The teacher's role in the relationship between creativity and outdoor education: a review of the literature[1]

El papel del profesor en la relación entre la creatividad y la educación all'aire libre: una revisión de la literatura

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ABSTRACT

This article reports on a review of the literature over the past 10 years on creativity, outdoor education and teachers, with particular attention paid to teachers' role and attitude. Creativity is a socially desirable quality which does not always find 'room' in the classroom; meanwhile, outdoor education has benefits for development and learning, including creativity. The analysis of 53 studies in three areas (creativity and teachers, outdoor education and teachers, creativity and outdoor education) highlights some key characteristics of teachers develop as they engage both in outdoor education and in fostering creativity: being able to develop active and co-constructive educational orientations; recognizing and upholding emerging questions; constructing perceptions and personal beliefs with organizational and practical implications. This review helps us hypothesize that there is a positive relationship between the context of outdoor education and the evolution of teacher's attitude towards creative teaching, allowing styles and ways of teaching marked by greater contextuality and responsiveness to students.

Keywords: Outdoor Education, Creativity, OutdoorTeacher, Creative Teacher, Literature Review

RESUMEN

El artículo presenta una revisión de la literatura de los últimos 10 años sobre creatividad, educación al aire libre y profesores, con especial atención en el papel y la actitud de los profesores. La creatividad es una cualidad socialmente deseable que no siempre encuentra "espacio" en el aula; mientras tanto, la educación al aire libre tiene beneficios para el desarrollo y el aprendizaje, incluida la creatividad. El análisis de 53 estudios en tres áreas (creatividad y maestros, educación al aire libre y maestros, creatividad y educación al aire libre) destaca algunas características clave que los maestros desarrollan a medida que se involucran tanto en la educación al aire libre como en el fomento de la creatividad: ser capaces de desarrollar actividades activas y co- orientaciones educativas constructivas; reconocer y defender cuestiones emergentes; construir percepciones y creencias personales con implicaciones organizativas y prácticas. Esta revisión nos ayuda a plantear la hipótesis de que existe una relación positiva entre el contexto de la educación al aire libre y la evolución de la actitud del docente hacia la enseñanza creativa, permitiendo estilos y formas de enseñanza marcadas por una mayor contextualidad y capacidad de respuesta a los estudiantes.

Keywords: Educación al Aire Libre, Creatividad, Profesores al Aire Libre, Profesores Creativos, Revisión de Literatura

INTRODUCTION

In recent decades we have witnessed a strong need for change in educational institutions, to better respond to what lays (literally) outside their doors. This feeling has been translated into an interest for pedagogical theories and educational practices that look at the history of outdoor education to take steps towards a future which goes beyond the walls of the classroom (Antonietti et al., 2018; Bertolino et al., 2017; Farné, 2015) and "outside the traditional boundaries of teaching" (Chistolini, 2016, p. 128). It is not a question of reproducing distant expedients, but going back to the foundations of a pedagogy which has to be rebuilt in order to make sense for the children of today, a process that starting from renewing teaching facilities and styles (Antonacci, Guerra, 2018). This shift also means observing society and understanding its interests and demand: the qualities that are desirable for the citizen of today and tomorrow are transversal to different fields of knowledge and involve skills associated with problem-solving, critical and flexible thinking, being able to cooperate and to be creative and innovative, skills that are all essential for the world of work and, equally, for private life.

In particular, creativity is a desirable quality in various spheres, from the economy to managing household chores, as it is conceived as a potential held by each and every individual (e.g. Beghetto & Corazza, 2019; Bereczki & Kárpáti, 2018). Moving in support of building up a creative skill can satisfy the social, economic and political market, "but fostering children's creativity could also lead to challenges to the status quo and could lead to alternative modes of existence" (Craft, 2003, p.123). Alternative ways of looking at the world, at one's own and others' experience, lead to identifying in creativity a fundamental process towards which attention, above all pedagogical, should be directed. Creativity is a complex construct, which has multiple definitions but, for the purpose of this study, we define it in terms of a phenomenon situated in a social context, understood in cultural, material, symbolic and social terms, which emerges from actions and interactions in and on the world (Csikszentmihalyi & Wolfe, 2014; Glăveanu, 2015). The creative process has cognitive (e.g., divergent thinking, convergent thinking, flexibility), emotive and motivational dimensions, as well as a behavioural basis related to personality traits, all of which shape and are shaped by particular environments (Barbot, Besançon, & Lubart, 2011; Guerra & Villa, 2019). This process may take place at different trajectories of development ranging from mini-c (personal level), through little-c (common and daily level) and pro-c (professional level), as well as the Big-C creativity of the eminent creators (Beghetto & Kaufman, 2007; Kaufman & Beghetto, 2009), always linked to the two standard characteristics of creative products – originality and appropriateness (Runco & Jaeger, 2012; Simonton, 2012). Activating such processes means therefore training ourselves to recognize creativity in every aspect of human life and to be ready to approach everyday life in a creative manner. Furthermore, its dynamic dimension (Corazza, 2016), and from an epistemological standpoint, creativity becomes "a process of being in the world and relating to it, an evolving quality of our relationships with others, with objects, institutions and everything that makes up our cultural environment" (Beghetto & Corazza, 2019, p. 190; Literat & Glăveanu, 2016).

The elements outlined so far – the aspects involved, the levels of analysis, the epistemological standpoint – highlight important connections creativity and the world of school, a significant context that takes in every child and therefore makes important possibilities (and constraints) available for each one. It is a privileged context of study and intervention, an ideal terrain where a pedagogy that has creativity at its core can be cultivated. Educational contexts on a global scale have included creativity for some time now in their curricula as an essential aspect (e.g. Craft, 2001; Shaheen, 2010), tracing how it relates to teaching and learning (Kaufman & Beghetto, 2009; Plucker, Beghetto, & Dow, 2004; Vygotsky, 2004). The European Council Recommendations of 22nd May 2018 on key competences for lifelong learning (2018/C 189/01) acknowledges how "in the knowledge economy […] skills such as problem-solving, critical thinking, ability to cooperate, creativity, computational thinking, self-regulation are more essential than ever before in our quickly changing society" (p. 2), all of them understood as fundamental competences transversal to knowledge. This direction imposes a critical review of how schooling, as it is traditionally understood, is done, making it necessary to identify forms of education that are adapted to children's as well as society's actual needs and requirements.

