
Abstract

A systematic review of 210 educational research, policy and professional literature studies from the period 2005-2011 identified only 17 publications which met the criteria for inclusion and contained findings relating to teachers’ roles in promoting creativity and 18 for how they can be supported in doing so. The evidence from the studies suggest that teacher skills and attitudes; a willingness to act as a role model; awareness of learners’ needs; flexible approaches to curriculum and lesson structure; particular types of classroom interaction with pupils, together with the use of ICT and assessment, are important components of teaching for creativity. The evidence also suggests the importance of school culture in supporting or impeding creative practice; the need to elicit teachers’ prior conceptions of creativity in education; teachers taking on the role of learners to develop their own creativity; working co-constructively with a mentor or coach – which may be a creative professional from an outside agency; and the importance of teachers undertaking action research and reflection on their own classroom practice.

1. Introduction

Education systems in many countries aim to develop pupils’ creativity (Craft 2005; Davies 2006; Stables 2009), which is seen as important for economic growth through its contribution to a knowledge economy. It is not always easy to tell what is meant by ‘creativity’ in such education policies; the term has multiple definitions (e.g. Torrance 1977; Mumford et al. 1991; Sefton-Green and Sinker 2000; Robinson 2001) and it tends to be viewed less individualistically in more
collectivist, Eastern societies (Niu and Sternberg 2002). For the purposes of this study we define creativity in terms of two internationally-influential conceptions: ‘the ability to make connections between previously unconnected ideas’ (Koestler 1964: 95), which emphasises its cognitive dimension, and ‘imaginative activity fashioned so as to produce outcomes that are both original and of value’ (NACCCE 1999: 30), which places greater emphasis upon the relationship between thought and action, whilst allowing for a social dimension. Research into the preconditions for developing creativity (e.g. Harrington 1990) suggests that the environment within which pupils learn is crucial and that teachers have a key role to play in structuring and maintaining that environment (Gandini et al. 2005; Burnard et al. 2006; Jeffrey 2006; Burgess and Addison 2007; Menter 2010). The components of what we will call ‘creative learning environments’ include both the physical environment (Addison et al. 2010; Vecchi 2010) but also - more importantly - the pedagogic environment (Cremin 2006, Halsey et al. 2006, Hall et al. 2007). We define ‘creative learning environments’ as those that are designed to promote ‘creative learning’, which Jeffrey (2006) defines as characterised by relevance, ownership of knowledge, control of learning processes and innovation.

One of the main components of the pedagogic environment is the teacher and how they organise learning and teaching. It is worth bearing in mind the distinction made by NACCCE (1999) between teaching creatively and teaching for creativity. Whilst the former has the emphasis upon the creativity of the teacher, it is the development of teaching strategies that foster the creativity of learners that is the focus of this article. There is, however, a relationship between the two in that ‘a pedagogy which fosters creativity depends on practitioners being creative to provide the ethos for enabling children's creativity’ (Craft 2005: 44). We need also to acknowledge, as observed by Grainger et al. (2005) in their case studies of infant and primary teachers, that creative practice is multi-layered; it encompasses three dimensions, namely personal qualities, pedagogy and ethos, each
of which has a distinctly creative orientation. The findings from the studies in this area suggest that teacher skills and attitudes; a willingness to act as a role model; awareness of learners’ needs; flexible approaches to curriculum and lesson structure; particular types of classroom interaction with pupils together with the use of ICT and assessment are also important components of teaching for creativity. However, such practice appears to be rare; in over 400 hours of observation of 48 primary teachers in the USA, Schacter et al. (2006: 61) observed ‘hardly any teaching behaviors (sic) that increased student creativity’. It is important to understand why this might be the case. This concern prompted the Scottish government curriculum authority Learning and Teaching Scotland (LTS, now Education Scotland) to commission a systematic review of literature in this field with four objectives; the ones relevant to this article were as follows:

1. To explore the evidence in the literature for identifying specific roles of teachers for promotive creative learning in pupils;
2. To explore the evidence in the literature for ways in which teachers can be best supported to develop the skills and confidence to facilitate creative learning environments.

