

# Dancing with structure: research in Ecological Pedagogy

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Ecological Pedagogy is the “Pedagogy of the whole”. It assumes a continuous interaction between the individual and his or her environment (e.g. Bronfenbrenner (1977)). Traditionally, Pedagogy has been aimed at separate aspects, such as the school, the family, the neighbourhood or government policies. By contrast, Ecological Pedagogy is characterised by an integral approach. The perspectives of children, parents, educators and other stakeholders are in the middle and are approached by taking into account all their important interrelations. In this essay, a plea is made for a broad research perspective in Ecological Pedagogy in which qualitative and quantitative methods are treated by addressing their similarities rather than their differences.

## 1 Investigative attitude

Ecological research implies opening up to the questions that can arise in specific contexts. This requires an open, communicative and reflective attitude of “continuous self investigation”. As a researcher, it is important to be aware of one’s principles, questions, and expectations and be as explicit about them as possible. In other words, one needs to structure them. Doing so, others get the opportunity to agree or disagree with a certain perspective. In other cases, it may also be necessary to change one’s own mind sets. Accordingly, doing research can be seen as a natural, human process of alternating phases of structuring and loosening.

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## 2 Prestructured or quantitative research

Quantitative research aims to answer questions by expressing “elements of reality” into numbers and derive objective statements from this process. In Pedagogy, this is often problematic. For example, the answer to the question “what are problem kids?”, will depend on the perspective of the researcher and/or the context from which the topic is approached. Still, numbers may be used as “structuring representations”, comparable to the way in which humans use storytelling to structure their realities. To give an example, also in pedagogical research standardized questionnaires or surveys are increasingly administered through the internet. This is a convenient procedure to reach many respondents in a cost-effective way. Often so-called “rating scales” are used. On these scales, respondents can indicate by choosing from pre-coded response options the extent to which a statement is applicable to them. Generally, these options cannot be considered as measurements of quantities. However, the pre-specified number structure in the response options considerably facilitates the data analysis.

## 3 Flexible or qualitative research

Qualitative researchers aim to stay as closely as possible to the perspectives of the participants of their studies. Concrete examples of qualitative methods are open interviews, open group interviews (focus groups), participant observation and studies of the stories that people tell (narrative research). This type of research is characterised by a relatively low degree of prestructuring. Prespecified questions and/or response options might indeed more reflect the researcher’s preoccupations than those of the participants. This would involve a threat to the meaning or sensemaking of the study. In a qualitative approach, researchers hardly use numbers as structuring representations. As a result, respondents obtain more freedom to express their own ideas or experiences with regard to the topic under study. Because of its open and mutual character, this type of research can be seen as a form of dialogue between the researcher and the participants. More specifically, this means that the researcher has more freedom to adjust his approach to whatever the participants put forward. Thus, data collection and data-analyses are often intertwined, which is much harder to realise in quantitative research. Accordingly, one can relatively easily take into account unexpected aspects showing up in a particular context. This will often increase the meaning of the study for the participants or other interested parties and have a positive effect on the sensemaking or validity. For this flexibility, a price has to be paid, however. Because of the relative lack of a priori structure, the data will have to be structured later on in the research process. Even for relatively simple studies, the data analysis will be more complex and labour-intensive than in a quantitative study with the same ambition. Also, it is more difficult to demonstrate the reliability of the findings (if necessary). Because qualitative research involves less a priori structure than quantitative research, more effort is needed to demonstrate that the conclusions are not merely based on the interpretations of a single researcher. Thus, also for this type of research an extensive research design is important.

## 4 Investigating means simultaneously applying and loosening structure or “with or without you I can’t live” (freely rendered from U2)

Qualitative and quantitative research methods show gradual rather than absolute differences. Quantitative researchers need to reflect on the potential negative side effect of their

prestructuring on the meaning of their conclusions. On the other hand, also qualitative researchers cannot escape from applying structuring and thereby reducing principles. For example, to handle the often large amounts of interview transcripts in an effective way, they need to subsume different expressions of participants under a same category. Finally, we like to argue that that meaningful research is not possible unless some form of structure is applied. Without inducing structure, the researcher might not add a lot of value, which implies a considerable sensemaking problem. What is the contribution of the researcher then? Also, he would then withdraw from the dialogue that is crucial for the ecological value of his work.

From a methodological stance, only the question when structure is introduced is relevant. More at the beginning of the process, as in quantitative research, or more towards the end, as in qualitative research? At the same time, as a researcher you always have to be aware of the risks of rigidity that can follow from any kind of structuring and classification. An investigative attitude means applying and then loosening one's own thought structures. This endless "dance with structure" might be what makes research meaningful.

## Reference

- Bronfenbrenner, U.: Towards an experimental ecology of human development. *American Psychologist* **32**, 513–531 (1977)