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Can creativity be assessed? Towards an evidence informed framework for assessing and planning progress in creativity

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Abstract

This article considers the role of constructions of creativity in the classroom and their consequences for learning and, in particular, for the assessment of creativity. Definitions of creativity are examined to identify key implications for supporting the development of children's creativity within classroom. The implications of assessing creativity in order to aid its development within and across subjects are explored through the consideration of existing frameworks for assessing and supporting creativity. Enablers for creative teaching and learning are considered in order to propose a model of assessment and development for creativity.

Keywords: Creativity, Curriculum, Assessment, Professional Development

Introduction

The last two decades have witnessed an escalation of interest in the nature, place and importance of "creativity" as an important concept and aim within the English education system. This interest has occurred simultaneously to, and has interacted with, concern for

developing pupils' creativity in a number of other nations. Indeed, a range of research-based documents have pointed to the 'increased call for creativity in education by policy-makers in many parts of the world' (Craft, 2006: 337; see also Robinson, 2006). In her summary of recent educational policy interventions aimed at stimulating creativity and creative education in England, Craft (2006: 338) includes, amongst others, the following: 'the emergence of specific creative learning projects' within the Specialist Schools Trust, the 'interest taken in creativity by the national schools inspection service, Ofsted', the work of the national Creative Partnerships programme, **the Qualifications and Curriculum Authority's (the now obsolete non-departmental public body responsible for National Curriculum development and regulator of qualifications in England; hereafter QCA)** *Creativity Project* (2005), and a number of government policy papers and policies extolling the importance and benefits of developing creative educational initiatives (see, for example, DfEE/DfCMS, 1999). The introduction to a British Government report on *Nurturing Creativity in Young People* by James Purnell, then Minister for the Creative Industries in the Labour government, is illustrative of the high priority placed on creativity at a policy level. Purnell presented the challenge as making the UK the World's Creative Hub suggesting that 'we should build our policies on that success... to look at what more we can do to nurture young creative talent' (Roberts, 2006: i). A key message of the report was that 'There is a need to construct a more coherent 'creativity offer''. In this context, education is seen as a nurturer of talent required for the creative industries of the UK. Similarly, the 'Next Gen' report of the National Endowment for Science, Technology and the Arts (a UK charity promoting innovation) has stated that schools would need to change their teaching of Information and Communications Technology in order to support the creative industries of console game production and film effects (Livingstone & Hope, 2011 p 1).

Yet, despite this high level of policy and curricular interest in creativity, concerns remain about the extent to which the creativity of pupils is universally being developed. The large-scale Cambridge Primary Review (hereafter CPR) noted that many of its submissions lamented that children's 'opportunities to express themselves creatively had been eroded in the past 20 years', and that 'Witnesses worried that the then current dominant construction of childhood as a preparation for adulthood had stifled enjoyment, creativity and imagination in primary education' (2009: 99). Similar concerns have been raised with regard to the current changes to the English National Curriculum (DfE, 2013), with leading figures from the Arts questioning the role of creativity in the new proposals (see, for example, Higgins, 2012). As Marshall (2001: 116) has reflected 'creativity seems to hold an ambiguous place in this country. We appear uncertain as to its value, unable to decide whether it is a good or bad thing'.

At times explicit in discussions of creativity within education, but more often implicit or missing altogether, is the place and nature of assessment. Assessment poses a number of questions for those who assert the value and importance of developing creativity in the learning of pupils. These include, but are not limited to, how creativity is defined, what particular features of creativity are valued and measured, how creativity might be assessed within and across different curriculum domains, and how some consistency might be achieved given the recognition that judgements regarding creativity are often of a subjective nature. In this paper we explore these issues. Underpinning our analysis is the belief that questions relating to assessment are not insignificant for teachers seeking to develop creativity in pupils; indeed they are crucial. As such, we consider the nature of creativity in education and the tensions surrounding its assessment. The paper is comprised of four main parts, following this introduction, the first section considers definitions of creativity pointing

to the contested nature of what constitutes creativity in education and schools. In the second section we consider some of the key issues relating to assessing creativity within a classroom context. The third section focuses on assessment for learning and creativity, and in this we set out a number of the existing frameworks for assessing creativity in schools. In the final section, we briefly put forward a framework, the constituent parts of which derive from some of the key literature in the field, which we believe will better enable practitioners to map progress in creative learning.