The review was carried out by a team from two universities – one English, one Scottish. Findings from the review concerning the characteristics of creative learning environments and the impact upon learners are reported elsewhere (Author A et al. 2013, Author B et al. 2013). This article is focused upon the behaviours of teachers which contribute towards creative pedagogic environments, together with the types of professional development activities which have been found most effective in promoting such behaviours.
2. Methodology

The systematic review was conducted in line with the methodological approach recommended by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-centre) (2007), to provide a robust evidence base for identifying the roles and training needs of teachers in promoting creative learning environments. The steps taken included the following:

2.1 Scoping the review

The team started by developing explicit inclusion and exclusion criteria for specifying which literature would be included in the review (see Table 1).

<table>
<thead>
<tr>
<th>Topic</th>
<th>relate directly to the research questions</th>
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<tbody>
<tr>
<td>Recency</td>
<td>published between 2005 and 2011</td>
</tr>
<tr>
<td>Age-range</td>
<td>school-age pupils (5–18)</td>
</tr>
<tr>
<td>Geographical spread</td>
<td>primarily to studies in the UK (particularly Scotland), together with examples from other countries with similar education systems</td>
</tr>
<tr>
<td>Research base</td>
<td>empirical research (either qualitative or quantitative)</td>
</tr>
<tr>
<td>Transparency</td>
<td>methodology of the research should be explicit (e.g. sample sizes, instruments, analysis)</td>
</tr>
<tr>
<td>Reliability/validity</td>
<td>as far as can be determined, the findings upon which the study is based must be valid and reliable, taking into account the type of study</td>
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Together, the above criteria were combined into a consideration of ‘weight of evidence’ (Gough 2007); a rigorously-conducted, transparent, empirical study across several schools would carry more weight than one which is small-scale and/or impressionistic in its use of data.

2.2 Searching for studies

Each member of the research team set out to identify relevant studies in particular types of literature using the following search terms agreed with LTS:

- Creativity
Creativity AND … teacher, children, pupil, student, research, learner agency, impact, supporting, developing, facilitating, evaluating, documenting, life wide, training, school,
Teaching AND for creativity, creatively
Creative AND … teaching, teacher, learner, learning, attitudes, environment, community, project, curriculum, skills, attributes, pedagogy, conditions, school, disposition, behaviour, education, children, capacity(ies), value(s), ecosystem, ethos, development, partnership, cultural capital, primary, secondary, professional, assessment, enquiry, technology?
Innovation
Innovative AND approaches, teaching, teacher, school environments, learning

Table 2 outlines the types of literature that were included in the initial search:

Table 2: Type and source of literature

<table>
<thead>
<tr>
<th>Type of literature</th>
<th>How sourced</th>
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| Journal articles                         | - Searching the online databases Education Research Complete, Educationline and Web of Science  
- Scanning the contents of key journals in the field such as Creativity and Thinking Skills and Creative Education  
- Contacting eminent researchers in the field |
| Scottish ‘grey’ literature               | - Reports of studies in Scottish Schools  
- Scottish government, professional and research publications |
| Arts-based grey literature               | - Research reports from Creative Partnerships/Creativity, Culture and Education (CCE)  
- Arts-Council funded research  
- The National Society for Education in Art and Design (NSEAD) database |
| Books on the theme of creativity in Education | - Chapters in books which may not include creativity in the title  
- Library catalogue and information services at Bath Spa and Dundee Universities  
- Inter-library loan |
| UK and Scottish government websites     | - Scottish Government, Department for Education (DfE), The Standards Site, National Foundation for Educational Research (NFER), Economic and Social Research Council (ESRC) and Arts and Humanities Research Council (AHRC) databases of reports |
| World Wide Web                          | - Including Google Scholar, Google, ERIC, Wikipedia and other non-academic sites. |
All 210 pieces of literature found by the team were recorded on a grid with summary judgements made against each of the above criteria. The team met to review all the decisions and re-distribute the literature under the two research questions.

2.3 Screening studies

Each piece of literature was screened against the inclusion criteria in Table 1. This helped to avoid hidden bias, by having clear consistent rules about which studies were being used to answer the above research questions. By appraising each study against the same criteria and recording the results, the basis for the review’s conclusions was made transparent. This activity was undertaken collaboratively by the research team.

