Teaching for Action Competence

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Abstract
The focus of this article is to explore preschool children’s possibilities to learn to act for sustainable development. The purpose is to describe and analyze which actions are privileged when children participate in preschool activities. Analyses of video recordings of everyday preschool activities show how children experience activities where they critically discuss and make value judgments about actions. The results of the analyses also show how different actions become relevant in different practices. Furthermore, comparisons are made between the preschool practices and three teaching principles within education for sustainable development (ESD). In ESD, action competence is the ability to critically make value judgments about different alternative ways to act for a sustainable future. The result shows how children make value judgments in situations where facts are not sufficient for solving a problem.

Keywords
action, early childhood, education, sustainable development

Introduction
Even though education for sustainable development (ESD) has become an increasingly important part of preschool (European Panel on Sustainable Development [EPSD], 2010; UNESCO, n.d.), there is still much research to be done in the field (e.g., Ärlemalm-Hagsér, 2013; Davis, 2009). This article contributes to the research by reporting on a study on preschool children’s possibilities to learn to act for sustainable development.

Researchers mainly define ESD in two different ways (Scott & Gough, 2003). On one hand, some researchers focus on the natural environment and stress that education should use curricula both in and about the environment.1 On the other hand, some stress that economic, social, and environmental dimensions should be included in the curriculum.2 Even though both perspectives address research questions of moral and political character in some way, the main difference between them could be described as while these questions are included implicitly in the first perspective, the second always try to make them explicit. Important issues for a sustainable future can involve every human’s right to get education or to have access to clean water. As there is not one clear way to solve sustainability issues, there is a need to be able to make value judgments to determine what actions can result in an articulated goal.

In spite of the differences between perspectives and approaches in the field of ESD research, a common point of departure is the view that children are important actors for change in the future (see, for example, EPSD, 2010). Hence, one way to explore ESD is to investigate what action competence children need to participate in sustainable development. Although the term action competence is used in different ways by different researchers, most agree that the concept includes knowledge about different action possibilities, skills to investigate and discuss the different action possibilities and confidence to perform the actions.3

This article explores which actions are made relevant in preschool educational settings. Analyzing how children move forward in an activity makes it possible to grasp why and how certain kinds of actions and competences become relevant and others do not. In these analyses, it is also possible to discuss how the actions in the meaning-making process prepare the children for future actions, that is, what kinds of action competences they develop.

We will use an analytical approach developed and used in a number of previous studies (e.g., Lidar, Lundqvist, & Östman, 2006; Lundqvist, Almqvist, & Östman, 2009; Rudsberg & Öhman, 2010). The approach is built on a pragmatic perspective on meaning-making and a view on language inspired by the late Wittgenstein (1953/1992, 1969/1992). From a pragmatic perspective, meaning-making is a complex and dynamic process in which knowledge undergoes change; knowledge grows and develops rather than just accumulates (Dewey, 1938/1997). In the meaning-making process, for example, when people interact there is a need to make the situation at hand intelligible to be able to move forward. A way to make situations intelligible is by making connections between what a person encounters and
his or her earlier experiences. In this way, participation in
classroom activities contributes to the formation of the present situa-
tion, at the same time as the present situation prepares for
future activities (cf. Almqvist et al., 2008; Lidar, Almqvist, &
Östman, 2010). Many of the actions that people perform are
habitual; people fall back on them because they have learned
the actions in earlier situations and because they do not see a
need to doubt them in the present activities (cf. Wittgenstein,
1953/1992, 1969/1992). This means that they do not have to
reflect on their actions but can act as they are used to in simi-
lar situations (Dewey, 1922/1988). In such cases, learning
can be understood as a gradual transformation of habits and
ways of acting. However, when the actors do not automati-
cally know how to move ahead in a situation, this creates
what can be called a “problematic situation” (Wickman &
Östman, 2002; Hedefalk et al., in press). When observing
interactions, these problematic situations are a window into
exploring how a situation is made meaningful and how the
participants are able to move forward and also—and central
to this article—which actions are considered appropriate in
educational settings.

