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Creativity and Education: Comparing the national curricula of the states of the European Union and the United Kingdom

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Abstract

In the past twenty years the importance of creativity as part of young people's education has increasingly been recognised. The stimulus for growing emphasis on creativity has come from diverse sources including drives for

greater national economic prosperity and enlightenment visions of young people's education. One facet of creativity in education has been its place in the national curriculum texts of nation states. The research reported in this paper aimed to investigate the place of creativity in the national curricula of the 27 member states of the EU (EU 27) and in the UK. A content analysis of all statutory national curriculum texts for the EU27 was undertaken and implications compared to the answers of 7659 teachers to a survey. The findings showed that creativity was a recurring element of curricula but its incidence varied widely. It was also found that creativity was represented in arts subjects more than other subjects and that it was relatively neglected in reading and writing as part of the language group of subjects. The countries of the UK in general had maintained their historic attention to creativity but there was evidence of a shift from emphasis in primary settings to secondary settings. It is concluded that there is a need for much greater coherence between general aims for education and the representation of creativity in curriculum texts.

Keywords: creativity; curriculum; national curriculum

Creativity and Education: Comparing the national curricula of the states of the European Union and the United Kingdom

As a result of growing recognition that creativity is an important element of economic prosperity, governments around the world have turned their attention to how children and young people might acquire the necessary attributes of creativity as part of their education. For example the Australian government Melbourne Declaration on Educational Goals for Young Australians (which sets educational priorities for 10 years) committed the nation to developing "confident and creative individuals" (Ministerial Council on Education Employment Training and Young Affairs [MCEETYA], 2008). In China, From 2006, creativity in the early years became an educational priority (Vong, 2008a) where to '*foster creativity in children*' is a recurring slogan (Vong, 2008b). In the special administrative region of Hong Kong creativity has become the theme of educational reform to prepare for the challenges of a 21st century society (Leong, 2010). In Greece, the Cross-Thematic Curriculum Framework introduced in Primary education in 2003 focused on creative abilities and imagination through exploration and discovery (for a critical reading of the Greek Curriculum, see Kampylis, 2010). In the 21st century skills movement, which has global reach but started in the USA, Creativity (including inquisitive comprehension, problem finding, and collaborative discussions) is perceived as a core skill to redefine the goals of education in the new millennium (Binkley et al., 2010). At European level,

creativity is recognised as a transversal aspect of all Key Competences of lifelong learning (European Parliament and the Council, 2006)..

This paper discusses how the relevance of creativity for education in political and academic discourses is reflected in the curricula of compulsory schooling in Europe and in particular in the UK. It does so by reporting selected findings and the outcomes of new analysis from the project *Creativity and Innovation in Compulsory Education in the EU27* (ICEAC).¹ Following a review of the context and literature on creativity in education, and a methodology section, the findings section focuses on representations of creativity in the national curricula of the countries of the EU and in particular the countries of the UK. The discussion and conclusions include reflections on the nature of creativity in national curriculum texts, the links with disciplines and domains, and the need for coherency between aims and programmes of study.

Primary education in the UK has long been regarded as notable for its creative elements. One aspect of this was the child-centred education attributed to primary schools in the 1960s, 1970s and 1980s characterised memorably in the Plowden Report (Plowden, 1967). In this same period as such movements in the UK individual schools and local education authorities have also attracted attention internationally for their innovative and creative approaches. A.S. Neil's *Summerhill* School is perhaps one of the most famous (Vaughan, 2006), although it is more unique in character than the general movements of innovation in England that have included topic-based

¹ For further information and reports on the wider study, please see: <http://is.jrc.ec.europa.eu/pages/EAP/iceac.html>

learning, the integrated day, and approaches such as *creative writing*. In more recent times the government's *Creative Partnerships* initiative in England was further evidence of a particular commitment to creativity. Summing up the implications of some twenty years of advances in research on creativity and motivation, Hennessey (2010) recognised the influence of the British infant classroom model of the 1960s on the open classroom of the 1970s in America. Hennessey regards the infant classroom approach as the ideal practical realisation of what she and her colleagues had discovered about the optimal conditions for creativity.

The seminal UK government commissioned report *All Our Futures* (National Advisory Committee on Creative and Cultural Education (NACCCE), 1999) emphasised the importance of a kind of transdisciplinary creativity that saw creativity applicable to all subjects in the curriculum. The definition of creativity used in the NACCCE report was, "Imaginative activity fashioned so as to produce outcomes that are both original and of value" (NACCCE, 1999, p. 30). The report also emphasised *creative learning*, a concept that, subsequently, was at the heart of the *Creative Partnerships* initiative. The NACCCE report synthesised work from researchers such as Woods (1995) and Woods and Jeffrey (1996) who during the 1990s had distinguished between *creative teaching* and *teaching for creativity*, the first being new, innovative ways of teaching, the second referring to pedagogies and activities aimed at enhancing the creative thinking and outputs of pupils.

