

Building education for sustainable futures in early childhood: Transformative learning captured within an intercultural training program for government stakeholders from rural China

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Abstract

The purpose of this study was to address the impact of international collaboration on education for sustainable development in the context of early childhood education in rural China. Government stakeholders in three Chinese provinces participated in a 14-day program in Bergen, Norway, focusing on early childhood education for sustainability (ECEfS). The overarching questions were how the participants experienced the transformative learning in a study-abroad program, how they perceived their experiences affected their “glocal” awareness of ECEfS, and how they reflected upon their experiences to form new glocal perspectives of ECEfS. The theoretical framework of the study was inspired by Mezirow’s perspectives on transformative learning. In this study, 11 participants wrote narratives and reports about their experiences in Norway and were later interviewed about their understanding of ECEfS and the steps they were taking after the training period. We identified three E’s: experiencing cultural shocks and “outsider” status, engaging critical reflections upon ECEfS, and envisioning commitment to future action, with five key components of transformative learning—a disorienting scenario, emotional response, critical reflection, perspective change, and commitment to future action within the ECEfS. Implications for intercultural experiences as catalysts to trigger transformative learning, and for building a dialogic relationship and hybrid organizations as agents of positive social change, and recommendations are included in the final section of this paper.

Keywords

early childhood education for sustainability (ECEfS); education for sustainable development (ESD); transformative learning; China; Norway

Introduction

During the United Nation Decade of Education for Sustainable Development in 2004–2015, early childhood education (ECE) did not play a significant role in the resulting governmental policies and innovative practices even though the purpose of education for sustainable development (ESD) was to reorient education toward a sustainable future for the common good of present and future generations (World Commission on Environment and Development, 1987). ESD has promised to build key competencies for all from early on to enable a more sustainable and just society. ECE has emerged as an important factor in education for sustainable futures since the early years of learning and development laid a solid foundation for sustainability (Engdahl, 2015). It is increasingly recognized that the development of a sustainable world will require “a shift in values, awareness and practices in order to change our currently unsustainable patterns of consumption and production” (United Nations International Children’s Emergency Fund, 2013, p. 16) and that “the role of early childhood education for a sustainable society” (Hägglund & Pramling Samuelsson, 2009, p. 51) is “in preparing present and future citizens and in aiding societies to make the necessary transitions to sustainability” (United Nations Educational, Scientific and Cultural Organization, 2014, p. 70).

Why do China and Norway need to work together in ECEfS?

Early childhood education for sustainability (ECEfS) has a global history in delivering education through activities in and around natural environments, often involving gardening, outdoor and risky play, and excursions into nature (Davis & Elliot, 2014; Engdahl, 2015). Norway has a long and strong tradition in embracing these practices (Heggen, 2016), encouraging the “understanding of sustainable development ... in everyday life” in kindergartens (Ministry of Education and Research, 2006, p. 7). Furthermore, Norway, as the first country and a pioneer, has officially mandated sustainable development as one of the core values of ECE (Ministry of Education and Research, 2017).

China’s embrace of the Sustainable Development Goals, endorsement of the 2030 Agenda for Sustainable Development, and their sustainable development discourse have attracted more and more attention within the country, and they have become more active in ESD since the central government’s recent presentation of national strategies for sustainable development (Zhou et al., 2016). China has called for even more effort to increase green development and green lifestyles as it seeks to balance economic growth with environmental protection, embracing ESD as a major concern in the new era. The development of ESD in China has mainly focused on high-quality kindergartens in megacities like Beijing, Shanghai, and Shenzhen; there has also been an urgent need to improve the quality of ESD in rural areas in China (Zhou et al., 2016).