The experience of outdoor education seems to represent a context of interest in this regard. The scientific literature emphasizes how experiences outdoors involve complex interactions between places, bodies, mind, culture and society, and are capable of creating

132

a positive relationship between learning and development in education (Waite, 2011a; Waller et al., 2017). Outdoor education – like creativity – has numerous definitions which range from the daily experiences of education in nature to occasional outings or sessions focused on the topic of environmental education and sustainability (Farné, Bortolotti, & Terrusi, 2018; Stevenson, 2007). Here we mean education in nature as a way of schooling which considers the "outside" – in particular in the natural environment – "with an overall approach to learning" (Farnè, 2014, p. 60), as a privileged setting of education and experience (Antonietti, Bertolino, Guerra, & Schenetti, 2018). The constant relationship with nature accentuates the concept of experience, understood in Deweyian terms, as an active process of development where thinking is part of doing and both lead to structured learning included in a cycle of action and reflection, of thought integrated with action (Dewey, 2014 [1938]; Quay & Seaman, 2013). Looking in this direction means finding in the outdoors characteristics that are inseparable from education but also interpreting education more generally as based on the essential value of experience, which in nature can more easily be authentic and inexhaustible because it is closer to the concreteness of our existence as human beings.

The extensive literature on the subject highlights how the natural environment has positive consequences on the bio-physical-mental development of the individual. Increased personal well-being generates an improvement in the quality of life thanks to the expansion in attention span, it enhances memory, reduces stress, improves mood and opens the mind to greater creativity (Louv, 2012; Randall & Johnson, 2012; Waller et al., 2017). Being outdoors also allows regaining the sense of belonging (Wilson, 1993) which can support the reconstruction of an ecological identity which has been severely put to the test by our frenzy life, so detached from nature (Thomashow in Bertolino, Guerra, Schenetti, & Antonietti, 2017). In this context, an ecological identity designates a process of gradual identification with the wider ecosystem, a feeling of belonging to life on Earth, connected to its rhythms and respectual of nature (*ibid.*).

There are also numerous opportunities for interdisciplinary learning and emotional development (Antonietti, Bertolino, Guerra, & Schenetti, 2018), and the very complexity of the environment brings forth a way of thinking and action which proceed, through play and the imagination (Antonacci, 2012), in a creative manner because they are transformative, symbolic and imaginative in the use of natural materials and their possibilities (Guerra, 2017; Tovey, 2007). The outdoors is therefore a place of great opportunity which allows rethinking the processes of teaching and learning in ways that can renew the world of school. It means returning to theoretical assumptions that privilege the attitudes of curiosity, research, exploration and discovery, proceeding through questions and working to follow the interests of those who are being educated.

Schooling out in the open undoubtedly also has repercussions for the teacher, modifying his or her style, attitude and how they think and act as professionals of education. Here the interest is in particular on that creativity which involves personal characteristics, pedagogical knowledge and the educational role of the teacher who is now in nature (e.g. Bereczki & Kárpáti, 2018; Jeffrey & Craft, 2004).

This review of literature aims to investigate and describe the studies that examined the subjects of creativity, outdoor education and the way teachers relate the two. The lack of literature that addresses all three topics at the same time has led us to seeking the connections made between at least two of the topics of interest: teachers and outdoor education, teachers and creativity, and creativity and outdoor education.

In particular, we are guided by the following questions: if the contexts of outdoor education seem to foster the support of creativity in children's learning, what is the role of the teacher in this new dynamic? How do these special educational contexts shape their skills and attitudes, in particular those qualities that accept and encourage children's creative processes.

Method

The research approach was represented by a systematic review carried out in the following stages:

a. Monothematic review on the topic of "creativity". In particular, two international handbooks which contain the latest studies on the topic (Beghetto & Corazza, 2019; Kaufman, 2016) and the latest articles published on researchgate.net by well-cited authors in the field who deal with creativity and education were taken into consideration.

b. Monothematic review on the topic of "outdoor education". In particular, Italian texts (e.g. Antonietti & Bertolino, 2018; Bertolino, Guerra, Schenetti, & Antonietti, 2017; Guerra, 2015; Schenetti, Salvaterra, & Rossini, 2015) and international ones (e.g. Tovey, 2007; Waite, 2017) have been taken into consideration, with a review of the scientific literature through

133

the database made available by the Children & Nature Network (childrenandnature.org/research-library/).

c. Scoping review: development of explicit criteria for the inclusion and exclusion of studies in the literature search, explained as follows.

A first research was made using two keywords (*creativity AND outdoor*) in four databases – Children & Nature network, ERIC, EBSCO, ProQuest Social Science – with the aim of verifying the existence of any first connections. The research was refined by eliminating all the studies in the psychological area not relating to the K-12 area, producing a total of 36 results.

The second (final) attempt involved the same databases (with the exception of ProQuest, for which the Education Collection was selected, deemed more directly relevant for the topics under investigation) but refining the search criteria, according to the different functionalities of the various search engines in the databases, and keeping the keywords of reference.

The search terms selected were: *creativity, school, teacher(s), outdoor education, open-air school, primary school* (context identified as of interest due to the smaller number of studies on the main topics, considering that many of the findings that would emerge may also be valid for antecedent and subsequent educational stages) with the aim of finding targeted contents suitable for the three levels of enquiry:

- Teachers and outdoor education
- Teachers and creativity
- Creativity and outdoor education.

For each level, the following filters were selected with the aim of further circumscribing the sample of suitable studies:

- Publication date: from 2009 to 2019
- Context of reference: primary/elementary school
- Subjects: teachers, children, creativity

The search results proposed studies referred to the K-12 group which, although focused more on the repercussions for the children and not explicitly referring to the figure of the teacher, were also

Database	Keywords used	Results	Total
Children & Nature network	creativity school teacher	30 results - 9 eliminated (not relevant) - 3 not retrievable	18
EBSCO	outdoor education (or) open-air school teacher creativity	2 results	2
ERIC	outdoor education teacher creativity	20 results - 4 eliminated (not relevant) - 3 not retrievable	20
ProQuest Education Collection	outdoor education open-air school primary school teacher creativity	23 results - 15 eliminated (not relevant, language not accessible, result already found in another database) - 4 not retrievable	

Source: Own elaboration

Table 1. Results Divided By Database

considered. This search produced 37 results (see Table 1).

Various types of literature were found:

- journal articles
- "grey" literature (reports on studies, publications of small studies carried out in s c h o o l s , specific national reports)
- Dissertations and theses.

d. Reading and mapping the results using a scoping table which recorded key information organized by: year of publication; title/authors/journal or publisher; aim/s; methods (study design, setting, data gathering instruments, participants); impact on outdoor, creativity, teaching and/or indoor & outdoor; discussion; suggested further research; hints & links. This represented a further screening by relevance (13 results eliminated, 24 residual results) and the addition of "extra" materials – organized in a different table – deriving from the analysis of the bibliography of the studies reviewed or recommended reading (n = 30). Two of these studies were published before the period selected but were nevertheless considered as they were particularly significant (Cosentino, 2002; Tovey, 2007) and seven were monothematic in-depth studies on education in nature or creativity. The resulting articles totalled 54.

e. Synthesis of the results in a narrative form, in the attempt to put into relation what emerged from the review in the three combinations shown, the starting point to find first possible connections and elaborate reflections in response to the research question.