Work on national curricula in the UK from the 2000s onwards began to pay more attention to creativity in the curriculum (for overview see Wyse et al. 2012). A strand of research revealed tensions between the desire for widening access to creativity and centralised policies (Jones and Thomson, 2008). Jones and Wyse (2004) highlighted the tension between standards and creativity that were part of England's Department for Education and Skills national strategy *Excellence and Enjoyment* (DfES, 2003). Craft (2005) questioned how an increased interest in creativity in the wider sphere of education had developed without sufficient reference to a values framework. Craft and Jeffrey (2008; and Troman, Jeffrey, and Raggl, 2007) argued for the resolution of conflicts caused by the parallel agendas of creativity and performativity. Burnard and White (2008) argued that the performativity discourse in England was effectively hijacking the creativity discourse.

Defining and Theorising Creativity

An enduring debate about creativity has centred on how it should be defined. Theoretical work has explored how creativity is defined differently according to disciplinary, historical, and cultural contexts (Banaji & Burn, 2006). Cognitive perspectives, for example, have emphasised the location of creativity in the individual, like Vernon's (1989) influential definition: "Creativity means a person's capacity to produce new or original ideas, insights, restructurings, inventions, or artistic objects, which are accepted by experts as being of scientific, aesthetic, social, or technological value" (p. 94). Three of the key concepts in this interpretation are originality, value, and acceptance, along with the more problematic idea that acceptance is by "experts". Socio-cultural

perspectives have also sought to understand the idea of social acceptance. Amabile's (1990) investigations of creativity included the use of experts as part of a process of consensual judgement of real world creative 'products' such as poetry. Amabile reasoned that: "A product or response [as an outcome of a task] will be judged as creative to the extent that (a) it is both a novel and appropriate, useful, correct, or valuable response to the task at hand, and (b) the task is heuristic rather than algorithmic" (Amabile, 1990, p. 66). Once again we see the key defining elements of creativity as originality and value, with the added concept of heuristic versus algorithmic methods, underlying that the creative process is not automated and consequential reasoning but based on thinking-skills that relate to discovery and enquiry.

At the systems level the importance of consensual (and conflicting) judgement as intrinsic to determining creativity has also been addressed.

Csikszentmihalyi (1990) argued that creativity resides in the individual but only as part of a contribution to an established domain nested in a cultural symbolic system (such as a particular society). Creativity is also located as part of a field (which includes the gatekeepers of the established domain). In this systems view of creativity the individual person uses the signifiers of the given domain (such as music, engineering, business, mathematics) to generate a new idea which has to be recognised as being creative by the field. Similarly, Sternberg & Lubart (1999) suggested that creativity is the ability to produce work that is both novel and appropriate. From different theoretical and empirical perspectives there appears to be some coalescence around the two key ideas of originality (or newness) and value. Applied work

has gone further to argue that any process, product or outcome which is original but not valuable, or valuable but not original, cannot be claimed to be creative (Beghetto, 2005).

If we accept that originality and value are two definitional concepts in relation to creativity this raises a series of questions about how they might be reflected in education including education at early years and elementary/primary levels. Although it is possible for children and young people to have revolutionary ideas that are both original and valuable to wider society, it is perhaps more appropriate to interpret originality and value in their more everyday meanings (Runco, 2003). The adoption of what has been called a democratic view of creativity (Craft, 2011; NACCCE, 1999) recognises the potential of all individuals to be creative (Esquivel, 1995). Creativity, in this perspective, is an attribute that can be developed and therefore learnt, and its output reflects something new and of value. However, as with major creative work of historical significance the judgements involved are rarely straightforward. The thinking and products of children and young people are often original and valuable for the children themselves, but not in comparison with larger norms (Runco, 2003). This leads to a re-thinking of the concept of value, as it is the learners themselves, and their educators, who might judge the value of their creative expression (Craft, 2005; Runco, 2003; Jones and Wyse, 2013). Research indicates that when educators make judgements about creativity, for example in relation to music teaching, they draw on their experience in both teaching and in their subject discipline (Odena & Welch, 2009). In addition to drawing on experience, educators' judgements are effected by

basic beliefs about creativity, such as whether it is innate or not. Kokotsaki's (2011) research with student teachers of music found that their understanding of creativity was intuitive rather than explicit, and that national curriculum texts needed to include working definitions and explicit guidance to support such teachers. The focus on the everyday, democratic conception of creativity, that is concerned with the agency of teachers and learners, has been described as "little c creativity" (Craft, Jeffrey, & Leibling, 2001), as opposed to "big C creativity", which describes exemplary achievements in a given domain and entails some refashioning of the domain it contributes to.

