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Partners in Learning

Innovative Teachers



21ST CENTURY SKILLS

Creativity



Note on the Authors

This document was developed through an international consultation process with educators and academics lead by Imagine Education (<http://www.imagineeducation.net>). The paper is deliberately discursive in its current format and works best when used in conjunction with the 21st Century classroom projects. It will be updated with example case studies to illustrate key points in the near future.

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Introduction

A vital 21st century skill, creativity is necessary across all subjects and disciplines – but how can teachers develop their and their learners' creative practice?

The call for creativity and innovation in education has been highlighted as one of the most important developments needed. The challenges of participating in the 'knowledge economy' which require new interactions between people, resources and ideas; the opportunity to create and produce, and the need to interact with, a wide variety of media; to the need to find creative approaches to dealing with global challenges: there is a need to find both creative approaches to teaching and learning, and to find new ways to foster creativity and innovation in learners. This is not a call for more art and design lessons, but to find ways for learners to be creative across the curriculum.

'In today's rapidly changing world, people must continually come up with creative solutions to unexpected problems. Success is based not only on what you know, but on your ability to think and act creatively. In short, we are now living in the Creative Society.'

Michael Resnick (January 2008) 'Sowing the Seeds for a More Creative Society:' *Learning and Leading with Technology*

Creativity is often linked with imagination, playfulness and originality: it is the creation of something original. Whereas imagination is developing new ideas, and innovation is

the application of those new ideas, creativity is the link between the two, creating tangible examples of those ideas (be them written, drawn, crafted or designed). This originality comes at different levels – from creating something new to you, to creating something new to your peer group, to creating something that historically





Introduction

hasn't been done before. Assessing creativity can be seen as a challenging task yet it presents a great opportunity for discussion with students asking them to consider what expert creativity looks like within different fields (for example in design or science etc). Further advice on assessing creativity can be found here:

<http://www.teachingcreativepractice.com/?p=37> and
<http://www.creativelearning.com/PDF/AssessCreatReport.pdf>

In creative activities, learners:

- Generate ideas using a variety of techniques
- Make connections between other people's ideas
- Express ideas in many different ways (making models, movement, dance, text and images)
- Research, solve problems and identify trends and possibilities
- Construct ideas and knowledge,
- Interact and collaborate with peers, and
- Develop innovative products and processes.:

One clear aim of creativity in teaching and learning is to foster learners' curiosity whilst supporting them to develop the skills to be creative. In order to do this, teachers need to:

- Be aware of the ways creativity links across the whole school curriculum
- Provide learners with the chance to explore open questions with flexibility in the use of resources, including time
- Support learners in taking risks and in making mistakes in a non-threatening environment
- Recognise the need to both teach 'for creativity' and teach creatively





Role of digital technologies for assessment

Digital technologies can be used to support a range of creative activities and to extend current practices to new audiences. A number of tools are available that enable quicker authoring, more immediate interaction with audiences and new ways to represent ideas. Further, technology can be used so that:

- Learners can develop ideas in a range of ways, using animation tools, simulations and multimedia presentations. This can support imagination and exploration of concepts and ideas.
- Learners can be connected to a range of experts and resources, in and out of the classroom by using search engines to find new information to support and develop their own work.
- Collaboration with other learners in and outside of the classroom through shared authoring and networked technology.
- Publishing to a range of audiences and receiving feedback to inform future practice is more accessible through the use of video conferencing, emails, blogs and wikis.





Scenarios

The following scenarios paint a picture of possible creative learning and teaching practices that move towards more personalized approaches to learning. They are presented to support the developments of new approaches to teaching and learning by considering the implications and benefits of alternative practices. They are not presented as recommendations or predictions, but as the starting point for teachers to consider how supporting creativity can be developed as part of their own practice.