Since 2004, Norway and China have collaborated extensively in ECE, with research mainly based in Beijing and Shanghai. The purpose of this cross-cultural collaboration has been to increase the quality of ECE practices by inspiring curriculum development and teachers’ professional development (Birkeland, 2016; Birkeland & Ødemotland, 2018; Ødegaard, 2016). The fundamental idea in the collaboration has not been to identify best practices (Bray, 2014) but to mutually enhance transformative learning and mutual understanding (Mezirow, 2000).

Inspired by this well-established collaboration, and funded by Western Norway University of Applied Sciences and the Rural Early Childhood Education Collective Impact Initiative, local officers and key principals in three Chinese provinces participated in a 14-day program in Bergen, Norway, focusing on ECEfS, in June 2018. Traditionally, the Chinese educational system implements a top-down structure, so the main idea in this program was to involve key stakeholders in transformative learning to promote actions in line with ESD in ECE in rural areas of China. The purpose of the program was to develop a space for networking and to encourage cross-national research and perspectives in the field of ECEfS and then advocate policy innovations, curriculum development, and professionalism in ESD in the ECE context of rural China.

Consequently, the aim of the present study was to specify and reconsider the effect of such an international training program for ESD in the context of ECE in rural China. The overarching questions were how the participants experienced the transformative learning in such a study-abroad program, how they perceived their experiences affected their global and localss of ECEfS and how they reflected upon their experiences to form new glocal perspectives of ECEfS. The term “glocal” comes from sociologist Roland Robertson (2012), who, among others, claimed that the term blurs the boundaries between local and global. Glocalization indicates that tendencies toward global homogeneity and centralization appear alongside tendencies toward heterogeneity and localization. Social problems are neither local nor global, but interdependent and interconnected. This is specifically relevant within ESD. There is a need to address educational practices as locally situated and with global awareness (Birkeland, 2016; Birkeland & Li, 2019).

Theoretical framework and literature review

The theoretical framework is inspired by and based upon the concept of transformative learning (Mezirow, 1991, 2000, 2003, 2009), modified in relation to ECEfS.

Transformative learning and critical reflection

According to Mezirow (2003), transformative learning is a uniquely adult form of metacognitive reasoning that involves reflection and revision of the frames of reference when having new experiences that challenge existing ways of understanding and acting.

Transformative learning is learning that transforms problematic frames of references—sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets)—to make them more inclusive, discriminating, open, reflective, and emotionally able to change. Such frames of reference are better than others because they are more likely to generate beliefs and opinions that will prove truer or more justified to guide action (Mezirow, 2003, pp. 58–59). These frames of references, also named “meaning perspectives,” embrace cognitive, affective, and action-related components. Our frames of reference consciously and unconsciously direct our patterns of thinking, feeling, and acting. The very essence of transformative learning theory is the promotion of critical self-reflection, leading to different worldviews and the behavior of change (Mezirow, 2009).

When we experience that our frames of reference do not coincide with our new experiences, we experience a disorienting dilemma. Our previous understanding is challenged, and there is a need to solve the dilemma. Exposure to disorienting dilemmas

as a result of an external event causes a sense of internal imbalance, and is, according to Mezirow (1991), the starting point of a transformative learning process. This imbalance is often painful and challenges core beliefs and assumptions. Feelings of disorientation are therefore excellent opportunities for reflecting upon unquestioned assimilated values and beliefs and thus become opportunities for transformative learning to take place. Such challenging scenarios often happen through critical reflection in the context of dialogue with other people (Howie & Bagnall, 2013).

Mezirow's approach to transformative learning has been modified in reaction to its individualistic orientation when brought into dialogue with ESD. The transformation to sustainable development requires societal change; transformative learning for sustainable development is thus collective awareness for engagement in concrete initiatives. Facing the challenges of complexity for ESD, how to embrace a holistic perspective and understand the dynamic relationships between individual and collective transformations, requires one to figure out the complex connections between psychological, social, anthropological, economic and political perspectives (Alhadeff-Jones, 2012).