Extending our understanding of the way that originality and value are manifest can also be enhanced by consideration of whether creativity is domain-specific or domain-general. There are two main lines of thinking: one strand of scholarship concentrates on whether people who are creative in a given domain are likely to be creative in another domain or if creative endeavour reflects 'islands of creativity' firmly attached to a given domain (Baer, 2010; Silvia, Kaufman, & Pretz, 2009). Another strand of scholarship has tried to establish whether creativity is a phenomenon that crosses disciplines, or if instead creativity differs significantly across different disciplines (NACCCE, 1999). Findings on both strands are contrasting and inconclusive.

Creativity scholarship in education has moved to view creativity as being relevant to any domain or area of knowledge. This has been linked with refutation of creativity as the preserve of the Arts alone (Beghetto, 2007; Runco, 1999; Sharp, 2004), and cautions about creativity's role being solely

concerned with self-expression (summarised in Sternberg & Lubart, 1999) that can better manifest itself through artistic performance. However, overall there is a lack of clarity in relation to creativity as a cross-cutting phenomenon or as entailing some specific attributes particularly applicable to the arts, something that scholars in the field regard as worthy of further attention (Baer, 2010).

Methodology

The research reported in this paper involved a new analysis of creativity in the national curricula of the countries of Europe and the UK. The decision to focus on the countries of the UK was made in part because of the historic place of creativity in education in the UK as part of the progressive education movements and other phenomena addressed in the earlier part of the paper. The selection also reflected growing interest in UK home nations comparative work.

The research included the selection and secondary analysis of findings from the wider ICEAC study (Cachia, Ferrari, Ala-Mutka, & Punie, 2010), in particular a selection of results from a content analysis of national curriculum texts (Heilmann & Korte, 2010), and a selection of results from a survey of 7659 teachers (Cachia & Ferrari, 2010). The new analysis established the themes of the theoretical framework outlined at the beginning of this paper then used these as the basis for reflections on creativity in the national curricula of England, Northern Ireland, Scotland and Wales. In addition to the focus on ratios of occurrence of creativity in national curriculum texts, greater

depth of analysis of the semantic context of the inclusion of creativity in national curriculum texts was an important element of the new analysis.

The sample of texts for the content analysis consisted of national curriculum texts retrieved from government internet sites or made available in electronic format, creating a corpus of 1,200 curricula documents.. The only country where it was not possible to retrieve curricula was Cyprus, where a curriculum replacement was taking place at the time of the data collection. For Belgium, the curricula of the Flemish, Walloon and German-speaking communities were acquired. In countries such as Spain and Germany, where the national ministries provide general guidelines and the autonomous communities and Landern provide the regional curriculum, three regions per country were chosen. These regions were selected using the criteria of sufficient numbers of pupils for viable comparison, and to achieve a balance in relation to in-country reputation of the local regions for low, medium and high levels of innovation. For the UK, the curricula of the four countries of England, Wales, Scotland and Northern Ireland were acquired.

The analysis reported in this paper was informed by the understanding that policy texts are indicative of practice, rather than definitive, in part because policies are mediated by schools and teachers and other actors in education systems (Ball, 1997). However, as Rizvi and Lingard (2010) argue, the place of the text in policy is contested. For some the text (printed or other) is only a marginal representation of wider processes, or even only one 'text' within a range of policy messages that includes oral events such as speeches. It is

certainly true that policy texts emerge as a result of contestation, compromise, and often uneasy bricolage of competing interests. And yet while these understandings of policy and policy texts are valid our standpoint was recognition of the importance of the policy text to policy development, and particularly national curriculum development. Once the political intent to define a problem requiring policy and policy text has been articulated, work centres on the development of printed and/or electronic text as a marker of intended finality. Even if such texts are only emblematic of policy in practice nevertheless their status as symbolic of policy intent is in our view of importance.

The focus of the content analysis was the frequency of use and the semantic context at sentence level of the word 'creativity' which was searched through its stem *creativ**.³ The aim was to analyse any of these explicit statements of creativity in the curriculum texts.⁴ The frequency of use of the term was calculated per thousand words in order to provide a basis for comparison and to account to a certain extent for the high variation in the total number of words in the curriculum texts. Frequencies of terms were compared among countries, school levels (i.e. primary and secondary) and subject groups. As subject allocation is not uniform in Member States, the study clustered school subjects into 8 subject groups, namely: Arts, ICT, Languages,⁵ Mathematics, Natural Sciences, Physical Education, Social Sciences and Other.

³ It was decided to use this truncation and not the one *creat** in order to exclude words as "create" and "creation". Although these two words could be linked to creative production, choosing the stem *creat** would have meant having to deal with a very high number of occurrences, many of which would have been arbitrarily determined to be relevant or not.

⁴ For a wider discussion on the data collection procedure and limitations, the reader is referred to the curricula analysis report (Heilmann & Korte, 2010).

⁵ Including the national language and literature.