2.4 Describing and mapping

The team outlined the methodology and findings from each included study, including variables such as population, focus, study design and key characteristics related to the research questions. These were used to draw up a ‘descriptive map’ providing a systematic description of research activity in relation to each research question. Different researchers or pairs of researchers were responsible for mapping each area.

2.5 Quality and relevance appraisal

The team members evaluated each study within their descriptive map in terms of the trustworthiness of the results judged by the methodological quality, methodological relevance, topic relevance and weight of evidence (WoE) (see Table 3).

Table 3: Criteria for judging ‘weight of evidence’

<table>
<thead>
<tr>
<th>Level/criterion</th>
<th>Methodological quality</th>
<th>Methodological relevance</th>
<th>Topic relevance</th>
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<tbody>
<tr>
<td>1: Excellent</td>
<td>Excellent research design justifying all decisions taken: e.g. sample, instruments, analysis. Clear evidence of measures taken to maximise validity and reliability.</td>
<td>Research questions clearly stated. Methodology is highly relevant to RQs and answers them in detail.</td>
<td>Study is very closely aligned to one of the key review questions and provides very strong evidence upon which to base future policy/action.</td>
</tr>
<tr>
<td>2: Good</td>
<td>Research design clearly stated with evidence of sensible</td>
<td>Research questions are explicit or can be deduced from text.</td>
<td>Study is broadly in line with one of the key review questions</td>
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decisions taken to provide valid and reliable findings. | Findings address RQs and provides useful evidence.

| 3: Satisfactory | Research design may be implicit but appears sensible and likely to yield useful data. | RQs implicit but appear to be broadly matched by research design and findings | At least part of the study findings is relevant to one of the key review questions

| 4: Inadequate | Research design not stated and contains flaws. | RQs not stated or not matched by design. | Study does not address key questions

2.6 Synthesising study findings

The team used the approach of *Narrative Empirical Synthesis* (EPPI-Centre 2007) to bring together the results of the mapping exercise to provide an accessible combination of results from individual studies in structured summaries. This involved bringing the summaries of research methodology, findings and weight of evidence from the mapping exercise together under thematic headings, as narrative paragraphs summarising the key messages and their relative evidence bases.

2.7 Conclusions/recommendations

Finally a set of recommendations closely linked to the findings of the synthesis were drawn to make transparent the basis on which each recommendation was made. This included identification of potential limitations in the generalisability or transferability of findings. The recommendations and an executive summary were then incorporated into the final report.
3. Results

The results have been presented in line with the two research objectives.

3.1 The role of teachers in promoting creative learning in pupils

A systematic review of 210 educational research, policy and professional literature studies from the period 2005-2011 identified only 17 publications which met the criteria for inclusion and contained findings relating to teacher roles in constructing creative learning environments.

There is evidence in the literature reviewed that a defining set of attitudes is associated with teaching for creativity. For example, from a study of four one-week-long, in-service development courses for teachers, Davies (2006) found that teaching for creativity was associated with teachers taking a ‘long-term view’ of a learner’s potential, a willingness to wait for results and the confidence to act intuitively at times. From questionnaire data and a series of interviews with teachers (n = 65) and children (n = 390) in primary schools, Grainger et al. (2005) conclude that, while all effective teachers reward originality, those who teach for creativity depend on it to enhance their own well-being and that of their pupils; they see the development of creativity and originality as the distinguishing mark of their teaching.

There is, however, less emphasis in the literature on the skills needed to be a teacher for creativity. From the literature selected for our review, only Wood and Ashfield (2008), in their study of interactive whiteboard use in five primary schools, document the skills and professional knowledge required by teachers to mediate the interaction between the pupils and the technology and to facilitate the development of their creative responses towards it. Teachers’ motivations towards acquiring relevant skills appear to be significant. In a study of 178 US primary teachers (Hong et
al.2009), goal orientation toward learning was identified as a key teacher attribute, which impacted on their use of instructional practices that foster creative thinking in pupils, such as the integration of multiple perspectives in problem-solving, encouragement of task-commitment and effective strategies for collaboration.

