional writers in art & design, dancers in language classes, musicians in pre-school education and theatre companies working on all aspects of school productions. *Making Connections* draws together research, practical examples, case studies and extensive possible partners under each of the eight themes of Curriculum for Excellence to help demonstrate how such an approach to learning and teaching can be developed strategically.

There is evidence that children and young people in Dumfries and Galloway are increasingly broadening their experience of arts and culture. In addition to the obvious benefits of this, they are recognising that opportunities to develop and apply their own creativity skills are widespread within all aspects of learning and this is being further developed through the Creative Learning Network, Dumfries and Galloway as a legacy of CREATE and *Making Connections*.

CASE STUDY 7: EXPRESSIVE ARTS AND CREATIVITY IN A SPECIAL SCHOOL

Pilrig Park School in Edinburgh places creativity and the expressive arts at the heart of its curriculum. This influences much of the practice within the school, with staff working closely together to plan approaches to learning that encourage young people to generate ideas and take them forward. Staff make sure that timetables and lesson timings can be adjusted where and when necessary with appropriate blocks of time allocated to creative tasks and for rehearsals for performances. A major feature of the school year is a dance-based performance at The Edinburgh Festival Theatre in June. This event is prepared for during the school year and much of the learning that takes place in other areas of the curriculum is linked to it. Young people help to devise dance sequences, which are based on their own thoughts and ideas. This helps learners to build confidence in their ideas, and also make links between their practical work in rehearsals, and their work in numeracy, literacy and health and wellbeing. Learners also design and construct the stage sets with similar levels of flair and imagination, but with a strong understanding of practical constraints.

CASE 8: CREATIVE PARTNERSHIPS

Kirkcudbright Academy has established cross-curricular themed elective courses for S2 and S3 pupils as part of the broad general education. A key aim of these courses is that young people apply their learning and develop good personal organizational and management skills in a wide variety of contexts, thereby achieving breadth and depth of learning. The courses include one on outdoor learning which has proved very popular with young people. Planning of the course has been a collaborative, creative process with staff from different subject and interest areas working together

to write lesson plans based around the campus, coast and forest. It encompasses a range of activities which made good use of partnerships within the local area. One aspect of the course involved collaboration between the school and the Coastal Ranger of the Solway Firth Partnership. His aims – to promote awareness of the natural coastal environment – fitted perfectly with the aims of the course. He was able to involve a wide range of contacts, including a land artist. This part of the outdoor learning course centred around local Dhoon beach with its historical schooner – the wreck of Monieth. The artist led a range of in class activities including drawing, sand sculpture of boat forms and use of natural objects to explore colour theory. A group visit to the beach followed, using natural materials to make a full-scale sculpture in the sand. Young people responded particularly well to the imaginative and practical aspects of the tasks. The artist, ranger and teachers used the tasks to provide information about the beach environment, building on the young people’s curiosity about the natural and manmade objects they were using. As the outdoor learning course progressed, the teaching staff were able to see further potential for different types of learning within it, for example a creative writing element. All partners involved agreed that the visiting experts had brought something special and different which the pupils would not have experienced otherwise. All partners also agreed that outdoor activities bring the unpredictable factors such as the weather and tides into consideration. This helps young people to become flexible in their thinking and use their ingenuity to overcome obstacles.

Across all curriculum areas, the major influence on the development of creativity skills is the approach taken by individual teachers. Where they generate a learning environment in which learners can ask questions, make suggestions, explore alternative approaches and ideas and manage their own learning, creativity skills develop well. In some secondary schools, for example, science and maths encompass aspects of creativity effectively, which makes them very popular with young people who find learning engaging and relevant. In several schools, art and design, drama and music are seen as the home of creativity, but much less so in others. In many schools design technology is a highly creative subject, particularly where digital skills are involved.

CASE STUDY 9: USE OF TECHNOLOGY TO SUPPORT CREATIVITY

Learners in Cawdor Primary School were given PowerPoint slides for a cartoon called Noggin the Nog and were asked to provide music, sound effects and narration. The children worked in mixed ability groups and led different aspects of the task, for example, sound controller, writer, timekeeper and making sure everyone had their say. While the task was technically challenging, it was also highly enjoyable. There was a good level of creative freedom within the task, but with a clear purpose and clearly identified target audience. The children evaluated regularly the more challenging parts of the task and jointly refined solutions, for example, around the pace of the voiceover and whether the story came across clearly enough. They also managed the project well, by changing some of the tasks set to ensure appropriate levels of challenge for everyone. The teacher asked helpful open questions to challenge and support the groups’ thinking. “How do you fit the words in between the music and to time?” “How can you select the best

suitable music to suit the graphics?” She avoided providing answers but rather adopted a coaching approach. The learning environment was well suited to the task, with good technical facilities available but also freedom to move around and find quiet space to think. A positive aspect of the task was the regular plenary opportunities provided for children to reflect on their creative approaches and to identify the skills they were developing.

In pre-schools and special schools, learning tends to be holistic and geared towards the development of individual skills and capabilities. These sectors, therefore, have much potential for the development of creativity skills, though only a few plan specifically for this. In primary schools, creativity skills are most likely to feature in topic work and enterprise activities, though there are examples of where they are developed well through problem-solving activities in mathematics and science or in creative writing. The [Eco-School initiative](#) has also provided good stimulus for children to generate and take forward ideas, sometimes in partnership with others. Enquiry-based homework tasks, some of which involve families, can often be a useful locus for creativity.