The sample for the online survey of teachers was achieved as a result of making the survey freely available on the eTwinning platform for voluntary participation from 15 September 2009 until 15th October 2009. The survey of teachers in the EU27 achieved 7659 respondents. Despite the relatively high number of responses these cannot be considered as representative of the EU27.⁶ Some countries including in the UK were under-represented. In the UK there were 98 respondents, distributed as follows: England 72; Northern Ireland 1; Scotland 23; Wales 2. Despite the low number of responses, some selected findings are included in this paper according to two criteria: 1. relevance to the emergent themes of the analysis reported in the paper; 2. reflective of the findings of the survey of teachers in the EU27 more widely.

Findings

Creativity In the national curricula of the European Union

According to the analysis of frequency, creativity was included in national curriculum texts of European countries/regions but there were notable differences between countries. Occurrences of creativity ranged from 0.04 per thousand words in the Netherlands and Poland to 1.78 in Northern Ireland (see Figure 1 for the ratios of occurrences across Europe). As far as the UK was concerned Northern Ireland (1.78), Scotland (1.25) and England (0.73) were above the EU27 average of 0.52. There was no European country

⁶ For discussion on method and limitations, please see the survey report (Cachia & Ferrari, 2010).

where the search term was not present, although in the curriculum texts of Poland and Wallonia the term was infrequently mentioned (5 and 6 times respectively). In the whole of the EU, there were only six countries where absolute occurrences⁷ of creativity were below 20, namely (from higher occurrences to lower): Belgium-Flanders, 20; the Netherlands, 17; Sweden, 14; Spain-Andalucía, 11; Belgium-Wallonia, 6; and Poland, 5. In terms of relative occurrences, the places where creativity was less frequently mentioned per thousand words were France, 0.09;⁸ Belgium-Wallonia, 0.07; The Netherlands, 0.04; and Poland, 0.04.

Insert Figure 1: Ratios of occurrence (per thousand words) of creativity in national curriculum texts in the countries of Europe, near here.

The reference to creativity in all of the EU 27 national curricula suggests that policy makers and curriculum developers recognise the relevance of creativity for education. If we accept ratios of occurrence as an indicator of the importance of creativity then it is also clear from the ratios that its importance varies widely across different member states. This reflects to some degree the extent to which creativity was deemed to be an educational priority in national curricula or not.

⁷ For 'Absolute occurrence of a search term', we intend the number of occurrence of the specific search term creativ*; relative occurrences refer to the occurrence of a search term per 1,000 words.

⁸ Absolute occurrences for France are 26.

Creativity occurred far more frequently in the curricula for arts-related subjects than in other subjects (see Table 1).

Insert Table 1: Ratios of the inclusion of the term creativity in school subjects, near here.

The term occurred almost twice as much in Arts than in the any other subject group. The idea that creativity is a feature of all disciplines did not appear to have been reflected in the ratios of its occurrence across national curriculum subjects. The higher occurrence of the term in the arts subjects group could reflect a perception about the 'natural' place of creativity in the Arts, and a lack of alignment with the theory of creativity as relevant for all subjects.

A common semantic context for the use of creativity in the texts was as a thinking skill and related to problem solving, however curriculum text developers did not in general refer explicitly to creativity when drawing specifications for subjects such as the Natural Sciences and Mathematics which might be expected if creativity is conceived mainly as a thinking skill. The problems with lack of coherence between curriculum aims and different subjects and sections of national curriculum texts has been recognised in previous research (Kampylis, 2010, White, 2004).

Although creativity was common in arts subject this was not the case for the subject group of languages, which in this clustering also included national language. The national curricula for these subjects contain areas as literature, writing, and sometimes creative writing, disciplines where creativity might be assumed to be central and therefore where one would expect to find higher relative occurrences of the term. Instead, connections with creativity were more frequent in the visual arts and music than in languages and literature.

Creativity in the National Curricula of the UK

The content analysis of the EU 27 revealed that creativity was more frequently present in UK curriculum texts than many other European countries. The analysis also showed that Northern Ireland had the highest ratio of all EU 27. Variation in occurrences in the four countries of the UK (see table 2) may reflect different approaches to National Curricula since devolution of political power from 1997 onwards. Northern Ireland and Wales both undertook significant and in some ways radical development of their national curricula post 1997. However, the wide variation in ratios between Wales and Northern Ireland is not straightforward to explain. Both countries engaged in extended development of their national curricula post devolution. Both countries also recognised the place of creativity as part of thinking skills. But whereas Wales' creativity thinking skills emphasis was more on metacognition, Northern Ireland had a more explicit focus on creativity for its own sake in addition to creativity as an element of thinking skills.

Wales' attention to creativity was located mainly in two separate documents: the 'Learning across the curriculum' guidance, and 'Skills across the curriculum: Developing ICT, Developing communication, Developing number and Developing thinking' that applied to both primary and secondary phases. In these two documents, creativity was mentioned 21 times (0.85 which is still low compared to Northern Ireland and Scotland) but taking the national curriculum as a whole the ratio was 0.44 (see analysis of primary and secondary curricula below. The content analysis did not include Wales' Framework for Children's Learning in the early years (Department for Children, Education, Lifelong Learning and Skills, 2008) which was notable in relation to national curricula in the UK for having a separate area of learning devoted exclusively to creativity). The low ratio for England may be as a result of the lack of revision of the primary curriculum (compared to the secondary curriculum in England) which in other UK countries had been revised.

