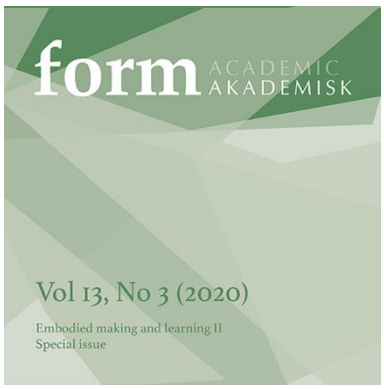

https://doi.org/10.7577/formakademisk.3947

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Supporting creativity

What factors support or hinder teachers focusing on creativity in arts and crafts?

ABSTRACT

In recent years, more attention has been paid to the development of children's creative abilities in compulsory education. Both the previous (KL06) and the current (KL20) arts and crafts curricula place considerable emphasis on creativity. However, there is little research-based knowledge about how the curriculum goals for creativity can be met. This article focuses on the factors that support or hinder arts and crafts teachers focusing on creativity in their teaching. The results from eight interviews conducted in 2018 show that the respondents believed that factors such as subject knowledge, finances, school leadership and time hinder teachers from emphasising creativity in arts and crafts. However, the respondents also felt that the curriculum was supportive because it was open and flexible. They were also aware that their own creativity influenced the students' work. Furthermore, most respondents found it challenging to define and assess creativity. This article concludes that it is necessary to support internal factors such as teachers' understanding of creativity and competence and external factors such as time and access to materials and equipment to better actualise the aim of the curriculum, that is, developing students' creativity in arts and crafts.

Keywords:
Creativity, educational research, arts and crafts, compulsory education.

INTRODUCTION

In recent years, creativity has received more attention in compulsory education worldwide than ever before (Craft, 2006). This is visible in both curricula and educational research. The reason for this increased attention is that society is changing, and flexibility is required to be able to adapt to those changes and contribute to societal development (Wells & Claxton, 2002). In addition, creativity is linked to happiness and quality of life. Therefore, compulsory education, as the only school level through which all citizens proceed, has placed emphasis on developing a flexible and creative way of thinking (Craft, 2011; Olafsson & Gulliksen, 2018). Compulsory education may therefore be more important for national prosperity and welfare than university education (Walberg, 1988).

Creativity and the joy of creating was one of the seven main areas of emphasis for all teaching in *Kunnskapsløftet*, the 2006 core curriculum for compulsory education in Norway (hereafter KL06) (Kunnskapsdepartementet, 2006). In the 2020 core curriculum for compulsory education, *Fagfornyelsen* (hereafter KL20), this emphasis was advanced through the theme "creative joy, commitment and desire to explore", which is one of six areas constituting the fundamental values of the curriculum (Kunnskapsdepartementet, 2017). In LK20 (Kunnskapsdepartementet, 2017), considerable emphasis is also placed on creativity through in-depth learning. Examining a subject in-depth and being able to regulate one's own learning to a greater extent provides students with more opportunities to transfer knowledge to new and unexpected situations (Gilje et al., 2018).

Creativity has thus been, and will continue to be, a central area in compulsory education in Norway, which is visible in all subjects. However, there has been little focus on what constitutes creativity or how the teacher should respond to it. Neither the current nor the previous curriculum define what is included in the concept of creativity or discuss how it should be developed in education. Creativity is a complicated concept, and it can be operationalised in different ways (Kozbelt et.al., 2010; Olafsson & Gulliksen, 2018). Previous studies have also shown that there is a discrepancy between teachers' understanding of creativity and recent research (Bereczki & Kárpáti, 2018; Olafsson, 2020). Therefore, to support creativity in education, there is a need to understand how teachers understand this concept and how they can be supported in focusing on creativity. Arts and crafts (hereafter A&C) is presented as a creative and practical cultural subject that emphasises creativity more than most other core subjects in the curriculum (Kunnskapsdepartementet, 2006; Olafsson, 2020). As a result, it appears that teachers in A&C are largely responsible for developing children's creativity.

Due to the emphasis on creativity in the A&C subject and increased attention to creativity in education, this article investigates the following research question: What do A&C teachers in compulsory education think supports/hinders teaching that focuses on creativity, and how do teachers understand creativity? In this study, the topic was investigated by interviewing eight teachers who teach A&C in compulsory education in Norway. The respondents were asked about different aspects of creativity and teaching, and their understanding of the concept. The empirical data in this study was obtained in the spring of 2018 when KL06 was the current curriculum for compulsory education. However, KL20 was implemented in autumn 2020, and the discussion in this article was written with reference to the new curriculum. Both KL06 and KL20 are therefore included in this article.

CREATIVITY

Creativity is a significant part of what makes us human. Creativity shapes culture and has been described as "the general expression of humanity, the expression of its creativity" (KEA European Affairs, 2009, p. 3). When people use their creativity, it can contribute to the development of personal abilities and at the same time affect the physical environment. Creativity consists of several dimensions, that is, psychological, social and material. Creativity also requires a bodily presence and interaction with a socio-material world (Glaveanu et al., 2019). The A&C subject focuses strongly on how student creativity arises in bodily interactions with different materials. This study focuses on the sociocultural and material/physical surroundings in A&C and how they support or hinder creativity in the classroom.