CASE STUDY 10: A CREATIVE BUSINESS APPROACH TO PRIMARY MATHEMATICS

In a primary 6 class at St Joseph’s Primary School in Aberdeen, children reinforced learning in mathematics and enterprise by researching the sales of well-known companies. They then presented the information visually, imagining that these would be presented to sales teams. The outcome of the task was left open so that children could produce their findings in any way they wanted. Some used line graphs while others made posters. The children had been well briefed about what the task involved. While there were clear expectations about clarity of information and standards of professional presentation, the children could exercise considerable choice about arriving at a solution. The task was helped by the school’s highly successful focus on enterprise and the children’s knowledge of how companies operate. In carrying out this task, the children were able to identify the higher order thinking skills they were deploying within each part of the task. The children worked well together, coping with joint approaches to problem solving very well. Relationships between staff and children were very good and staff questioning encouraged children to think for themselves.

As expertise continues to build in interdisciplinary learning or whole-school or whole-year projects across Scotland, there are examples of projects which have been a catalyst for the development of creativity skills, through including creative challenges and a strong element of personalisation and choice. These include science fairs, health themed weeks, fair trade and enterprise activities, justice weeks, debates and expressive arts events.

CASE STUDY 11: WHOLE-SCHOOL CREATIVITY PROJECT

Children in Cawdor Primary School had allotted times throughout the week when they worked together across year groups on particular project work. Project tasks usually involved a problem-solving group activity with a strong element of learner autonomy. In one project, the children were studying a Viking board game called “hnefantafl” which involves designing battle strategies to capture a king – similar to chess, but with freedom to design playing pieces, the board layout and rules of engagement. Children could choose to develop it similarly to the way the Vikings played it or use its basic principles to design a modern version in any way they chose, including digitally. Much of their decision-making used mathematics, including numerical calculation and knowledge of angles. The children worked very well together. A key aspect of the task was trialling their game rules and adapting their approaches as they went. The project was engaging and fun, with the strong element of competition between teams increasing focus and concentration. The teacher managed the project very well, providing suggestions only when necessary. Children were awarded “pots of gold” which could be used for purchasing further resources for the game –when they demonstrated particularly imaginative ideas. The project developed creativity skills very well. It also enabled strong collaborative working, with older children developing their leadership skills while appreciating that much younger children can provide the best ideas.

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Many secondary schools also make use of electives, enhancement periods, or out-of-class activities to encourage the development of personal interests in young people. Initiatives like [Dynamic Youth Awards](#), [The Duke of Edinburgh's Award](#) and national competitions have also encouraged young people to take the lead, make decisions and develop important personal skills. In the past year, many secondary schools have introduced new approaches to the broad general education in S3. There are a number of examples where innovative approaches to learning have

focused on creativity and other skills. The impact of such new approaches has yet to be evaluated fully in many schools, but has stimulated very useful creative collegiate discussion and planning amongst staff which is informing planning for younger year groups.

CASE STUDY 12: CREATIVE ELECTIVES

There were good examples of projects in which young people had to present summarised accounts of English written pieces in ways that developed their creative skills while reinforcing their knowledge and understanding. In Kemnay Academy, young people in S3 had been consulted about how to carry out an element of their English course. As a result, they had a choice of three electives in English. In one, they were asked to design a section of a graphic novel, by analysing a chapter of a novel, extracting those key elements which would tell the story succinctly. They also had to consider which images and dialogue would make the story appealing to particular age groups. Other young people had elected to devise a screenplay and others had chosen to make a podcast, again, based on analysis of text. This ensured that the young people had to identify and communicate accurate clear messages, but in the process they employed creativity skills and found the projects interesting and enjoyable.

Many schools, particularly secondary schools, have positive arrangements with partners to extend learning and enhance skills. These can involve arts organisations, local digital media initiatives, employers and local community projects. In most of these projects, young people are working on practical activities with a high level of autonomy and are enjoying their learning. There are examples of learners re-engaging with learning through these out-of-school activities. However, though these projects are instrumental in building confidence and practical skills, the development of specific creativity skills is not always identified as an aim by schools and partners.

CASE STUDY 13: DANCE IN A SPECIAL SCHOOL

A mixed level, mixed mobility group at Newhills School were led by [Indepen-Dance](#) in a dance and movement workshop. Open-ended freestyle movement was demanded of the young people, who were encouraged to take ownership of their choice of movement. The workshop leaders skilfully shared examples to broaden repertoire and encourage learners to use their whole bodies before, importantly, challenging them to invent and break from repetition or copying others. In a very short time every young person was experimenting with new movements, original to themselves, whether seated in a wheelchair, lying on the floor or simply working with their heads and hands.

CASE STUDY 14: CREATIVE SPACES

For several years, Dundee College has hosted a major creative competition which harnesses the expertise of industry to stimulate interest in design and construction-related professions amongst local secondary school learners. Over one day, teams of four S2 learners are asked to respond to an architectural brief which they have not seen before, which includes budgetary constraints. The brief this year was:

“Design a community space in rural Africa with facilities that include emergency shelter, teaching spaces, medical facilities and community development, with an emphasis on local materials and sustainability.”

Each school team is required to prepare design drawings, work out material costs for the design and construct a scale model to illustrate the finished product. They are provided with very high-quality modelling materials for their projects. Prior to the competition schools are provided with very helpful learning resources about construction and architecture, including a newly developed website <http://www.creativespaceschallenge.net> On the day of the competition, after an initial short consultation with their teachers, young people work entirely on their own. This means that they learn at first-hand how to generate and refine realistic and financially feasible ideas, work together to manage a project, work against the clock and produce models of a high professional standard. There is limited support available from professional architects, cost consultants and building specialists who provide some advice and support on the day. Whilst young people work, their teachers receive a parallel CPD programme delivered jointly by college and industry staff relating to architecture, engineering and construction. Upon completion, teams make a two-minute presentation to explain their projects, which includes design features, rationale for resources used and budget. The standard of the work each year is exceptionally high. Importantly, not only do young people enhance their understanding of design and construction processes, they use creativity skills in all aspects of the project. Participating young people are overwhelmingly positive about the experience. Several previous participants have gone on to careers in design, architecture and construction.