Results

From a review of 54 pieces of selected educational research and professional literature, none outlines a clear connection between the figure of the teacher in contexts of outdoor school and their creativity. The three macro-topics (creativity, outdoor education, teachers) suggest a discussion of the studies divided into dual points of focus: teachers and outdoor education (n = 21), teachers and creativity (n = 14), creativity and outdoor education (n = 8); one source was relative only to the theme of creativity and 10 to focused more on education in nature.

The majority of studies were published as journal articles (n = 31), one was a dissertation, one was a professional report and one a blog post, and some were books or book chapters (n = 16). The retrieved studies were undertaken around the world, even though the location not always explicitly indicated: in Europe (n = 5), Australia (n = 3), America (n = 7), Emirates (n = 2), United Kingdom (n = 5); all the others were books or reviews, thus the contexts was not declared.

The services where the studies took place are mainly for early childhood (K-6) and, to a lesser extent, for elementary/primary school.

Various methodological approaches were adopted by the studies. Of the studies in which the methodology was stated, most were of the qualitative type (n = 24), a few applied mixed methods (n = 4) and one multi-method ones, one applied a quantitative methodology and another one had a quasi-experimental design. In addition, six studies were reviews. Qualitative studies employed phenomenological theory (n = 4), grounded theory (n = 1) case-study designs (n = 5), explorative designs (n = 3), action-research (n = 1), formative research (n = 1), comparative designs (n = 1), socio-constructivist approaches (n = 5), participative methods (n=1), reported a pilot study (n=1) or were inquiry-based (n=1).

Teachers and outdoor education

Outdoor education offers complex learning environments where the children are perceived by teachers as more competent when compared to what happens in traditional environments (Agostini, Minelli, & Mandolesi, 2018). The role of the teacher outside is therefore crucial on condition that they are placed in a pedagogical paradigm capable of making different knowledge and languages dialogue and on condition that they have the competences to act professionally in this context as well (Antonietti et al., 2018).

The most recent review of literature (Kuo, Barnes, & Jordan, 2019) questions the state of the art of research conducted on the role of nature in learning experiences in formal and informal settings, by asking if "nature experiences promote learning and child development" (p. 2) as cause-and-effect relationships between nature and learning and development or evidence of associations. The authors find that hands-on, student-centred, activity-based and discussion-based didactic strategies are proven by empirical research as the most efficient in natural educational settings. This results in a positive return for the teacher who, through active didactics, renews their own intrinsic motivation letting themselves be involved as a "partner in learning" together with the children (Scott & Colquhoun, 2013 in Kuo et al., 2013, p. 5).

135

One of the main characteristics of the profile of the outdoor education professional is effectively that they rethink their position, role and competences to be closer to the experience of the children, their curiosity and desire to investigate (Antonietti et al., 2018). The adult in nature is aware of the need for different planning from the one traditionally performed, is more aware of the relations between school and environment, between present and future, and is capable of educating in the environment, to reflect on the environment and for the environment (Bertolino et al., 2017; Quay & Seaman, 2013). This is an approach characterized by great interdisciplinarity, in which the curriculum takes into account both the learning objectives and the children's interests which have come into being autonomously from their exploration and searching. Building up a holistic curriculum, which sets the objectives of learning alongside the possibilities of exploration and creativity of the pupils, is discussed in an inquiry-based study with teachers in different pre-schools in the greenest city of the USA, in the state of Vermont (Silverman & Corneau, 2017). Some teachers interviewed there maintain that their role is to "connect the dots", to help students understand their role as stewards of the land and active members of their community (p. 268); "The teachers' role, constantly, is to present the world to them, not to influence them" (p. 269), a reason why outdoor education appears to be an excellent way to pursue these objectives.

The teacher's attitude needs "support to move away from fine-tuned, well-established routines, particularly when a change in the teachers' role is involved" (MacQuarrie, 2018, p. 347), especially when it is a question of "accommodating outdoor learning alongside meeting curriculum demands and other educational pressure" (p. 346). Outside, the teachers succeed in supporting the different connections between disciplines, highlighting how "making connections" is a crucial aspect of teaching in nature, as are flexibility in the natural environment and being responsive to children's interests while addressing the curriculum (MacQuarrie, 2018).

Starting from the interests and the questions of the children is a strategy which, as a study by Baker in the United Arab Emirates – inspired by the Italian experiences of Reggio Children – shows, becomes inquiry-based teaching (or problem-based teaching), i.e., a pedagogical approach "that invites students to explore content knowledge by posing, investigating, and answering questions" (Baker, 2017, p. 77) and putting them at the centre of the curriculum to generate rich experiences. This is an approach which is situated in a "participatory and phenomenological framework focusing on the careful description of ordinary conscious experience[s] of everyday life" (Green, 2017, p. 8), where meanings are socially constructed, involving the children themselves as researchers by means of strategies like the construction of an artefact (a physical object or a performance) individually or collectively (Green, 2017).

One interesting US study interprets the experiences of three elementary school teachers who chose to systematically use the garden of their school in their pedagogy (Jorgenson, 2013). The across-case analysis, from the different results, allowed identifying how the use of an outdoor environment enabled the teachers to position themselves in opposition to a more "traditional education represented by textbooks, lectures, papers, pencils, and desks. […] [It] represents for teachers an alternative to the trappings of modernist educational practice" (Jorgenson, 2013, p. 130) in the desire for a "slow pedagogy".

Common to many studies is the observation and the recognition of play as an alternative proposal of learning (Agostini et al., 2018; Baker, 2017; Copeland, Kendeigh, Saelens, Kalkwarf, & Sherman, 2011; Hyvonen, 2013; Kuo et al., 2019; Nedovic & Morrissey, 2013). Of the 14 pre-school and primary school teachers in a study in the north of Finland, half of them "consider and use play in their daily practices" (Hyvonen, 2013, p. 65). Through in-depth interviews, the author cited above identified three roles that the teacher can assume outdoors with respect to the children's play: *leader* (guiding the activities that the children carry out; the teacher is active in both planning and execution; reflecting the educational game, cheering and physical play), *allower* (which indicates chiefly social views; the teacher supervises and observes the active and inventive play of the children; reflects the pretend, authentic, traditional, and free play), and *afforder* (the teacher is a facilitator, tutor, motivator, observer, activator, challenger, and so on; involved in the process of play). In this last case alone, the teacher's attitude becomes playful, taking on a complementary level in the children's play.

A couple of studies, on the other hand, concentrate on the resistances of the teachers to the use of outdoor spaces due to fear of losing control over the situation or their status as an expert (Scott, Boyd, & Colquhoun, 2018). This is due to personal beliefs and preferences because, for example, they do not like

136

chaos, the cold, or because going outside requires having to spend time getting the children ready (Copeland et al., 2011). In particular, the study by Scott and colleagues carried out in the United Kingdom investigated the motivations which curbed eight primary school teachers from taking part in experiences of shared outdoor learning. The fear that the children would behave badly, the loss of control over the space and the absence of definite knowledge were completely reassessed by the teachers following some suggestions of outdoor activities. "A new and effective shared learning dynamic was established. The teachers were learning alongside the children" (Scott et al., p. 50), from a viewpoint that supports the social nature of learning, concluding that, to encourage teachers to teach outdoors, it is necessary to "provide them with an opportunity to learn outdoors themselves" (p. 52).