Defining Creativity

If we are to begin to understand the processes involved in assessing creativity, it is a logical necessity that this commences with some understanding as to how creativity is constituted and defined. This poses an immediate problem for both researchers and practitioners. Common across the literature on creativity in education is the assertion that the concept of creativity is not unambiguous and as such permits a variety of understandings (see, for example, Sharp, 2004; NACCCE, 1999). The term creativity in education can be slippery, because of its wide ranging use in society. Craft (2005: 226), for example, has noted the confusion around the concept:

The very nature of creativity in education remains ambiguous. To what extent creativity in primary education is conceived of as involving creative partnerships, as opposed simply to valuing and nourishing children's ideas in multiple contexts, is not clear. To what extent collective or collaborative creativity is valued as against individualised models is also unclear, similarly there are still slippages in language between 'creative teaching',

‘teaching for creativity’ and ‘creative learning’.

Educational interest in the concept of creativity is historically grounded in psychology, emphasising its multifarious developmental, psychometric and cognitive interpretations (see, for example, Kozbelt, Beghetto, and Runco (2010) who categorise ten major theories of creativity). Indeed, that this is so has led Bleakley (2004: 464) to claim that ‘the study of creativity can be seen to have been ‘disciplined’ by modern psychology’. This psychological grounding of creativity is further evidenced through the formerly dominant model of assessing creativity; that is, the use of psychometric cognitive and personality tests (Plucker & Makel, 2010). The work of Sternberg (1997; 2006) has been of particular influence within the literature on creativity. Summing up research in the field, Sternberg has advanced an investment theory of creativity in which the individual invests in ideas with potential, following them through to fruition against any resistance faced. According to Sternberg (2006: 87-88) creativity is dependent on ‘six distinct but inter-related resources: intellectual abilities, knowledge, styles of thinking, personality, motivation and environment’. These six capacities hint at a movement within the psychological literature on creativity in education, identified by Craft in the quotation above and also by McWilliam (2009). This is a shift from theories which prioritise creativity as an individual psychological property to those which, in addition to the cognitive development of the child, pay attention to the social and contextual environment in which creativity can flourish. In this regard, studies by a range of influential scholars on creativity in England have placed a strong emphasis on open, exploratory and collaborative spaces as essential to enabling creativity (Jeffrey & Craft, 2004; Cremin et al., 2004).

In England, the highly influential report of the National Advisory Committee on Creative and

Cultural Education (NACCCE, 1999; hereafter NACCCE) provided a definition of creativity that could be, and has been, harnessed by educationalists. This identified four characteristics of creative processes. First, that they always involve thinking or behaving imaginatively. Second, that this imaginative activity is, overall, purposeful: that is, it is directed to achieving an objective. Third, that creative processes must generate something original. Fourth, that the outcome must be of value in relation to the objective. An important element of this definition is that it anchors creativity within purposeful activity that is, in turn, given meaning from coming within a given domain (such as the curriculum of a specific subject area). In this sense, creativity does not sit completely outside of a particular subject area, but is shaped, and at least partially defined, by that particular subject domain (or possibly domains). To illustrate, defining the purpose, originality and value of creative acts and processes (as the NACCCE definition sets out) is to a large part constructed within, and by, subject disciplines. It is quite possible to conceive of something (a thought, an act, an artefact etc.) being considered creative in one subject domain but not, or at least less so, in another). This suggests that creativity cannot occur without some form of content. Indeed, creativity requires content – in terms of knowledge and skills – to provide it with a purpose or challenge, and to add or to gain value. This reminds us that, in education, the curriculum can act as the resource for developing creativity specific to a given subject area. Moreover, this recognition also suggests that (i) creativity is dependent upon pedagogy and, as such, (ii) different pedagogies within different subject domains may foster or hinder creativity.