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Creativity skills: Learning and teaching approaches

There are several examples of creative learning activities which help to develop aspects of creativity on the [Creativity Portal](#) and on Education Scotland's [website](#). During the focus visits to schools and pre-school centres, most lessons which aimed to develop aspects of creativity were successful episodes of learning in themselves. A key feature of almost all of them was the positive and open interaction between staff and learners. Most teaching staff encouraged children and young people to contribute ideas and suggestions, and generated a positive, lively and well-focused learning environment. On occasions, the atmosphere was constructively playful, with a positive use of humour in learning activities.

CASE STUDY 15: USE OF HUMOUR TO DEVELOP CREATIVITY

In Baldrigon Academy, an S3 class had been studying Shakespeare's Merchant of Venice and were asked to devise a three-minute play, telling the full story of the original, but in local Dundee dialect. In all these classes, young people were enjoying these challenges and responded well to having freedom to make their own choices, within fairly stringent parameters. They worked well in groups or pairs, and used imagination and humour well to test out ideas and take the best ones to a conclusion. The teacher encouraged the young people's creativity, while demanding high standards of presentation and accuracy.

In a few classes, teachers acted only as facilitators for the learning, with a high degree of responsibility being offered to and taken by learners for their own learning. A strong sense of partnership between learners and teaching staff developed as they explored ideas together. Many staff used effective coaching techniques to encourage children and young people to arrive at their own solutions and to reflect on them as they evolved. In many primary and pre-school classes supportive discussions helped children to use their imagination and explore or test out ideas and most staff provided interventions at the right time to move projects along. Most lessons, however, reflected a strong underlying sense of teacher, rather than learner control and a few lessons were constrained by narrow structure, too teacher-led and insufficiently differentiated to support creativity.

Most classes which aimed to develop creativity used appropriate stimuli for learning and most learners responded enthusiastically to themes offered. Most tasks provided an appropriate degree of challenge, but a few were insufficiently demanding of learners. Almost all lessons which aimed to develop creativity offered an appropriate degree of personalisation, choice and challenge, though usually within fairly set out or restricted parameters. Many involved learners 'feeling their way' to a likely answer. In the lessons most clearly geared towards creativity, learners had a higher degree of control over how they approached their work. Most lessons helped learners to achieve learning intentions successfully and were well organised. However, very few lessons made reference to skills, including creativity skills within learning intentions and it was rare to see learning activities which demonstrated a creative process from start to finish.

CASE STUDY 16: CREATIVE APPROACHES IN MATHEMATICS

In a primary 4 class at St Joseph's Primary School, Aberdeen children explored the theme of symmetry, by designing a tile. They had freedom to decide the placing of axes of symmetry and to choose from a wide range of art and craft materials to explore the theme. If they wished, they could work in pairs. Children were encouraged to be adventurous in the shapes they drew or designed and to explore complex mirror image concepts. They were also asked to consider the visual appearance of their tile. The task helped to reinforce their understanding of symmetry while being engaging and enjoyable.

Creative learning approaches were often used to reinforce knowledge or understanding of a subject, rather than for the purpose of developing specific creativity skills or generating new ideas. Most learners applied prior knowledge effectively to a challenge or task. In some classes, learners were challenged to research a topic and present their findings to the rest of the class, with freedom to plan and carry out the task in their own way. Most children and young people did this well.

Many learning activities employed problem-solving strategies, using skills in analysis and synthesis. Only a small number of tasks were structured to enable children and young people to generate genuinely original ideas. While many children and young people identified solutions to a set task well, very few were asked to analyse a situation from scratch, or were asked to scope a task from the beginning in order to identify the problems or issues which required solving. Though many learners were exploring aspects of creativity, there was little sense, in most of the classes visited, that learners were being challenged to think in real depth about the problems they were solving or tasks they were undertaking. There were only a small number of classes in which learning approaches had been designed by or with the learners.

CASE STUDY 17: CREATIVITY AND SOCIAL STUDIES

At Woodhead Primary School a primary 7 class carried out a drama task based on improvisation. The subject was 'the experience of evacuation during WW2'. The children were fully in charge of the project, with support from teaching staff as required. They used a range of drama conventions to establish scenarios, investigate characters, and devise scripts and settings. The teacher joined in with the task 'in role' and was happy to be directed by the children. As the project evolved, families and friends were involved in suggesting ideas and drawing on wartime memories. The standard of the finished drama piece was very high, with a strong emotional impact. It was based clearly on the children's ideas, research and imagination. The children made very good use of technology in the task by recording and sharing discussions, taking photographs or making film clips as their ideas developed. This allowed them to reflect on the ideas they were generating and use this to make informed choices at a later stage. As well as devising a highly successful drama work, the children identified and tracked the learning they undertook within the task. They worked in pairs to set up a GLOW group for their

materials. They also used social networking technology to share ideas and record the progress of the work. Learners were highly focussed on the task throughout, and learned a great deal about how to generate and select ideas, work with others to realise ideas and take an initial concept to a successful final stage.