The study by Waite, among the results outlined, also shows the hostility by teachers in England for outdoor education, explained in terms of resistance to change due to lack of time, money and a lack of prioritisation for learning outdoors (the latter due to the attention to meet the standards agenda). Her phenomenological and exploratory research shows the importance of the figure of the teacher who believes in the value of outdoor education. The emphasis is placed on the need for transformative pedagogy, based on the flexibility of the adult and on the capacity of balancing free and structured activities (Waite, 2011b), therefore for a pedagogy which can put the curriculum, the cultural standards, and the expectations of the local contexts into relation with one another. Child, place and others are in this way involved in a micro-culture of that particular place of learning in a co-constructed way, where the teacher is the facilitator (Waite, 2017).

Lastly, other studies focus on observations, interviews or documents produced by the teachers who see profitable learning environments in natural contexts, environments that can encourage cognitive, physical, social and relational competences, as well as the skills of self-expression and involvement. In these contexts, taking on a more withdrawn position by the adult allows seeing more clearly skills, knowledge and competences in the natural processes of the children (Aaron, 2009; Backer, Lauterbach, Spengler, Dettweiler, & Mess, 2017; Dennis, Wells, & Bishop, 2014; Murakami, Su-Russell, & Manfra, 2018; Nedovic & Morrissey, 2013; Randall & Johnson, 2012).

The characteristics of the teacher that have emerged here so far can also be found in some Italian stu-dies which have looked at the role of the adult outdoors in greater depth. We are referring in particular to the studies by Schenetti (Schenetti et al., 2015), in which there is an interesting reference to an involved and sensitive adult who acts as a "base" so that the children can proceed autonomously, but also to those studies which attribute this attitude to an exploratory approach (Antonietti in Antonietti et al., 2018) and highlight the need to study the impact on specific forms of training in further depth (e.g. Bertolino et al., 2017; Schenetti & Guerra, 2018).

TEACHERS AND CREATIVITY

In the literature on the subject, it is clear that creativity is a phenomenon, a process and an action common to each individual, as it consists of a repertoire of resources potentially present in each and every person (e.g. Runco, 2004). It is precisely the "potential state" of creativity that leads those who deal with education to reflect on the ways and forms of materializing it, implying the role of education in passing from potential to actuality (Gariboldi & Cardarello, 2012). Creativity is also considered a fundamental skill of the 21st century and, for this reason, it is included in many school curricula across the world (e.g. Baker, 2013; Beghetto & Karwowski, 2018; Bereczki & Kárpáti, 2018; Davies, Newton & Newton, 2018; Morais & Azevedo, 2011).

Csikszentmihalyi and Wolfe reinterpreted the systemic model of creativity previously devised – and including a relationship of interdependence between the social (field) and cultural field (domain) of the individual with the subject him or herself – to adapt it to the school setting. The cultural environment becomes a body of knowledge, the social one is made up of the teachers and the subject is the student in formation (Csikszentmihalyi & Wolfe, 2014 in Csikszentmihalyi, 2014). In this relationship, it becomes clear how the attitude of the teacher is an essential variable for supporting creativity at school as those teachers who allow deviations from the curriculum, encourage asking questions and exploring alternative paths to solve problems, are more inclined to see and support the creativity of their pupils (p. 180). This further shows the importance of the teacher's beliefs and the ideas about creativity.

Most of the literature reviewed dwells – although at times only in part – on the influence that the teachers' belief on creativity have with respect to giving it its rightful place in educational work (Baker, 2013; Bereczki & Karpati, 2018; Davies, et al., 2013; Davies,

137

et al., 2018; Gariboldi & Cardarello, 2012; Hong, et al., 2009; Morais & Azevedo, 2011). A US study carried out with elementary school teachers confirms how teachers' epistemological beliefs, motivation and goal orientation can influence fostering creativity in the classroom (Hong, Hartzell, & Greene, 2009). The recent systematic review of literature on the beliefs about creativity and its nurture by Bereczki and Kàrpàti collects, evaluates and summarizes 53 empirical studies carried out with primary school teachers between 2010 and 2015 (Bereczki & Kárpáti, 2018). The authors, considering creativity on the model of the Four Cs (Kaufman & Beghetto, 2009) and the Four Ps (Rhodes, 1961), outline the main attributes of the creative teacher in terms of personal characteristics, pedagogical and subject-specific knowledge and skills, with several contextual and cross-cultural variations (Bereczki & Kárpáti, 2018, p. 47), placing beliefs in their specific contexts, their personality and teaching.

Another equally influential aspect shaping the creativity of teachers is the perception of the self as creative. In 2011, Bramwell and colleagues conducted a review of literature with the aim of identifying "creative teachers' characteristics, the creative process they engage in and the outcomes of their creativity" (p. 228), reaching similar conclusions. Focusing attention on daily ("little c" creativity, Craft, 2011) and local creativity, i.e., in the real context where the teacher operates, the authors indicated that the creative processes of teachers come into being from the interaction between their personal characteristics (personality, motivations and personal values), the various communities they belong to (environment, domain, zeitgeist, milieu and culture) and those that the teacher constructs (sharing ideas and forms of mentoring with colleagues). Creativity lies in the ability to combine personal characteristics with the needs of the contexts in which they live and work (Bramwell, Reilly, Lilly, Kronish, & Chennabathni, 2011, p. 235); therefore, here, the beliefs remain implicit.

Some studies, still taking the aspect of beliefs and personal characteristics into consideration, attempt to outline the characteristics of the creative teacher.

Morais and Azevedo, reviewing the literature on the subject, try to answer the question, "What is a creative teacher?" highlighting how the difficulty of being creative for teachers lies in a series of fears such as assuming the risk of venturing into unforeseeable and challenging situations, lacking self-confident, missing the ability to self-regulate, not being capable of redefining problems proceeding by trial and error and not stimulating the asking of questions (Morais & Azevedo, 2010, p. 331).

An actual list of practices and attitudes that foster creativity was drawn up by Sawyer, who reviewed the main studies on the topic (Sawyer, 2012, p. 399). He listed 17 recommendations which he said "equate with good teaching" as they can be associated with what in education would be called "good practices" but also specifying that "true creativity requires specific classroom designs and teacher behaviours; the teacher's role is a facilitator and a fellow collaborator, joining the students in a process of knowledge building" (p. 400).

These considerations imply various aspects, such as considering creativity as a fundamental element of the school curriculum, but above all recognize it as a method of learning. It is an "overlap in theoretical conceptualizations of creativity and learning" (Beghetto & Karwowski, 2018, p. 147) given that both these phenomena imply a change, a process and a product (concrete or symbolic) which, on the one hand, becomes creative learning and, on the other, creative teaching.