Study abroad as transformative learning

The very nature of study abroad involves international travel and experiencing unfamiliar environments, which, when combined with effective programming, can promote transformative learning. By situating participants in divergent cultural and academic settings simultaneously, great possibilities for transformative learning arise. Mezirow (1991) argued that adults construct a meaning-making system that allows them to give meaning to new experiences and provides them with a compass to guide future action. Therefore, the process of "perspective transformation" has three dimensions to be addressed: psychological (changes in an individual's understanding of themselves), convictional (an individual's revision of their belief systems), and behavioral (changes in an individual's lifestyle; McEwen et al., 2011).

Taylor (1998) showed that transformative learning can be achieved through perspective transformation. Furthermore, in combining strong academic content and geographic dimensions, even short-term study-abroad experiences can target that goal (Bell et al., 2014). The design of the intercultural training program was based upon these theoretical perspectives of transformative learning.

The intercultural training program

The training program, "Building a Sustainable Future for Our Children," at Western Norway University of Applied Sciences, was conducted for 11 delegates, including provincial and local officials and key principals from the Chinese provinces of Gansu, Guizhou, and Yunnan. The training program was based upon a collaborative project between Chinese and Norwegian kindergarten researchers, advocates from nongovernmental organizations (NGOs), practitioners, local officers, and related stakeholders. The overall aim of the 14-day training program was to create a space for networking, mutual understanding, and cooperation in the field of ECEfS. Furthermore, it aimed to encourage better practices in policy innovations, curriculum development, and ECEfS professionalism in rural China.

The design and implementation of the training program was based upon transformative learning as a relevant theoretical perspective. The training program embraced the richness of transformative learning by emphasizing three key elements. First, a couple of scenarios were created, in which participants were likely to experience disorienting dilemmas. In these scenarios, key stakeholders from rural China encountered Nordic pedagogy regarding ECEfS in the intensive training program. Second, delegates were engaged into active problem-posing and problem-solving, being asked to prepare inquiries in advance of the study tour and to share their understanding in the group with the Norwegian counterparts at the end of the training program in Norway. All participants were expected by the sponsors and directors of the training program to disseminate knowledge to locals when they returned to China. Furthermore, they were required to develop an action plan that highlighted “acts of cognition not in the transferal of information” (Freire & Macedo, 1995, p. 67). Third, with a balance between personal and collective perspectives, we not only emphasized individual perspectives on transformation but also highlighted organizational actions at collective levels (Brooks, 2000; Tisdell, 2003). We promoted changes at the personal and social levels through group inquiry, with amplified consideration of cultural understanding and future-oriented actions, since provincial, city-level, and county-level officers were required to write action plans from an administrative perspective.

The goals were approached by undertaking the following activities: participating in preparation seminars and reading tasks, conducting observations in Norwegian kindergartens, participating and contributing in seminars, observing outdoor kindergartens, writing reflection notes, experiencing Norwegian everyday life and culture, writing group reports, and participating in dissemination activities after returning to China. The delegates were prepared by attending seminars and working through reading lists about ECEfS before their visit to Norway. Members of the delegation were challenged to present ESD from their local context to Norwegian participants. Then, the delegation was divided into three groups, which each had specific targets for their kindergarten observations. They were required to write daily reflection notes and present their learning journeys at the end of their stay, and they agreed to share their experiences with parents, teachers, and officers in China after their return. Later, after their return to China, delegates were interviewed about their understanding of ECEfS and the transformative actions they would take in the near future. Finally, provincial, city-level, and county-level officers were encouraged to create collective action plans in a broader region (see Table 1).