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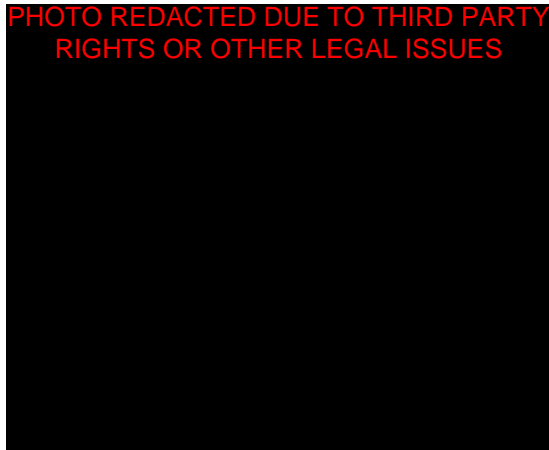
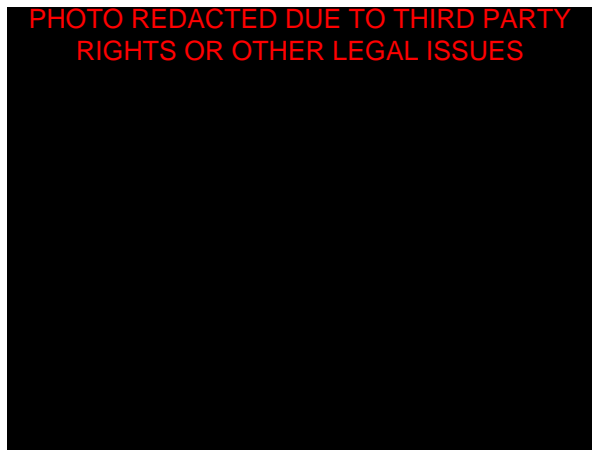


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In most primary classrooms and pre-school playrooms learning space was attractively designed and flexible, with scope for movement between areas, which encouraged personalisation and choice. In one or two pre-school and primary classes, good creative learning took place outdoors or used outside resources. However, in secondary schools most classrooms, while appropriate to the subjects being learned, were not sufficiently spacious or flexible to enable learners to move around and interact with other groups. One or two secondary schools had very high-quality specialist facilities, for example in performing arts, which supported well the exploration of themes, experimentation and collaborative endeavour.

Most classrooms displayed stimulating learning material, which indicated that creativity skills were often explored in other projects, for example in the form of mind maps or imaginative graphic presentational material designed by young people. Many learners and teaching staff used information and communications technology (ICT) well to present information or for research. In only a few classes, however, was ICT used well to explore, record, present and collaborate on creative ideas.

CASE STUDY 18: CREATIVITY AND TECHNOLOGY

Young people from Wick High School have been very successful in the national competition [Apps for Good](#), an open-source technology education programme aimed at providing young people with creative, business and technical skills. Five teams from the school were shortlisted for the final which took place in June 2013, and two teams were winners in their category. The project was incorporated into the S3 computing programme, and the local business community was involved in supporting the projects and helping to shortlist the final entries. Industry experts also provided very high-quality support for the teams. The teacher responsible was also awarded 'Teacher of the Year' for his work on the programme. The winning apps will be produced commercially by the sponsoring companies and if successful, will share the profits with the team members. The project fitted in well with the broad general education in S3 by providing access to experts and technology not normally available. It demanded very strong creativity skills in the young people to enable

them to identify problems which needed to be solved through technology and to generate feasible and useful ideas. It also demanded that the young people understood user requirements, and explored, generated and refined visual and functional solutions. The teams worked very well together, with each member having a clear role. As well as being hugely enjoyable, the project helped the young people to understand the role of transferable creativity skills within computing industries.

Once learners embarked on tasks aimed at developing aspects of creativity, most engaged enthusiastically and identified constructive approaches to the tasks they had been set. Most children and young people formulated thoughtful questions about the challenges they were undertaking, in groups or whole-class discussions. Because most tasks were designed skilfully to ensure that learners headed in a particular direction, most learners quickly made good connections between aspects of the challenge and arrived at appropriate solutions. Across schools, there were virtually no examples of learners having to cope with uncertainty or manage the unexpected, although one or two pre-school centres used this strategy well.

CASE STUDY 19: DEVELOPMENT OF CREATIVITY IN A NURSERY

Ballogie Nursery had a very clear strategy to promote creativity within all activities and to use it as a basis for learning. Children were used to directing their own learning and often suggested starting points for activities. Staff had the confidence and experience to allow this to happen and to ensure that effective learning was taking place. Staff continually played with the children and learned alongside them. A strength of Ballogie was the use of the outdoor area which, together with the rural location, provided a wealth of opportunities for the development of creative skills. Children were continually set challenges to develop higher-order skills including creativity and to build on prior knowledge. One such challenge was based around a pirate theme and involved a number of objects appearing 'mysteriously' overnight, for example a pirate shoe or a flag or a message from the pirates. The children were encouraged to speculate about what the objects or messages represented and to devise play activities which led from their initial responses. This type of activity stimulated the children's curiosity and imagination. As a consequence of the free flow of play and imaginative activities throughout the playroom, children played well together and on their own. They concentrated for lengthy periods of time on what they were doing and were very persistent, for example, when looking for the right size of twigs to make a 'cross bone'. They were building confidence in their ability to make suggestions and take initial ideas to a conclusion.

Within tasks with the strongest element of creativity, learners analysed problems appropriately, explored multiple ideas well, and were able to synthesise and refine different viewpoints effectively within clear parameters and usually with some help from teachers. There were a number of examples of children and young people using hypothesis effectively, for example in science projects, where they were asked to select materials for chemistry experiments or design electric circuits. However, it

was rare for learners to be able to use their imagination freely to explore ideas in a genuinely open-ended way.

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Where it was required in a task, learners usually worked well with others, either in pairs or groups, challenging each other and adjusting their viewpoints in the light of others' ideas. However, groupwork did not always support creativity well. Groups were sometimes too large or were dominated by one person's ideas, which meant that genuinely collaborative, creative learning did not take place. Most learners managed creative projects well, demonstrating impressive levels of autonomy in crafting and presenting solutions within timescales. In most primary and secondary classes, learners were able to discuss clearly what they were doing and why, and express views about whether they were arriving at appropriate solutions. In some schools, children had built up considerable experience in using problem-solving strategies and were skilled at identifying and drawing on appropriate approaches to tasks. However, most were unable to articulate what skills they were acquiring within tasks, including creativity, which made it difficult for them to evaluate how well they had developed them.