01 YOUNG DESIGNERS

Looking at the role of teachers in supporting learners through a cycle of enquiry

After a discussion about the children's concerns, Miss Bateson sets her class of 10 year olds a challenge of solving the problem of too much traffic outside school. She talks them through the enquiry cycle and asks that in groups they develop some ideas based on what causes the traffic build-up. The groups begin to set out questions to understand what causes the traffic as Miss Bateson supports them in finding methods to find out parent's views, to record traffic data and to move from initial ideas to a more analytical set of ideas. Some groups begin to look at websites from the local government, whilst others use an online mapping tool to mark areas most affected by traffic. During the first plenary session in the week long task, the groups feedback their ideas and approaches so far with Miss Bateson using the interactive whiteboard to highlight the trends across the children's responses.

KEY WORDS: enquiry, design, design cycle, enquiry cycle, digital photography

02 WORKING AT THE BOUNDARIES

Cross sector collaboration to support innovation and creative approaches to teaching

After reading that innovation often occurs at the 'intersection of disciplines', Mr Bakheet decides to look at the work of educational professionals working outside of schools to find some inspiration for a class project in History. Using a variety of tools such as search engines, professional discussion boards and social bookmarking services, Mr Bakheet finds a heritage site using mobile phones to create 'mediascapes' that use online maps to locate information about the property. Following the links on the website, Mr Bakheet contacts the educator involved to discuss the technical and practical requirements of the project and to ask for advice and lessons learnt from their approach. Mr Bakheet begins to develop his project whilst looking for local museum educators to support the content development.

KEY WORDS: CPD, networks, knowledge management, personal learning network



Scenarios

03 HATS AND CHALLENGES

Using creative thinking techniques within schools subjects and across age groups

A class of 17 year old mathematics students are presented with scale plans for an athletics stadium by their teacher. The plans were created by 13 year old students in the same school, and the older students have been asked to review them for both their creative development, but also for the accuracy of the measurements against a number of criteria including the size of athletics track, the number of seats for spectators and the demand that no seat is more than 150 metres from a toilet, cafe and fire exit.

Using Edward de Bono's 6 Thinking Hats technique, the 17 year olds review the plans in turn against each of the thinking processes, recording their responses to give as feedback to the younger students. After looking in detail at the measurements and reviewing their own comments, the students spend a long time 'wearing' the green hat thinking up suggestions and ideas for the young students that will help them improve their work. The teacher, impressed with the responses and range of ideas that meet both the brief and the mathematics learning objectives, decides to arrange for both classes to meet up to work on the project together.

KEY WORDS: de Bono, thinking hats, peer assessment, creativity, mathematics

04 SINGLE CHALLENGE, MULTIPLE RESPONSES

Using a variety of digital authoring tools to present different perspectives on a shared experience

Before leaving for the school trip, Miss Jacks sets a simple task that each student will be asked to share their experience with three

audiences: the English teacher, the learner's own family, and a class of 12 year olds. Once on the school trip, the students use a variety of tools to capture evidence of their experiences, including cameras, notebooks, video and sound recordings. Once returned, Martha and Sam set out the requirements of each audience group: the English teacher may be interested in some writing that was inspired by the visit; their parents may be interested in how much they enjoyed the experience and what was their favourite part of the trip, and the class of 12 year olds are studying regeneration so they decide to present about the area they visited and how it's being changed. Martha and Sam then decide to create a poem for the teacher; an emotion map for their parents linked to images and short descriptions of the visit, and they decide to create a digital poster for the classroom wall that uses their own photos and videos, as well stories, newspaper reports and historic images that they begin to search for on the internet.

KEY WORDS: multimedia, authoring, audience



Scenarios

05 SHARED CREATION

Using random changes to challenge students thinking and to foster creative solutions

Mr Nodes brings together a Design and Technology activity challenging the students to work in teams to create designs for a school bag that can hold certain resources (books, laptop, pens etc) but have two other properties: that the bag can be used as a table for the student to work on, and it must be able to recharge the laptop. The students are given access to a range of resources and in their groups they begin to create a list of the specifications of the bag, with different group members beginning to

look at solutions to the different design challenges.