Creativity has been discussed in a number of different ways, but a consensus has emerged in creativity research over the last 60 years regarding the basic definition of creativity, that is, as something original and task appropriate (Colman, 2008; Runco & Jaeger, 2012). This definition forms the basis for both individual and sociocultural creativity and is the definition used in this article. Individual creativity focuses on the individual who makes new combinations in their mind based on previous experience and knowledge. The sociocultural definition requires that experts in the relevant field assess the contribution before it or the person is deemed creative (Sawyer, 2012).

These two categories of creativity have been elaborated on in the Four C Model of Creativity (Kaufman & Beghetto, 2009), which is relevant for understanding and contextualising creativity in education (Olafsson & Gulliksen, 2018). The model has two levels of individual creativity and two of sociocultural creativity. The individual levels are mini-c and little-c. Mini-c is the subjective part of

creativity and focuses on, for example, learning. Mini-c has been linked to Vygotsky, who stated that creativity is "Any human act that gives rise to something new is referred to as a creative act, regardless of whether what is created is a physical object or some mental or emotional construct that lives within the person who created it and is known only to him" (Vygotsky, 1995, p. 13). Creativity is therefore also what takes place only in the individual's mind and is not visible to others. The individual's knowledge and experience determine the depth of their creativity. Furthermore, mini-c also highlights the link between creativity and learning. When the individual receives new knowledge, they will interpret this in relation to their own knowledge and experience. In that way, an internal reconstruction of an external process in the development of personal knowledge takes place (Beghetto & Kaufman, 2007; Vygotsky, 1978). The second individual level is little-c creativity. It focuses on the individual's objective everyday creativity and may involve solving a task in a new and task appropriate way, for example, at school, at work or when cooking. This type of creative contribution does not have to be new to anyone other than the individual involved.

The sociocultural levels of creativity are Pro-c and Big-C. Creativity at the sociocultural level requires the recognition of experts in the relevant field. The individual communicates their ideas or products within a domain, and experts assess whether it is an original and worthwhile contribution. If the experts do not consider the creative contribution to be a new and relevant addition to the domain, the person (or the product) is not creative at the Pro-c or Big-C level (Csikszentmihalyi, 1999). However, the value of a creative contribution may differ according to the social and cultural context. What is creative in one culture may not be so in another (Helfand et al., 2016). The Pro-c category includes those who have received recognition for their contributions within a domain; for example, a teacher who shares his teaching projects by writing articles in journals, or an artist who exhibits her artwork in a recognised gallery. However, the Big-C category includes those who will be remembered in history for their creative contributions, such as Edvard Munch, Marie Curie or Socrates (see e.g., Csikszentmihalyi, 1999; Kaufman & Beghetto, 2009; Olafsson & Gulliksen, 2018).

The first two levels of the Four C model (mini-c and little-c) are the most relevant to the compulsory classroom. Although they are defined as individual, in contrast to the sociocultural, social relations and communication are important for the development of students' creative ideas and expression. According to Gergen (2015), knowledge is created through social conditions in which the student acquires knowledge and experience in different areas. Increased experience contributes to the student being able to make more connections when acquiring new knowledge, hence, making it easier to cope with unexpected situations and be creative (Vygotsky, 1967/2004). The social environment influences what and how the student exercises creativity, which develops through the alternation of social and individual factors (Amabile, 1996; Craft, 2000). In addition to the social, internal motivation, domain knowledge and creative knowledge are fundamental elements for creativity development (Amabile, 1996). Furthermore, students will have different personal interests, habits, ways of thinking, ways of working and knowledge that can affect the development of individual creativity.

The teacher will also constantly make new connections in their experience at the mini-c level and make a little-c contribution through their own teaching. They can also reach Pro-c or Big-C level by sharing educational contributions and seeking recognition in the field. The Pro-c and Big-C categories will also act as inspiration for students and examples of what it is possible to achieve (Olafsson & Gulliksen, 2018).

CREATIVITY IN THE CURRICULUM, TEACHING AND ASSESSMENT

Formal education consists of three main elements: curriculum, teaching and assessment (Robinson & Aronica, 2015). If creativity is to be integrated into schools, it must be present in all these elements.

Curriculum

In KL06, creativity was emphasised (Kunnskapsdepartementet, 2006). The creative aspect is described in the general part of both curricula and should characterise educational practice. The beginning of KL06 states, among other things, that "The training must make room for the students' creative urge, and at

the same time arouse their joy in the performance of others" (Kunnskapsdepartementet, 2006). Here, much emphasis is placed on creativity as a general characteristic with a focus, for example, on children's curiosity, imagination, mastery, wonder, critical thinking and ingenuity. However, creativity is also connected to actual knowledge and professional understanding. Creativity is therefore an integral part of the curriculum and gives rise to expectations of its importance in subject plans.

However, it has been pointed out that a discrepancy exists between the concept of knowledge in the description of the values and principles in the core curriculum and the curricula for different school subjects (Dale et al., 2011). Consequently, different school subjects emphasise various elements from the core curriculum differently. For example, creativity is not equally visible in all school subjects, even though it is one of the main elements used for all teaching and learning. Creativity and related terms occur most often in the curriculum for A&C in KL06 (Kunnskapsdepartementet, 2006). Therefore, A&C has a stronger focus on creativity than other subjects. In KL20, emphasis is also placed on deep learning, which is defined as "learning something so well that you understand contexts and can use what you have learned in new situations" (Directorate of Education, 2019a). Dahl and Østern (2019) emphasise the embodied aspect of deep learning and define it as "bodily, relational, creative, affective and cognitive learning – all at once" (p. 53). This is because individuals learn and contribute to the socio-material society through bodily presence and participation (Glaveanu et al., 2019). Deep learning aims, among other things, to understand relationships and increase the transfer of knowledge and is therefore closely linked to creativity, which has the same goal.