Table 1

An outline of the intercultural training program

| Activity | Issue addressed |
|--|--|
| May 2018: Preparation and discussions | |
| Reading lists | China’s embrace of the SDGs and endorsement of the 2030 Agenda for Sustainable Development |
| Attending a half-day seminar | |
| Local group work | |
| | Key concepts of the Nordic pedagogy and policy trends in ECE |

| Activity | Issue addressed |
|---|--|
| | ECEfS in Norwegian kindergartens |
| June 2018: Training period in Norway | |
| Welcome seminar: Norwegian ECE | What does the discourse of child development look like in day-to-day life in Norwegian kindergartens? |
| Kindergarten observations (3 days; divided in groups with different foci) | |
| Seminars | How do Norwegian kindergartens implement core values, such as equity, democracy, diversity, and mutual respect in their daily practices? |
| ESD in Norway | |
| ESD from home provinces | How are the framework plan and municipality policy of ESD implemented in kindergarten practices? |
| Visit rural areas of Norway | |
| Introduction to local governance | How are the framework plan and municipality policy of ESD implemented in kindergarten practices? |
| Visit local museum and observe how it worked with ECE (cultural sustainability) | |
| Observations in forest kindergartens (1 day) | How are the framework plan and municipality policy of ESD implemented in kindergarten practices? |
| Participate in an outdoor hiking activity with one kindergarten | |
| Experience everyday life in Norway | |
| Write daily reflection protocols | |
| Closing seminar: Group reports and reflections | |
| Late June – December 2018: Reflection and actions | |
| Dissemination activities | How can Norwegian practices be connected to Chinese contexts in a glocal discourse? |
| Policy implementation | |
| Reflection reports | How can ECEfS be implemented in local communities? |
| Interviews | |

Note. SDGs = Sustainable Development Goals; ECE = early childhood education; ECEfS = early childhood education for sustainability; ESD = education for sustainable development.

Methodology

The design of the study was based upon a development project (Davis & Elliot, 2014), with the premise that addressing key stakeholders would have an important impact on ECE practices in local communities. As a qualitative approach to inquiry (Creswell & Poth, 2018), this phenomenological research aimed to understand the essence of transformative learning, including what the participants experienced and how they experienced it (Moustakas, 1994).

The guiding questions for the study focused on what the participants experienced regarding transformative learning and how Chinese government stakeholders' lived experiences would transform their perceptions of ECEfS.

Participants

Eleven key stakeholders, from Yunnan, Guizhou, and Gansu provinces, recommended by the provincial governments and NGOs with long-term and intensive cooperation in rural China, participated in the training program. These participants were not selected as a result of purposive sampling in the research project but were selected as part of the training program that targeted key stakeholders to promote leading actions in line with ECEfS in rural China. The participants represented different levels of informants and decision-makers in ECE (see Table 2). The sample size fell within the recommended range for a phenomenological study (Creswell & Poth, 2018).

Table 2
Participants, by institution and province

| Job title | Province | | | Total |
|--------------------------------|----------|----------|----------|-----------|
| | Gansu | Yunnan | Guizhou | |
| Provincial officer | | 1 | 1 | 2 |
| County officer | 1 | | | 1 |
| City officer | | | 3 | 3 |
| City-level teaching researcher | | | 1 | 1 |
| Kindergarten principal | 1 | 2 | 1 | 4 |
| Total | 2 | 3 | 6 | 11 |

Procedures

Data collection. As transformative learning theory (Mezirow, 1978) and phenomenological research both require in-depth reflection, data in the form of reflective questionnaires and semistructured interviews—designed to track participants’ learning and experiences over the course of the program—were collected for two forms of data. Each participant generated two kinds of reflection: personal reflection journals (PRJs) during the program and personal interview documents (PIDs) at the end of the program.

Instrument #1: Two general and broad questions were given to participants at the beginning of the program—What have you experienced in terms of ECEfS in Norway? What contexts or situations have typically influenced your experiences of this travel study?

Instrument #2: Semistructured and in-depth interviews are one of the main methods of collecting qualitative data in phenomenological research (Polkinghorne, 1989). The interview protocol was designed by the researchers, drawing on the literature. The key concepts were adapted from the Environmental Rating Scale for Sustainable Development in Early Childhood (Specifically, it consisted of three major sets of questions: (1) personal and professional background, (2) understanding of ECEfS in terms of key concepts from ESD, and (3) social actions to be targeted in the near future.