### Teaching Principles

In teaching activities, teachers have to make choices regard-
ing educational goals, content, and methods. These choices
reflect, among other things, which actions are relevant in the
practice. To be able to describe what kinds of actions are con-
sidered relevant in education, we introduce the concept
teaching principles. As a starting point, the principles are
built on previous research—mainly consisting of policy
analyses and interviews—on different teaching traditions in
the field of ESD (Sandell, Öhman, & Östman, 2005). We
also want to stress that there can be huge differences between
what is expected from politicians, policy makers, and teach-
ers on one hand and what happens in everyday teaching prac-
tices on the other. Therefore, the use of the concept teaching
principles in our analyses should be seen as a part of an
explorative approach where we are open to find new and
unexpected meaning-making processes.

Teaching for sustainable development can be categorized
into three teaching traditions based on different views on the
goals and content of ESD: the fact-based teaching tradition,
the normative teaching tradition, and the pluralistic teaching
tradition (Sandell et al., 2005; Skolverket, 2001; Sund &
Wickman, 2011; cf. Vare & Scott, 2007), all of which suggest
the teachers’ various aims, content, and methods. Each teach-
ing tradition can be defined by the different actions that are
privileged in different teaching situations.

These three teaching traditions were described in analyses
in environmental education context (Sandell et al., 2005;
Skolverket, 2001). In this study, we take our point of depa-
ture from this categorization to discuss feasible consequences
when teaching in preschool. We develop an approach that
explores how different teaching principles would look in the
different traditions, specifically looking at what different
kinds of actions the teacher privileges.

The purpose is to look for all the three different kinds of
principles in a preschool context and discuss what these vari-
ous ways of teaching mean in relation to children’s possibili-
ties to develop action competence for a sustainable
development.

#### The Fact-Based Teaching Principle

Characteristic of the fact-based teaching principle is that the
learners are expected to learn facts of some kind (Flogaitis,
Daskolia, & Agelidou, 2005; Östman, 1995; Sandell et al.,
2005; Vare & Scott, 2007). The idea is that to be able to act
for change, the children need to learn facts that they can use
as a base for their decision making; when they have learned
enough, they are also competent to act for change (cf. Östman
& Almqvist, 2011). Fact-based teaching means that children
interact in a way which results in the acquisition of suitable
facts about the issue in focus. Discussing values—for exam-
ple, different views on the relationship between man and
nature—is not relevant in teaching based on this principle
because the focus of the educational content is on finding the
correct description of the world (Sandell et al., 2005).

#### The Normative Teaching Principle

In the normative teaching tradition, moral issues are high-
lighted and teachers focus on questions about how to act
(Östman & Almqvist, 2011; Sund & Wickman, 2011). How-
ever, the relevant values are decided beforehand and
seen as a central part of the educational content that should
be learned by the children.

The normative principle emphasizes learning predefined
values (Sandell et al., 2005; Vare & Scott, 2007). A pre-
defined value means that the content is built on a specific
view (held by, for example, scientists, stakeholders, organi-
izations, or political parties) that defines which actions should
be considered relevant.

In teaching built on this principle, discussing values is
regarded as irrelevant because the understanding is that the
predefined values form the correct answers. Students do not
need to value the teaching content, just learn it. Teachers
guided by this principle would acknowledge that there are
different ways to act and different answers to the same ques-
tions, but the principle dictates that only one—or very few—
of the answers is valid.

#### The Pluralistic Teaching Principle

As with the normative teaching principle, the content of the
pluralistic teaching principle includes moral questions, but
its main characteristic is that the children are expected to
learn how to critically make value judgments. Consequently,
in teaching built on this principle encourages the children
search for information as stakeholders using different sources, such as the media and literature, to scrutinize and discuss different views on the subject in focus. The learners are expected to critically explore different views and come to conclusions by themselves or together with others. It is also possible for different children to find different solutions; consensus is not always necessary.

