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Multiple Creativities Put to Work for Creative Ecologies in Teacher Professional Learning: A Vision and Practice of Everyday Creativity

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Introduction

It is no surprise why creativities research (which sees all creativity as inherently multiple and diverse) attests to the disruption of dominant framings of learning and teaching over the last twenty years. In light of the radical shifts that the twenty-first century anthropocene are producing in terms of what it means to be human (and more

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than human), the imperative for locating, differentiating and theorizing multiple creativities, generated by expanding domain-specific and domain-general approaches, involves forms of authorship (i.e., who and how creates) which are essential to education (Burnard & Colucci-Gray, 2020), including teacher education. The understanding and operationalization of seeing and doing things differently by deviating from established pathways are, as argued by Harwood et al. (2017), to confront head-on "the hegemony of developmental and neoliberalized conceptions of subject learning" (p. 176). In this chapter, we argue for *a new vision for developing participatory practice possibilities for teacher professional learning* that features the research-based development of *diverse creativities as practice* to catalyze environmental change in the school context.

Diverse and differentiated creativities urge us to rethink and re-vision the way we author new knowledge, new learning, and new ways of teaching in a world of fast-changing educational landscapes. Teachers find teaching for creativity and teaching creatively (Burnard & White, 2008; Chappell, 2018; Cremin & Chappell, 2019; Jeffrey & Craft, 2004)—along with documenting creative pedagogies in the years of formal schooling—a challenge. In addition to this, there is an impact on student creativity demanded by standardization and risk-averse approaches. Yet there are still teachers and researchers who have found a way to ignite, enliven, and foster wonderment in their classrooms by making the conditions for creativity through attention to the

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whole school, or a creative ecologies approach (Harris, 2016, 2017), possible. We argue that *acknowledging diverse creativities across an integrated creative ecology* is effective in projects like the one presented here that involves several stakeholders with diverse backgrounds, expertise, aims, and organizational cultures.

In the following sections, we discuss how such innovative creative approaches to teacher education can provide crucial resources and support for creative teaching. Drawing on sociologist Richard Sennett's study of the work of craftspeople, catalyzing educational change involves the ability to do differently and to see forward, "always being one step ahead of the material" (Sennett, 2008, p. 175), rather than a preconceived finished product. To creatively anticipate is not simply a matter of predicting change in teacher education, but "of opening up a path and improvising a passage" (Ingold, 2013, p. 68). In seeking to craft this creative new educational landscape, we ask:

1. What kinds of new tools are being developed for innovating teacher education and creating new and diverse pedagogical strategies in a multi-stakeholder environment?
2. In what way can this "ecological" dialog across organizational cultures be facilitated?

We address these questions through an illustrative case of an international in-service teacher education program, "Everyday Creativity" (Szabó, Fenyvesi et al., 2019), which was developed in the frame of an international project with seven partners representing primary, secondary, and tertiary education institutions, local businesses and civic organizations. Beyond their different professional backgrounds, the partners came from different countries (Romania, Hungary, the Netherlands, Italy and Finland) which added further layers of complexity in terms of local traditions, working cultures, and social discourses of education. The understanding of such a complex environment for collaborative curriculum development and implementation requires an ecological theory which takes a diversity of creativities into account. After presenting this conceptual framework, we discuss the Everyday Creativity

project from the point of view of course developers and course participants. The case study leads to a discussion of lessons learnt from the process as well as recommendations for further research.

Framing and Operationalizing Creativities Theory-Into-Practice

An Ecological Framework for Diverse Creativities

An increasing emphasis on creativity in the teaching of subjects and for teaching creatively, particularly in sciences, as well as arts, indicates the ongoing importance and need to prioritize meaningful embodied learning with material enactments of learning that creativity, no matter how hard to define, or which creativity we are educating for, can be learned and taught.

Diversifying and pluralizing creativities displaces the whole panoply of what we see in real-world practices of materially diverse co-authoring rather than an individualized cognitive act. Fostering multiple creativities plays a crucial role in future-making education. This comes in realizing transformational change from co-authorship which is redefining what pupils, families, and our communities need from our schools; what educators need to thrive in the profession; and what our pupils need to flourish in their lives. Thus, thinking through the ways in which educating for diverse creativities is a bold new agenda in this pandemic and digital era.

The idea of "multiple creativities" is not new. Howard Gardner (1983) has proposed a theory of multiple intelligences which has been applied to creativities which can be bounded by subject disciplines but also does different work and engenders different practices in and across the interrelationships between sciences and the arts. For example, where creatives often relied on different intelligences to manifest their creativity, where, for example, Jane Austen, Virgina Woolf, Maya Angelou, and T. S. Eliot made their reputation through linguistic intelligence; they also opened new ways that intersected with literary creativity. Ada Lovelace, Katherine Johnson, and Albert Einstein developed processes of reciprocal

capture in mathematical creativity through logical-mathematical intelligence. Similarly, Hildegard von Bingen, Amy Beach, Clara Schumann, and Igor Stravinsky became famous through the entangled nature of their musical intelligence and musical creativity.