Insert Table 2: Occurrences of inclusion of creativity in school curricula in the UK, near here

Some notable differences were evident between the distribution of occurrences in primary and secondary school curricula in the UK (see Table 3).

Insert Table 3: Relative occurrences of creativity in primary and secondary school curricula in the UK⁹, near here.

There was a relatively low occurrence of creativity in primary school curriculum texts (0.34) compared to secondary (1.55) school texts in England. The release of the 'All our futures' report (NACCCE, 1999) had a significant impact on policy in the UK including the attention to creativity as part of the development of the secondary curriculum in England that was revised then published in 2007. The difference in ratios is likely to have been as a result of the greater emphasis on creativity in the new secondary national curriculum for example represented by the national curriculum text, 'Learning across the curriculum: creativity'.

In Northern Ireland the ratio of occurrence of creativity at secondary level (3.02) in general was much higher than at primary level (1.0). The separation of primary and secondary, rather than having through curricula (like Scotland's *Curriculum for Excellence* or Wales' 'Learning across the curriculum' strand), may account for this difference. In Wales, in spite of having lower relative occurrences of creativity than other countries in the UK, the gap between occurrences of creativity in primary level texts (0.38) as opposed to secondary level texts (0.42) was much closer than the other countries in the UK as a result of its two key documents mentioned above.

⁹ The curriculum texts for Scotland are noticeable in particular for the integration of primary school and secondary school information within single subject texts. The splitting of the subject texts for Scotland into primary and secondary was not carried out for the content analysis so no analysis is offered in table 3.

Overall the historical commitment to creativity characteristic of the UK to a large degree seemed to be reflected in the ratios of occurrence in national curriculum texts, hence the higher ratios than many other EU member states. However, contrary to the historical picture of emphasis on creativity in primary education in the UK, the analysis showed increased attention to creativity in secondary national curricula as a result of curriculum revision that was not based on attention to the whole curriculum but as a result of separate focus on curricula at the different education phases.

Creativity across the areas of the curriculum

One area of debate in the creativity research has been the extent to which creativity is a feature of different subjects or areas of learning. The analysis of the primary national curriculum texts for England revealed that the lowest ratio of occurrence was in the programmes of study for Geography and History, respectively at 0.8 (1 occurrence) and 0.9 (1). The single occurrence of the term for history and geography was not part of the programmes of study but appeared in the foreword to the national curriculum that was an overarching aim applicable to all subjects (except for Religious Education) to provide pupils "with a guaranteed, full and rounded entitlement to learning; to foster their creativity; and to give teachers discretion to find the best ways to inspire in their pupils a joy and commitment to learning that will last a lifetime." (Department for Education and Employment, 1999, p.3, underline added).

Mathematics also had a low ratio 0.13 (2). One of the two occurrences for mathematics was in the subject title page, and read as follows:

Mathematics is a creative discipline. It can stimulate moments of pleasure and wonder when a pupil solves a problem for the first time, discovers a more elegant solution to that problem, or suddenly sees hidden connections. (Department for Education and Employment, 1999, p.60, underline added).

The idea that mathematics is a “creative discipline” is a strong claim, and one that you would expect to see represented in the detail of the programmes of study. However, in the details of the knowledge, skills and understanding that pupils were to acquire, creativity did not appear. There seems therefore to be a gap between the general claim that Mathematics is a “creative discipline” and its realisation in the specific knowledge and abilities that learners have to develop. It could be argued that an aspect of creativity was implied in the requirements for ‘problem-solving’ that appear in the programmes of study. However, although solutions to problems might require a creative approach this was not explicitly suggested in the document. Instead pupils were to experience “trying alternative approaches”. Original ways of solving issues were not specified, instead pupils were to be taught to use “appropriate tools, methods, approaches, solutions” rather than develop their own approaches and test them.

In line with some who argue that the arts have a particularly strong claim to 'own' creativity the highest ratio was for Art and Design at 0.66 (7). One of the seven occurrences was, like maths, in the title page for the subject stating that the subject "stimulates creativity and imagination." In the programme of study creativity was associated with ideas such as "imaginative", "innovate", "intuition", or "independence of mind". Examples of knowledge, skills and understanding included phrases such as "exploring and developing ideas", "investigate the possibilities", "try out", "record from experience and imagination".