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Creativity skills: The impact on children and young people

Most children and young people were able to suggest insightful definitions of creativity, which included making their own choices, thinking about and doing things differently, thinking ahead and solving problems, and being imaginative and original. Many suggested creativity was about exploring the uniqueness of individuals and having the freedom to express one's personal views or ideas, 'being unique and believing in yourself'. A group of very young learners described creativity as 'making up in your mind'. Many also considered that it was about using innovative approaches to learning, which are fun and interesting and involved the learners making choices and decisions, rather than being teacher led - 'the opposite of boring'.

The project team used the definitions of creativity to talk to children and young people and ascertain whether they felt creativity skills helped them to become:

- motivated and ambitious for change for the better, including in their own capabilities;
- confident in the validity of their own viewpoint;
- able to apply a creative process to other situations; and
- able to lead and work well with others, where necessary.

Many children and young people had benefited from discussions with teachers about creativity prior to our visit and were able to articulate why they thought creativity skills were important – 'it will help me through life', 'it makes me more confident about making decisions and leading others', 'it makes me remember things better', 'when responsible for your own learning you are more keen to learn'. One primary school pupil summed up why creativity made her learning interesting:

"It feels lovely. It feels great to feel in control and achieving things. You feel free. You feel proud because you know you did everything from the beginning."

There was a strong link between the development of creativity skills and intrinsic motivation in children and young people. Almost all had felt they learned better using open-ended approaches, with responsibility placed on them to manage projects and come up with original ideas. Many of the activities they particularly enjoyed had included practical activities, imaginative starting points, challenges with more than one answer, working with friends, using digital media and researching and presenting information to others in the class. Children and young people also responded well to an open and relaxed atmosphere between themselves and the teacher, where the teacher was learning alongside them and did not provide all the answers. This helped them to feel that their ideas were valid and had equal value to those of others. Some children and young people would have welcomed more opportunity to choose topics and mini-topics and to make more decisions about the activities associated with them.

With prompting, many children and young people were able to describe how they had applied a creative process from one aspect of learning to another. However, it was clear that this was not something which they discussed regularly with teachers.

Most children and young people enjoyed working in groups and sharing ideas. Many valued greatly opportunities to exercise leadership. However, not all enjoyed working in this way and a few found it difficult to communicate in group activities. Some children and young people preferred to work independently to develop their own ideas and a few children would have liked to choose whether or not to work in groups. A small number of learners did not enjoy learning which was too open-ended and preferred clear guidelines. As learners approached national examinations, a few learners felt that an over focus on creativity made learning less efficient and more drawn out.

“Sometimes the teacher trying to get us to be creative is annoying – just give me the facts and I’ll learn it better!”

Generally, most learners were developing well as successful learners and confident individuals as a result of learning which developed their creativity skills. While it is unclear as yet how this might impact on career choices or future success in life, children and young people demonstrated a high level of enthusiasm about further development of creativity skills as their lives progressed.

Creativity skills: Impact on achievement

In most schools, it is difficult to make a direct link between the development of creativity skills and improved attainment or achievement, because effective approaches to planning for or tracking creativity skills are not yet fully established. As a result, attributing improvement in achievement to the development of creativity skills is difficult. However, there is consensus across all establishments that the development of creativity skills improves the learning experience for most learners, leads to improved engagement and is likely therefore to enhance achievement. The strong influence of approaches to assessment that support learning in schools has improved interaction about progress with learners and provides staff with a strong basis on which to understand better their individual needs and to identify how well creativity skills are being developed. Children's and young people's ability to self-assess is also improving over time, which is leading to more insight amongst them about their personal strengths and areas for development.

Assessment of creativity as a discrete suite of linked skills is rare in most schools, though many are beginning to incorporate assessment of more general skills into their work. In terms of creativity, techniques such as observation, questioning learners about how they have approached learning tasks, learner self and peer-assessment, assessment of children's performance in groupwork, assessment of task outcomes and other approaches to assess individual progress are potentially useful. Most teachers would welcome guidance on assessing creativity skills and tracking learner progress in them. Many teachers, particularly those who lack confidence in their own creativity, are not confident at identifying how to support learners to evaluate and improve their creativity skills. Education Scotland's Creativity Measuring Tool, launched at the Scottish learning festival in September 2013, should help children, young people and teachers to identify how well creativity skills have been developed within learning activities.

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Conclusions

Creativity has a high profile in Scottish education at present. In focusing on creativity, Scotland is aligning itself with other forward-thinking countries which aim to develop thriving economies based on innovation and high levels of knowledge and skill.

Most education leaders and staff agree that children and young people need to develop creativity skills to help them negotiate an uncertain economic future, to become empowered and effective contributors to society and to help them become engaged and successful lifelong learners.

Much of the language of creativity is already a familiar part of the learning landscape, though rarely 'badged' as such.

Curriculum for Excellence has instilled greater understanding amongst teachers about how children and young people learn. It has provided a helpful framework for teachers to explore innovative approaches aimed at developing skills, including those within the creativity suite.

Although creativity fits very well within the broad framework of Curriculum for Excellence, the creative process and creativity skills have distinct characteristics, that require a specific and discrete range of learning approaches. Generally, the profile of creativity as a discrete concept is too low, and there is insufficient planning for its development in schools and pre-school centres.

Many learning activities across the curriculum focus successfully on the development of aspects of creativity, but not usually as a distinct, combined suite of skills within a distinct creativity processes. Although many teachers are beginning to explore ways to their capacity to plan for progression across skills in general, it is rare for them to highlight specific creativity skills.

Where there is a clear intention of developing creativity skills, learning activities tend to have a strong element of:

- personalisation and choice;
- thought-provoking starting points;
- open-ended enquiry;
- problem-solving activities;
- learner responsibility for learning approaches;
- constructive collaboration, between learners and teachers and, where appropriate, among learners; and
- teachers as facilitators or coaches.