Reconfiguring the concept of "creativities" as a core element of education found in the moments of always becoming creative, allows us to rethink one of the most significant concepts in society, and therefore future-making education. From this premise, the conception of a plurality of creativities (rather than the outmoded singular use of creativity) addresses a performative space (rather than a representational space) acknowledging different and diverse enactments and illustrations. These are both emerging and continuously re-made through material enactments, which are authored in material relationships that are complex, dynamic, and situated. This is authoring and performing change at strategic, policy, or system levels (how things are done at whole school levels) and how this permeates everything else at classroom practice levels. In delineating this line of argument, we see how developing and sustaining the capacity to author new practices and possibilities, for what might, to others, seem impossible or even barely possible, is to open space for performing the indefinite and uncertain.

Based on the above considerations, we advance a "creative ecological" (Harris, 2016, 2017, 2018) model of creativities, in which multiple creativities productively entangle in learning communities. Refraining from advancing one generically reduced conception of creativity, such as teaching "creative thinking" (Lucas & Spencer, 2017) or the process of prescribing or naming specific conditions for embedding creativity in schools (Craft et al., 2001), we foreground creativity's inherent nature as multiple, relational, and active. An ecological approach to diverse and multiple creativities allows for new and innovative ways of learning and teaching, while also allowing for multiplicities in other context-specific elements of the "ecology" (see Fig. 6.1).

The *ecological approach* (Harris, 2016, 2017, 2018) to enhancing teaching and learning for multiple and differentiated creativities takes into account the entire context and community of various stakeholders engaged in creative action. The model (Fig. 6.1) includes five loci which not only interrelate but also require individual attention in order
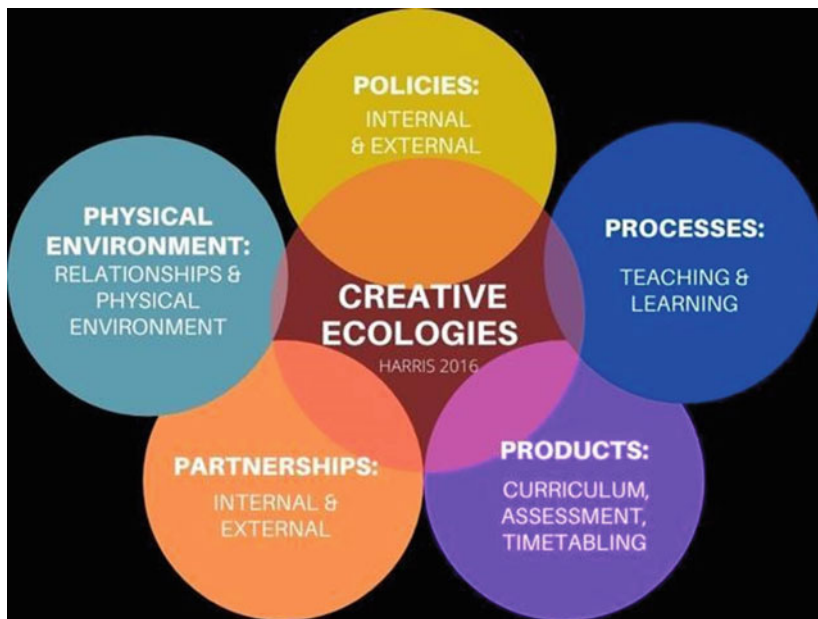
**Fig. 6.1** Creative ecologies (Adapted from Harris, 2016, 2017)

to build an integrated creative ecology that is sustainable. Products, processes, partnerships, policies, and the physical environment are all always already in process and interacting to inform or block creative events and experiences.

School contexts and practices can also be considered sites of tension between the "innovation/product" understanding of contemporary creative value, versus the "ecological/relational" approach, one of the reasons why they are such contested and important sites of creative and cultural production. Using Harris' model, educators and scholars can address all five of the foci individually, which includes the "products" requirement of curriculum, testing, and assessment. Whether teachers' orientations are toward the more pervasive assessment and commodification of creativity (Harris, 2014; McIntyre et al., 2016) approach (more preoccupied with outputs than processes), or a more distributed, rhizomatic approach, the creative ecologies heuristic can be applied. Recognizing that education contexts a priori provide a rich ecology of

multiplicities entangled with, rather than acting on, human participants, allows for more sustainable and flexible alternative frameworks for re-imagining and operationalizing radical change in twenty-first century professional learning communities, especially within teacher education. In other words, both individual and collaborative practices, relationships and outcomes can be enhanced simultaneously.

A creative ecological approach can also address the urgent need for schools and teacher education programs to rapidly improve their approaches to preparing students for tertiary, vocational, or workplace next-steps. As transnational corporations like Lego, Google and others continue to assert, formal education is lagging behind so badly that alternatives are already springing up (by necessity), including in-house, on-the-job training, micro-credentialing, and internships alone as career pathways. Inspired by evidence-based, large-scale empirical research (e.g. Harris, 2016), we argue in this chapter that it is possible (and preferable) to expand improvements to teacher education and professional development beyond neoliberal notions of "workplace readiness" and toward an environmental, ecological, sustainable education for lives worth living. As Whitehead (1927/1929) encouraged us nearly one hundred years ago, there is no need to reduce creativities to "what humans do", but rather allow our natural creative impulses, skills, and pleasures to return us to more holistic education approaches which can add multiple values simultaneously, through rich and embodied experiences.