**Purpose**

The aim of this article is twofold. First, the aim is to describe and analyze which actions are made relevant in different preschool settings. The described activities show which action competences the children will need to participate in particular practices. Second, the actions performed are compared with those prioritized within the three different teaching principles described above. This comparison makes it possible to discuss which action competences children develop in Swedish early childhood education in relation to those called for in ESD research.

In other words, the analyses will highlight the following research questions:

- **Research Question 1:** Which actions are privileged in different preschool activities?
- **Research Question 2:** What does this mean for children’s possibilities to develop action competences?

**Method**

**Empirical Material**

The empirical material consists of transcripts from video recordings collected at a preschool in Sweden. The preschool is situated on the outskirts of a city and surrounded by forest, farm land, and meadows. Some of the children walk to the preschool and some come by a vehicle, depending on how close they live to the preschool. The ages of the children differ between the groups: Dundret has children aged 1 to 2 years, the children in Kebnekaise are 3 to 4 years, and the children in Skanderna are 5 to 6 years. There are two staff members working with every group, for a total of six employees.

The study complies with Swedish research ethics. The preschool teachers, parents, and children were asked for informed consent before the project started, and all the participants have been given fabricated names.

The video recordings, a total of 24 hr of film, were opened and recorded during the mornings (between 9:00 a.m. and noon) on 17 separate occasions in May and June 2010. Since we are interested in analyzing children’s discussions with teachers and with each other, we have not in the analyses included parts of the material were they are playing quietly, walking in a line quietly, singing or listening to a teacher reading from a book. In total, approximately 13½ hr of the recordings were transcribed.

The analysis of the empirical material was conducted in two steps:

**Step 1: Practical epistemology analysis.** In the first step, we used practical epistemology analysis, where we analyzed the problematic situations to find out how the children make the situation meaningful. Wickman and Östman (2002) introduced this approach analyzing science education at university level. *Stand fast* is a central analytical concept in the approach. Actions stand fast as valid for the participants in the situation when performed without hesitation. In these kinds of situations, the actions, such as the use of concepts, are things that no one hesitates about; they are immediately intelligible. Hence, there is no need to explain what needs to be said or done.

However, when people are not sure about which action to pursue, when a situation is not immediately intelligible, we say that a gap appears (Wickman & Östman, 2002). The gap is noticeable because the participants need to solve the problem before they can carry on the meaning-making. According to Wickman and Östman (2002), most of the gaps are quickly filled in an activity, but some linger, which means that the participants do not immediately bridge them. To bridge the gap, the children need to make the situation intelligible. The analyses of meaning-making are thus descriptions of how the gaps children encounter are bridged.

The first step of the analysis was to show what meaning-making is done. In the analysis, the meaning-making becomes evident when gaps appear; then, we present what actions are performed to bridge the gaps.

In the analyses of the transcripts, we searched for “problematic situations,” that is situations where the participants hesitate or do not automatically know how to proceed. These situations are keys to understanding how a situation is made meaningful and what actions the participants performed to be able to move forward. Meaning is situational—we do not know beforehand what meaning will be created. The situations used in this article were chosen for their clarity of what actions that are privileged in the situation.

**Step 2: Comparison and potential consequences.** In the second step of the analysis, a comparative strategy was used. This is done by associating the different actions that are described in the first step with the three different teaching principles. The identified gaps not only tell us what the children have learned from prior experience but also how they solve problems.

Furthermore, we discuss the actions in relation to the implications for children’s possibilities to develop the action competences that are sought after in ESD research. Different actions are identified as relevant in different teaching principles and give us a clue as to what kind of actions can be performed within the different teaching contexts. This allows us to identify actions in everyday preschool life and to discuss the potential consequences of the teaching principles for the development of action competence as discussed within ESD.
Results

We have found three different categories of actions used to solve problematic situations participants encounter in the preschool setting, suggesting which actions were privileged in the situations. The categorization of these actions is made in terms of “needs” that are required to bridge different kinds of gaps: (a) the need to know what to focus on, (b) the need for additional information, and (c) the need to make value judgments.