An unexpected finding was the occurrences for Religious Education (RE – this curriculum text was the non-statutory national framework published in 2004) which had a ratio of 0.54 (8), making RE the subject with the third highest ratio and the subject with the highest occurrences in absolute terms. A closer examination of the semantic context for the occurrences revealed that seven out of eight occurred in the general and introductory text of the RE programme of study, as in the case of mathematics. One of these was concerned with creativity to enhance teaching and learning in the subject. The other six occurrences were all as a result of links made between RE and the creative and expressive arts (but still within the RE POS). The only occurrence in the knowledge, skills and understanding sections of the curriculum text did not refer to RE *per se* but again referred to creative arts subjects: "using art and design, music, dance and drama to develop their creative talents and imagination" (QCA, 2004, p. 25). The explicit mention of the creative arts in the RE text perhaps originated from the contested idea

that moments of intense artistic experience are similar to religious spirituality. The other reasons for the mismatch could be that the RE text was published in 2004, as was the text for Design and Technology (unlike all other subjects published in 1999), at a time when creativity in the primary curriculum had been enjoying a resurgence resulting in its inclusion in England's national strategy for primary education called *Excellence and Enjoyment*.

For secondary school national curriculum texts in England the lowest subject was history with zero occurrences (0/0). This is notable in view of the three occurrences for geography (0.93/3), a subject which could be regarded as comparable. Mathematics was third lowest (0.55/4) and Art and Design highest (7.75/18), similar to the pattern of emphasis on art and design and creativity in the primary school curricula.

In the texts for Northern Ireland the disparity between the idea of creativity being applicable across the whole curriculum and the dominance of some subjects could also be seen. For the primary school subjects the arts had the highest values (Music 3.15/5; Drama 3.01/6; Art 2.08/9) and mathematics had the lowest values (0/0). At secondary level the ratios were in general high. The high ratio for Art and Design was continued (7.65/7) although at secondary level maths was not the lowest (3.29/3). In contrast to England, music had the lowest ratio (0.91/1).

As was the case in England and Northern Ireland, in Scotland the Arts ("Expressive Arts") had the highest values for creativity (5.80/28). Health and

wellbeing had the lowest (0.22 2). Compared to England, Northern Ireland, and Wales, mathematics had a relatively high ratio (0.61 4) making it only the fourth lowest subject after Religious and Moral education (0.33 2) and Social Studies (0.46 3). A brief comparison between two quotes highlights how creativity was conceptualised and connoted differently in the Expressive arts and in Mathematics. Both quotes are taken from the related "Principles and Practices" section, aimed at setting out the purposes of learning within the given curriculum area, and both appear at the beginning of the document, where the texts outline the relevance of the subject for learners' achievements:

Expressive Arts: "The inspiration and power of the arts play a vital role in enabling our children and young people to enhance their creative talent and develop their artistic skills." (Scottish Government, 2011, online)

Mathematics: "Learning mathematics develops logical reasoning, analysis, problem-solving skills, creativity and the ability to think in abstract ways."(*op cit.*).

In Wales, at primary level, Art had a much higher ratio of occurrence of creativity than any other subject (8.34 12); this was the highest ratio for art across all four countries of the UK. At secondary level the ratio for Art was much lower (1.22 19) and very close to Design and Technology (1.23 23). Three subjects had zero occurrences at primary level: Languages,

Mathematics, and Physical Development. At secondary level the lowest numbers were for Mathematics (0.04 1) but ICT (0.06 2) and History (0.07 2) were close to this.

The UK's national curriculum texts, for both primary and secondary, revealed an imbalance between the emphasis on creativity in different subjects. Most emphasis on creativity was seen in the performing arts subjects. Creativity appeared most often in introductory sections and not in the detail of programmes of study.

Teachers' perceptions of Creativity

The importance of the representation of creativity in different disciplines and subjects was also raised in the survey data. There was very strong agreement from the survey respondents that creativity is not only relevant to arts subjects. 86% of EU respondents disagreed with the statement that creativity is only relevant to visual arts, music, drama and artistic performance (56% disagree; and 31% strongly disagree). The responses to the same question for the UK (out of the 98 respondents) were 47 disagree; 46 strongly disagree. Teachers from the EU believed that creativity can be applied to every school subject (96%). 90 respondents from the UK agreed or strongly agreed with the statement that creativity is a skill that can be applied to every school subject, and 94 respondents agreed or strongly agreed with the statement that creativity is a skill that can be applied to every domain of knowledge.

The survey addressed the two fundamental concepts in relation to defining creativity: originality and value. There was strong support within the EU 27 that creativity is the ability to produce something original: 79% of respondents agreed or strongly agreed; within the UK there was majority support for this idea (59 respondents agree or strongly agree; 12 neither agree nor disagree; 24 disagree or strongly disagree). These UK responses were related to responses to other questions that suggested that creativity is about finding connections between things that have not been connected before (69 agree or strongly agree; 25 neither agree nor disagree; 1 disagree).