Our theoretical framework (see Fig. 6.2) incorporates the dual concepts of "creative ecologies" and "multiple creativities" through practice-based and reflective teacher education evident in this model of multi-stakeholder collaborative *activities*. Applied to the case study that follows, collaborative creativity in interprofessional learning and teaching highlight multiple ways of knowing held within a holistic creative ecology, thus shifting the focus from creative capacities or skills to growing creative communities.
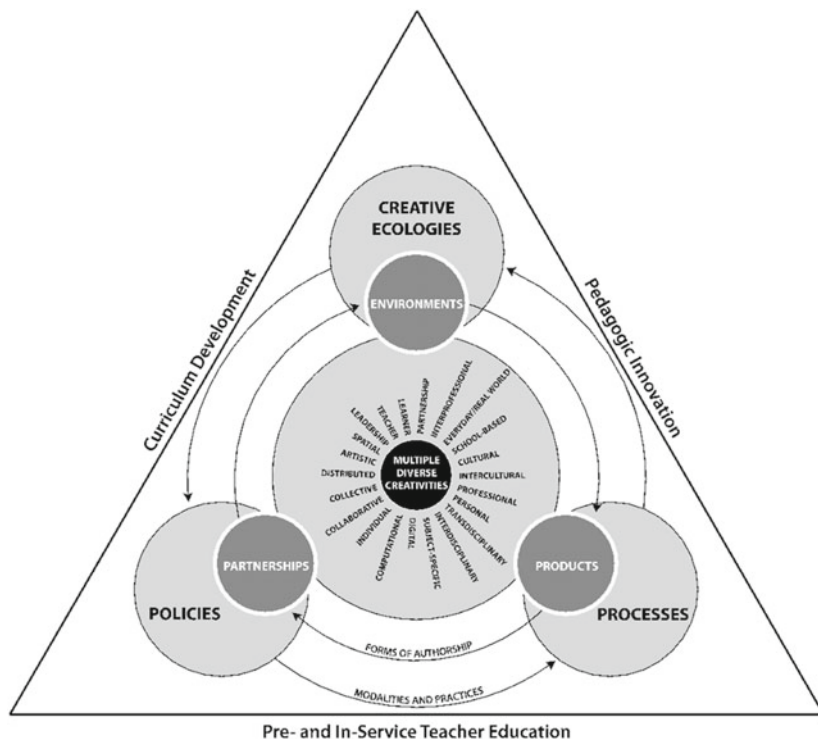
Fig. 6.2 Theoretical framework for this study with assemblage of the macro-meso creative ecologies and micro pluralism of diverse creativities

"Everyday Creativity": An International Collaborative Effort to Boost Schools' Creative Resources with Finnish Models of Education

Aiming at increasing creativity and innovation in everyday practices of schools in four European countries (Romania, Hungary, Italy and the Netherlands), an international Erasmus+ KA2 strategic partnership project was carried out between December 2017 and November 2019. The project "Everyday Creativity – Boosting the internal creative resources of European schools with Finnish models of education"

targeted in-service teachers from primary and secondary schools to involve them actively in their own and their colleagues' professional development. With the choice of the term *everyday creativity*, the project team wanted to demythologize creativity as a divine concept or something belonging only to geniuses. The term itself is not new; for example, it has been used in literary studies (e.g. Swann, 2006), emphasizing the omnipresence of playful and creative ways of language use, thus deconstructing discourses that sharply separate mundane and artistic language use. In psychological studies, Richards (2007) has advanced the investigation of the "hidden potential" of everyday creativity. Building on Richards' research, everyday (or, alternatively, "little c") creativity has been highlighted as a factor that promotes wellbeing (Silvia et al., 2014).

Expanding earlier definitions and building an ecological framework for multiple everyday creativities, the project also aimed to emphasize how creativity belongs to all and, in educational contexts, is available to and relevant for all teachers. In tight collaboration among partners, a blended course that built on the above presented ecological framework as well as the vision on creativity manifested in the Finnish National Core Curriculum (FNCC) was co-created. Methodologically, the course followed the principles of research-based teacher education with the teacher-researcher in the focus. These aspects are elaborated in the following sections.

Creative Ecological Dimensions of the Finnish National Core Curriculum (2014)

As the Everyday Creativity project aimed at boosting teachers' creative pedagogical resources with Finnish models of education, here we take a glance at the Finnish National Core Curriculum (henceforth FNCC; Finnish National Agency for Education [FNAE], 2016) to consider how its main recommendations support the ecological approach to educational creativity at the policy level. A wide and acknowledged autonomy of and societal trust in teachers as highly trained professionals (Paradis et al., 2019; Pollari et al., 2018) set the conditions

for teachers' experimentation, even improvisation, and continuous self-reflective professional development. These potentials are reinforced and extended by the prosocial character and collective competence-oriented aspects of the growing emphasis on shared leadership models in Finnish education (Yada, 2020).

The term "ecology" explicitly appears in FNCC, mostly in the context of sustainability, which is among the central guiding themes of the curriculum. This is in line with the United Nations' recommendations about Education for Sustainable Development (FNAE, 2016, p. 18). In addition to ecological thinking's explicit appearance regarding sustainability, there is an implicit ecological dimension in FNCC. This tacit aspect of creative ecological thinking is reflected in FNCC's holistic approach to the development of school culture (FNAE, 2016, pp. 28–32.), which is in parallel with the models of creative ecologies we chose for this study (Burnard, 2012; Harris, 2016, 2017; Figs. 6.1 and 6.2). For example, emphasis on the school as a learning community, wellbeing and safety, interaction and versatile working approach, cultural diversity and language awareness, participation and democratic action, equity and equality as well as environmental responsibility and sustainable future orientation all point to the direction of *less centralized leadership structures, increased wellbeing and creativity*. FNCC enhances creative ecological transition and recommends several pragmatic and "everyday" ways to manage interaction and negotiations between various stakeholders of education, including pupils, teachers, special educators, caregivers, administrative staff, social workers, service providers, and labor market actors.