Indeed, the former claim, on which the latter is dependent, has found increasing recognition in the educational literature. Whilst there is no real consensus regarding the precise pedagogical strategies which enable and foster creativity in learners in Primary (4-11 year olds) and Secondary (11-19 year olds) schools, a number of educationalists (see, for example,

King, 1994; Jeffrey & Craft, 2004) have postulated a connection between creative development and teaching interventions. In their own exposition of the pedagogical core of 'teaching for creativity' Jeffrey and Craft (2004: 78), cite a number of studies from the US and the UK between 1980 and 2000 which explored 'aspects of pedagogical approaches which foster creativity', including those by Shallcross, 1981; Fryer, 1996; Hubbard, 1996; and Beetlestone, 1998. In his consideration of the connections between pedagogy and creativity Claxton (2006: 9) describes a popular psychological view of creativity as being 'quintessentially associated with a sudden moment of abrupt illumination, in which the solution to a previously intractable problem leaps into consciousness fully formed, without any immediately preceding process of methodical, rational problem-solving'. It is rather that engagement with prior knowledge, and linking that to purposes and values, can fuel the imaginative grappling with problems that can become creative. Claxton and Lucas (2004: 11) argue that creativity might be the result of sustained effort rather than sudden insight. In their words: 'The final breakthrough arises from the repeated and persistent use of methods that ordinary people use to solve problems e.g. reformulation, new interpretations of existing facts'.

If creativity is to be thought of as an essence rather than a manifest consequence of certain forms of intellectual activity or as being central to all worthwhile learning, then its utility as an educational goal or concept will be limited. Moreover, and crucially for our analysis, this too will impact on the assessment (including the assessment for learning) of creativity within the classroom. Building upon the definition of 'information' by Gregory Bateson (1973) as 'information is a difference that makes a difference', it might be argued that creativity is about identifying and then harnessing difference to enable successful innovation. This may, in turn, require a deep engagement with knowledge within a subject supported by peer

discussion and the curriculum expertise of a confident teacher. In an European Union funded review of theories of creativity underpinning training and education which built on previous EU policy documents (e.g. EU 2008a, EU 2008b), as well as on the work of Sternberg and Lubart (1993), Ferrari, Cacha and Punie (2009) suggest that creativity has been defined as a product or process that shows a balance of originality and value. It is viewed as a skill to make unforeseen connections and to generate new and appropriate ideas. It is a skill that can be developed. The recent EU Educational and Training 2020 Policy (2012) has reinforced this view in its emphasis on innovation as a core educational objective. The CPR (2009: 489) provided an elaboration of this process, acknowledging creativity within cultural parlance whilst emphasising the active role of the learner:

Creativity is understood not only in terms of exposure to artistic and imaginative endeavour but as contributing to the quality and capacity of children's thinking and to their perseverance and problem solving abilities... children are now viewed as competent and capable learners, given the right linguistic and social environment and teaching which engages, stimulates and challenges their understanding.

An earlier document **by the QCA** (QCA, 2005) listed some of the pedagogical activities that might underpin classroom creativity so that teachers could locate when it was occurring in their classrooms. In *Creativity: Find it, Promote it*, the QCA (2005) suggested that it is possible to identify when pupils are thinking and behaving creatively in the classroom by using the following framework:

- (i) questioning and challenging;
- (ii) making connections and seeing relationships;

- (iii) envisaging what might be;
- (iv) exploring ideas, keeping options open;
- (v) reflecting critically on ideas, actions and outcomes.