Almost all the lessons which aim to develop aspects of creativity generate a positive, lively and well-focused learning environment, with children and young people encouraged to contribute ideas and suggestions. In few classes, teachers act only as facilitators for the learning, with a high degree of responsibility being offered to and taken by learners for their own learning. Most lessons, however, reflect a strong underlying sense of teacher, rather than learner control.

Many leaders and teaching staff have benefited from professional learning in critical thinking and higher order skills, all of which help to enhance understanding of creativity. Most leaders and teaching staff would welcome further guidance and exemplification.

There are some very good examples of partnership projects which have developed aspects of creativity, but it is rare for these to identify the development of specific creativity skills as a project aim.

Most learners have good awareness of what creativity is and why it is important. They enjoy creative learning tasks and perform well within them. Most find that a focus on creativity makes them learn well and develop a strong base of knowledge and understanding.

Although schools and pre-school centres are becoming more proficient at assessing progression in skills, there is as yet, very little assessment of specific creativity skills, or evaluation of how well they are being developed.

There is strong evidence that a focus on creativity makes learning more interesting and enjoyable. There is, as yet, insufficient evidence about the impact of creativity skills on achievement.

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Next steps for improvement in the development of creativity skills

1. An **understanding** of the creative process and associated creativity skills as distinct concepts should be enhanced across the education sectors.
 - a. School leaders and staff should enhance their understanding of the importance of creativity skills for children's and young people's future lives and careers.
2. School leaders and staff should develop a greater understanding of how creativity skills can best be developed in children and young people through **learning, teaching** and **assessment** approaches.
 - a. Teaching staff should signal clearly to learners where creativity skills are being developed within learning activities.
 - b. In order to further the development of creativity skills, teaching staff should actively explore ways of giving learners more responsibility for planning and managing a creative project, making learning activities more open ended and providing effective coaching support to learners as they develop their ideas.
 - c. Teaching staff should ensure that all children and young people are supported to develop creativity skills in ways which build on their personal strengths, whether as individuals or in group activities.
3. Schools and pre-school centres should have a clearly articulated **strategy** for developing creativity skills along with other skills, within their improvement plans. They should ensure first, the development of a shared common language between learners, practitioners, parents and (where appropriate) employers.
4. Schools and other education establishments should continue to work in **partnership** with external organisations, but be clearer about where creativity skills are being developed in joint projects.
5. The profile of the Creative Learning Networks, the Creativity Portal and other sources of **support** should be enhanced within education sectors.
 - a. Further support materials - for planning for creativity, devising and implementing learning activities and for assessment of creativity skills should be developed and disseminated.
 - b. Schools should ensure that, as far as possible, there is sufficient time and suitable space and resources, including ICT, for learning activities focused on developing creativity skills.
6. Further work should be undertaken to provide evidence of the impact of creativity on **achievement**.

Annex 1: Establishments which contributed to the project

Education Scotland thank the staff, children and young people of the following establishments for their contributions to this project.

Pre-school

Ballogie Nursery, Aberdeenshire Council
Peek-a-Boo Nursery, The City of Edinburgh Council
Hillfoot Nursery, East Dunbartonshire Council

Primary schools with nursery classes

Grange Primary School, Falkirk Council
Cawdor Primary School, The Highland Council
Lhanbryde Primary School, The Moray Council
Firth Primary School, Orkney Islands Council

Primary Schools

St Joseph's Primary School, Aberdeen City Council
Portpatrick Primary School, Dumfries and Galloway Council
Cross-Arthurlie Primary School, East Renfrewshire Council
Royal School of Dunkeld, Perth and Kinross Council
Woodhead Primary School, South Lanarkshire Council
Haldane Primary School, West Dunbartonshire Council
St George's Primary School, Glasgow City Council
Forehill Primary School, South Ayrshire Council
Cochrane Castle Primary School, Renfrewshire Council

Special Schools

Dundee Offsite Service, Dundee City Council
Newhills School, Glasgow City Council
Pilrig Park, The City of Edinburgh Council

Secondary Schools

Kemnay Academy, Aberdeenshire Council
Annan Academy, Dumfries and Galloway Council
Baldragon Academy, Dundee City Council
Boclair Academy, East Dunbartonshire Council
Dalziel High School, North Lanarkshire Council
Inveralmond Community High School, West Lothian Council
St Modan's High School, Stirling Council
Wick High School, The Highland Council
North Berwick High School, East Lothian Council
St Luke's High School, East Renfrewshire Council
Kirkcudbright High School, Dumfries and Galloway Council

Annex 2: What support is available for the development of creativity skills?

In 2010, the Scottish Government launched *Education and the Arts, Culture & Creativity: An Action Plan*. Through partnership between Learning and Teaching Scotland (as it was known then) and [Creative Scotland](#) his action plan focused mainly on collaboration between the arts and culture sectors and the education sector. In the many discussions which accompanied the action plan as it was implemented, it became clear that creativity skills sat within all curriculum areas and not just within those relating to the arts and culture, important contributors though they were. Currently, Creative Scotland is leading the development of a further action plan Scotland's Creative Learning Plan 2012-2014⁶ to emphasise this shift of focus. The key partners involved include Education Scotland, the [Scottish Qualifications Authority](#), the [College Development Network](#), [General Teaching Council for Scotland](#), [Skills Development Scotland](#), [Association of Directors of Education in Scotland](#) and Scottish Government. In this new plan, actions are focused on developing creativity across the curriculum and across all education sectors. Partnership working remains a key element of the plan, and reflects the very close working relationship between Education Scotland and Creative Scotland.

Two significant and successful partnership projects, managed jointly by Education Scotland and Creative Scotland are also supporting the development of creativity across learning.

The Creativity Portal provides a single, online point of contact for educators across Lifelong Learning, offering a focus on creative professional development with resources to support the development of creativity skills and examples of next and best practice, including the Creativity Measuring Tool⁷. It offers quality assured partnership opportunities with creative learning providers and links to current research and key presentations by external experts. Usage of the [Creativity Portal](#) is increasing greatly across Scotland, and there are plans to extend it to ensure that the profile of creativity is raised across the lifelong learning.