Beyond implications and implicit cues, the development of creativity is in the forefront of FNCC in explicit terms as well. Developing creativity by various means appears in FNCC approximately 100 times in multiple configurations, contexts, and roles. For example, the cultural role and embeddedness of creativity emerge from cultural diversity as a resource (FNAE, 2016, p. 16.). Creativity also appears in a didactic function: to inspire pupils, competence development, the joy of learning emotional experiences (FNAE, 2016, p. 17) and to encourage multiple work approaches in every age group and different learners (FNAE, 2016, p. 28.). Creativity appears in organizational functions and is reflected

in the learning environment, which has to offer possibilities for creative solutions (FNAE, 2016, p. 30). Further, creativity emerges as part of personal, individual characteristics, which education needs to develop in every pupil by developing various skills, including creative communication, like engaging in versatile ways of self-expression and constructive interaction (FNAE, 2016, p. 31.)

In sum, to grasp "everyday creativity" in Finnish schools on the policy level, one can assess creativity's role also in the didactics of the school subjects and on the level of transversal competence development. Further, FNCC presents a progressive and cumulative plan for creative development in both contexts, building a continuum across education in different age groups. That is, creative development in basic education (grades 1–9) continues the work of early childhood education (cf. the Finnish National Core Curriculum for Early Childhood Education and Care; FNAE, 2019).

Developing a Research-Based Blended Course in Multi-stakeholder Co-creation

One of the main goals with the in-service teacher education course was to encourage participants to rethink and change their professional practices. In order to support teachers' learning and innovation process, the blended course was built on the framework of *teacher-researcher* (Hunter & Emery, 2015; Stenhouse, 1981) who observes and reflects on their own practices. *Research-based teacher education in Finland* has become a mainstream approach (e.g. Szabó & Kärkkäinen, 2018; Säntti et al., 2018), meaning not only that teacher educators conduct research but also that pre-service teachers develop their skills for self-reflection (in Jyväskylä, for example, in the course "Professional development, learning guidance and explorative teacherhood," 10 ECTS; Study Guide, 2020), and several of them write their Bachelor or Master's thesis about the analysis of their own teaching practice. The teacher-researcher (Fin. *tutkiva opettaja*) framework is well known and adapted in Finnish teacher education so this was one of the main contributions of the "Finnish models of education" highlighted in the project title.

The development of the blended course followed the principles of co-creation to which stakeholders with different backgrounds contributed at various stages. There were four organizations that were responsible for recruiting and supporting participants in the *four participating countries:* Spektrum Educational Center (consortium coordinator, Romania), Stichting Business Development Friesland (foundation, the Netherlands), M-Around Educational Consulting Ltd. (private business, Hungary), and Società Cooperativa Sociale Borgorete (cooperative, Italy). Two partners were responsible for intellectual outputs. The University of Jyväskylä (Finland) led the development and implementation of the blended course and learning materials (Szabó, Fenyvesi et al., 2019), while Attila József Primary School's (Romania) major output was the "Guidelines for teachers as accelerators of creativity and innovation in their schools and communities" (Ferencz-Salamon et al., 2019). The Guidelines were meant to support in-service teachers in getting an overview of the project and gaining tools for its dissemination (e.g. in the form of printable posters, charts, figures, etc. to be freely used in local training events). A private company, In the City Project Development (the Netherlands) was responsible for media work (design and editing) in various platforms.

Although teachers from Finland were not recruited to participate in the blended course as regular participants, local collaborative partner schools of the University of Jyväkylä (Jyväskylä Christian School, University of Jyväskylä Teacher Training School and Viitaniemi School) hosted school visits and some of their teachers engaged in deep discussions with participants. According to their explicit written consent, all contributors, including participating teachers and project coordinators appear with their name in the published learning materials (Szabó, Fenyvesi et al., 2019; Ferencz-Salamon et al., 2019) so their intellectual property and agency are made visible and acknowledged.

Course Content, Structure, and Organization

The *blended course design* follows a modular structure for focused reflection and discussion. The course was built in consecutive phases of

planning and implementation that has fed each other, the first being needs assessment including an online survey and a series of stakeholder interviews with school staff members in the involved countries. In particular, potential future users were invited to influence content. The curriculum of the course was proposed by Tamás Péter Szabó and Kristóf Fenyvesi based on the results of a needs analysis conducted as an online questionnaire survey with 652 respondents. The *results of the survey* pointed to teachers' need to explore multi-sensory learning, use of learning spaces, ways of combining study fields, methods to involve and engage students in interaction, and the use of ICT tools (Szabó, Fenyvesi et al., 2019, p. 22).

The curriculum proposal was discussed in a project meeting in Perugia in Spring 2018. All project partners were asked to provide feedback, and they all suggested valuable sources for the modules, bearing in mind that only Open Access materials should be used to guarantee equal opportunities for learners.