A number of studies were focused precisely on the latter aspect – in some cases it was one of the aspects of interest – and have gone further into the idea that "creative learners need creative teachers" (Baker, 2013, p. 74; Bereczki & Kárpáti, 2018; Davies, Jindal-Snape, Digby, Howe, Collier & Hay, 2013; Davies, Newton, & Newton, 2018; Morais & Azevedo, 2011). Creative teaching can be identified as a cyclical and constant relationship between two dimensions: *teaching creativity and teaching for creativity*, i.e., the idea that encouraging the creativity of others requires being first of all in a creative attitude (Jeffrey & Craft, 2004 not included in this review). It is therefore a question of "identifying and encouraging students' creativity and providing opportunities to be creative (teaching for creativity)", while, at the same time, "using imaginative approaches to make learning more interesting (teaching creatively)" (Bereczki & Kárpáti, 2018, p. 26). This is not to be considered a simple task.

First of all, its value has to be understood, but the difficulties lie both in its practical implementation as well as in being able to recognize, as a teacher, the difference between the two dimensions which are not interchangeable (Davies, Newton, & Newton, 2018). The figure of the teacher is therefore essential to activate and foster these processes, "a pedagogy which fosters creativity depends on practitioners being creative to

138

provide the ethos for enabling children's creativity" (Craft, 2005 in Davies et al., 2013, p. 35). Despite this, a brief review of literature (2005-2011) underscores that few studies provide solid bases regarding the role that the teacher can play and the relative support in encouraging creativity. The results show suggestions on how to develop creative learning environments, e.g., building up positive relationships, long-term curriculum planning, striking a balance between freedom and structure and mention that, to do so, "teachers need to have a positive attitude towards creativity and feel confident about their own skills base" (Davies et al., 2013, p. 39), again confirming the inseparable relationship between creative teaching and teaching for creativity.

Looking for suitable practices led Randolph and colleagues (2016) to analyse in a quasi-experimental study the relationship between learning (in terms of results) and creative and playful learning in technology-enriched playgrounds in two primary schools. The positive results found across the whole curriculum allowed the authors to formalize this practice with the objective of encouraging creativity, innovation, physical well-being and the development of media skills in children (Randolph, Kangas, Ruokamo, & Hyvönen, 2016, p. 418), again with the idea that these skills are recognized through the eyes of the teacher.

In the Italian context, this seems to be contained in the proposal of a "didactics of creativity" defined by the educational environment, the physical space, the possibilities embedded in it, the construction of tasks, where it is always the role of the teacher and the social representations of creativity that influence the gaze, the didactics and education in general (Gariboldi & Cardarello, 2012). The didactics that emerge can be defined as a choice of practices based on a basic epistemology; therefore, learning is "all a problem" which allows reaching knowledge through different paths and languages (Cosentino, 2002).

An urgency to train teachers (future or in service) on the subject of creativity can be perceived, which should be developed both at the level of practices to support pupils, but above all to rediscover their own creativity, as found in several studies (Annarumma & Frangito, 2010; Baker, 2013; Davies, et al., 2018; Davies, et al., 2013; Sawyer, 2012). For example, in the United Arab Emirates, a case-study was conducted with student teachers to explore the change of conception about one's own creativity and the possible support to achieve this through a series of workshops. The basic presupposition was that "teachers should

acknowledge that creativity is worth pursuing" (Baker, 2013, p. 74) and that pupils need creative teachers (returning again to the relationship identified by Jeffrey and Craft). The positive impact of the workshops shows how the university students involved were able to recognise and fruitfully develop their creative skills, understanding the value of their future role in "developing creativity by following children's leads and interests" (p.87).

Being creative presupposes passion, enthusiasm, involvement and awareness. This is why it is fundamental to encourage reflection and reasoning through cognitive and meta-cognitive processes which imply introspection, self-awareness and self-regulation by all the adults who deal with education (Annarumma & Frangito, 2010).

CREATIVITY AND OUTDOOR EDUCATION

Few studies have been found which put outdoor education directly into relation with creativity. However, it is possible to highlight common themes that allow discussing them in connection with one another. These themes concern the dimensions of context (Davies et al., 2013), materials (Hyndman & Mahony, 2018; Kiewra & Veselack, 2016) and play (Beer et al., 2018; Canning, 2013; Homfray, 2012; Robson & Rowe, 2012; Tovey, 2007).

The learning contexts, understood not only in physical terms but also social and pedagogical, are an essential variable when talking about education in general. Their central position has driven the Scottish government to commission a review of literature focused on creative learning contexts for infants, primary schools and high schools with the aim of highlighting the importance of creative competences in young people and the characteristics "which should be promoted by creative learning and teaching in the arts and culture, and across the curriculum" (Scottish Parliament in Davies et al., 2013, p. 81). Creativity was investigated as a "creative thought process [...], problem-solving skills [...], creative thinking [...], creative learning [...] and possibility thinking" (p. 80), i.e., in terms of skills with cognitive and practical elements. Amongst the numerous results, the authors devoted special attention to outdoor spaces at school as possible places for developing the creativity of children, very probably thanks to an ownership more distributed amongst the children and the occasions for a natural collaboration within the activity. This is ensured, for the authors, by the approach adopted for the Fo-

139

rest Schools, defined as "creative environments" due to the regular and frequent use of the same setting which allows freedom of action, the use of several senses and intelligences, the availability of more time and space for each child's style of learning, and finally putting the adult and the child into a relationship which is different from the traditional one.

The outdoor setting offers a variety of materials that can be defined as "intelligent", because they are complex and therefore capable of soliciting the intelligences of the children in an extensive way (Guerra, 2017): the material deriving from the plant, animal and mineral world lends itself to multiple views, projects, explorations and experiences which include a plurality of languages. This is very similar to a creative experience, in which the elements present in the outdoor space are characterized both by foreseeability and routine as well as by flexibility, unpredictability and multiple possibilities. A study carried out in a primary school, for example, compared the use of movable materials (i.e., unstructured equipment and materials) and fixed and structured equipment (Hyndman & Mahony, 2018). The materials that can be moved, transported, combined and organized in various ways boosted different aspects involved in the creative process such as manipulation, the complexity of thought, the possibility of taking on several roles, thus encouraging communications and more complex and extensive interactions. Conversely, traditional equipment provisions were more limited in the possibilities of use, allowing fewer interactions because they were structured for specific purposes. The authors agreed that "mobile equipment could be more appropriate for primary school students to develop their creativity and these cognitive and social skills by working together to determine how to use the mobile equipment, although combining both equipment provisions can provide further options for students to be creative" (p. 253). The emphasis is thus placed on the need for attention by the adult with respect to the materials proposed. Making available natural materials which have an aesthetic value and are open to infinite possibilities means supporting a wide range of opportunities for learning, including creativity (Kiewra & Veselack, 2016). Natural materials are excellent stimulators of thought and creative play in children, who can use them to make them become something unexpected or in completely unique and innovative ways.