Interviews with all participants ranged from approximately 60 to 90 minutes and were conducted in Mandarin.

Data analysis

The reflection notes and interview transcripts in Chinese, were analyzed thematically (Kvale & Brinkmann, 2015) from the perspective of transformative learning (Mezirow, 1991, 2000, 2003, 2009). They were only translated for presentation in this paper and the participant quotations later were prepared by the first author. The qualitative data were analyzed using open coding, axial coding, and selective coding (Corbin & Strauss, 2008). Codes were revisited and changed as the analysis proceeded. Emergent themes were identified based on the concept of transformative learning with three dimensions (Mezirow, 1991; McEwen et al., 2011). Disorienting dilemmas were identified as participants (as outsiders) experiencing ECE in a different culture. Furthermore, their reflections upon ECEFS were categorized, as were their explanations of their choices of new behaviors and action planning (Mezirow, 2000). Our findings on the participants' transformative learning experiences were analyzed with three thematic foci, in terms of three E's: experiencing cultural shocks and "outsider" status, engaging critical reflections on ECEFS, and envisioning commitment to future action. The E's as antic framework were echoed by three dimensions of the process of "perspective transformation" which leads formative learning (Mezirow, 1991; McEwen et al., 2011).

Ethical considerations

The invited participants agreed to take part in the study. All participants were informed of their right to withdraw from the reflection journals and interviews and to refuse recording at any point in time. The anonymization only occurred after data were collected. In fact, two participants failed to provide reflection journals, and three participants were not available for interviews because of heavy workloads or job transfers after returning to China. Only one participant quit all data collection procedures, due to heart disease, but provided some feedback via WeChat messages.

Information regarding the interviewees' job titles and individual characteristics are not reported here so as to preserve the confidentiality and anonymity of the informants. Access to the data is restricted to the researchers.

Validity

As qualitative researchers, we were positioned as both insiders and outsiders in the project and moved beyond a strict outsider/insider dichotomy to emphasize the relative nature of researchers' identities and social positions, depending on the specific research context. The first two authors of this paper have rich experience in China and Norway as native researchers, respectively, and they work as international and comparative researchers in both cultures and beyond. Thus, they were able to both simultaneously play roles as outsiders and insiders and also find some space in-between. However, as a phenomenological study, we did not have ambitions to overgeneralize the research results to all rural regions in China but instead sought to determine the essence of the phenomenon of transformative learning as captured in this intercultural training program.

Findings

Our findings on the participants' transformative learning below are organized under three thematic foci, in terms of the three E's: experiencing cultural shocks and "outsider" status, engaging critical reflections on ECEfs, and envisioning commitment to future action.

Experiencing cultural shock and "outsider" status

First, all participants expressed overwhelming feelings about their profound experiences of disorienting dilemmas, especially incredibly resilient children in outdoor and risky play sessions. This image of resilient children was in a sharp contrast to the image of "precious" children in China. Government officers shared common concerns in their daily reflection journals.

Resilient children. The participants were very puzzled in their first observations of the Norwegian kindergartens. This participant was confused about the practice and, at the same time, evaluated the practice as somewhat better concerning children's holistic development:

I did not really understand the practice of such an outdoor kindergarten by the sea. Children just played everywhere all the time, but they obviously have better development in a holistic way than our children. (PRJ-YAO-20180606)

The same reflections of shock regarding the Norwegian kindergarten and about how this practice might be experienced in China were expressed by the three following participants:

When I saw the Norwegian children enjoying risky play in the forest freely and skilfully, I thought about our view of children as overprotected by teachers and parents. (PRJ-XI-20180605)

I was really shocked by the outdoor nap time for children under 3. If you did a similar thing in China, then you might face parents' complaints of child abuse. (PRJ-OUM-20180605)