There is evidence from our review that modelling expected behaviour is an important part of the role of a teacher seeking to develop creative learners. Jeffrey’s (2006) study of creativity in schools across Europe points to the significance of teachers’ role-modeling of creative behaviours. Grainger et al. (2005) exemplify these creative behaviours from their observations of primary teachers as curiosity, connection making, autonomy, ownership and originality. This study concludes that creative teachers are autonomous professionals, who actively model their own creative engagement in the classroom and seek to nurture this in children. There is evidence from Heaney and Shaw’s (2004) case study of two schools within an ethnically diverse East London Education Action Zone over two years, that pupils found such teacher modeling helpful to learning.

A number of studies indicate that in order to enhance learners’ creativity, teachers need to develop an awareness of pupils’ needs and involve them in their own learning. For example in their evaluation of eleven case study schools involved in Creative Partnerships projects, Sharp et al. (2005) recognised a need for an awareness of pupils’ multiple intelligences and different learning styles amongst staff. Jeffrey’s (2006) Creative Learning and Student Perspectives (CLASP) project study found a common pedagogic discourse across European partners by those concerned to engage the agency of students creatively in their own learning; whilst Bancroft et al. (2008) observed the quality of attention given to learners’ needs by adults involved in the 5x5x5=creativity project to foster child-initiated learning that was also adult-framed.
From their study of eight collaborating teachers in four school sites, Cochrane et al. (2007) observed a shifting balance between structure and freedom in their approach to curriculum planning, both at the medium and short-term levels. Similarly, the evaluation of eleven case-studies of Creative Partnership projects by Sharp et al. (2005) identified a shift towards less prescription in lesson planning, allowing more room for individual pupil responses. In a pan-European context, Jeffrey (2006) observed teachers constructing ‘real and critical events’ as part of their lessons, demonstrating a shift towards novelty and authenticity in their curriculum offering to pupils. However, episodes of teaching for creativity are not necessarily planned for; Schacter et al. (2006) in their observations of 48 US primary teachers, noted that on the rare occasions when a teacher did elicit student creativity, the teaching strategy was not in line with the objective of the lesson and pupils were not given any information about its purpose. To teach for creativity may be to break out of standard lesson formats. For example, student teachers on a programme to enhance their teaching of science in secondary schools showed a marked shift from the delivery of standard-format lessons towards more flexible structures, thus giving more responsibility to pupils (Braund and Campbell 2010).

Within lessons, Webster and Campbell (2006) found from their intervention study in three primary schools in Australia that teachers, who provide an incubation period (a non-focused thinking period that is required to enhance the creative process) as part of their teaching of design and technology, are more successful in fostering children’s creativity. There is also some evidence that the use of computer games as part of lessons – e.g. Nintendogs (Miller et al. 2010) or Guitar Hero (Jindal-Snape et al. 2011) - may stimulate creative learning. There is also evidence from the literature to suggest that pupil creativity is associated with teacher collaboration. For example, in Reggio Emilia, Italy, the role of two co-teachers has been observed as important in observing children’s interests and intervening appropriately to support their creative learning (Gandini et al. 2005). In her study of a cluster of three 11–16 secondary schools and twelve primary schools, Gkolia (2009) documented the
development of a culture of shared practice and expertise, shared focus voluntary work and co-coaching to improve each other’s skills.

There is evidence from Davies’ (2006) study of in-service development courses that the role and characteristics of assessment processes need to be appropriate to creativity. He also advocates the need for teachers to emphasise and value the assessment of creativity in formative ways, providing feedback to learners to help them develop the originality of their outcomes rather than judging the final product. Assessment of creativity in this way can be helpful to learners; Heaney and Shaw (2004) in their case study of two schools in an ethnically diverse East London Education Action Zone, found that pupils rated opportunities to evaluate their own and each other’s creative work as helpful to learning.