After half an hour, Mr Nodes throws in a new demand: the bag must be able to be carried on a bike. An hour later, a further demand is raised to challenge the students' ability to reshape their designs: the bag must have a lock that can only be opened by the owner. The students react to the new demands by initiating new research questions to inform the designs, each time marking the point that the new demand was made, so that during the assessment process, Mr Nodes can evaluate how responsive and adaptable their design processes have been.

KEY WORDS: Design and Technology, project based learning, creativity, challenge, adaptable





Professional Development Activity Description

Activity 1

CREATIVE STORYTELLING

Here are a set of scenario descriptions that outline some possible practices that use digital technologies to support the development of new teaching and learning practices that focus on assessment.

They are not written as predictions nor recommendations, but as a starting point for discussions about how this teaching tool can best be fostered in your teaching practice. Follow the suggested activities that use these scenarios to encourage these conversations.



This activity is a useful starting activity as it 'gives permission' for people to be creative and invent answers. It is important that teachers can be given permission to be creative so that they can model the creative role with students in their classrooms.

This is a fun activity, so ensure the group doing this is aware that although talking about the future of teaching and learning practice, it is done so with the intention of raising funny, surprising and novel ideas.

Ask each group to write down two brands or shops that they (a) like using or (b) have strong feelings about. It is useful to have a mixture of inspirational brands/shops and those that are seen to be 'lower quality'.

Put all of the names into a hat and ask people, in pairs, to select four pieces of paper. Have a brief discussion about the qualities of that brand/shop and then on the back of each piece, the pair must complete one of the following



sentences and add description to make a paragraph. Replace x with the qualities of that brand.

- If I was an [x] teacher, I would... or
- If our school as an [x] school, it would be...

For example: If I was a [Starbucks] teacher, I would ensure I had 300 different flavour lessons for each student to choose and I would create them when they asked for them. I would need to be ready for each student's request and would be given training to make popular lessons and lessons that are rarely requested to a high standard. We would run special offer lessons around public holidays and special occasions.

After each group has shared some of their ideas, it is useful to discuss further what qualities the school/the teachers would like to develop.



Professional Development Activity Description

Activity 2

BACK CASTING

Read through the scenarios and select one (or adapt one) so that it describes a practice you would like to develop. The aim of this activity is to work back from this scenario to articulate what needs to happen to bring it about.

Working backwards from the scenario, answer the following questions (it is useful to make notes as you go so that you can use your annotations as the basis of an action plan).

1. What would the future activity you have chosen be like in your school/context? (Be as descriptive as possible, making notes about resources, spaces and personnel)
2. What are the barriers to you doing this activity today?
3. What can be done today that is inspired by your future scenario?

By moving through these questions you have set out:

- An activity that you can start immediately (in answer to question three)
- Highlighted an action plan to begin to move towards your future scenario (in answer to question 2)
- Created a school/localized vision for what you could achieve (in answer to question 1).





Further Resources

A range of resources are available to support this teaching tool, including teaching resources, advice and research literature.



<http://futurelab.org.uk/resources/publications-reports-articles/literature-reviews/Literature-Review382>



http://www.enquiringminds.org.uk/try_it/our_approach/



<http://visionmapper.org.uk/activities/activities.php>



<http://www.createascape.org.uk>



<http://www.literacytrust.org.uk/database/creativity.html>



http://en.wikipedia.org/wiki/Six_Thinking_Hats



<http://www.glogster.com>



<http://www.ecls.ncl.ac.uk/l2l/main/files/OverHall2005.pdf>



<http://www.youngforesight.org/>



http://www.create2009.europa.eu/about_the_year/debates/2nd_brussels_debate.html



http://www.ted.com/talks/ken_robinson_says_schools_kill_creativity.html



<http://www.creativitycultureeducation.org/>