Nonetheless, creativity is not well defined in KL06 or KL20, despite the fact that many different theories and approaches to creativity exist (Kozbelt et al., 2010). Consequently, there are few indications of how the teacher should approach creativity. Nor do the curricula provide any assessment criteria for creativity. As teaching is often largely characterised by the end goal, that is, assessment, it is not obvious how creativity should be integrated into teaching and what is needed for the curriculum's aim to be realised (Gulliksen & Hjardemaal, 2014).

Teaching

Where and how creativity is integrated into teaching A&C in compulsory education depends on several internal and external factors. Internal factors in this context are, for example, the teacher's perception and understanding of the curriculum and the concept of creativity. According to Goodlad (1979), the teacher's perception of the curriculum has the most influence on how it is implemented in the classroom. The teacher will always interpret the content in relation to their knowledge and experience. Furthermore, the teacher will use their professional didactic knowledge to convey the subject content and support students' learning. Consequently, every teacher will interpret and carry out the teaching differently.

In relation to creativity, therefore, the teacher's knowledge and understanding of the concept will greatly influence how teaching is carried out. Several studies have identified differences between teachers' understanding of creativity and how it has been presented in recent studies (Bereczki & Kárpáti, 2018; Davies et al., 2013; Olafsson, 2020). Notably, a lack of understanding can affect teachers' practice (Davies et al., 2013). According to Adams' (2013) research on 18 elementary school teachers in the US, using research-based strategies to support creativity has a positive impact on teaching. Adams also found that the teachers' definition and experience of creativity influenced how creativity was supported in education. Several studies have also demonstrated a link between teachers' understanding of the concept of creativity and teaching (e.g., Bolden et al., 2010; Crow, 2008; Hong et al., 2009). Other international studies have found inconsistencies between teachers' understanding of creativity and their creativity-promoting practices (e.g., Alkhars, 2013; Alsahou, 2015; Meyer & Lederman, 2013; Shaheen, 2011). For example, Shaheen (2011) found that although teachers could report several effective strategies to support creativity, these were often absent in their own teaching. Beghetto (2017) highlights the teacher's explaining of the conceptual understanding of creativity as a key element in supporting student creativity. Explaining creativity can help students to understand, among other things, how creativity manifests in different ways in different domains and which factors influence it. However, it requires the teacher to have a good understanding of the concept and insight into research

on practices supporting creativity. Beghetto identifies two other key elements for creativity in teaching: teaching creatively and emphasising students' creative expression. Both require good didactical and subject knowledge (Beghetto, 2017). The aforementioned point to good subject knowledge, didactic practice and an understanding of what it means to be creative in A&C as key elements for teaching that supports creativity. However, figures from Statistics Norway (2015) show that 45% of teachers at primary level and one-third at lower secondary level do not specialise in A&C. Only 46% of those with advanced studies at lower secondary level have 60 credits or more in A&C.

The perceived curriculum that is put into practice is what Goodlad calls the implemented curriculum. The implemented curriculum refers to what takes place in the classroom and the various aids the teacher uses to support teaching (Goodlad, 1979). Several external factors such as time, resources and social support affect the teacher's implementation. These factors can contribute to physical limitations to exploration along with how the learner acquires and uses domain knowledge. However, these can also affect the motivation of the teacher and students, which is important for the development of creativity (Amabile, 1996).

According to international studies, lack of time, an overly detailed curriculum, national tests and limited resources are some of the factors most often mentioned when teachers are asked what hinders creativity (Bereczki & Kárpáti, 2018). In a Danish study in which 14 teachers in compulsory education were interviewed, Tanggaard (2011) concluded, among other things, that national tests could be an obstacle to students' creativity. Tanggaard (2011) indicated that there was a dilemma between national standardised exams and the curriculum's requirement to support students in taking risks and creating something new. In Thorsteinsson and Olafsson's (2013) research on students' decision making in creative design in Iceland, insufficient time was mentioned as a factor hindering students' independent work. Furthermore, there was a discrepancy between the time allocated to the A&C subject and the demands and complexity of the curriculum.

Assessment

An important part of the teacher's work is assessment. However, as previously mentioned, the curriculum does not provide any clear guidelines on how creativity should be assessed. Nevertheless, assessment is a key element when the teacher focuses on creativity. Assessment takes place at the end of a work process, but also during the process. To be able to support the student’s progress with constructive feedback, the teacher must be able to constantly assess the work and support the student’s own assessment. According to Beghetto and Kaufman (2014), the ability to evaluate one's own ideas is a characteristic of those who have achieved creativity at a high level.

Nonetheless, exactly what to assess is a challenge for teachers in A&C in compulsory education. It has proven to be difficult to assess creativity, and many of the assessment models that have been presented lack sufficient validity and reliability (Baer & McKool, 2009). In creativity research in recent years, there has been a greater focus on measuring the extent to which a person is creative using various tests, such as the Torrance test of creative thinking (Torrance, 1966). However, such tests have been criticised for only measuring limited aspects of creativity (Baer, 2011). Suggestions have been made concerning how creative artifacts can be assessed (see e.g., Amabile, 1996; Beghetto et al., 2015; Lutnæs, 2018; Sternberg, 2012; Treffinger et al, 2002). One approach is to focus on the key elements of creativity, originality and task appropriateness. However, it is unclear how originality and task appropriateness can be assessed on an individual level because whether the idea is new to the person and in what context it is appropriate may be uncertain. In compulsory education, it is not experts in a domain who decide whether students’ contribution is creative, but the teacher as an expert in their field who must consider how to support the students’ development. For example, they may focus on personal qualities such as commitment, skill development, knowledge, habits and ways of thinking. There may also be a focus on elements related to the practical, such as the use of tools, techniques, aesthetics or an overall assessment of the final product. The teacher must also decide whether they consider the individual to be creative only in relation to themselves or in relation to a larger group or domain.