3.2 Ways in which teachers can best be supported to develop the skills and confidence to facilitate creative learning environments

A total of 210 publications were considered for inclusion in relation to this objective, of which 18 were deemed to meet criteria for inclusion and contained findings relating to teacher development. There is evidence from the reviewed literature of the factors tending to inhibit teachers’ adoption of creative pedagogies, several of which relate to their perceptions of a ‘performativity culture’. According to the study of secondary science student teachers undertaken by Braund and Campbell (2010), these constraints include time, curriculum, assessment and the level of professional development undertaken by teachers. In Davies’ (2006) study of in-service development courses, teachers often felt too pressurised to follow up worthwhile lines of investigation and enquiry and consequently the depth of learning experience was reduced. In an early years context, the mixed-method psychosocial analysis of cross-sectional data from one primary school undertaken by Waite
et al. (2009) suggested that the potential for creative outdoor learning in England is being
underutilised in the 3-7 age group, stemming from perceived government pressures and systemic
lack of confidence in creative pedagogies, because many teachers have only known a prescriptive
professional training. Wyse and Spendlove (2007) have also pointed out barriers to using creative
approaches in schools: statutory requirements such as national testing and imposed curricula;
organisational barriers such as competing demands placed by school and parents; and pedagogical
barriers to taking risks.

Most of the studies reviewed report on the impact on teacher attitudes and behaviour of various
professional development initiatives to support the development of teaching for creativity, rather
than on the details of the training itself. Nevertheless, several important themes emerge from the
data: the importance of school culture in supporting or impeding creative practice; the need to elicit
teachers’ prior conceptions of creativity in education; teachers taking on the role of learners to
develop their own creativity; working co-constructively with a mentor or coach who may be a
creative professional from an outside agency; and the importance of teachers undertaking action
research and reflection on their own classroom practice. Whilst these may be argued to be common
elements of any programme of teacher development, there are some indications in the literature of
the types of content which might be specific to the development of teachers’ skills and confidence to
facilitate creative learning environments.

For example there is evidence in the literature surveyed to suggest that the overall culture and ethos
of a school can facilitate or impede teacher development. In their research into approaches and
factors associated with effective sharing and cascading of Creative Partnerships work with schools,
Downing et al. (2007) conducted interviews with teachers, headteachers, Creative Partnerships
coordinators, regional staff creative professionals and local authority personnel in four locations.
They concluded that the presence of a professional learning culture within a school, which provides opportunities for teachers to take risks in a supportive environment, greatly enhances effective sharing. From the ‘snapshot phase’ of a national study of the role of headteachers in supporting creativity, involving the collection of multi-method qualitative data from 40 schools, Thompson and Sanders (2010) conclude that the history of a school and its position in the local educational market affected its capacity for change. However, only a few of the schools surveyed had the kinds of structures for professional development, governance and review or planning that allowed staff and students to take a major role in building a new community of practice. In their ethnographic study of six primary schools’ responses to the tension between performativity and creativity, Troman et al. (2007) found that schools’ cultural responses to creativity policies were determined by how well test scores could be maximised, and that this drove the direction of professional development.

A number of reviewed studies suggest that teachers hold a range of preconceptions about creativity and pedagogy which need to be unpicked as part of the professional learning process. Many of these findings emerge from initial teacher education. For example, a survey of 38 pre-service primary teachers (Bolden 2010) found that their conceptions of creativity were narrow, predominantly associated with the use of resources and technology and bound up with the idea of ‘teaching creatively’ rather than ‘teaching for creativity’. Crow (2008) undertook a longitudinal study of 18 participants on a one-year Secondary Music teacher training programme, revealing a lack of clarity in respondents’ ideas as to what is a creative act and what is not; a belief that pupils may feel ill-equipped or vulnerable when learning in creative contexts; and a questioning of whether creativity should always be encouraged in music education. A phenomenographic analysis to identify 16 primary school student teachers’ conceptions of creativity in school science lessons (Newton and Newton 2009) found that student teachers’ conceptions of creativity can be inadequate in several
ways and may omit significant opportunities for creativity in science by focusing mainly on practical investigations of matters of fact.

Once needs analysis has established teachers’ baseline understanding of creativity and the educational environments necessary to foster it, an appropriate way forward indicated by the literature reviewed is through professional dialogue and co-construction of knowledge through work with colleagues and outside professionals. For example, in the context of teacher education, Howard-Jones et al. (2008) studied a development programme involving 16 trainee teachers who explored their own creativity, and the psychology and cognitive neuroscience of creativity in seminars, discussions and practical workshops, with the aim of developing their own reflective capability. They found that this type of ‘co-construction’ process may help reduce some of the more popular and problematic misconceptions that arise when developing pedagogical concepts involving the brain and mind. Such a process should involve an element of reflection by participants on their preconceptions and practice. They concluded that the project was successful in promoting student teachers’ reflective commentaries on their understandings and experiences of creativity, the contribution of ICT and their professional development.