Earlier, in 2003, the Office for Standards in Education (hereafter Ofsted), the School inspection authority in England, conducted a survey identifying what they considered to be good practice in promoting creativity in schools. They found there was generally high quality in creative work and emphasised that ‘the creativity observed in pupils is not associated with a radical new pedagogy...but a willingness to observe, listen and work closely with children to help them develop their ideas in a purposeful way. (2003: 5) The latter part of the quote reinforces the purposeful aspects of creativity. More recently, in *Learning: Creative Approaches that Raise Standards*, Ofsted (2010: p 3) reported that in schools assessed as having ‘good teaching’, there was no conflict between the English National Curriculum (DfE, 2013) currently in operation and creative approaches to learning. The report stated that pupils’ motivation, progress and attainment in primary and secondary schools are improved by creative approaches to learning such as:

- stimulating pupils with memorable experiences and practical activity;
- allowing pupils to question, explore and challenge ideas;
- encouraging pupils to think creatively; and
- supporting pupils to reflect on and evaluate their learning.

Although, there may be some degree of tautology involved in including ‘encouraging children to think creatively’ within a list of creative approaches to learning, it may be no more teleological than a definition of creativity that stresses ‘behaving or thinking

imaginatively' as suggested by the NACCCE (1999, p22). Further evidence regarding this connection between pedagogy and developing learners' creativity can be found in relation to other nations (see, for example, Kaufman & Sternberg, 2006; Shaheen, 2011) and in relation to other sectors of education, notably Higher Education (see, for example, Sternberg, 2006; McWilliam, 2007, 2009; MacLaren, 2012) and Early Years Provision (see, for example, Cremin et al., 2004).

A different approach to defining creativity is to consider what it is not. In her review of the literature on creativity in education, Caroline Sharp (2004) has proposed six 'myths of creativity.' The sixth myths identified by Sharp are the assumptions that: (i) creativity is confined to arts and culture, leading to the under-recognition of the role and significance of creativity in fields such as design, technology, engineering and science; (ii) that knowledge transfer across domains is unproblematic; (iii) that creativity equals fun; (iv) that creativity is an elite trait, restricted to a few very talented individuals; (v) that education for creativity can be provided through unstructured play and unsupported activity; and (vi) that creativity does not require a high level of subject knowledge. Recognition of this sixth myth is of particular importance to the framework of assessing creativity which we set out later in the paper in that it reinforces the significance and centrality of the domain or subject-based context within which creativity might take place. As considered above, the National Research Council (2000) review stressed the importance of subject knowledge as necessary for, and as integral to, creativity. Conceived in this way, creativity transcends generic problem solving and/or thinking skills, in a way which incorporates discipline specific content and contexts. An illustration of this has been provided recently in relation to the teaching of History by Harris and Hadyn (2012) who are critical of generic schemes of work for learning social sciences when they suggest ignore or undervalue the progression of skills and knowledge necessary to

engage with History successfully and creatively.

To summarise, the nature of creativity in education terms is contested, and can be seen as either (or perhaps even as both) an individual psychological property or as developing out of collective and collaborative endeavour. Our suggestion here is that these different conceptualisations have an impact on how creativity is assessed, in both formative and summative ways, and, importantly, that creativity needs to be at least in part considered within the context of given subject disciplines. Next, we consider the relationships between assessment for learning and creativity, before progressing to an analysis of existing frameworks of assessment and tentatively setting out a new framework.

Assessment for Learning and Creativity

The lists of creativity in the classroom proposed by Ofsted and QCA contain some items that may also be located within the literature on Assessment for Learning, where a cycle of questioning, reflection and evaluation is held to be fundamental to successful learning and progression. ‘Assessment for Learning’ (AfL) as proposed by the Assessment Reform Group (2002) has been characterised as a process of interpreting evidence for use by learners and teachers to locate where learners currently are in their learning, what they need to learn next, and how this might be achieved. The extensive CPR describes this as a cyclical process in which the teacher gathers data about the pupil’s current understandings and skills by observation, careful questioning, gathering children’s views and studying pupil’s work. This is then interpreted in relation to the lesson goals in order to decide the next steps for learning. The value of children’s participation in the process is also emphasised, thus requiring that the

children as well as the teacher have a clear idea of where the learning could be going. That this process requires, and can be supported by, the professional development of teachers is supported by the research of Maxwell (2004) who reported improvements in the quality of assessment arising from the group moderation of teacher assessments. This also has further benefits in terms of professional development through the process of meeting to discuss the conclusions that could be agreed from considerations of a pupil's work. For Black and Wiliam (2006) these assessments need to be reliable and valid for which a process of teacher moderation like Maxwell's clearly has a role. Black and Wiliam's suggested strategies of assessment for learning include:

- Open questioning and dialogue
- Feedback
- Peer and self assessment

In addition, they state that pupils will need to know goals and how to judge their quality for self-assessment to be successful. The NACCCE (1999: 90) report also clearly implied the need for sound assessment to underpin teaching for creativity when it suggested that 'in order to teach for creativity, teachers must identify children's creative strengths'. Recourse to the literature on developing children's creativity shares a good deal of common ground with the AfL strategies and approaches outlined by Black and Wiliam (2006) and by the CPR (Alexander, 2010). The following assertion in relation to the QCA framework from Cremin et al. (2004: 109; emphasis added) is illustrative of the synergies:

To an extent, the QCA conceptual framework reflects findings from a two-year 10 country European study in which creative engagement was seen to involve *open adventures*, enabling children to *explore and develop knowledge through*

productive engagement with their work, as well as the opportunity to review both the process and the outcome of their creative engagement.

Clearly then, an important aspect of supporting children to develop their creativity is teacher engagement with, and sound application of, assessment for learning strategies.

Existing frameworks for assessing creativity

The challenge set at the outset of this article was to place the assessment and development of creativity within the context of enhancing existing school practice in England. We have attempted to harness the available evidence base and guidance in order to embed the assessment of creativity in the language and pedagogy of existing schools subjects and classrooms. We now consider existing resources that attempt to assess creativity and then map pupil progress within an articulated or implicit model of creativity. Space constraints dictate that we cannot provide a full critical account of each of the frameworks, and so these are summarised in Table 1 (next page). We would, however, stress the importance of developing a framework for assessment for learning creativity that avoids the confusions referred to in the myths outlined above and instead builds upon existing concepts and practices in assessment. Table 1 illustrates some of the existing frameworks that need to be considered alongside potential evaluation criteria. These were selected on the basis of providing a range of educational frameworks for comparison in relation assessment for creativity, but it is not intended as an exhaustive sample. These tools are drawn from a variety of sources, and have a good deal of face validity in that they appear to measure some aspects of creativity, especially within arts curricula, and some of them have been developed directly from school practice. We also considered, but finally excluded, Perkin's Performance of Understanding (Blythe, 1998). Although this was intended for all areas of education and

requires the active application of new knowledge/skills in new settings through the active engagement of learners, it fails to manifest key aspects that would foster creativity. For example, the requirement for students to evidence understanding in a performative way, but without *necessarily* demonstrating real cognitive understanding (Entwistle, 2009)

Whilst Table 1 includes specific strengths and limitations of the individual frameworks, based on our previous discussion we would argue that, taken holistically, they have two main limitations. First, the frameworks underplay the role, influence and context of subject disciplines for originating and developing creativity. Second, some of the frameworks lack some degree of construct validity and therefore, we would suggest, a more unifying framework is required based upon the arguments considered above, particularly in relation to current thinking on assessment for learning.

Table 1 A matrix of creativity frameworks

Requisites for Creativity: Implications for creative institutional change

The EU review of theories of creativity by Ferrari, et al. (2009: 2), referred to previously, proposes a series of requisites for creativity and innovation in schools. These factors have been called enablers and are the circumstances or support mechanisms that make creativity and innovation more likely to thrive. These are: ‘assessment; culture; curriculum; individual skills; teaching and learning format; teachers; technology, tools’. From their review of the literature, Ferrari et al. (2009) highlight significant aspects of each of these enablers each of which are essential for assessing creativity. As we make use of these enablers in our proposed

model for assessing creativity, it is worthwhile defining briefly each in turn.