As a result of the needs assessment process and negotiations with partners, the following development areas were identified for the course:

1. Learning space and multi-sensory teaching, building on a posthuman approach to the body and senses as central to understanding, placing transcorporeal engagement and distributed cognition to the fore.
2. Developing applicable skills through teaching, facilitating teachers' individual professional development through concrete methods and toolkits—encouraging them, at the same time, to adapt and develop such tools themselves.
3. Organization of interaction and technology in the school, with special regard to facilitating learners' small group interaction, projects, and student-initiated learning activities.
4. Connecting different subjects in learning and teaching, e.g., inter-, multi-, and transdisciplinary education where to artificially pull subjects apart makes a shift with its humanist focus and abstracted views of knowledge to a flattened onto-epistemology. Such an epistemology focuses on attention on the being, the entanglements of humans and materials and a pluralist knowing arising from all the senses.

The structure of the course was as follows. In the first online phase, participants were asked to self-evaluate their own teaching and encapsulate their personal teaching philosophy. This self-reflective task was followed by another reflective task which was done in groups of teachers from the same country. This task was called "Creativity in our school" and involved good examples that participants observed in their surrounding school communities. There were several minor individual assignments, mainly reflections on sources and own teaching practices. Such assignments were linked to the five thematic modules. When finalizing the tasks, the course developers (Szabó and Fenyvesi) wanted to create opportunities and design learning pathways but avoid over-instructing participants to keep learning flexible and personalized.

The online preparatory phase was followed by an on-site intensive week in Jyväskylä in November 2018. The 5-day program offered invited workshops with the contribution of academic experts, school visits, participants' collaborative work on course modules in four-member groups in which one person represented each country, as well as participants' presentations and joint planning sessions (Table 6.1). With this

Table 6.1 The structure of the intensive training week in Jyväskylä

Session	19 November	20 November	21 November	22 November	23 November
1	Intro	School visit	School visit	School visit	Workshop on Modules
2	Invited workshop				
	Lunch	Lunch	Lunch	Lunch	Lunch
3	Team presentations ("Creativity in our school" project)	Invited workshop	Invited workshop	Workshop on Modules	Workshop: planning follow-up projects
4	Workshop on Modules	Workshop on Modules	Workshop on Modules	Invited workshop	Wrap-up Closing
	Dinner	Optional recreational programs			

solution, the aim was to create diverse learning groups in which recognizing some of the differences in participants' background and taken-for-granted working cultures enhances the emergence of a reflective observer stance.

Finally, the second online phase was dedicated to the implementation and reporting of individual follow-up projects. Teacher participants' creativity workshops for their colleagues contributed to dissemination and at the same time transformed course content and the learning experience. The instructed blended training was finally transformed into an *online self-study module* which is freely available online (https://creativeschools.eu/en/page/138/teacher-training) in five languages (English, Romanian, Hungarian, Italian and Dutch). The transformation process from an instructed, closed course to open learning material brought challenges which were exciting to solve (Szabó et al., 2019).

The blended course components aimed at exposing the participants to a variety of perspectives that foster creativity. The first online phase activity where the participants wrote reports on interesting features of their own teaching, enabled teachers to look at their own work from another person's perspective which forms the basis of dialogic learning. During the intensive week, the whole course community discovered the richness of diverse pedagogical perspectives. The visit, interaction, and observation with Finnish teachers at local schools led to fruitful and thought-provoking conversations that benefitted both the Finnish teachers and the participants. The daily workshops of the intensive week facilitated engaged conversations and peer learning. When participants created a module portfolio with their diverse group composed of members from each participating country, the process, shared observations, and discussions led to moments of surprise, encounters with the unknown, and the chances to become familiar with others' point of view. The final follow-up projects are a culmination of the experiences, exposure to diverse perspectives, and creative ideas gained from the blended course.

Lessons learnt from the project were presented in a *Teachers' Handbook* which, similarly to the online self-study module, was published in five languages (the English version is Szabó, Fenyvesi et al., 2019). The handbook was built on teacher participants' experiences to inspire

other teachers and school communities to develop their own pedagogical practices around creativity. In addition to this, the handbook also offers insights for researchers on creative practices.

After summarizing project partners' and participants' experiences, the handbook presents all study modules (listed above in this section) with materials and additional sources (pp. 30–62). Excerpts from teachers' course assignments are incorporated into the text to show the diversity of participants' approaches and voices. The handbook also includes materials of all seven workshops organized by invited experts during the on-site intensive week in Jyväskylä (pp. 63–85). Finally, the handbook makes teachers' follow-up projects available in a structured and edited (shortened) way. Each participating teachers' follow-up is classified according to the type of educational change it promotes and the main professional development goals formulated by its author (pp. 86–89). Altogether 20 follow-up projects are published with illustrations and additional sources (pp. 90–128).

Approaches to an Ecology of Diverse Creativities: An Analysis of Teachers' Accounts with the Renewal of Learning Environments in Focus

In order to better understand how this project has promoted teachers' creativities-in-practice in the context of their professional learning, we specify the overall research questions of this chapter (listed in Sect. 6.1). Studying a vision of creative ecologies emerged in the learning community of the project, in the analysis we ask how teachers reflect on diverse creativities and the environment (human and material alike) in which they developed their follow-ups.

We take examples from teachers' contributions published in the handbook (Szabó, Fenyvesi et al., 2019) which we abbreviate as "Handbook" to make referencing in this section easier. Our goal with analyzing a published material is to open dialog with researchers who can find the presented quotes in their original context and can further think about

them. All course-related materials have been used and published in the Handbook with the participants' written consent.