I have suffered from parental fears of risky play and complaints about children scuffling in kindergarten. It would not be possible for us to do that. (PRJ-ZIM-20180612)

Professional pedagogues. Second, the participants expressed confusion about the professionalism of the Norwegian pedagogues¹ at the beginning of their training program. They reported their puzzlement in the initial days in Norway in terms of how to understand the social pedagogical practices:

It's hard to tell at a glance that the activities have been fully planned by the kindergarten pedagogues. (PRJ-HAI-20180605)

The pedagogues in the seaside kindergartens just let children play freely. If you did that in our place, you would not be called a professional teacher. To be honest, our children are tired of the highly controlled environments. (PRJ-LUM-20180605)

At the same time, participants were deeply impressed by the professional work of the pedagogues when delivering teaching on living with nature in later ecological citizenship sessions:

The pedagogues have wonderful preservice training in delivering outdoor curricula, which helps them become better teachers in ESD, especially in the environmental aspects. (PRJ-OUM-20180613)

After a few days, I understood the preparedness and professionalism in the forest kindergarten. I was surprised by the head teacher in this family kindergarten who planned a wonderful 1-day forest curriculum. We learned a lot. (PRJ-WONG-20180613)

Engaging critical reflections on ECEfs

While immersed in disorienting dilemmas, participants documented their critical reflections in terms of understanding ESD in ECE as part of a glocal and culturally appropriate citizenship. First, cultural sustainability attracted much attention from the participants:

Some rural children in China might have forgotten how to act as smart locals and do not love the rural identity, not to mention how to live with nature as their ancestors did in mountainous regions. We need to support cultural sustainability as locals. (PRJ-OUM-20180613)

We have too many highly homogeneous kindergartens with similar inside and outdoor displays, and we might need to learn more from local cultures respecting them as resources for kindergarten-based curriculum development. (PRJ-YEH-20180613)

Second, a dialogic relationship within intercultural contexts was developed in some scenarios when participants discovered Chinese elements in a kindergarten with close connections to Chinese colleagues, which made them critical but more open. In the last visit to a family kindergarten, a participant shared her intercultural experience in China regarding how to encourage the teacher's active role in children's free play on the way to a mountain for a 1-day outdoor curriculum, which helped participants think deeply about mutual understanding and co-constructing best practices in ESD in ECE.

The participant mentioned she had learned much about how to be an intentional teacher, balancing child-initiated and teacher-initiated activities, during her visit to Beijing and Shanghai:

We have strong traditions regarding how to train the best teachers, and Norway has better policies to create the best childhood. We could learn from each other in many ways. (PRJ-XI-20180613).

Furthermore, some participants highlighted how learning from cultural philosophical traditions and best practices from the pioneers in Chinese ECE could support them in embracing ESD in ECE. These accounts referred to the connections between the Daoism and Norwegian practices. One senior officer suggested that Daoism was echoed in the Norwegian contexts:

As it is said in the Tao Te Ching, “Man takes his law from the Earth; the Earth takes its law from Heaven; Heaven takes its law from the Tao. The law of the Tao is its being what it is.” The Norwegian way is close to Daoism. It’s a pity that we lost it somewhere before. (PRJ-YAO-20180613)

Another focus was on the father of modern kindergarten education in China, Heqin Chen (1892–1982), and his theory about “living education.” Chen argued for a child-centered approach to education. Following John Dewey’s principle of experiential learning, Chen adapted progressive educational ideas to Chinese conditions and initiated and developed new ones. Chen believed that there must be an interaction between individuals and the environment and emphasized the importance of the natural environment (including animals, plants, and other natural settings) and the social environment (contact with individuals, families, streets, etc.) in childhood development. This might explain why another participant wrote the following:

As to Education for Sustainable Development [ESD] in Early Childhood Education, we do find some ambiguous suggestions in our kindergarten guidelines. At the same time, even in the early 20th century, Heqin Chen reminded us not to adopt foreign ideas without critical thinking but to adapt to basic principles and create our own models. That’s why the head professors for the training program keep reminding us to be critical. We need to learn from good theories and practices supported by Heqin Chen, which could connect our values to ESD. (PRJ-XI-20180613)

During the learning journey, participants engaged in critical reflection and cross-cultural connections in ECEfS. Furthermore, the two main researchers also discussed, with some participants, deep ecology (Naess, 1986) as an example to connect Daoism to extend their dialogues.

Envisioning commitment to future action

The participants were interviewed and challenged to reconsider their learning journey. Furthermore, they were required as part of the program to map their social actions in the near future or to recall what they had done to integrate ESD in ECE into their local contexts.

From the government officers’ perspectives, good governance is an indispensable component of ESD in ECE. Furthermore, they highly recommended the better use of community resources to develop the curriculum, especially in ways that would benefit environmental and cultural sustainability. Finally, some participants recognized that overprotective parenting is unpleasant and that the trend toward so-called helicopter parenting is strong in China. They said:

The top priority is to improve effective governance and emphasize process-oriented quality in ECE ... Curriculum development is also a target for city-level actions, and children need more outdoor time ... The most challenging task is to work with teachers and parents to encourage children’s exploration rather than to overprotect them. (PID-WONG-20180615)

We might need to provide a more inclusive environment for all children and for all kindergartens. (PID-HAI-20180617)

We will encourage more environment curricula in our county and work with the local community and parents to better use community resources to support better cultural sustainability. (PID-YAO-20180707)

Practitioners focused on curriculum development for environmental and cultural sustainability. In addition, they stressed the importance of teaching research and encouraged teachers to apply for funding to conduct mini research projects to integrate knowing and doing:

port teachers to develop curricula for Education for Sustainable Development [ESD] in Early Childhood Education through teaching research and research funding. Furthermore, planning environmental curricula with field trips and outdoor planting could be an alternative. (PID-OUM-20180617)

I have been engaging in the integration of cultural activities into kindergarten-based curricula for the last decade. In our culture, we have long traditions of respecting and living with the nature. I feel much more confident now and will continue to explore it. (PID-ZIM-20180614)

However, they also expressed concerns about supportive policies and parental ideology:

We need more supportive policies to further investigate ESD because the safety issue is the top priority. (PID-OUM-20180617)

We feel vulnerable when we face criticism from parents, and it's very difficult for teachers to encourage outdoor exploration without clear rights and responsibilities. At the same time, parents also need better understanding of outdoor learning. (PID-ZIM-20180614)

In fact, when the participants returned to China, they provided workshops and lectures for local parents to introduce the risky play and outdoor explorations observed in the Norwegian kindergartens, which may have helped with parental anxiety and peer pressure so as to then better nurture resilient children.

Discussion

Our findings are consistent with some previous researchers who have found that intercultural experiences provide a stark contrast between the practices of ECEfS in participants' home countries versus their host country (Bell et al., 2014; Taylor, 1998). These experiences were difficult and overwhelming, as well as positive and inspiring for their innovation.

Intercultural experiences as catalysts for disorienting dilemmas to trigger off transformative learning

The research findings reconfirmed that high-quality short-term study-abroad experiences can spark transformative learning (Bell et al., 2014). Intercultural experiences that promote

sensory, intellectual, and affective learning have been recommended as catalysts for transformative learning in teacher education programs (Birkeland & Ødemotland, 2018). In this training program, the intercultural experiences provided time and space for the creation of disorienting dilemmas, critical reflections, and acts of cognition in later scenarios. Encouraging more cross-cultural cooperation for ESD in ECE in the future could help further investigations into glocal and culturally appropriate citizenship.