There is evidence from a range of sources that the involvement of external partners is important to facilitate the productive dialogue, co-construction of knowledge and reflection on practice outlined above (Heaney and Shaw 2004, Lamont 2004, Loveless et al. 2006, Mullins 2007, Sharp et al.2005, Wyse and Spendlove 2007). Mullins (2007) reporting on an 18-month study of the National Learning Mentor Training programme, involving six trainers, 86 training events and 2448 mentors, concluded that the involvement of a trusted, credible, inspirational practitioner who understands and models the journey is most likely to facilitate real professional development. From their action research study of creative projects in 25 primary and secondary schools, Wyse and Spendlove (2007)
highlight the importance of teachers working with well-qualified research mentors. In several of the studies reviewed, the external partners had come from arts organisations. In Heaney and Shaw’s (2004) study of the A+ development programme in two Newham primary schools, partnerships between teachers and artists were found to be crucial to school development because of the expertise contributed of non-teacher partners. From their survey of 16 arts organisations in England and Australia, Robson and Janniste (2010) concluded that such organisations can contribute to teacher development by providing schools with access to and experimentation with new media technologies, and supporting the cultivation of attitudes and competencies such as creativity, self-efficacy, energy, risk-propensity and leadership. They also identified that developing innovative and arts-integrated approaches to teaching and learning that energise and expand curricula and pedagogies further contributed to teacher development. These included building partnerships and relationships for supporting innovation that are long-term, reciprocal and personalized; and exemplifying innovative practice through organisational management and business operations.

There is more evidence in the literature of the impact of training on teachers’ understanding and practice of creativity than of the specific content of continuous professional development (CPD) sessions which facilitate such impact. However, certain elements can be distilled, for example Downing et al. (2007) conclude that teachers require first-hand experience of the creative process and presentation of evidence demonstrating the impact of creative teaching and learning strategies on children and young people. Furthermore, Cremin’s (2006) study of 16 English primary teachers found that, in order to support children’s creative development as writers, teachers need extended opportunities to engage artistically and creatively as writers themselves. As the domain of creativity in education tends to be somewhat nebulous and subject to a wide range of interpretations, it may be of value to present teachers with a conceptual framework to describe creative practices (Loveless et al.2006). From their action research study of creative projects in 25 primary and secondary schools,
Wyse and Spendlove (2007) emphasise the importance of teachers engaging with literature on creativity. In the context of teacher education, Newton and Newton’s (2009) study of 16 primary science student teachers suggested that science educators might introduce students to the broader term of ‘productive thought’, i.e. a combination of creativity and critical thought which is particularly relevant in science. In their study of student teachers training to teach the 11-16 age range, Braund and Campbell (2010) advocate a series of interventions including lectures; workshop tasks; and increasing levels of critique through planning teaching, evaluation and revision of lessons, resulting in a shift from delivery of standard lessons to endeavours demanding creativity and decision-making. This process involved elements of practitioner action research, which Wyse and Spendlove (2007) found to offer opportunities for the development of creativity. In their study of a development programme involving 16 trainee teachers who explored their own creativity, Howard-Jones et al. (2008) found that concepts developed from the project could provide a helpful and stimulating contribution to teachers’ systematic enquiries into their own practice.

There is, however, evidence in the studies to suggest that there exist several barriers to effective sharing of creative practice through CPD. From their research into factors associated with effective sharing and cascading of Creative Partnership work with schools, Downing et al.(2007) identify school-level barriers such as time and cost of cover, school priorities and a culture of keeping ideas rather than sharing. They also draw attention to teacher-level barriers including lack of confidence, perceptions of good practice, lack of understanding of creativity, perceived lack of relevance and reluctance to change. Lastly, they point to regional partnership barriers such as the restructuring of local authorities, lack of support for local authority staff and lack of funding. Wyse and Spendlove (2007) identify a further set of barriers to change, including statutory requirements such as national testing and imposed curricula; organisational barriers such as competing demands placed by school and parents; and pedagogical barriers to taking risks. Thompson and Sanders (2010) found that, in
the case of the 40 schools in their national study of the role of headteachers in supporting creativity, staff turnover was a significant barrier to developing sustainable change, and that few of the schools had the necessary management structure to enable productive professional development to take place.