Real open-ended materials support the creativity of the child in terms of both divergent and convergent thinking, thanks to an adult who can propose and encourage these processes. "It is the variety of materials that provokes the imagination and the creativity of children" (p. 89). Their work with materials leads to identifying play as an essential topic which connects creativity and nature in a more visible manner.

The significant text by Tovey (2007) starts from the presupposition that the outdoor environment is a dynamic context, that is always changing, unforeseeable and unique (pp. 15-16), and it concentrates on the particularly rich ways and possibilities of play which cannot be put into specific categories as they belong fluidly to more than one category – a skill common to creativity. Resuming Nicholson's theory of loose parts (1972), Tovey underlines that these ways of being outside help make connections, develop alternative thoughts, and let the essence of creative thinking be reached. The author claims the importance of freely playing in nature that also contains elements of risk where adults can be of support and not a dominant figure, putting themselves in the position of "teachers and education in nature".

A recent Australian study explored the connection between nature and creativity in a project which makes it obvious through a strategy called "creative nature-based play" (Beer, Cook & Kantor, 2018, p. 15) with the aim of supporting knowledge and building up empathy for nature. Creative play in nature can thus increase the connections with it, enabling positive experiences thanks to the wide variety of actions available, to implementing abilities and to the intrinsic motivational drive (Csikszentmihalyi & Wolfe, 2014). Canning had also observed how playing in nature has supported creative and imaginative thought in preschool children (Canning, 2013). By putting creativity and nature into relation through play, the educators have set the conditions for the creativity which is generated to remain at the centre of the child's interest, motivating them: "following the child's lead and ideas meant that practitioners not only had to be flexible in their practice, but also creative in their own responses to support play and creative thinking in the pursuit of continued learning and development" (p. 1052). Outdoor settings thus seem to be particularly interesting to support the creative thought of the participants who have access to it, both children and adults. This is also confirmed by a study carried out in the UK where, analysing creative thinking in the play of small children in indoor and outdoor settings, the latter is found to be the setting best suited to supporting creativity (Robson & Rowe, 2012).

140

Art can also become a container of play when it comes to stimulating creativity outdoors. A very short article in professional literature highlighted how "land art" can become an interesting way to connect nature and creativity. For the author, the latter is intrinsic in the natural setting which can be used this way, as a resource to create works of art in a climate of enjoyment and play. In this case, art is a form in which children's creativity could become most visible and, when expressed with natural elements, it connects the use of the senses and the awareness of the ephemeral with an environmental sensitivity shared by the group (Homfray, 2012).

DISCUSSION

From the analysis of the results that have emerged so far, possible connections can be observed between the phenomena under investigation, directions that allow us, in the end, to reflect on new directions for research. As the teacher is the figure of interest for us, we have analysed in greater depth the studies focused on creativity and outdoor education where teachers are involved. Placing together the two groups of studies (*teachers and outdoor education; teachers and creativity*) highlights elements concerning the role of the teacher which appear useful to discuss in connection with each other.

A first reflection, to be considered as a preamble to subsequent reasoning, is that in about one-third of the studies on *teachers and outdoor education* and in half of those on *teachers and creativity*, personal perceptions and beliefs – on education in nature and on creativity in general – seem to be important elements which shape the attitude of the teacher. There are two areas, a physical one and another more symbolic, which have not yet been widely considered within traditional teaching, therefore they are still strongly conditioned by individual perceptions. Nature is a setting for education which is not yet to be taken for granted as is it not mastered by everybody, and therefore is particularly sensitive to the subjectivity of the teacher; it is not so obvious that "teachers perceive the natural environment as an educational and developmental setting rather than only a recreational one" (Agostini, Minelli & Mandolesi, 2018, p. 14). The same, although in other terms, can also be said about creativity. The multiplicity of definitions on the subject has definitely increased the knowledge of academics, but "educators' implicit theories about creativity were shown to be often at variance with the explicit theories derived from the scientific investiga-

tion of the construct and what teachers might value, recognize and promote as creative, in reality, might not be" (Bereczki & Kárpáti, 2018, p. 26), leaving room for subjective myths.

There are consequently two themes, that of outdoor education and that of creativity, with respect to which individual perceptions play an important role for directing the attention of teachers and guiding their consequent practice. Departing from these preliminary observations, it is possible to look deeper into a number of characteristics which seem to highlight some key characteristics of teachers develop as they engage both in outdoor education and in fostering creativity.

Half of the studies of both phenomena investigated consider it necessary to adopt an exploratory approach, understood as paying attention to the direct experience of the children and proceeding by researching it, preconditions both for a teacher in open air and for a creative teacher (i.e., for creative teaching). In the case of the teacher in nature, this approach, besides promoting a method of work which is, at one and the same time experiential and reflective, "lets adults be the first to measure up to what outdoor education means, investigating knowledge in its complexity and experiencing situated learning" (Guerra in Antonietti et al., 2018, p. 102). Numerous studies refer to this approach in terms of hands-on learning (Aaron, 2009; Becker et al., 2017; Jorgenson, 2013; Randall & Johnson, 2017; Silverman & Corneau, 2017; Waite, 2011a; 2011b), exploratory approach (Antonietti et al., 2018; Bertolino et al., 2017; Murakami et al., 2018), inquiry-based (Baker, 2017; Jorgenson, 2013; Randall & Johnson, 2017; Silverman & Corneau, 2017), or problem-based teaching (Becker et al., 2017). Creativity is not only individual but sociocultural action (Glăveanu, 2015) and this in the educational field is translated into an active way of teaching, which requires the adult "to move away from the transmission model of teaching [...] to more active, participatory, and creative learning processes" (Randolph et al., 2016, p. 409). The teacher is recognized as having an active and constructive role, planning and implementing paths and processes for the development of creativity (Gariboldi & Cardarello, 2012). Direct experiences gain value, and, in some cases, they are associated with problem-solving situations (Annarumma & Frangito, 2010) retracing a holistic concept of learning (Annarumma & Frangito, 2010; Gariboldi & Cardarello, 2012; Hong et al., 2009; Sawyer, 2012).

From some of the studies it is possible to observe

141

that the exploratory approach comes in two variations: as play in outdoor education (Hyvonen, 2011; Schenetti et al., 2015; Waite, 2011b) and as an opportunity to go beyond the curriculum in creative teaching (Baker, 2013; Bereczki & Kárpáti, 2018; Bramwell, et al., 2011; Davies, et al., 2013; Sawyer, 2012).

Play is one of the preferred forms of learning in nature, essential for small children (Waite, 2011b) but not only, which can be interpreted in the terms of "playful teaching" (Hyvonen, 2011). It is interesting to note here how this way is in itself connected to creativity both because, according to the author, "playful teachers are creative and innovative" (p. 77), and because it also seems to support children's creativity and capabilities.