One of the most frequently used methods for assessing creativity is Amabile's consensual assessment technique (Amabile, 1982). The consensual assessment technique has been validated through several research projects and in many domains (Baer & McKool, 2009). The method is based on the idea that the best way to assess creativity is to have several experts in the field judge the products. In this method, creative products from a group are assessed in relation to each other, rather than to a fixed model. Therefore, the method can be used for all age levels and subject areas. The experts who assess the work should not compare their results, but, based on their expertise, grade the creativity of the products from those who are least creative to those who are most creative (Amabile, 1996). This method has been shown to have high inter-rater reliability (Baer et al., 2004).

However, assessing creativity can also negatively affect students' creativity. Amabile (Amabile, 1996; Collins & Amabile, 1999) has shown in her research that creativity can be suppressed in circumstances that focus on rewards, grades or comparison with others.

The aforementioned literature shows that creativity is an integral part of the curriculum, and A&C seems to have a special responsibility for developing such qualities in compulsory education. However, as previously mentioned, the concept of creativity is not clearly defined in the curriculum. One way to contextualise creativity in education is to use the Four C model, which focuses on the individual and the sociocultural context. How teachers understand the concept of creativity will influence the implementation of their teaching implicitly or explicitly.

METHOD

The respondents in this study consisted of eight teachers in compulsory education who were selected using convenience sampling (Creswell, 1998). The teachers teach A&C in seven different schools in the same municipality in Norway. An attempt was made to select respondents with different backgrounds in terms of age and experience to obtain a wider range of answers. All the respondents had A&C education and experience with teaching at different grade levels. Many respondents had additional training such as special pedagogy, guidance pedagogy and other school subjects, such as biology. The respondents had 10 to 40 years of teaching experience in compulsory education. All but one teacher also teach subjects other than A&C. The respondents were given fictitious names in the research documents to preserve anonymity.

The interviews were semi-structured, and the same interview guide was used as a starting point in all the interviews. A semi-structured interview guide has a fixed agenda, but still contains open questions and the opportunity to follow up on what is of interest for the research in each interview (Cohen et al., 2007). The interviews were carried out in the spring of 2018 in the schools where the teachers work, apart from two interviews which were carried out at the author's workplace. The interviews lasted from 33 to 58 minutes. They were transcribed verbatim, coded in the computer program Nvivo and analysed continuously. Along the way, several themes emerged that were of particular interest to the research and which were later explored more deeply in other interviews. The analysis of the interviews therefore began immediately after the first interview.

After transcription, the data material was repeatedly read and structured. Three levels were used in the coding procedure: first cycle, second cycle and analytical memos (Miles et al., 2014). In the first cycle, the data material was coded, and both deductive and inductive approaches were used. Twenty codes were decided in advance, but after reviewing the interviews a total of 55 codes remained. To make the coding process clearer, the codes were divided into six predetermined categories. These were grounded in, for example, the research question, results from the survey and the interview guide. There was no need for additional categories. During the second cycle, emphasis was placed on identifying connections between the codes that contributed to answering the research question. These were grouped into smaller themes regardless of the code's category. Based on the research question and the analysis, three themes emerged: what the respondents think influences creativity in the classroom, understanding creativity and assessment. During the entire process of collecting empirical evidence and analysis, analytical memos were written as part of formulating the results.

RESULTS

In the following section, the results are presented through the three themes that emerged during the analysis of the empirical evidence: what the respondents state supports or hinders creativity in the classroom, understanding creativity and assessment.

What the respondents state supports or hinders creativity

The respondents mentioned several factors that could hinder or support teachers in emphasising students' creativity in the classroom. All the respondents stated that their own subject knowledge and creativity were important in supporting students' creativity. They also mentioned that one of the most significant obstacles to creativity in A&C in compulsory education was that teachers without relevant education and experience were assigned to teach the subject. These teachers do not have knowledge of different techniques that are important for working with various materials and, therefore, are poorly qualified to be creative and to teach others to be so. One respondent mentioned that the development of drawing skills often stopped in children because teachers did not have the prerequisites or knowledge to help them progress. Another emphasised that the teacher's creativity was particularly important for the weaker students in A&C:

> The children who are perhaps not so creative and or confident in the subject, I think they will come off a bit badly if you are not confident in teaching that subject yourself.

One respondent who teaches different school subjects at his school pointed to the difference between teaching A&C and other subjects in terms of the teacher's subject knowledge:

> [It is] ... perhaps even worse in a subject like music or gym or A&C because it becomes so terribly visible that you are neither interested nor able. Even if I am not good at maths, I can, with the help of the book, get quite far by standing there and pretending that I can. But you can't do that in these subjects. So, I think that is even more important perhaps. But there we care less, and it is a paradox I think.