The second project is the [Creative Learning Networks](#) (CLN) which have been established in almost all local authorities in Scotland. These networks aim to bring together all those with an interest in creative learning, to form new partnerships and to ensure that learners have the best creative learning experiences possible. A Creative Learning Network [coordinator](#) has been appointed in each local authority, variously in education, families or arts and culture departments. [The National Creative Learning Network](#) consists of the group of coordinators leading the Creative Learning Network for each authority. This strong community of practice has a leadership role in championing and advocating creativity in both formal and informal learning contexts.

Almost all local authorities in Scotland have education strategies which incorporate or refer to creativity. In most, currently, creativity is linked closely with the promotion of the arts and culture because of the very strong links between involvement in arts activity and the development of creativity skills. A few have strategies which focus

⁶ This is to be launched at the Scottish Learning Festival in September 2013

⁷ This is to be launched at the Scottish Learning Festival in September 2013

on the development of more generic creativity skills across the curriculum, and a number promote creative approaches to learning and teaching. While this is encouraging, it does highlight the need for more clarity about the benefits of creativity across the whole curriculum. While involvement in the arts and culture is undoubtedly a highly beneficial conduit towards the development of creativity skills, with much to say about effective methodologies for enhancing creativity, it is not the only route to doing this. For some people, the strong association of creativity with the arts can even act as a barrier to engaging with them, if people consider that they have little talent, facility or even interest in the arts. CLN coordinators in many local authorities are working purposefully to enhance understanding of the development of creativity skills across learning and have influenced more broad education strategies in many local authorities towards this aim.

The Scottish Qualifications Authority has recently launched new [National Qualifications](#) from [Scottish Credit and Qualifications Framework \(SCQF\)](#) levels 1 to 5. Higher and Advanced Higher qualifications are also being revised. The new qualifications aim to provide opportunities to develop and consolidate generic skills - Skills for Learning, Life and Work, as defined in Building the Curriculum 4 - in areas such as creative thinking and to apply them across a range of subjects and contexts. These opportunities are signposted in mandatory documents and supported through support documents for the new qualifications. Qualification Support Notes for all subjects promote higher order skills where appropriate and encourage practice which allows learners to build on problem-solving, exploratory and collaborative learning approaches, developing creativity skills while preparing for National Qualifications. The creative problem solving skills identified earlier in this document play an important part in all of the new National Courses. In addition to the signposting of these creative problem solving skills, and other Skills for Learning, Life and Work, the open, flexible nature of approaches to assessment across all subject areas aim to promote creative possibilities in learning, teaching and assessment. This is in addition to the focus given to creativity in curricular areas like the expressive arts and design technologies.

CASE STUDY 20: FESTIVAL OF DANGEROUS IDEAS

The Festival of Dangerous Ideas is a national education festival that takes place across Scotland during June. It was inaugurated in 2012 and is run by the College Development Network. It is aimed at anyone in any education sector who is interested in exploring innovative and creative approaches to education.

Dangerous ideas are all about taking risks and exploring what can be possible; the Festival aims to help transform ideas into practice, by providing unique opportunities to debate what the future for education could be, while developing networks with potential partner organisations in the arts and creativity and education. Events and discussions extend the boundaries of current approaches, exchange new ideas and identify the impact of innovation on learning. The Festival's ultimate focus is on ensuring learners can enjoy lifelong education across the curriculum that supports their imagination and innovation. The first two festivals have been highly successful with approximately 50 events taking place across Scotland, hosted and created by different organisations. Events have included a Night of Dangerous Theatre, philosophy cafes, a research and enterprise conference, as well as Breakfast at the

Royal Botanical Gardens, and the finale: an Emporium of Dangerous Ideas, with an auction of dangerous ideas. As a result, new partnerships have been created and developed and ideas identified during the Festival have been translated into practice. One idea, Days of Danger are CPD opportunities which stimulate creativity for education practitioners through immersive learning activities. Participants have benefited greatly from the Festival and welcome the opportunity to explore their own creativity and thinking skills as a means of developing their education practices.

Annex 3: Creativity within Curriculum for Excellence

Within the documentation which supports Curriculum for Excellence, there is, of course, no principles and practice paper dedicated solely to creativity. However, within almost all principles and practice papers across all curriculum areas, the development of key creativity skills, most notably curiosity, exploration of ideas, critical thinking skills and problem-solving are cited as an aspiration for learning. Unsurprisingly, creativity features most in the principles and practice papers for expressive arts and the design aspect of technologies, but aspects of creative processes also feature strongly in mathematics and science and the writing part of literacy and English. It also underpins many aspects of religious and moral education and social studies. The principles and practice papers provide clear direction for the development of some creativity skills and learning approaches across most subject areas. Although the wording of experiences and outcomes (Es and Os) across subject areas does not always provide clear indicators of where creativity fits, teachers can interpret them broadly to ensure that creativity has its place. Phrases such as 'contributing my views', 'exploring and playing', 'using problem-solving strategies', 'investigating different routes to a solution', 'suggest different ways', which feature across almost all subject areas, can be used as basis for open-ended thinking activities, analysis of issues, and problem-solving activities.

As stated earlier in the report, the language of the text which supports the four capacities of Curriculum for Excellence resonates strongly with the definitions of creativity skills. These are highlighted below.