We approach our data from an applied Discourse Analytic perspective, devoting special attention to *narratives* (e.g. Bruner, 1991; Ochs, 1997). We argue that teachers' self-reflective course assignments as well as their reports on their experimental and exploratory follow-up projects can be considered narratives through which teachers discursively reconstruct not only their professional identities but also their visions on creativity and their perceptions of the local ecologies they practice their profession. These narratives, authored by teachers (cf. author as a narrative role; Bakhtin, 1981), invite their audience (in the project: peer teachers; in this study: researchers) to "change the story" (Haraway, 2016, p. 40) of human-nonhuman interactivity and emerging creativities through the lens of their experiences and achievements.

We are aware of the limitations of building our study on the views of a selected group of teachers. We are also aware of the fact that our researcher position influences the analysis since two of the authors (Szabó and Fenyvesi) have co-developed the course, four of them have edited the Teacher's Handbook (Szabó, Fenyvesi, Soundararaj and Kangasvieri) and the theoretical background of the course is also based on co-authors' (Burnard's and Harris') contribution. As a consequence, we consider our study *a self-reflective account* for the better understanding of how our work has contributed to practical teacher education on the one hand and theory building on the other hand. In other words, we as co-developers of the program take a teacher-researcher stance that we advocate, and thus exercise research-based teacher education for the further improvement of similar programs.

In our analysis, we focus on teachers' contributions to Module 4 of the course entitled "Developing learner-centered indoor and outdoor environments." Our motivation for this choice is bifold. First, we consider learning environments an ideal subject for posthumanist inquiry since, as Pennycook (2018, p. 53) argues, material resources such as working tools, furniture but even spatial configurations have "thing-power"; that is, they form an "assemblage" of multi-layered semiosis, including human interaction. Further, this course module included reflective tasks that benefited from the Design Thinking approach (Design Thinking, n.d.)

which offers several tools for creative co-creation in local ecologies of learning.

As all modules, Module 4 also begins with information about recommended sources that provide research-based insights into creative learning environments design. Several sources also offer various (sometimes critical) standpoints from which to reflect on our own material and spatial practices. Design Thinking approach, which is in the center of *the module's assignment,* raises awareness to co-exploration and empathy with future users of educational spaces. Integrating the assignment into a diverse creative ecologies model (Burnard, 2012; Harris, 2016, 2017; Figs. 6.1 and 6.2), the first stage of exploration of already existing learning environments sets the ground for the reflection on local educational policies (e.g. who has the right to display something on the wall, to introduce new arrangements of furniture, to propose tasks, etc.; cf. Szabó, 2018) which then leads to new types of processes and products, e.g., redesigning activities in which pupils are tightly involved. The involvement of pupils, parents, or lesser known teacher colleagues in classroom design is a game-changing innovation which builds on preferences and viewpoints that might be missing from the teacher's personal professional policies-by-practice. Since human action leaves traces in the semiotic landscape, the transformation of learning environments, for example, a new setting with pupil-influenced design, call external explorers and local community members alike to rethink the material environment and revise/renew local educational practices in terms of modalities, practice principles and forms of authorship (Burnard, 2012; cf. Szabó & Troyer, 2017). That is, co-created innovation leads to a new setup which will then become the point of departure of further renewal—thus launching a cycle of iteration in creative renewal.

Although not from a creativities research or Design Thinking perspective, Menken et al. (2018) have shown that recognizing some earlier unseen elements in the material environment (or recognizing the lack of some elements, e.g. script in pupil's home languages) and a community-involving planning process can lead to local pedagogical reforms which can be manifested in various ways specific to the context (in Menken and colleagues' research, such manifestations include the acquisition of

multilingual literature to the school library or even the opening of a new study program in another language than English).

In the module's assignment, teachers were asked to submit videos in which they tell the story of the transformation of a learning environment of their choice. With defining the modality of the assignment, the goal was to make teachers observe their work environment (i.e., the school) in a mediated way, through the lens of a camera, to enhance teachers' becoming an observer. Asking teachers to tell a story of transformation, the task aimed at gaining narratives in which teachers position themselves in the coordination system of pedagogical practices and local community relations. Below we highlight some aspects from teachers' assignments and videos in which transformations were narrated in retrospect, sometimes referring to changes that happened a long time ago).

Applying our theoretical framework (Figs. 6.1 and 6.2) to the quotes in Table 6.2, we can see in these quotes how students as *partners* in design were highlighted as central actors in *processes* that resulted in transformed *physical environments* to be treated as reportable *products* and as indications of *policy* change (e.g. the creation of community spaces through repurposing). The school *environment* is represented in terms of both the characteristics of materials (e.g. "colorful pillows") and people's (assumed) reaction to transformative processes (e.g. "communal feeling").

Table 6.2 Narratives on the transformation of learning environments

The spirit of a school by Alpár Ferencz-Salamon, Romania Video: https://bit.ly/2Y8aX5s	"Students have played a major part in designing the school environment "a former classroom turned into space for students" "Our theatre room has a major role in enhancing communal feeling" (Handbook, p. 54)
Student community space by Enikő Tankó, Romania Video: https://bit.ly/2RzBPsG	"a former classroom turned into a community space for students" "It is an open space with colorful pillows, bean-bags and seats which can be rearranged" (Handbook, p. 54)

While the participants explored their own classrooms from an external perspective through the videos, *the module portfolios* combined their observations in the Finnish schools and then led to comparison with their own education system. The Module 4 portfolio "The Spirit of Finnish schools: Developing learner-centered indoor and outdoor environments" was completed by Gysbert Bergsma (the Netherlands), Ágnes Földváry (Hungary), Alpár Ferencz-Salamon (Romania), and Susanna Maresca (Italy) with the support of the tutor, Tamás Péter Szabó. The participants set a focus on investigation and discussed (i) "maker spaces" inside and outside the schools; (ii) mentoring; (iii) inspiring spaces and solutions; (iv) mobility in learning environments (e.g. dynamics of changing classrooms, moving inside the classroom); and finally (v) hidden curriculum in learning environments (cf. Handbook, pp. 54–58).