In addition to the teacher's subject knowledge, motivation and commitment to the subject were cited as important for supporting student creativity. It was pointed out that the teacher's own motivation influenced the students, especially the weaker students who needed more support. This particularly applied to the way in which the teacher communicates with students. Motivation was also linked to the teacher's subject knowledge. One respondent emphasised that he first had to be able to solve the tasks in a creative way to identify possible challenges and be ready to motivate the students. Another worked a great deal with the sociocultural aspect and encouraged the students to share and learn from each other, which, in turn, led to increased motivation.

Some external factors that affect student creativity were also mentioned. For most respondents, the attitude of school leaders was important for the development of student creativity. Some respondents had good support from the leadership at the school, while others felt that the A&C subject had a low priority. This neglect by school leaders was also linked to the subject's general status within compulsory education. The support, or lack thereof, was visible, for example, in variations in teaching materials, inventory in the classroom, division into groups or allocation of extra teaching hours. The subject’s low status was also visible in interdisciplinary collaborations in which A&C was often used as "decoration" or something that was included for fun. Perhaps the most obvious example of the subject’s low status was in leaders appointing unqualified teachers to teach A&C.

Access to various materials and a well-equipped classroom were mentioned by all except one respondent as components that influence students' creativity. They are important resources for the teacher to be able to present various projects and for the student to have the opportunity to try different materials and techniques. Some respondents had limited purchasing resources, while others could buy everything they needed. Access to materials was also linked to teachers and students' motivation.

Time was also mentioned as an important factor for the development of students' creativity. The respondents highlighted that students should have more uninterrupted time to enter into the creative process, as well as to achieve continuity and flow in their work:

> I would like more hours in A&C ... a session goes by terribly fast. Many students think 90 minutes pass terribly quickly. Just having three hours in a row compared to 90 minutes, I think would have given me more peace of mind. Many students take a long time to get started and just when you have started, you must tidy up. And it also takes time to tidy up in A&C.

It was also stated that practicing creative skills is a time-consuming process. Furthermore, one respondent mentioned that sufficient time was important to allow subject teachers who are not class teachers to create good relationships with the students in order to be able to give them better support.

Five respondents were positive about the A&C curriculum. It was noted several times that the curriculum was both guiding and open to interpretation, which made it easy to adapt to different groups, interests and skills. This flexibility offered greater room to creatively interpret the goals in the A&C curriculum. However, a prerequisite for being able to utilise this flexibility is a proficient professional background. Other respondents identified that the A&C curriculum has become somewhat more theoretical over the years, and that the emphasis on implementing digital tools was difficult to address. They also saw the digital as a hindrance to creativity. Consequently, the interviews identified several factors that can support or hinder teachers in emphasising creativity, and, according to the respondents, the teacher's own creativity and professional knowledge are significant factors in this regard.

Respondents' views on creativity

To better understand what the respondents mean by creativity, they were asked how they understood the concept. Not everyone was sure that it was easy to define creativity:

> The fact that a person is creative is difficult to both assess and explain and say something about. Why do you think the person is creative? And it is a difficult concept for the children too. So, I think they have a reasonable understanding when I say: "Oh, that was creative", and we might share an insight, but I don't think the children always know what it is. They understand that it is something good.

All the respondents referred to creativity as something individual. What most respondents associated with creativity was, for example, thinking differently, imagination and seeing possibilities that others do not see. Creativity was also linked to imagination and play, which most respondents believed were easier to provoke in children than adults because adults develop inhibitions that children do not have:

> Children dare much more than adults. There are many creative adults, but children have fewer inhibitions. They don't have as many filters; they just dare, and they are more spontaneous. Because creativity is about spontaneity, that you dare to let your thoughts spin and that you are not embarrassed by things.

To dare is about not being embarrassed and not having filters that limit the flow of ideas. Only one respondent believed this spontaneity and lack of limitations were not always a sign of considerable creativity.

> It is very easy for us to say that they are creative because they come up with and do many strange things. But I think that a lot of the weird things they do and a lot of what they do, it's because of a lack of knowledge. Not because they are very creative.

Although most of the respondents had a notion of creativity as something individual and conceiving an idea, some had difficulty imagining how creativity could be subjective, that is only a thought or an idea, or a part of a learning process. However, some agreed that creativity could be subjective, but could not imagine subjective creativity as a focus in teaching.

For students to be able to develop their creativity, many respondents emphasised the importance of motivation. One respondent said that not everyone was equally motivated to begin with, but motivation could develop along the way and that motivation was important for the students' receptivity, flow and outcomes. Another recipient stated that when the students were motivated it was also easier to tolerate restlessness because the restlessness became productive. Allowing the students to help decide what and how things are to be done can also support motivation. Two of the respondents had good experiences with using humour in certain tasks such as in making clay figures. One stated the following:

> [Humour] ... takes a bit of the sting out of this with everything having to be so right all the time. This is not to say that when you make a sculpture that it should not have joints in arms and legs and things like that, but to achieve a slightly funny expression... that is, to have a humorous touch in the tasks I give, I feel that I get the creativity and imagination flowing, then it won't be so dangerous.

Humour helped to motivate the students to be creative and active in their work. Three of the respondents mentioned that it was now generally more difficult to motivate students and that they cannot tolerate as much adversity as previous students:

> Today, I think that students give up faster, they can't stand so much adversity anymore and that has some impact int the A&C subject when you must try again several times. Then I also think that I notice that they are more afraid of making mistakes now than they were 10 years ago.