Successful learners:

- openness to new thinking and ideas
- think creatively and independently
- link and apply different kinds of learning in new contexts

Confident individuals:

- develop and communicate their own beliefs and view of the world

Responsible citizens:

- commitment to participate responsibly in political, economic, social and cultural life

Effective contributors:

- an enterprising attitude
- resilience
- take the initiative and lead
- apply critical thinking in new contexts
- create and develop
- solve problems

Annex 4: Document used for the focus inspection visits

Creativity Across Learning - Learning and teaching observation themes

Development of creativity skills

The challenge:

- has a strong element of personalisation and choice
- uses starting points and stimulus effectively to stimulate curiosity and open-ended exploration, for example:
 - *problems; issues; objects; stories; topical events; scenarios; role play or forum theatre*
 - *external stimulus - contact with creative people; unfamiliar environments*
- builds on prior knowledge, skills and experience while taking learners into unfamiliar areas
- contains helpful parameters

Teaching and context for creative learning

- Opportunities for the progressive development of creativity skills have been identified and planned
- Creative challenges have been designed so the needs of individuals are met
- The task and the learning approaches have been discussed and agreed with learners, with opportunities for learners to shape them

Development of creativity skills – engagement with the task

Learners:

- formulate good questions
- make connections between elements and register patterns and anomalies
- define problems and identify where intervention would solve them
- explore, synthesise and refine multiple ideas, options and viewpoints
- use imagination purposefully to explore ideas
- hypothesise
- manage uncertainty and respond positively to the unexpected

Teaching and context for creative learning

- Relationships between and among staff and learners support thinking/enquiry activity
- Teachers encourage openness of ideas and do not provide all the answers
- Teachers guide learning, but encourage responsibility and decision-making by learners

Development of creativity skills – how learning is managed

Learners:

- Take responsibility for their own creative approaches (alone or in groups)
- Develop initial ideas well and follow through on those with most potential
- Craft and present appropriate solutions within project milestones and constraint
- Overcome obstacles to progress

Teaching and context for creative learning

- Learning spaces are organised to support flexible approaches to the development of solutions
- Learners have opportunities to learn with and from others
- Learners are supported to manage a creative project effectively, with appropriate and timely interventions by teachers

Development of creativity skills – how learning is evaluated

Learners:

- continuously interrogate their ideas and check them against the creative challenge
- respond positively to mistakes and failures
- identify clearly whether their solution is appropriate or what would have worked better
- recognise how this creative experience could apply in other areas of learning
- demonstrate understanding of creativity skills and whether they have developed them well

Teaching and context for creative learning

Teachers:

- use supportive dialogue to encourage learners to review their work, discuss progress and identify next steps
- help learners to give and receive constructive feedback

Creativity Across Learning – Discussion themes for Senior Managers

Our discussions will be wide-ranging, but are likely to include:

- importance attached by school leaders to the development of creativity skills across the curriculum
- school policy on development of creativity skills across the curriculum
- local authority support or guidance
- how widespread staff understanding or buy-in is for creativity across subjects
- which subject areas are most/least involved with the development of creativity
- whether the development of creativity skills has been taken into account in Curriculum for Excellence planning
- how school leaders have promoted or supported the development of creativity skills in children young people across the school. Use of external resources or CPD
- any key external partnerships or cluster arrangements which have impacted on the development of creativity
- impact on attainment or on children/young people's personal development of creativity skills
- perceived barriers to the development of creativity
- future planning of development of creativity skills in the future
- any other comments

Creativity Across Learning – Discussion themes for Principal Teachers

- staff and pupil understanding of the term ‘development of creativity skills’ and buy-in to its approaches
- place of creativity in planning for Curriculum for Excellence, for example in subject areas (including non-expressive arts subjects, projects relating to enterprise, IDL, whole-school projects)
- impact on attainment or on learning and teaching of creativity (*e.g. deeper learning; enjoyment of learning; confidence; able to apply creativity to other learning; relationships and ethos*)
- staff development for the development of creativity skills in children/young people
- impact of any external partnerships involved in the development of creativity
- awareness and use of external resources, e.g. creativity portal, CLN
- future plans for development of creativity skills
- support within school/centre or local authority for development of creativity skills
- perceived barriers to development of creativity skills
- other comments

Creativity Across Learning – Discussion themes for teaching staff

- staff and pupil understanding and ‘buy-in’ of the term ‘development of creativity skills’
- inclusion of creativity skills in planning for Curriculum for Excellence
- description of projects, tasks or activities which have been undertaken to help young people develop creativity skills
- what worked well/not so well and why
- impact (positive or negative) on children or young people of this kind of approach to learning (*e.g deeper learning; enjoyment of learning; confidence; able to apply creativity to other learning; relationships and ethos*)
- how the development of creativity skills in young people has been assessed
- support for development of creativity skills in children/young people in the school or centre (e.g training, resources, partnerships, use of GLOW, Creativity portal, local authority CDN)
- barriers to development of creativity skills
- any other comments

Creativity Across Learning – discussion themes for children and young people

- what children or young people think creativity means
- projects, tasks or activities which have helped them to become more creative
- why these projects helped them to develop creativity skills (prompts – being responsible for their own learning; working with others; freedom to follow own ideas; relationships with staff; more enjoyable learning; practical activities; deeper learning; evaluating their creativity)
- which subject areas help develop creativity skills most and least
- what is it about these subject areas that makes this so
- description of out-of-class activities which develop their creativity (can include out of school)
- visits by outside people, like theatre companies or musicians – what difference this made
- whether they enjoy being creative and why (prompts enjoy learning more; more confident; better at generating ideas; want to work harder)
- any other comments

Annex 5: Resources and publications

Organisations or initiatives referred to within the report

[Creative Scotland](#)

[Creative Learning Networks](#)

[Creativity Portal](#)

[Scottish Qualifications Authority](#)

[College Development Network](#)

[General Teaching Council for Scotland](#)

[Skills Development Scotland](#)

[Association of Directors of Education in Scotland](#)

[Eco-School initiative](#)

[Dynamic Youth Awards](#)

[The Duke of Edinburgh's Award](#)

[Forestry Commission](#)

[Micro-Tyco](#)

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