In the following, we use a few empirical examples to illustrate each category. The illustrations in the first step show how the actors proceed to move forward in the situation. In the next step, the actions are compared with actions that are privileged and agree with the different teaching principles.

The Need to Know What to Focus On

Step 1: Practical epistemology analysis. Three children sit on a rug with a volcano landscape motif on it, playing with plastic dinosaurs and looking in a book about dinosaurs. In our analysis of their meaning-making process, we can see that it becomes important for them to investigate whether the dinosaurs are meat-eaters or plant-eaters.

Kasper wants to attack Karin’s dinosaur but finds this difficult, because grass-eaters do not attack each other. The discussion about meat-eaters versus plant-eaters and their attacks on each other goes on for quite a while. In one example from their conversation, Kasper’s dinosaur starts to attack Karin’s dinosaur by biting it. Kalle, who is watching them, interrupts the play and tells them that Kasper’s dinosaur is a plant-eater and does not bite other dinosaurs. Kasper then picks up another dinosaur and starts attacking Karin’s dinosaur again. As Kalle does not protest, we can assume that the new dinosaur is considered to be a meat-eater.

In a sense, the children now have all the information they need to move forward in their play. However, the question about how to decide what dinosaur belongs to which group lingers in their discussion. The children continue to investigate and discuss differences between plant-eaters and meat-eaters. A teacher, Kristina, enters the activity, sits down on the rug, and helps the children to focus on something they have not noticed before. She instructs the children to examine the mouth of one of the dinosaurs. According to the teacher, the mouth and teeth are what the children should pay attention to when determining whether the dinosaur is a plant-eater or a meat-eater. Kasper answers by saying that the dinosaur is a plant-eater, but without examining the mouth. The teacher then directs the children toward the mouth by saying, “Look in the mouth then.” Kasper reacts to the teacher’s method of investigation by saying, “No, it is a plant-eater.” Karin follows the teacher’s direction by examining the mouth and says that the mouth is pink. The teacher then instructs the children to examine their own mouths by feeling their teeth. Here, we can see that Kasper follows the teacher’s instructions, even though he knows another way to decide what type of dinosaur he has in front of him.

Step 2: Comparison and potential consequences. In the empirical example, the children were told what to do to find an answer to their query; they never had to critically evaluate the actions. Consequently, the actions that are privileged in this situation are in line with the fact-based teaching principle. In the empirical example, the need to know what to focus on is solved by the teacher by directing the children’s attention to the “appropriate” way of finding the answer. The teacher directs the children’s actions toward a scientific way of finding out whether the dinosaurs are meat-eaters or plant-eaters (by focusing on the teeth). It is not up to the children to decide which actions might solve the problems because this is done beforehand and corresponds to a scientific method. This is of course not a surprise because they did not encounter any problem where they would need to decide what method is the best one to see whether the dinosaurs are meat-eaters or plant-eaters. But let us see how the same meaning-making situation can be understood in relation to the two other teaching principles described above.

As described above, for actions to become relevant in the normative or pluralistic teaching principles, the discussion has to deal with moral and not just with epistemological problems. In these situations, facts alone do not facilitate moving forward in the situation. For example, in the situation in which the dinosaurs were categorized according to what they ate, the moral problem of whether it is morally defensible for living creatures to attack each other could have arisen.

In the normative teaching principle, values are turned into scientific facts. The idea is that it is possible for people to find the right and good way to act by doing rational thinking and investigations. In this particular case, the teacher could have referred to the natural food chain. In a scientific discourse, it is rational and morally defensible for living creatures to attack each other and a decision to become vegetarian, for example, could be seen as irrational. Here, the value judgment is made within a scientific discourse, and the children are not involved in it.

In the pluralistic teaching principle, the participants are expected to make value judgments about different perspectives of the issue. Some might say that it is necessarily for dinosaurs to attack each other, while others may not. The children then need to critically discuss and value what they think is morally right. In this case, science does not have the only answer, and there are no predefined answers that determine which action is right.