However, another respondent was not of the opinion that it was difficult to motivate children and said that it was much easier than motivating adults. He singled out praise, recognition, being positive and a focus on development as important motivational factors. Thus, the respondents focused on creativity in an individual manner such as imagination and thinking differently in their definition of the concept of creativity. They also emphasised various personal qualities associated with creativity such as being driven and motivated.

Respondents' views on assessment of creativity

Most respondents encountered challenges in assessing creativity. One respondent stated that there were many aspects to the assessment of creativity and that it could be difficult to define and assess because of its breadth. He pointed to the importance of making a holistic assessment:

> So, assessment... it's a bit difficult, because then you must sort of see the whole picture. Everything from effort to how they have solved it and of course what it will be in the end. But you can't just look at one thing, you have to sort of take the whole thing.

Two of the respondents said that criteria for assessment could be a hindrance to creativity. One respondent stated that criteria could still support the assessment because it made it possible to assess against a norm. Three respondents stated that a creative problem occurs when students copy each other. Doing things differently from others was therefore mentioned as a criterion for assessing student creativity.

> I [look] primarily at if it [the product/idea] differs completely from the others. If they have had their own idea, if they have been true to their idea. [Also] whether they have encountered any challenges and problems along the way that have caused them to take a different form and whether they have managed to solve it. I also see that as creativity.

Another respondent, however, found it difficult to assess students against each other because the evaluation depends on the type of guidance each individual student has received along the way.

Two respondents emphasised assessing the process rather than the final product. One had experience of artists who threw away many products before they were satisfied. It was therefore

important to focus on the process. The respondent had extensive experience in compulsory education and was more concerned with process now than he previously had been. His approach to creativity in teaching had changed considerably. Another respondent found challenges in defining what separates taste and creativity. Nonetheless, if the students dared to think and generate suggestions that were different, they were viewed positively even if they were not directly in line with the teacher's intention. However, not everyone was sure that it was important to assess creative work in A&C. Overall, the respondents identified challenges in assessing creativity and were not sure whether it was important to grade creative work.

DISCUSSION

The aim of this study is to identify what teachers in A&C in compulsory education believe supports or hinders teaching that focuses on creativity and to ascertain the teachers' understanding of creativity. The results are discussed based on the three themes that emerged from the interview analysis.

The respondents' views on what supports or hinders creativity

In this study, internal factors such as the teacher's creativity and subject knowledge were mentioned as important for supporting creativity in students. All of the respondents except one had insights from teaching other school subjects and based their opinions on differences between A&C and other subjects in terms of subject knowledge, among other things. A&C is a complex subject that utilises traditional material areas such as drawing, textiles and wood. In KL06 the A&C subject was divided into four main areas for teaching (Kunnskapsdepartementet, 1996), and in KL20 the subject consists of four core elements and three interdisciplinary themes (Directorate of Education, 2019b). The different materials and subject areas that comprise the subject, in addition to a strong emphasis on creativity, make teaching the subject complex for those without an education in A&C. The emphasis on creativity leads to the expectation of more open tasks than exist in many other subjects. This complexity requires a good knowledge of different materials, techniques, working methods, theories and ways to support creativity. The respondents therefore identified their own levels of knowledge, experience and creativity as important in being able to help and motivate the students. Subject knowledge is an internal factor that affects how the teacher understands the curriculum, prepares and carries out teaching, and responds to or assesses students' creativity (Robinson & Aronica, 2015). To be able to make new connections in creative work, knowledge of the field is required (Baer, 2012). Academic knowledge is also a prerequisite for understanding the curriculum and implementing its objectives in teaching (Goodlad, 1979). Accordingly, specialist knowledge is a key element in creative work in A&C. It can also be argued that those who have neither education nor good subject knowledge in A&C and are assigned to teach the subject do not really understand how their incompetence hinders the students' creativity. The consequence of this incompetence is that the curriculum's intention to develop students' creativity and "21st century skills" is unlikely to be realised. In addition, everyone has progressed through basic education and further education in school subjects such as maths and Norwegian and therefore have more background in subjects other than A&C. According to the results of this study, A&C teachers use textbooks less. However, unqualified teachers are often assigned to teach A&C, as figures from Statistics Norway show (SSB, 2015).

Of the external factors, time was mentioned as an important factor for the development of student creativity. Some respondents felt that the students did not properly enter into the creative process until just before they had to end the class due to short teaching sessions. It can be argued that long sessions are important in A&C because it can take some time to form the projects and enter into the creative flow. Time is decisive for students' creativity and development. Practicing important qualities associated with creativity, such as patience and perseverance (Olafsson & Gulliksen, 2018), can also become easier with more uninterrupted time. Economics was also mentioned as a major challenge for the subject, both in terms of access to materials and tools, and school facilities. Material-based subjects usually require more equipment and materials than theoretical subjects. Although it is conceivable that teachers in all subjects would like more time and better equipment, knowledge-based

learning and creativity-based learning require different approaches. Experience and experimentation with different materials and techniques are fundamental for the development of mini-c creativity, which will further contribute to creativity at a higher level (Beghetto & Kaufman, 2007; Olafsson & Gulliksen, 2018; Vygotsky, 1967/2004). Economics and time are also linked to the school leaders' attitudes towards the A&C subject. Six respondents mentioned that they had supportive school leaders, although some believed that they needed more funding for the purchase of materials and equipment to better support students' creative work. Some of these external factors involve the curriculum and public regulations. For example, the time allocated to the subject is largely determined by the Ministry of Education and Research and described in the curriculum. However, the schools have some flexibility in relation to the distribution of time and financial resources.