The first enabler is concerned with *assessment* activities that are not stressful, but instead trigger students' imagination. Moreover, they make use of several types of media including e-portfolios, innovative assignments, and video making in order to encourage learners to benefit from what that have learned together in order to highlight future progress rather than emphasise competitive comparison (see also, Black & Wiliam, 2006, Cremin et al 2004). The second enabler relates to the development of a *culture* where the main challenge stems from the specific and determined values which give creativity and innovation their meaning, including risk-taking, exploration beyond the rules, and non-conformity (see, for example, Ofsted, 2003, 2006, QCA, 2005). Such culture and values are in sharp contrast with other school values that may be prevalent, including standardisation, obedience, testing and competition. There is also a need to engage in the 'creation of a democratic culture, where students' ideas, interests and opinions are welcome' (QCA, 2005 p 56).

Interdependent with the second enabler is the third – that of *curriculum*. This places an emphasis on the need for creativity without imposing another task in a busy schedule for teachers and which balances prescription and freedom. A prescriptive curriculum hinders creativity and overloads the curriculum with too much information/knowledge leading to stressful and tight schedules and to a frontal format where the teacher is at the centre of the stage instead of being a co-constructor of creative learning (e.g. Craft, 2005; NACCE, 1999). Moreover, it recognises that creativity occurs within a given curriculum context. In relation to this, the fourth enabler refers to the development of *individual skills* in a way which recognises that there is a minimum threshold of knowledge needed to be creative in any field. Furthermore, learners and teachers will have to know how to think, how to make connections,

how to seek for problems and how to solve them and having some degree of expertise is a pre-requisite for being creative in any given field (NACCE,1999, Livingstone & Hope, 2011). We would add to this (and as we have suggested previously) that such skills are developed at least in part through collaborative and social environments, with children supporting each other's creative development. The fifth enabler provides recognition that the *teaching and learning format* has, as well as *teachers* themselves having, a vital role in the kindling or stifling of creativity and innovation in education. They need to be able to identify opportunities for creativity as well as be aware of the myths about creativity. This further reminds us that professional development and support are needed, as well as effective initial teacher education in developing pupils' creative capacities (Jeffrey & Craft, 2004, King, 1994).

The sixth and seventh enablers relate to specific non-human resources needed to establish an environment in which creativity can occur and, hopefully, flourish. The sixth is the harnessing of *technology* in order that it can offer many opportunities for change offering a platform for innovative teaching and creative learning in many ways and stimulating alternative ways of fashioning knowledge creation and meaning making, whilst the seventh is the employment of necessary *tools*, including space, resources and networks, in order to provide virtual and real interactive opportunities and structures for learning and teaching (Loveless, 2007, 2008).

Ferrari et al. (2009) suggest that the co-existence of several of these factors would give rise to an enabling environment where creative learning and innovative teaching could blossom. Further, if enablers are not present, creativity will be less likely to flourish. If, on the other hand, all enablers are in place, it is still not possible to deduce that creativity and innovation

are happening, as teachers and students will still have to actively engage in the creative and innovative process. Enablers are therefore indicators of the kind of environment which could nourish creative learning and innovative teaching. Traditional whole institution change models have tended to be top down and focused upon shared vision, agreed action plan, resources, incentives and skill development (for example, Knoster, Villa & Thousand, 2000). Whilst these elements may be important within a traditional adoption model of change, an alternative approach may be desirable that acknowledges what has been learnt about assessment for learning and teaching that harnesses creativity.

Toward a specification for a framework for mapping progress in creativity

Drawing on these aspects, we tentatively propose an interactive and developmental assessment model (Figure 1; next page) that could be based on existing portfolio or group collaboration tools and which could be in a physical or web-based form. Indeed, the latter consideration is important given that Ferrari et al. (2009: 5) stress that the ‘immersion in (...) media-rich environment leads new cohorts of students to learn and understand in different ways, therefore teachers need to develop creative approaches and find new methods, solutions and practices’. The model is deductive, based on our drawing on some of the key literature and research in the field discussed above.