Similar ranges of responses were seen in relation to creativity as the ability to produce something of value (56 respondents agreed or strongly agreed; 25 respondents neither agree nor disagree; 15 disagree, or strongly disagree). Evidence of value as a more problematic concept than originality was provided by the responses to the statement that creativity can be assessed (Agree or strongly agree 40, Neither agree not disagree 41, strongly disagree or disagree 14). The process of assessment, just like the process of determining value, requires a judgement to be made.

The idea that creativity is a trait that only some people have was strongly rejected by respondents. 88% of EU teachers agreed with the statement that everyone can be creative. From the UK, 95 responses agreed or strongly agreed with the statement that everyone can be creative. Related to this, 85 responses disagreed or strongly disagreed with the idea that creativity is a

characteristic of eminent people only. However there was less certainty about the related idea of creativity being an inborn talent: 64 responses disagreed or strongly disagreed with this idea but 29 agreed or strongly agreed. This was related to the responses about whether creativity can be taught: 64 responses agreed or strongly agreed but 30 response were 'neither agreed nor disagree', or disagree. These responses suggest that respondents' believed strongly that everyone can be creative but there was uncertainty about the extent to which this is a product of inborn talent and/or something that can be taught.

The categories of critical thinking, independence and curiosity are key aspects of fostering creativity. The question "How often do you foster the following skills and abilities in your students?" showed some interesting responses. The number of responses suggesting that the teachers always or often fostered these three skills and abilities in students were high (critical thinking, 73 responses; independence, 92 responses; curiosity, 91 responses). The tension between developing creativity and developing other skills that are both necessary for creativity but also a potential barrier to creativity if emphasised too strongly, was perhaps evident in the similarly high responses to the following categories: fostering basic skills, 82 responses; Accurate recall, 53 responses; Discipline, 80 responses.

Discussion and Conclusions

The inclusion of explicit reference to creativity in all national curricula of the EU27 is an indication that creativity is valued by policy makers and curriculum developers. But the wide range of ratios of occurrences of creativity suggests that creativity is valued differently in the national curriculum policies of different countries and states. It is likely that creativity will have a more significant impact on pupils' learning if the choices made to include creativity in national curricula are coherent throughout different types and sections of texts (e.g. general documents into programmes of study for subjects, and primary level through to secondary level).

The predominant location of creativity in the arts subjects of the national curricula in the EU27 contrasts with a strong trend in the creativity research field suggesting that creativity is a feature of all subjects and disciplines. This representation in the curriculum texts also contrasted with the opinions of the teachers in their view that creativity was not only relevant to the arts. One implication of this finding is that a closer match between national curricula and creativity research could be achieved if in future greater attention was paid to the location of creativity in curriculum texts in order to ensure greater balance of attention to creativity across curriculum subjects. However, it can also be argued that the role of creativity in artistic composition and enactment is qualitatively different, for example, from the creativity of problem framing and solving that is an important part of maths and sciences, and that this qualitative difference may be a sufficient rationale for the higher inclusion of creativity in arts subjects. Whichever view is taken by policy makers means

that a more explicit rationale for the inclusion of creativity, and definition of creativity, is required in curricula to ensure greater cohesion and rigor.

The lack of attention to creativity in the subject group of languages should perhaps be of concern to educators and curriculum developers. Although the learning of the vocabulary and grammar of languages may not require an emphasis on creativity, one important element of writing in particular is the creative process of the writer who makes choices over elements particularly when writing story and poetry forms but also in non-fiction writing.

Furthermore, the theory of reading as a transaction (Rosenblatt, 1985) suggests that comprehension of texts is not only a literal process but also an active two-way process of transaction between texts and reader that can require creative thinking. To take another example, the dramatic realisation of play scripts also requires creativity to achieve impact on audiences. One possible reason for the lack of attention to creativity in the language subjects may be an over emphasis on functional literacy intensified as a result of the growth of high stakes testing of attainment in this area.

The higher ratios of occurrence of creativity in most of the UK national curricula, compared to the EU 27, parallel the historic attention to creativity in the UK. However, the lower attention to creativity in primary curricula compared to secondary curricula contrasts with the historic position. Creativity in the UK has most frequently been attributed to primary and early years education, for example through child-centred approaches such as the British

Infant school model and the integrated day, a form of cross-curricula thematic planning deriving, in part, from children's interests. But the findings of our study show that creativity has become more prevalent in secondary national curricula in the UK. It is more likely that an imbalance between primary and secondary curricula will happen if the two phases are developed separately unless strenuous efforts are made to ensure coherence between the texts of different phases. In England the imbalance may be as a result of the NACCCE report impacting on the revised secondary curricula compared to the lack of revision of the primary curricula. However for the UK in general this could represent a move towards the rationalist perception of the primary years as first and foremost the place for the development of functional knowledge, skills and understanding in preparation for secondary schooling. If this is the case it runs counter to the evidence that creative thinking is a feature of children's development from the early years onwards that can be supported through appropriate curricula.