Departing from standard conventions is one of the most obvious characteristics of creativity. Studies show that the teacher can uphold this in various ways, if and when there are "opportunities for teachers to take risks in a supportive environment" (Davies, et al., 2013, p. 38): going beyond the proposal of the curriculum, which is often stringent (Bereczki & Kárpáti, 2018); breaking out of standard lesson formats for teaching for creativity and moving towards more flexible structures (Davies, et al., 2013); adopting a transformative perspective, which is based on the idea that shared knowledge can be reviewed in light of new experiences (Baker, 2013); putting oneself in a non-conforming position with respect to unjustified external pressures (Bramwell, et al., 2011; Sawyer, 2012).

The attitude of these two figures, the teacher in nature and the creative teacher, also shows some variations in the type of relationship they establish with both phenomena.

A first variation appears through putting oneself on a level of co-construction of knowledge, learning and relations with the pupils. The creative teacher needs "close relationships with students and a motivating class environment" (Morais & Azevedo, 2011, p. 331) and is interested in what the children are doing and collaborates with them, enabling collaborative knowledge creation (Bereczki & Kárpáti, 2018; Randolph, et al., 2016). The adult's active participation is a characteristic of the teacher in nature as well: "the teacher is a partner in learning" (Kuo, et al., 2019; p. 5) alongside the children as they proceed and learn. This implies for adults – as discussed in the results – giving up the position of expert (Scott, et al., 2013) but rather putting themselves in a complementary position (Hyvonen, 2011), "this allowed them instead to be more engaged in teaching, playing, and interacting

with children in positive, supportive and satisfying ways" (Dennis, et al., 2014, p. 48). In this perspective, the adult cannot impose paths and contents, but offers diversified opportunities in response to the children's multiple needs (Antonietti in Bertolino, et al., 2017). In nature, there are very many interests and recognizing them allows creating opportunities for learning that can contain children's interests as well as address the curriculum (MacQuarrie, 2018; Waite, 2011b). The awareness of the children's interests is also one of the characteristics of the teacher in the creative perspective (Annarumma & Frangito, 2010; Davies, et al., 2013) which is achieved in a child-centred approach (Baker, 2013) and in the creation of a class environment that meets the children's needs and interests (Hong, et al., 2009), making the adult a respectful observer of the motivations and ideas of the children (Gariboldi & Cardarello, 2012).

This way a further characteristic linked to the previous ones emerges: the willingness to "let do". In half of the studies that put teachers and creativity into relation with one another and in one-third of the studies on teachers and nature, we notice the figure of a teacher who can "back off sometimes" (Silverman & Corneau, 2017, p. 269; Antonietti, et al., 2018) to leave room of action and thought to the children. It is interesting to notice how in both groups of studies the importance of "backing off" is emphasized in order not to interrupt the flow of exploration and thought (Agostini, et al., 2018; Gariboldi & Cardarello, 2012). The themes of ownership (Bereczki & Kárpáti, 2018; Davies, et al., 2018; Waite, 2011b) and autonomy for the children strongly emerges, often in terms of providing the opportunities to choose the path to take or to be involved in learning (Aaron, 2009; Gariboldi & Cardarello; Hong, et al., 2009; Morais & Azevedo, 2011; Schenetti, et al., 2015; Scott, et al., 2013; Waite, 2011b).

The teacher is also recognized as an example of someone who acts both in the natural setting and in a creative way, becoming a model to follow. The awareness of being a model emulated by children is also transformed, in nature, into the possibility of being "models and coaches, helping others [teachers] address its [outdoor education] challenges and take full advantage of its benefits" (Kuo, et al., 2019, p. 6). A teacher who acts in nature together with the children is seen by them not only as an example of specific action in a given situation, but often "students looked up to their instructors as role models and mentors, some even desired to become scientist or teachers

like their instructors" thanks to the positive way of interaction with them and the environment (Aaron, 2009, p. 133; Silverman & Corneau, 2017).

Being a role model for the students is a characteristic that is given little in-depth attention in the studies considered, but which we nevertheless deem worthy of consideration. If we look again at the relationship previously shown between *teaching creatively* and *teaching for creativity*, there can be no doubt that in *teaching creatively* the teacher appears as a model, an example of a creative personality; "a willingness to act as a role model" (Davies, et al., 2013, p. 35; Sawyer, 2012) is intrinsic in that dimension of creative teaching. "If I'm not creative in my teaching and learning, then how can I see creative involvement in children?" asks a trainee teacher in Baker's study (2013, p. 86), showing that not only can the teacher see the creativity of the children through their own creative expression, but that the children's creativity is connected with the teacher's own.

This direction, which shows qualities of the teacher that are different from those traditionally understood, entails a transformation of daily practices, many of which are already implicitly present in the reflections made so far. A key aim is therefore to highlight those practices common to education in nature and to creativity.

Firstly, a holistic approach to knowledge is preferred whereby learning paths do not follow a strict division into subjects but occurs across all subjects. Nature is a setting which is "already prepared" for an interdisciplinary approach as it is naturally complex, and it is thus possible to remain in this interweaving of knowledge by flexibly designing experiences which can be achieved through thorough observation and documentation by the adult (Antonietti, et al., 2018; Bertolino, et al., 2017; Schenetti, et al., 2015). Constructing a holistic curriculum means adopting a complex approach to learning, which takes into account the interests of all those concerned (Silverman & Corneau, 2017; Nedovic & Morrissey, 2013) and keeps a connection with the indoors (Waite, 2011b). In the field of creativity, this holistic vision is an essential prerequisite which allows making connections and proposing unusual ideas. Adopting a global and interdisciplinary view implies "taking a 'long-term view' of a learner's potential" (Davies, et al., 2013, p. 88) in order to be able to follow different tracks, encouraging the adoption of different perspectives relative to various disciplinary fields (Hong, et al. 2009; Sawyer, 2012) and preferring laboratory

spaces of action and thinking (Annarumma & Frangito, 2010). Educational practices must therefore be open, not linear (Aaron, 2009), aimed at reaching objectives more than outputs (Hong, et al., 2009) and sufficiently challenging to keep the internal motivation of the children alive (Annarumma & Frangito, 2010; Bramwell, et al., 2011; Hong, et al., 2009; Sawyer, 2012). Asking open questions which start off research seems to be a transversal strategy in nature and creative education (Annarumma & Frangito, 2010; Baker, 2013; Baker, 2017; Sawyer, 2012; Silverman & Corneau, 2017) entailing reconsideration of the timescale as well, which becomes slower and more extended and, above all, adequate to the needs and interests of the subjects involved (Baker, 2013; Bertolino, et al., 2017; Jorgenson, 2013; Nedovic & Morrissey, 2013; Sawyer, 2012; Schenetti & Guerra, 2018).