Building a dialogic relationship with mutual respect and understanding

In this study, three E's as themes were identified: experiencing cultural shocks and "outsider" status, engaging critical reflections on ECEfS, and envisioning commitment to future action, since study abroad as transformative learning has been triggered. Furthermore, five key components of transformative learning could be further elaborated in three E's embedding in this study-abroad training program: a disorienting scenario, emotional response, critical reflection, perspective change, and commitment to future actions for ECEfS.

Participants underscored the connections between two cultures in ECEfS. It might be another good point to further promote ECEfS in the two countries. Even though China and Norway are far apart in terms of distance, culture, history, and geographical landscape, they have similar philosophies about how to live with nature. Daoism has a unique sense of value about how humankind should live with the universe (Palmer & Finlay, 2003). The deep cultural roots and great social impact of Daoism make it one of the three most recognized religions in China (the others are Buddhism and Confucianism), and Daoism has great potential to embrace ecological citizenship. Ecologists have emphasized Daoist values relevant to environmental theory (Naess, 1986). Furthermore, since the religion, culture, nature and environment haven been inextricably interw together in the Chinese experience, Daoism as the "green religion" could aid our search for a sustainable future, from the perspective of an emergent paradigm of sustainability (Miller, 2017).

This training program was supported by the cooperation among heterogeneous stakeholders from different sectors as hybrid s. The use of hybrid organizations has been a key strategy in addressing social and environmental sustainability challenges, such as poverty, climate change, and environmental destruction, which have received a great deal of attention in recent years (Boyd et al., 2009). Hybrid organizations usually cross the boundaries between public and private sectors, and this idea was reflected in the efforts of the intercultural training program, which was funded by public universities and NGOs from China. This can be understood as a collective-level action plan and shows that, in the education sector, different levels of key stakeholders need to work together as agents of positive social change. In this program, social relations were built among different stakeholders. The stakeholders involved in the short-term study-abroad experience might have a somewhat liminal position in China representing provinces in the western part of the country, with fewer economic resources in ECE than in the big cities in the east. A temporary upheaval of the traditional hierarchy between different stakeholders created opportunities for all members to equally share a common experience and to promote the conditions for community social change (Buechner et al, 2020).

As a profound outcome, transformative learning involves three fundamental elements supported by this research and also documented in research literature: searching for,

analyzing, and synthesizing of information for decision-making with cognition and emotion (Jokikokko, 2016; Mezirow, 1991, 2000, 2009; Zembylas, 2003); achieving core competencies for effective teamwork in ESD (Birkeland & Ødemotland, 2018); and working with hybrid organizations for the creative adaptation of global resources to address local priorities in ECEfS (Boyd et al., 2009).

This study tour exerted a positive influence on ECEfS in the three provinces based on the collective-level action plans. Supported by local governments and related NGOs, Yunnan province has started to work with government museums, botanical gardens, and private folk repositories to develop curriculum modules for cultural sustainability. Related counties from Guizhou province have explored better local governance and extended their curriculum development to embrace more outdoor play. Targeted counties from Gansu province have successfully found support from parents to create a weekend mountain climbing club for children.

Implications and recommendations

This research project aimed to gain insights into the nature of transformative learning in a study-abroad program. This study may be a starting point for examining and confirming the positive effect of an intercultural program as a trigger for transformative learning and enhancing key competencies for ECEfS specifically. Transformative learning can occur as a result of short-term study-abroad programs when academic content is carefully paired with the geographic dimension of studying abroad thereby creating the greatest impact in sustainability education and fostering global citizenship.

Participants' documentations and discussions of their learning journeys showed that our methodology inspired transformative learning for participants as key stakeholders in local provinces and that this intercultural training program contributed to ESD in ECE. Further innovations for ECEfS will be explored in the near future by the key stakeholders.

Notes

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¹ In Norway, kindergarten teachers prefer to use the professional title “pedagogue” due to a long tradition of Nordic social pedagogy.

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