The Need for Additional Information

Step 1: Practical epistemology analysis. In this empirical example, the dinosaur activity described above continues. Karin
sits on the rug with Kasper and Karolina, and Kalle observes them. They play with the dinosaurs by pushing them against each other. Suddenly, Kalle shouts out and directs the other children’s attention toward a book. He points at a picture and says, “Look, this one, look here how strange when there are horns.” Kasper notes that the dinosaur in his hand has horns, and he places the dinosaur on top of the picture. “But this is a meat-eater,” Kalle says and points at the book. “That one is not a meat-eater.” He points at Kalle’s plastic dinosaur.

A gap has appeared: Kalle has assumed that meat-eaters do not have any horns, but the meat-eater in the book has horns, which contradicts his earlier experiences. This makes him doubt the new information. Kalle compares the dinosaurs but cannot make sense of the pictures. Karolina and Kasper look in the book and continue the activity by discussing that some dinosaurs have short horns and others have long horns. However, they are unable to fill the gap, and they start a new investigation.

**Step 2: Comparison and potential consequences.** In the empirical example outlined above, the actions that are privileged agree with the fact-based teaching principle. The way to bridge the gap is to understand the scientific facts in the book.

Feasibly, a teacher could intervene in a situation as in the situation above and turn the discussion about the dinosaur’s horn into a discussion about a moral problem and, thus, make it relevant within the normative and pluralistic teacher traditions. This could, for example, involve a discussion about whether a plant-eater or a meat-eater should use the horns against each other or not. In the normative teaching principle, the teacher would then probably tell the children about the use of the horns to stay within a scientific discourse. The use of horns is then turned into a scientific question. The children do not need to make value judgments because science has already done it for them.

In the pluralistic teaching principle, however, it would be relevant for the participants to consult different sources to make value judgments and discuss different views on animals’ uses of horns. Some might say that it is morally defensible for dinosaurs to use their horns on each other, while others might not think so. The children would then need to critically evaluate the views and decide what they think is morally defensible. In this case, science is not the only source, and there is no predefined correct answer.

**The Need to Make Value Judgments**

**Step 1: Practical epistemology analysis.** In the two empirical examples provided below, the need to make value judgments is illustrated and solved in different ways. In the empirical examples, we can observe a need to know which action is valued as the right one.

In the first situation, the children hesitate about how to act when they encounter a hedgehog in the preschool yard. The children are playing in the courtyard on a warm and sunny morning. Selma, Sofia, and Sara climb on two ropes tied between two trees. Selma suddenly stops when she catches sight of a hedgehog.

The girls start to examine the hedgehog and Selma notes that the hedgehog is thorny. Sara suggests that they can poke the hedgehog with a stick. All three girls each fetch a stick. Selma then pokes the hedgehog with her stick. Sara says, “We are just fiddling around.” The girls hesitate—a gap appears, in that they do not know if this action is okay to perform or not. Sara changes her action by shouting, “don’t,” to Selma and runs toward a teacher. “Miss, Miss. There is a hedgehog. Come and look. We have found a hedgehog.” Selma drops the stick and starts shouting, “We have found a hedgehog. We have found a hedgehog.”

The girls alert several children and a teacher, and one of the girls, Selma, bends over the hedgehog and pokes it with the stick. Kia, the teacher, however, informs the children that it is wrong to poke the hedgehog with sticks: “No Sofia, do not poke it. Let it be, you are not allowed to touch it,” the teacher responds. A possible gap arises because Selma says that she is not poking, just touching. The teacher then clarifies that no touching is allowed: “What did I just say? You are not allowed to touch it.” Sofia runs to fetch more children and at the same time shouts that they should not touch the hedgehog. Selma shows in action that she has understood the teacher by stopping the poking, and shouting to the other children that they are not allowed touching the hedgehog.