With the video assignments, observations, and summarized reflections, the participants conducted cross-national comparisons of the established practices. The assignments followed with visits, reflection and comparison provided an opportunity for the teachers to reconstruct their thoughts toward creativity and how it can be implemented in their classroom *every day*. This is evident when the participants list down concrete good practices and recommendations as key takeaways and inculcate them further in their follow-up projects. For example, with regards to mobility in the learning environment, teachers highlighted how important it was that students were allowed to move around and even do physical exercises in and outside the classrooms (Handbook, p. 19). Many concluded that both the physical environments and interpersonal relationships of teachers and pupils have created safe and confident learning environments (Handbook, p. 57).

Participating teachers were assigned to do an individual *follow-up project* that would enhance creativity in their local school environment and community. The participants were first asked to identify a pedagogical challenge relevant in their local context. Then they planned a local action to address the challenge, implemented the plan in collaboration with colleagues, evaluated the implemented action and assessed sustainability and future actions. Teachers submitted written reports on their follow-up projects and those reports were condensed for the published Handbook.

Follow-up projects were organized by the types of changes that the teachers did in their local school communities and by main goals identified from the teachers' reports. This categorization (Handbook, pp. 86–89) was done by the handbook editors in order to have a better understanding on what kind of projects the teachers carried out in their local school communities. Five of the follow-up projects included the transformation of a learning environment as a type of change. Table 6.3 summarizes them in alphabetical order of authors. In this study we extended the originally published table with references to some elements of our framework (see the terms in *Italics*; cf. Fig. 6.2).

The teachers authoring these five projects had used the available school spaces in a novel way and thought of the available spaces in a way they had not thought of them before. Follow-up projects show that the teachers used *multiple creativities* in developing new ways for their *everyday practice*. In the reports, teachers mention that one of the biggest goals they had was to support students' participation in creating new learning spaces, which has led to experimentations with new *processes* to renew *policies* of teaching and learning. Another goal was to engage learners in learning in a different way; for example, to create a motivational context by experimenting with teaching in unconventional spaces such as "the debate room" (Francesca Ugolini; Handbook, p. 125), "the schoolyard, the ceremonial room and the hallway" (Edit Páll; Handbook, p. 110).

During the course activities, teachers have learned that spaces at school are not designed only by furniture or other interior decoration, but they have an emotional and cognitive role in student empowerment and participation; especially that transformations in the physical *environment* come from and lead to renewed *policies* and *processes* of work in which learners are seen as *partners* rather than mere consumers:

> I think that designing community spaces at school is not only about interior design but a lot more. I would like the students to experience: that they are able to influence their everyday surroundings [and] how new ways of using the old spaces affects the behavior of the community [... and] that they can build something concrete and tactile through a democratic design process. (Ágnes Földváry; Handbook, pp. 102–103)

Table 6.3 An overview of follow-up projects

Teacher	Type of change and creativity	Short description of the follow-up project	Main goals
Földváry, Ágnes (Hungary)	Learning environment Pedagogical change *Design creativity*	Reorganization and redesigning learning spaces: classroom and whole school. (Handbook, pp. 102–103)	Empowering students Rethinking the use of space
Maresca, Susanna (Italy)	Pedagogical approach Learning environments Cultural change *Performance creativity*	Playing with fairy tales (medieval poetry) and holding a Literary coffee: medieval poetry came alive in a recital. (Handbook, pp. 106–107)	Autonomy of students Focus on the community building
Páll, Edit (Romania)	Pedagogical approach Learning environment *Gaming creativity*	A week long project, during which activities consist of different kinds of games and creative activities. (Handbook, pp. 110–111)	Cooperation between teachers and parents Students' curiosity and creativity
Schulcz, János (Hungary)	Learning environment Pedagogical tools Pedagogical approach *Google creativity*	Students design a family holiday for their family and the teacher starts the use of Google Classroom. (Handbook, pp. 116–117)	Improving students' critical thinking Rethinking of the use of space
Ugolini, Francesca (Italy)	Learning environment Pedagogical approach *Playful creativity*	Use of different spaces inside the school for playing learning games. Secondary teachers working with primary teachers: learning laboratories. (Handbook, pp. 125–126)	Rethinking of the use of space Cooperation between teachers

Telling her narrative, Ágnes has discursively created and assigned the role of innovator to herself and defined conscious goals for further development (e.g. "I would like the students to experience…"). This might indicate that she has explored creative potential in a domain which was earlier taken for granted to her (e.g. "…is not only about… but…").

By encouraging student participation and creativity, teachers have used their multiple creativities and utilized different ecologies.