All the respondents regarded the curriculum as supportive because it was flexible and open for interpretation. However, the curriculum also requires the teacher to attend to different areas within A&C such as visual communication, design, art and architecture. In addition, demands are made to work within these areas using different materials and techniques. The general part of the curriculum also focuses on new solutions and tracing connections that require deeper knowledge (Kunnskaps-departementet, 2006). These are key elements in deep learning (Directorate of Education, 2019a). Inconsistency between the view of knowledge in the general part of the curriculum and the curricula for subjects (Dale et al., 2011) can affect teachers' views of creativity. The complexity of the subject can also contribute to teachers and students failing to become deeply involved in creativity in some areas, and instead only scratching the surface. This can be viewed in the context of the fact that most respondents placed little emphasis on specialist knowledge when they defined creativity. The respondents' use and understanding of creativity may therefore be influenced or limited by the curriculum.

Understanding creativity

Although the respondents placed great emphasis on their own subject knowledge and experience as the most important elements in becoming effective and creative teachers, their use of terms differed when they talked about students' creativity. Most of them used terms such as “play”, “imagination”, “spontaneity” and “unrestrained” (see Figure 1). Most respondents also believed that children’s creative ideas could be as good as adults. This was explained by the fact that children had fewer inhibitions than adults and they were not as afraid to think freely and pass on their ideas. This understanding points to creativity as conceiving of an idea, without emphasising the quality or the sociocultural relevance. Furthermore, it stands in contrast to the respondents' opinions of their own creativity, whereby more emphasis was placed on professional knowledge, breaking habits, usefulness and being passionate about their school subject. Other studies have produced similar results (Olafsson, 2020). Only one respondent mentioned that children's ideas were often rooted in their naivety, that is, lack of knowledge and experience. Although KL06, which was the curriculum when the interviews were conducted, emphasises imagination and wonder in connection with creative work both in the general part and in the subject syllabus, it also has a strong emphasis on subject knowledge in the competence aims of the A&C subject description (Kunnskapsdepartementet, 2006) Therefore, it is difficult to understand how the ideas shown in Figure 1 derive from the curriculum.

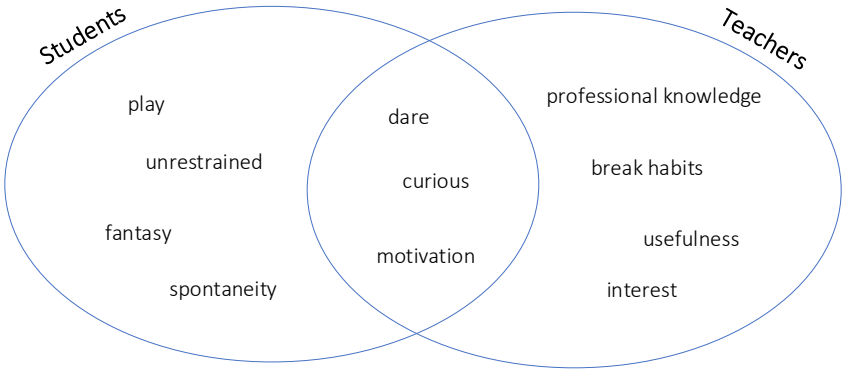

FIGURE 1. The respondents use of concepts concerning teacher and student creativity.

The reason for this understanding of creativity may originate in the respondents' view that children's creativity is a part of children's development. Therefore, they do not place much emphasis on subject knowledge as a basis for student creativity. The respondents' own creativity is also linked to a domain that has a connection to reality, while compulsory education is often seen as a general preparation for life and further education. One issue is that A&C in compulsory education is seen as one subject or domain. It is nevertheless composed of several domains, such as wood, textiles, visual arts and others. Deep professional knowledge within each of these areas is important for developing creativity within and across these domains.

The use of different concepts also suggests that the respondents regard creativity as something individual. The individual aspect is a core element of creativity (Kaufman, 2016; Robinson & Aronica, 2015) and is present at all four levels of the Four C model (Kaufman & Beghetto, 2009). However, the concepts used by the respondents may demonstrate that they are not as concerned with how creativity is connected to students' deep subject knowledge and concrete external reality. One of the advantages of using the Four C model in compulsory education is that it visualises creativity as a pathway that can lead to socially important contributions to a domain. The model can contribute to students developing increased ambition and responsibility for contributing to changes in society through practical work. It is also possible to acquire knowledge about materials and techniques through creative work. However, delving deeply into subject knowledge and connecting it to reality is emphasised in KL20 (Directorate of Education, 2019b). Consequently, there is a need to convey the understanding of creativity on which the curriculum is based and how it should be executed in A&C.

Imagination is a concept that is used and can be seen as "the free activity of imagination and thought that is not guided by considerations of particular practical or theoretical aims" (Fantasi, n.d.). This focus on imagination was also clear when two of the respondents emphasised using humour to support students' creativity. Emphasising humour can lead to amusing representations and can be an important factor in creative work. However, it can also reflect a lack of knowledge and skills. For example, making a figurative sculpture in clay requires fundamental knowledge and skills concerning proportions, expression and posture. A figure with a humorous expression may also require a certain level of knowledge and skills, but it may be that making mistakes, or a lack of knowledge also contribute to creating a funny expression. Therefore, it may be easier for students to experience mastery when the goal is to use humour (abstract) rather than, for example, making a figurative sculpture. Focusing on humour can be seen as natural in a subject such as A&C because students should be able to experience mastery and motivation in the subject. According to Sawyer (2013), imagination and play are important elements in creativity. However, if the goal for the student is to be taught how to contribute something original and task appropriate to a domain, such a goal requires a different approach that focuses on deep knowledge, as well as practicing skills that support creativity at a higher level. Furthermore, deep knowledge means that naivety does not affect the creative process as much because the students can quickly distinguish the ideas that are obviously not appropriate or functional.