**Step 2: Comparison and potential consequences.** The need to make value judgments becomes relevant when the hedgehog enters the preschool yard. The children find out that it is wrong to examine the animal closely, at least by poking it with sticks. Watching from a distance is considered to be the right way to act. In this activity, the relevant way to act is indicated by the teacher’s prior value judgment of which action is considered morally acceptable. There is no possibility for the children to discuss different ways to act in this activity. The teacher’s suggested actions are privileged, following the normative teaching principle.

In this situation, the fact-based teaching principle is not relevant because the actions are focused on valuing behavior rather than on handling facts.

For the actions to be consistent with the pluralistic teaching tradition, the children would have to discuss whether poking the hedgehog with a stick is morally defensible or not and look at different ways of investigating the hedgehog. In other words, they would need to study different views and sources to critically evaluate the matter and solve the problem of how to act in this situation.
song about a mosquito, and a discussion about how to protect themselves against mosquitoes has begun. The teacher, Saga, leads the gathering and decides whose turn it is to speak. The children have made different suggestions, and it is now Svante’s turn to contribute to the discussion: “But if a mosquito, if you feel that a mosquito lands on you, you just go like this.” He hits his arm with the palm of his hand.

A gap occurs as the discussion continues. Svante has presented the idea that you can smash the mosquito with your hand, but teacher Kristina suggests another way of getting rid of the mosquito—by sweeping it away. This statement from the teacher indicates that it is possible to have different views; Kristina’s suggestion means that the mosquito stays alive, while Svante would end up with a dead mosquito.

Kristina’s suggestion can be understood as a grounded in a specific moral value: It is wrong to kill insects. Svante sticks to his idea and repeats his suggestion of smashing the mosquito: “Yes, or smash it.” The teacher Saga says that she “actually” thinks that it is okay to hit mosquitoes because they are not pleasant to humans. She develops this reasoning by saying that it is okay to kill unpleasant animals, but those that are not unpleasant should be allowed to live by being swept away. Our interpretation is that when she says “actually,” she indicates that there might be other beliefs about this; this is just what she thinks.

Kalle supports teacher Saga’s idea as he shows how this can be done by smashing an imaginary insect with his hands. The gap lingers because Saga says, “No, now you have to listen.” According to her, Kalle’s suggestion of hitting insects is not completely acceptable. Teacher Saga explains what kinds of insect she thinks can be killed or not. Her reasoning involves killing insects that inflict pain to humans; the other ones can be swept away without them losing their lives.

**Step 2: Comparison and potential consequences.** In this example, the teachers take different stands on how to act, which in turn makes it possible for the children to also consider different ways of acting. These kinds of actions are privileged in the pluralistic teaching principle.

If both teachers had agreed on the same way of acting, it might not have been necessary for the children to consider different ways of acting. When the teachers decide for the children which actions are considered to be right, the actions are privileged and consistent with the normative teaching principle. The teacher, Sara, argues that insects that inject poison inflict pain on humans and then merit killing. This also means that insects that do not inflict pain do not need to die. If the other teacher, Kristina, had agreed with this, the children would probably have felt obligated to agree as well, and that would have then been regarded as the appropriate way of acting in the situation.

**Conclusion**

The overall aim of this article has been to describe and analyze which actions are privileged in different preschool settings and to compare these actions with those that are privileged in three different teaching principles: the fact-based teaching principle, the normative teaching principle, and the pluralistic teaching principle. The comparisons are made to be able to discuss what action competences children are developing in relation to the action competences described within ESD research.

We found three different categories of actions the children perform to solve problematic situations they encounter. The categorization of these actions is made in terms of “needs” that are required to bridge different kinds of gaps: the need to know what to focus on, the need for additional information, and the need to make value judgments. Even if these actions are not performed within a sustainability context, the children develop general competences that are called for in ESD research.

The privileged actions that are consistent with the fact-based teaching principle involve, among other things, the ability to make scientific investigations and to pay attention to relevant sources of information. These actions were illustrated when the children played with dinosaurs. The teacher helped the children to focus on something that they had not focused on before. When the children needed additional information, they found this information in a science book for children. These two kinds of actions focus on handling facts to be able to move forward in the situation.

