

COMPARATIVE STUDY OF ENVIRONMENTAL MORAL JUDGMENT WITH SPECIFIC TEACHING ON SUSTAINABLE DEVELOPMENT

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Abstract

Many researchers have focused on the development of moral environmental judgement in children (Hansla & al.; 2008; Persson, & al. 2015). The pioneer, Kahn (2002, 2003, 2008) identified three types of environmental, and moral reasoning: homocentric, bio-centric, and isomorphic. Our study asks about the influence of teaching on moral reasoning in relation to the environment for children of 1st grade and 2nd grade who had a specific education (N=60) to sustainable development or without specific education (N=56). We assume that students in schools with an education in sustainable development will be more bio-centric than those without. For that, we created stories, including an environmental dimension to identify the type of reasoning of children. Student's t test indicates that bio-centric reasoning is dominant for all children, however, teaching contributed to more bio-centric reasoning. Student's t test shows that children without specific teaching in both grades had significantly more difficulty in making moral judgments and reasoning on the proposed stories. These results support the importance of environmental education in the development of moral environmental reasoning.

Keywords: Elementary school-age children, teaching sustainable development, environmental moral judgment, reasoning.

1. Introduction

Kahn & al. (1995, 2002, 2003, 2006, 2008, 2009) study the development of environmental moral reasoning in children. The reasoning is seen here as a judgment. It distinguishes three types of reasoning: 1. Homocentric reasoning suggests that humans can take advantage of the environment to serve their interests for their well-being (both physical and psychological) with an esthetic dimension. 2. Bio-centric reasoning suggests that the environment has a moral status. There is a relationship between nature and taking care. 3. Isomorphic reasoning, which is the link between humans and nature. Nature has the same moral considerations as man, which would mean, for example, "why kill animals when they have the same rights as us?" (Kahn, 1995). Children thus establish relationships between animals and our own rights.

Thereafter, Kopnina (2014) considers environmental problems to be social dilemmas. It involves sophisticated moral conceptions based on notions such as rights, liberty, justice, equality, and respect. Every living being has value and deserves to be considered morally. Next, Otto and colleagues (2017) see environmental education as a tool to address environmental issues. They also establish a link between involvement in environmental education and children's ecological behaviors. Environmental education of children is therefore of great importance.

2. Methodology

Population: For our study, we interviewed a total of 116 children (M=6 years and 6 months, SD = 0.28, 58 girls, 58 boys). 56 children came from schools without any specific teaching on sustainable development and 60 children had specific teaching on sustainable development. The children grew up in the Parisian suburbs where the experiments took place.

Material: To access children’s knowledge and judgments on sustainable development, seven stories were presented to children including different areas: destruction of nature, behavior towards animals, pollution and selective recycling. It is a stimulating and innovative tool to access children's knowledge and judgment. It is a challenging and innovative material for accessing children’s knowledge and judgments. Sustainability is never explicitly mentioned in the stories.

Experiment: Prior to the interviews, teachers were asked about the content of their teaching. The experiment was divided into two stages: the researcher read the different stories and then asked the child to judge them. He then proceeded with a semi-structured interview in which the child was asked to explain his answer. The experience was carried out individually. The average interview time was 13.5 minutes per child.

Data coding: The speech and choice of children were grouped into several response categories. Classes were determined by independent judges (Kappa coefficient: 0.99). This allowed the identification of the different types of responses of children associated with their choices. Criteria were similar to those set out by Kahn (2002).

3. Results

In the first stage, we identified four answer categories: bio-centric, homocentric, isomorphic, and I don't know (Cf: Table 1).

Table 1. Percentage of children's responses.

Reasoning	1st grade without teaching	1st grade with teaching	2nd grade without teaching	2nd grade with teaching
Bio-centric	36,51	53,92	45,32	54,19
Homocentric	27,51	30,88	31,53	28,08
Isomorphic	10,58	7,83	12,32	14,78
I don't know	25,40	7,37	10,84	2,96

We can see that the majority of children use bio-centric reasoning independently of teaching. However, this reasoning increases with specific teaching. Table 2 provides an example for each of the reasoning according to age and education.

Table 2. Examples of responses.

Reasoning	1st grade without teaching	1st grade with teaching	2nd grade without teaching	2nd grade with teaching
Bio-centric	It destroys nature, plants give us air.	Because it's not right to kill nature.	It's not good because it pollutes the earth and the earth will be sick after.	Because you don't have to destroy the forests to make money. Nature is more important.
Homocentric	Because at least you can see the animals.	Because after people, they have no food.	Because at least there will be more room for people.	That's good, it can be useful.
Isomorphic	Because the fish need to live and have water and to be able to breathe. Then for fishermen it is necessary to keep them to eat them.	So he's not all wet. But if he goes on foot, he could take an umbrella.	I'm saying if it's a car that's not electric, it doesn't do nature any good. It's not good for nature even if for us it's better	Maybe they felt better in their country than in the zoo. Even if people come to see them

In the second stage, statistical analyses (student t-test) were conducted to test the impact of teaching on the type of reasoning used. The analyses reveal a significant negative difference for the answer I do not know for the 1st year $t(-1.842)$, $p < .05$; and a significant positive difference in the 2nd year $t(3.053)$, $p < .05$.

4. Discussion

In the present study, we assumed that children in schools with sustainable development education will have more bio-centric reasoning than students without this teaching. The results showed that the two groups of children had essentially bio-centric pro-environmental reasoning, which confirms the hypothesis of Kahn and his collaborators. The significant difference in the answer "I do not know" indicates that the child without specific teaching does not have access to the representation of the story and does not have knowledge related to environmental issues.

The development of moral environmental needs knowledge that special education can provide. (Otto and colleagues, 2017)

5. Conclusion

Children are predisposed to environmental ethics; teaching can strengthen it. The answer "I don't know" must be considered and it proves that environmental education is needed to provide knowledge for a pro-environmental morality. In future studies, cross-cultural perspectives and longitudinal studies could be developed with international collaboration.

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