4. Discussion

The findings from the reviewed studies summarised above suggest that teachers need to adopt a number of roles in order to establish the pedagogical environment for creative learning. These are:

- a model of creative attitudes and actions
- an observer of pupils’ learning
- a flexible planner
- a collaborator in creative practice

Each of these roles has resonances with theoretical perspectives in literature published outside our review timeframe. For example, in relation to modelling creativity, Abdallah (1996) argues that teachers who have experienced creative problem-solving themselves will be better prepared to value and nurture the same creative characteristics in their classrooms; whilst Craft (2000) points to the importance of knowing and nourishing themselves as creative individuals. Davies et al. (2004a) stress the recognition in both children and teachers of their own creativity, how it works, what helps and hinders it. Such ‘creative metacognition’ involves conceptual knowledge, cognitive skills but perhaps most crucially positive attitudes towards ourselves as creative individuals. Sternberg and Lubart (1995) have identified ‘non-conformity’ as one of the characteristics of ‘creative’ teachers, which may make them ‘resistant to socialisation’ but inspirational for pupils.
Supporting the ‘observer’ role identified above, OfSTED (2003: para 7) recommends ‘…a willingness to observe, listen and work closely with children to help them develop their ideas in a purposeful way,’ whilst Halliwell (1993) identifies four qualities required to teach for creativity, three of which are clearly linked to observation: a clear sense of need; the ability to read the situation; the willingness to take risks; and the ability to monitor and evaluate events. The importance of flexible planning is highlighted by Woods (1996), who characterises teachers for creativity as ‘planning geniuses, innovators and experimenters’. OfSTED (2002) recognises effective planning for creativity as transcending subject boundaries and innovating with the timetable to combine areas in new ways and ‘free up’ time for other activities, whilst Boden (2001) stresses the importance of making links between knowledge domains in different curriculum areas to help children draw ideas together from different parts of their school experience. Finally, the role of teachers as collaborators echoes Perkins’ (1992: 13) concept of ‘distributed intelligence’, where the ‘community, technologies and potentially the environment itself is easily at hand to aid our thinking and understanding.’ Teachers who promote creativity effectively are outward-looking, welcoming the perspectives that external agencies and individuals bring to them (OfSTED 2003: 5)

The development needs of teachers to fulfil these roles identified in the literature reviewed above are as follows:

- understanding of creativity and pupils’ creative learning
- confidence in their own creativity;
- willingness to step outside their habitual practice and take ‘risks’

Again, these needs are echoed in earlier literature. For example, Craft (2003) identified as one of the key constraints on teacher’s creative practice, their lack of understanding or agreement about what ‘creativity’ means in an educational context, whilst Davies et al. (2004b) found that pre-service teachers’ views of creativity in the primary curriculum were limited to the arts. A lack of confidence
on the part of beginning teachers in their own creativity was noted by Davies et al. (2004b), supporting Shallcross’ (1981) finding that assumed or self-imposed boundaries or limitations were potential inhibitors to creating an enabling environment for pupils. NACCCE argue that teachers cannot develop the creative abilities of their pupils if their own creative abilities are suppressed. Halliwell (1993) points to the importance of teachers’ willingness to take risks, however Ashcroft and James (1999: 25), warn that: ‘Professional creativity should not be taken as suggesting some sort of runaway experimentation with what we do together. Rather, it asserts that responsible experimentation and innovation, planned and monitored with the help of colleagues as well as relevant theoretical notions, are desirable activities.’