A teacher’s didactic choices may have a great impact on the direction of an action (cf. Hedefalk, in press). If teachers want children to develop competences that involve dealing with moral problems and dilemmas, the use of facts is not sufficient for moving forward in the situation. Actions that are privileged within the normative teaching tradition are those in accordance with predefined moral evaluations. Here, children learn to follow someone else’s directions. However, if the aim is for children to act critically and think independently, the pluralistic teaching principle asks for further actions. According to this principle, to develop the relevant acting skills, children need to experience actions where they can critically value different alternatives. In the examples provided, these actions became relevant when the children discussed insects.

ESD researchers describe action competence as the ability to discuss and critically evaluate alternatives (Læssøe, 2010; Mogensen & Schnack, 2010; Öhman, 2011; Rudsberg & Öhman, 2010). As there is not one clear way to solve sustainable issues, actors must be able to critically value what actions can result in the articulated goal. Sustainable issues are not articulated in the preschool activities we have analyzed, but students can learn how to critically discuss and make value judgments about actions in more general terms in some activities.

When the children were playing with the dinosaurs, we noticed that the need to find facts was relevant and moral questions were not. What seems to be important to focus on in preschool activities, for children to develop action competences asked for within ESD research, is to learn how to
critically value different actions. In that sense, the fact-based principle cannot be used solely to develop an action competence to make value judgments about moral dilemmas. We do not suggest that teachers turn every activity into a moral dilemma but we do want to highlight the importance of noticing the activities where children can critically make a value judgment.

The importance of being able to make a value judgment was evident in the study when facts were not sufficient to solve a problem. Without values, it is not possible to evaluate what is at hand. Therefore, ESD has to contain activities where children evaluate and critically discuss matters. Learning facts is not always enough.

Hence, the study has shown that preschool teachers should pay attention to situations in which value judgments become important. When there is a need to make a value judgment about a moral matter, there is also a possibility to create different solutions and critically evaluate what actions are appropriate. By acting in these situations, children hopefully can build the foundation of action competences discussed in ESD research.

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Notes
1. See, for example, Lee and Ma (2006); Maynard (2007); Davis (1998); Lewis, Mansfield, and Baudains (2010); Deans and Brown (2008); Lee (2001); and Davis (2009). These articles are selected from a review by Davis (2009), which consists of 14 journals. In this study, we added 8 additional journals to the review before we selected the ones to include in this article. The journals can be divided into three areas: environmental education, early education, and Nordic education journals.

2. Astbury, Huddart, and Théoret (2009); Filho, Pace, and Manolas (2010); Flogaitis and Agelidou (2003); Hägglund and Pramling Samuelsson (2009); Johansson (2009); Jöhamnsson, Norbdahl, Öskarsdóttir, Pálsdóttir, and Pétursdóttir (2011); Öhman (2011); Pearson and Degotardi (2009); Prince (2010); Pramling Samuelsson (2011); Siraj-Blatchford and Björnleoo (2009); and Siraj-Blatchford (2009).

3. Almers (2009); Breiting and Mogensen (1999); Breiting and Wickenberg (2010); Jensen (2002); Læssøe (2010); Mogensen and Schnack (2010); Persson, Lundegård, and Wickman (2011); and Pramling Samuelsson (2011).

4. See, for example, Breiting and Mogensen (1999); Jensen (2002); Læssøe (2010); Lundegård and Wickman (2007); Mogensen and Schnack (2010); Öhman (2007); Sandell, Öhman, and Ostman (2005); and Vare and Scott (2007).

5. Transcript from video recordings, file 3, turn 154-157, 162-172, 177-184, 197-206, 239-241, 269-276, 389-400, 406-416, 434-445, 547-568.

6. Transcript from video recordings, file 3, turn 408-416.

7. Transcript from video recordings, file 3, turn 177-181.

8. Transcript from video recordings, file 29, turn 3,596.

9. Transcript from video recordings, file 4, turn 676ff.

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