Figure 1: Enablers and Pedagogical Strategies Promoting Progress in Creativity

Our proposed model brings together five pedagogic strands of creativity. These strands are taken from the QCA (2005) categorisation of creativity in pupil learning. These may be classified within one, or across a number, of subject domain areas. The subject domains in

our model are taken from the current National Curriculum for England (DfE, 2013), but can be amended to account for the specific subject domains involved in other given jurisdictions. The seven enablers derived from Ferrari et al. (2009) underpin the developing progress of the five strands, and these two are represented in Figure 1. This reflects the position of each enabler as constitutive to developing creativity. The enablers may be resources and practices that are in place or could be developed within the schools and can build upon experiences beyond the school. In this sense, the model allows and focuses users on the different enablers that can bring about creativity within subject domains and through the five pedagogic strands of creativity. In this way, and crucially, the model recognises the integrated and inter-dependency of subject domains, the enablers, and the pedagogic strands. Further to this, as we have presented it in Figure 1, the model depicts stacks of cards which represent the possibility of examples of practice in relation to creativity which can be sorted according to the range of categories displayed. These examples, of vignettes, can be developed by practitioners for a range of reasons – to provide a base-line, to illustrate learning, to evidence progression, and to highlight effective practice. In this sense the intention of the model is not to record one-off demonstrations, but rather to be part of a holistic approach which draws on a range of practice, evidence and observations to develop a picture over time. As such, its intention is to provide a holistic model which aids assessment *for* learning as much (or even more than) assessment *of* learning.

We are aware, however, that the model depicted in Figure 1 is, as developing and assessing creativity are, complex. For this reason we have simplified Figure 1 in the form of a template framework which practitioners could use to record the creative events and incidents. Figure 2 presents the subject domains, enablers and the pedagogic strands of creativity in a usable format, which provides scope for identifying which of each is involved in a particular

situation, and provides space.

Figure 2: Framework for Recording and Assessing Creative Events and Learning

The framework in Figure 2 enables schools and practitioners to observe pupils' practice and creative learning, and to build the range of understanding and evidence which can feed in to the wider model in Figure 1. In this way, and across their whole practice, teachers and schools may be able to develop a cohesive and detailed record of creative learning within classes, within subjects, and across the whole school based on their own observations and understandings of the pupils involved. Again, and crucially, rather than the recording of creativity being based on individual incidences, the model we suggest presents the possibility for a more holistic understanding of creativity as something which happens frequently and in different ways. As such it recognises the importance of observing, recording and assessing children's creativity in context rather than in abstracted test environment (Robson, 2013). This is particularly important given recent research which highlights the constructivist nature of creative learning, which has found that whilst 'children were least likely to become engaged in an activity when it was initiated and developed by an adult', this contrasted with the fact that children 'were more likely to show evidence of exploration and engagement in a new activity when an adult was present' (Robson, 2012: 98). This challenges teachers and practitioners to think carefully about their own role and that of pupil co-working in any creative learning environment.

By drawing together the importance of subject domains, enablers for creativity, and pedagogic strategies, our proposed model can also be used to inform the scaffolding of learning activities and tasks in order to create certain conditions which can support creative learning. This is important when we consider that such scaffolding by teachers is 'especially

valuable for supporting children in acquiring new knowledge, developing new skills, and making use of these in support of their creative thinking' (Robson, 2012). The model, and its use, also provides useful possibilities for sharing practice and forming the basis of discussion between teachers and, where appropriate, even between teachers and pupils. Such professional reflection and discussion can help to support relationships and practice (Craft et al. 2012; Robson, 2013).

Conclusion

This article has considered definitions of creativity in education and how creativity might be understood in terms of classroom practice especially in relation to the concept of 'assessment for learning'. Existing frameworks for the assessment and monitoring of the development of creativity have been considered but an approach that embeds creativity within emerging active pedagogies of learning which recognises subject discipline nature and context is proposed that takes into account a number of enabling contextual factors. This approach takes advantage of existing innovations in teaching and learning technology and positions itself within moves towards the democratisation of schooling which at the same time values skills, knowledge and expertise rather than an elitist reification of creativity.

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