Craft (2003) recommends that teachers build a ‘compost heap’ of these inhibiting factors and leave them behind, whilst acknowledging that this is very difficult to achieve in isolation, without the support of a like-minded group of professionals. This is where CPD comes in, and where the literature surveyed has comparatively little to say about the forms it should take, save that it should be relatively informal. This is also suggested by Fraser et al. (2007, p. 165), who find that ‘formal planned opportunities, which are essentially transmissive, are unlikely to result in transformative professional learning for teachers, because they attend primarily to occupational aspects …’ rather than the personal attributes of the individual teacher. Conceptual and attitudinal change in teachers is notoriously hard to achieve (Kennedy 1991; Hauglustaine-Charlier 1997), yet the literature reviewed suggests that a combination of creative experience, guided reading and participant action research is likely to constitute a more ‘transformative’ model of CPD (Kennedy 2005).
5. Conclusions

The findings from this review suggest that teachers have an important role to play in the development of creative learning environments to foster the creativity of learners. They can do this through building positive relationships, modelling creative behaviour, longer-term curriculum planning, striking a balance between freedom and structure, allowing flexible use of space, understanding learners’ needs and learning styles, creating opportunities for peer collaboration and assessment, and effective use of resources. For this to happen, teachers need to have a positive attitude towards creativity and feel confident about their own skills base. However, this can be difficult if teachers perceive barriers such as a school culture that hinders creativity. Constraints of time and resources for enhancing creativity, or lack of peer support can also be seen as barriers.

Whilst this review has endeavoured to synthesise relevant findings from as wide a range of eligible literature as possible, the evidence presented above may be incomplete for a number of reasons. Whilst the six researchers searched different sources and types of documentation using the search terms agreed with LTS, there is a possibility that relevant studies may not have been picked up using these sources or terms. We did however find a measure of overlap between the literature found by different researchers which gives us some reassurance that key studies were surfacing through several routes. The date or geographical criteria placed on the search may have excluded significant studies, either published before 2006 or in a country not included. This is inevitable in a carefully scoped and bounded study such as this, but older studies may either no longer be relevant or may have been summarised by previous reviews. The screening and quality and relevance appraisal processes may have excluded relevant studies. Certainly, for most of the research questions, the total of 210 pieces of literature found through the trawl were reduced substantially during screening.
However, this process was undertaken collaboratively by the team and the decisions taken checked with LTS, so there is a degree of reliability in the decisions taken.

5.1 Implications for policy and practice

Literature relating to professional development for teachers suggests that prequalifying programmes and post-qualifying training should focus on enhancing teachers’ creativity, self-efficacy, energy, risk-propensity and leadership skills. This can be further supported through opportunities for reflection; collaborative work with other student teachers and teachers, first-hand experience of creative processes; dialogue and networking with other organisations. It is also important to commission CPD for teachers that can help them reflect on their conceptions of creativity, stimulate dialogue and thinking around different models of creativity, teaching and learning and subsequently provides them with opportunities to develop their own creativity within the classroom environment. Therefore, one aspect that needs urgent consideration within training organisations, schools and elsewhere is the importance of an open and honest dialogue about what creativity and creative environments mean to different people. This would allow teachers to explore myths and realities of these concepts as well as the impact of creativity on the learners. Organisations and leaders should support teachers to focus upon the processes of creative skills development rather upon outcomes. Teachers and schools should consider the flexible use of the physical and learning environment to best support children and young people’s creativity.

5.2 Implications for research

Given that the systematic review identified very few studies that provide robust evidence about the skills required for promoting creativity, it is important that such studies are undertaken in future.
Much literature in this area is either philosophical, anecdotal or polemical with significant gaps in evidence related to the research questions outlined in this article. It is important that longitudinal studies, that can capture the impact of teachers’ skills and attitudes on learners’ creativity, are conducted. As studies reviewed in this article were limited to those relevant to a UK, and more specifically a Scottish context, it is important that a wider international literature review is undertaken that takes cognisance of empirical studies, including those with more experimental research designs. A review of teacher education programmes will also be useful to identify how creativity is addressed and how the gaps, if any, can be addressed.

Note: The authors would like to acknowledge the support of Learning and Teaching Scotland (LTS, now Education Scotland) in funding this research.
References


Author A et al. 2012 [details removed for peer review]

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Learning and Teaching Scotland (LTS) was a non-departmental public body of the Scottish Government. Its aim was to provide resources, advice and staff development to improve learning and teaching in Scottish schools. It merged with Her Majesty’s Inspectorate of Education to form Education Scotland in 2011. Further information is available from http://www.educationscotland.gov.uk/about/remitandframework/index.asp