> The main purposes of the works carried out this year were to develop students' creativity, to make them feel like protagonists and be aware of their own learning. Furthermore, we wanted to broaden the field of action by involving parents and the neighbourhood, through performing a show. The spaces used are not normally used in ordinary teaching activities. (Susanna Maresca, Handbook, pp. 106–107)

In this excerpt, Susanna created a community voice in narration (e.g. "we wanted…"), probably to strengthen a vision of a local *ecosystem* of *partners* including "parents and the neighborhood" and her colleagues. She also pointed to the creative potential of transforming unconventional learning *environments* in teaching *processes.*

Not only did the teachers use physical learning spaces but also digital learning platforms such as Google Classroom. One teacher, János Schultz, found this digital platform good for evaluation and monitoring as students are comfortable using devices in a formal situation. According to his experience, "the process of control and evaluation takes place in an environment that makes them comfortable because they can even use their own mobile phones during the quiz" (János Schultz; Handbook, p. 117). Foregrounding learners' *everyday* routines of using ICT can be considered an indication of the *policy* change *process* in the otherwise formal situation of the assessment of learning.

Discussion and Conclusion: "Everyday Creativity" in Teacher Professional Learning

In this chapter, we have had two interrelated tasks. First, taking a posthumanist stance, we outlined an ecological framework of diverse creativities to go beyond compartmentalized approaches to creativity development which focus on certain specific aspects or skills rather than the dynamic nature of diverse creativities put to practice. In the second part of the chapter (Sects. 6.3 and 6.4), we asked how this framework can be used in the renewal of teacher professional learning. To answer the question, we presented the development process and structure of a recently implemented in-service teacher education program which aimed at bringing a

multi-stakeholder environment into the focus and have created a dialogic learning process to facilitate the emergence of diverse pedagogical strategies. Such diverse strategies were expected to come from the various modules which all discussed different aspects of creative educational practice. Assignments enhanced reflections which were diverse in topics and modalities. Through the grouping of participants who had different backgrounds and came from different countries, course developers also aimed at facilitating diversity and constructing an observer stance which is essential for the accommodation of a teacher-researcher role. Beyond the principles of the Finnish National Core Curriculum for Basic Education (FNAE, 2016) which sees creativities from multiple perspectives, it was especially this research-based approach that brought elements of Finnish educational practices into the discussions of an international learning community.

In Sect. 6.4, we provided insights into the functioning of the focal in-service teacher education course through a Discourse Analytical look at quotes from participating teachers' published assignments. We asked how teachers reflect on diverse creativities and the environment (human and material alike) in which they developed their follow-ups. We focused on assignments concerning learning environments and aimed at exercising a posthumanist inquiry. Based on this analysis, we discuss here what we learnt from teachers about "everyday creativity," a concept which we believe helps educators to go beyond the limitations of the human-centered view of creativity in education, and deconstruct the dichotomies and binary oppositions that have maintained the power relations and inequalities in knowledge creation.

Teachers' self-reflective narratives have provided evidence of the pluralism of creativities as a materiality of creating new ideas and new ways of thinking. These teachers have developed different local creative ecologies and changed the relationships between school community members, creating *partnerships* with colleagues, pupils, parents, and school-external stakeholders. In their narratives, they referred to community-induced *processes* and *policies* as well as the *material* characteristics of transformations in learning *environments*.

Attempting a working definition, we claim that *everyday creativity* is a manifestation of real-world learning, where the preoccupation lies with

seeking a better understanding of multi-stakeholder collaboration and the material aspects of education. Our framework creates a rhizomatic understanding of how diverse creativities intra-act and are embedded within the creative ecologies of school. In contrast to the "pipeline" model of education, bringing the linear imagery of educational progression as the acquisition of increasing levels of abstract knowledge, we are heeding the advice of Ingold (2013, p. 68) who said that to engage in the future making we seek to not of subservience, but of one's grasping of one's life as being of the world, not "a part" or "apart" from it and of opening up a path and "improvising a passage […] it is to look where you are going, not to fix an endpoint." Thus, *everyday creativity* is about how we come to live and think together, to create together, transcending a view of "subjects" and "objects" into a view of ongoing "becoming," whereby the *process* of becoming produces matter which matters. This process is built on enactments of thinking created by the teachers and learners in the process of reconfiguring creative ecologies in micro-level creativities in the classroom. Each creativity among diverse creativities interpenetrate one another, loop around and through one another, and establish "sympoietic arrangements" (Haraway, 2016, p. 58) which can otherwise be known as a "creative ecology" or ecological *assemblage* (cf. Pennycook, 2018).

In other words, we understand *everyday creativity* as the weft and weave of a creative ecology—a living, ever-expanding entangled web such as a school community. *Everyday creativity*, in consequence, offers tools and processes to overcome the limitations of national educational policies and curricula and, further, it is a manifestation of a "creative ecologies" model of the whole school change agenda operating in Finland.

Posthumanist views of matter that we have built on in this study lead the way to the dynamic form of knowledge creation that arises when the focus of classroom practice is on making with materials, bodies, creatively designed tasks, and invitations to making—where teachers and learners are "makers" and "creators"; setting in motion a "cacophonous ecology" (Taylor, 2016, p. 20). *Everyday creativity* is one of the multiple creativities which can offer a living ever-expanding entangled act of learning, moving learning forward, not learning from, entailed in and with materials, ideas, bodies, and school communities. As the case study in this chapter has

shown, *everyday creativity* as a concept/practice has the potential to transform educational agendas not only in primary and secondary but also in tertiary education, in-service teacher education, and beyond.

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