These ways of acting also implicitly find room in an attitude of dual flexibility: on the one hand, the teacher in the open needs to be flexible "to support unique interests of children and maximize engagement" (Murakami et al., 2018, p. 26) and, on the other, this situation itself encourages their flexibility (MacQuarrie, 2018). Flexibility is also important in the ways in which the teacher supports learning outdoors: "achieving a delicate balance of intervention is even more crucial in a freer outside environment requiring staff to show considerable sensitivity to the appropriateness of free and structured activity at different points in children's play and learning" (Waite, 2011b, p. 78). The search for balance outlined here can find a corresponding characteristic in the territory of creativity in terms of tolerating ambiguity (Annarumma & Frangito, 2010; Baker, 2013; Davies, et al., 2013; Morais & Azevedo, 2011). In this case too, it is a question of a dual dynamic: "creative learners need creative teachers who provide both order and adventure" (Baker, 2013, p. 74), "with the right balance between structure and freedom" (Davies, et al., 2013, p. 85).

Another interesting aspect which emerged from cross-referencing the literatures considered is the relationship between the teacher and the dimension of the physical context. Outdoor places do not need a particular structuring by the teacher but require constant and conscious use in order be considered educational spaces. Various studies underline the importance of a constant and continuous use of the outside (Agostini, et al., 2018; Antonietti, et al., 2018; Kuo, et al., 2019) which is expressed in the non-occasional nature of outdoor experience (Antonietti in Bertolino, et al., 2017) and advise "to incorporate outdoor le-

143

arning within everyday practice" (MacQuarrie, 2018, p. 357). When there is the intention to support creativity, the setting needs intervention by the adult to be thought out and adequate (Schenetti, et al., 2015). In the studies that look at the relationship between teachers and creativity, there is particular concern for the setting, which has to be prepared in such a way as to encourage all those conditions and qualities shown so far. On the one hand, there is attention paid to the social context and the relational climate of the class group "that is conducive to encouraging students to develop and test-out and share their unique perspectives and insights" (Beghetto & Karwowski, 2018, p. 149) and the position of the adult in the group as collaborator and facilitator who encourages freedom of expression (Annarumma & Frangito, 2010; Bramwell, et al., 2011; Morais & Azevedo, 2011; Sawyer, 2012); on the other hand, there is also attention paid to preparing the spaces and materials that can be used flexibly and in various ways (Bereczki & Kárpáti, 2018; Gariboldi & Cardarello, 2012).

One last consideration concerns an element that characterizes both the teacher outdoors and the creative teacher, which is probably underlying both of them, although there are few studies which state this clearly. In order to be able to be placed in one of these two dimensions or, even better, to straddle them, it is essential for the teacher to rethink their own role in terms of professional attitude. This change emerges subtly in the teacher who teaches outdoors as a reflection on their role, on "being" in a context which is physically different from the traditional one of the indoor classroom (MacQuarrie, 2018). The physical move from an indoor context to an outdoor one makes it necessary to review both their own practices and their ideas about the most coherent attitude to adopt in the educational relationship (Antonietti, et al., 2018; Schenetti, et al., 2015; Waite, 2011b). Studies focused on the creative teacher, a subject much more discussed in the area of creativity, rarely speak of a "change of role of the teacher" (Annarumma & Frangito, 2010, p. 279), but direct the focus to aspects characterizing a creative teacher regardless of the physical setting of reference. But it is also possible to interpret all those studies that state the need for an education for one's own and others' creativity as a reconsideration of teacher's role (Annarumma & Frangito, 2010; Baker, 2013; Davies, et al., 2018; Davies, et al., 2013; Sawyer, 2012).

Conclusions

The purpose of the present review has been to describe and synthesize the empirical research base on K-12 teachers about outdoor education and creativity and their relationship.

From the point of view of the studies analysed, this review shows first of all the growing research interest over the past few years at international level in both these subjects, demonstrating how important and topical these areas have become. Second, it shows how the most widespread methodology of investigation when it comes to teachers, both in studies on outdoor education and creativity, is represented by the case study – single or comparative (Bramwell et al., 2011), adopting an exploratory approach with the aim of investigating a phenomenon in its real and everyday setting. Finally, the constructs of creativity and nature seem to show similarities in relation to the characteristics of the educators or teachers that enact them. The studies have effectively confirmed that they relate to one another at different levels.

From the point of view of the participants, a subtle dialogue between the creative teacher and the teacher in nature is highlighted. Both the settings investigated respond to recognized emerging needs, as also shown by the educational policy references, and increasingly assumed in practice, as the increasingly frequent choice of enrolling children in experiences deemed coherent with those needs shows: this is what is observed in the multiplication, in recent years, of outdoor projects and in the recognition of "divergent" practices in education.

What emerges, in terms of conceptions, attitudes and privileged practices, is a "contemporary" role of the teacher as topical and responsive, but capable at the same time to recover active and co-constructive educational and didactic directions. The exploratory approach both creativity and outdoor education referred to, could be the key that coherently encapsulates this attitude, which applies with some central and transversal nodes to both settings. We highlight, in the first place, the strain to recognize and accept the questions that emerge, according to a logic interested in finding and developing the connections between experiences and elements, in terms of objects, ideas, situations, concrete contexts and so on. In this sense, it is useful to refer to a recent definition of creativity (Ness & Glăveanu in Beghetto & Corazza, 2019), which describes it as dialogic, "as a process of being in the world and relating to it", an "evolving quality

of our relationships with others, with objects, institution and everything that makes up our cultural environment" (p. 190). The same description could also be associated with educating in nature, connoted by an inclination, of both the child as of the adult, to create connections, being in dialogue between us and the world, and where the attitude of the teacher plays a key role.

Another node concerns the question of trust. It is a central dimension at the basis of a relationship which programmatically undertakes to believe in potentiality and letting others do. This translates into giving autonomy and recognizing in the others active and proactive agents who construct knowledge and the definition of their own experience.

Finally, what has been said and analysed so far strongly indicates the role that perceptions and beliefs play in the possibility of teachers to picture themselves as outdoor teachers, in terms of being outside the traditional setting or the lines of a convergent educational project. In this sense, it can be hypothesized how in both cases there is a need for support, especially at the beginning, to go beyond the individual inclinations and make available for all teachers other ways and places for educating and teaching, in order to build settings for students that are open, both physically and culturally.

All the above allows us to hypothesize a positive relationship between outdoor education and the evolution of the attitude of the teacher when it comes to creativity, enabling styles and ways of teaching marked by great contextuality and responsiveness. This could be promising with regard to training by using outdoor settings as immersive spaces for divergent solutions and also as effective developmental resources for the attitude of the teacher. In turn, this could uphold and encourage creative processes in children. At the same time, experimentation in and with natural settings and the recognition of the consequences not only for children's learning, but also on teachers' competences, could support a more frequent use of them for the benefit of all the educational actors involved.

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145

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147

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148

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