The research revealed a mismatch between creativity stated in general aims for UK curricula and the subsequent details of programmes of study in subject areas. The general aims often strongly advocated the place of creativity but this was not matched by the place of creativity in the detail of the programmes of study for most subjects, although as we have said creativity was more prevalent in the arts subjects. The importance of general national curriculum aims in relation to nations' aspirations for their citizens, and the extent of the fit with programmes of study, is part of a wider challenge for curriculum developers (White 2004). It is necessary for general aims to be rigorously and

coherently represented in the detail of programmes of study to enhance and focus pupils' experiences of creativity for the benefit of their learning.

Political devolution of the countries in the UK led to significant changes in the nature of national curricula and of the place that creativity has in these curricula (Wyse, et al, 2012). This is of course not a static picture. For example England's primary national curriculum was reviewed again in 2013, this time by the Conservative-Liberal Democrat coalition government. The final version of the national curriculum to be implemented from September 2014 onwards includes the aim,

The national curriculum provides pupils with an introduction to the essential knowledge that they need to be educated citizens. It introduces pupils to the best that has been thought and said; and helps engender an appreciation of human creativity and achievement.

([Department for Education, 2013, p. 5 emphasis added](#))

However the next occurrence of creativity in the statutory content is not until page 15 of the framework document, but not as a requirement for pupils' creativity, instead as part of a defense of the inclusion of two lengthy statutory appendices of spelling, vocabulary, grammar and punctuation content which must be taught: "This is not intended to constrain or restrict teachers' creativity, but simply to provide the structure on which they can construct exciting lessons." (op cit. p. 15) Overall the number of occurrences of creativity in the programmes of study is low compared to previous versions of

the national curriculum in England, including only one occurrence in the statutory content for the subject English, and somewhat more in the arts subjects. In Wales, recent activity has seen politicians responding to the lower placement of Wales in international league tables by arguing strongly for the need to strengthen the teaching of basic skills such as literacy and mathematics. It would appear that in spite of a broad consensus on the importance of creativity voiced by academics, business organisations, educators, and society more generally, creativity's place in national curricula remains subject to the changing educational policy landscape, including Ministers' personal preferences about what is desirable in national curricula at a given moment in time. Creativity should be a coherent and lasting part of national curricula, framed in particular by pupils' enactment of new thinking and new outputs, and subject to teachers' and other educators' judgements and assessments of its value.

In Europe more widely, policy documents suggest that creativity is still regarded as a key goal of education. Recommendations to foster 'creative ways of teaching and learning' and 'creative thinking' have appeared in recent policy documents (European Commission, 2012), while the aim of 'enhancing creativity and innovation at all levels of education' is foreseen in the strategic framework for European cooperation in education and training (European Commission, 2009). Although the remit of educational policies lies with the Member States, the Commission could highlight the ambiguity of the use of creativity and work towards a more coherent approach to creativity in the curriculum.

One of the main limitations of the research reported in this paper was the use of national curriculum texts as representative, in part, of approaches to creativity in schools. Curriculum policy texts are mediated by schools and teachers in a variety of ways that represent both fidelity and resistance to the curriculum requirements. However as we have argued we believe the texts are important as intentional statements, and objects of study in their own right, that do have some influence on practice. The choice of texts was also very difficult particularly in relation to making decisions on which texts are the most influential in relation to school practice. In some countries this is more apparent than in others. The limitation of content analysis lies particularly in its restricted focus but in part this was a pragmatic choice based on the extremely large data set that the corpus of texts represented. The survey respondents cannot be regarded as representative of the EU or of the UK but the survey does represent the first attempt ever to solicit the views of such large numbers of teachers in Europe about creativity. Moreover, the opinions of teachers collected through the survey are self-reported perceptions on the topic of creativity. Teaching in practice can differ from what is expressed in surveys, just as as curricula differ from what is actually taught in the classroom. However, both curriculum texts and self-reported perception are indicative to some degree of intent, and representative of value attributed to creativity. The analysis highlighted that these two stakeholders hold different beliefs about creativity.

Taking into account the implications of the previous discussion we wish to suggest that it is fundamental that creativity has a coherent place in schools' curricula. If creativity is coherently represented in national curricula there is a greater likelihood that schools and teachers will try to develop the creative potential of their students. Creativity is a feature of all subjects so should be fostered in ways that are commensurate with the impact of creativity in the wider world of connected thought and practice of the related disciplines. As part of this we would expect creativity to have a significant presence in language subjects through creative interpretation and performance of texts but particularly through what should be the creative processes of writing. The limitations of school subject boundaries suggest that explicit attention to cross-curricula programmes of study is also likely to be of benefit to developing pupils' creativity. As well as greater coherence across subjects there also needs to be greater coherence across age phases and stages, underpinned by rigorous definitions of creativity. Finally, our research provides an approach to evaluating the place of creativity in future curricula. If societies value creativity, and expect education systems to support creativity in young people, then policy makers and politicians should be accountable for the definitions, rationales and location of creativity in the national curricula that they create.

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