Assessment

There is always someone who assesses whether something is creative. In the classroom, it is the student, fellow students or the teacher who consciously and unconsciously make observations and assessments. The subject of the assessment can be the creative product or the idea at the individual or the sociocultural level. The individual level is emphasised the most in compulsory education, as opposed to sociocultural contributions to a domain. The respondents nevertheless found challenges in assessing students' creativity. As an example of assessment, the respondents mentioned that the student who does something different from the others is creative. This way of assessing creativity, that is, that the pupil is assessed in relation to other students rather than themselves or a domain can be called micro-sociocultural assessment. Micro-sociocultural assessment has parallels with sociocultural creativity at the Pro-c and Big-C levels in which experts within a domain assess whether contributions to the domain are new and appropriate (Csikszentmihalyi, 1999; Kaufman & Beghetto, 2009). In micro-sociocultural assessment, A&C production in the relevant class can be seen as a micro-domain. The micro-domain is controlled and defined through the teacher's teaching practice, the school's regulations, curricula and a larger pedagogical context. It is also connected to various domains on a macro level, which within A&C can be, for example, different art productions or architecture. The teacher, as the expert in the classroom and the "gatekeeper of the micro-domain" in a sense, assesses the extent to which the contribution is creative or not. The implications of a micro-sociocultural assessment can help challenge students to focus on the context of creativity to a greater extent and argue why their idea is different and deserves acceptance as something creative. According to Hennessey (2017), assessing students against each other is challenging and potentially hinders creativity. However, a micro-sociocultural assessment should not encourage competition between students, but rather focus on development between the social and the individual. Presenting their own ideas and discussing each other's ideas will contribute to learning for the student when the student is able to make several connections at the mini-c level, which can subsequently develop into little-c creative expressions (Beghetto & Kaufman, 2007; Vygotsky, 1967/2004). If explained to students, this can also be an example of how sociocultural creative production works at Pro-c and Big-C levels.

Assessing students against each other is also at the core of Amabile's (1996) consensual assessment technique. Together with other forms of assessment, such an assessment can be useful for stimulating both individual creativity and personal characteristics that support creativity. Encouraging students not to imitate fellow students or the teacher will help students become used to finding solutions that others do not have and constantly making new connections. Focusing on originality can help them overcome obstacles and learn to tolerate uncertainty and remain in the creative process until a new solution emerges.

SUMMARY AND CONCLUSION

Increased focus on creativity in education means that it is of interest to investigate how creativity can be supported. This study has therefore focused on identifying what teachers in A&C consider supports or hinders creativity, as well as how they understand the concept. The respondents in this study mentioned several external and internal factors that hinder the development of students' creativity. The teacher’s own lack of subject knowledge and creativity were mentioned as important internal factors that may hinder the development of student creativity. It was noted that A&C is a complex school subject consisting of various topics and material areas such as textiles, wood, architecture, design and art. According to the respondents, the A&C subject is governed by textbooks to a lesser extent than other subjects, and the emphasis on creativity requires more open-ended tasks with indifferent results. According to the respondents, all but one of whom also teach other subjects, this places greater demands on subject knowledge and the teacher’s creativity. Furthermore, subject knowledge affects the teacher's understanding of the curriculum. External factors that were mentioned that hinder creativity were lack of time, access to materials, equipment and school leaders' attitudes. However, all the respondents found the curriculum flexible and supportive.

The results show that the respondents had some knowledge of creativity and connected it to their own teaching, although many had problems defining the concept. There is still room for increased awareness of the complexity of the concept of creativity, and how it can affect teaching. Previous studies have shown that teachers' understanding of creativity can be a hindrance for students' creativity (Bereczki & Kárpáti, 2018; Davies et al., 2013). The respondents emphasised their own professional knowledge and experience as important elements in being effective and creative teachers. However, their use of terms differed when they talked about student creativity. Then they focused more on play, imagination, spontaneity and being uninhibited. Only one respondent said that student creativity is often based on naivety and a lack of knowledge and experience. The respondents also found it challenging to assess creativity, but both mid-term and final assessments are important to support creativity in teaching.

The results of this study show that it is necessary to support both external and internal factors to fulfil the curriculum's emphasis on developing students' creativity. In KL20, considerable emphasis is placed on creativity and deep learning (Kunnskapsdepartementet, 2017; Directorate of Education, 2019b). However, it provides little guidance on how to understand and implement creativity and deep learning. These are complex and related concepts that connect cognitive and physical learning in a socio-material context, among other things (Dahl & Østern, 2019; Glaveanu et al., 2019). Therefore, there is a need to create an arena in which teachers can acquire knowledge and discuss how this knowledge can be understood and implemented in teaching. This study was limited to eight respondents in a single county in Norway. While it indicates how teachers in A&C understand creativity and what supports or hinders their focus on creativity in the classroom, there is a need for more research with a larger sample to obtain a better picture of how teachers' understanding of creativity affects teaching. Furthermore, there is also a need for research into how external factors, such as time and access to materials, affect the development of student creativity in A&C. This would provide a better basis for recommendations regarding further education for teachers and the development of curricula and public regulations.

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