

The Influence of Generation and Experiencing Daily Routines on Educators' Training

Jens Hepper

Rostock University, Rostock, Germany

Abstract

This qualitative study follows the two questions, how the factor of the generation, an educator in training belongs to, influences his or her general concept of how sustainability-related lessons should be conducted and how the factor of living in groups influences this as well. For this interviews with 206 students were held and their own educational approaches monitored. In conclusion, this study has three major findings. The first is the attempt to define the difference between the concept of environmental education and environmental instruction, as being different approaches to the same subject, with the latter being less participative and effective, according to this study. The second is, that there is apparently a generational gap between the Generations X, Y, and Z, concerning their approach on this subject. Apparently Education for Sustainable Development is becoming more and more implemented, with each generation. Finally, in-house living in everyday situations can make change towards sustainability happen with students and learners, but the other way is possible to. Considering this, learning in a group in an everyday situation might be a new approach for teacher training in Education for Sustainable Development.

Keywords: teacher training, Generation Y, Generation X, Generation Z, environmental instruction, environmental education, education for sustainable development.

Introduction

The issue of teacher training, considering Education for Sustainable Development, is a subject of life-long learning, needing an increased awareness by those, planning concepts and structures (Ghorbani, Jafari, & Sharifian, 2018). In recent years, we experience a rise of authoritarian nationalism, right wing parties and in-humanitarian exclamations by government officials, particularly in Western countries, few people would have believed a decade ago, showing a set of mind, prevalent in these societies, that contradicts sustainability (UNSECO, eds. 2015). Education for Sustainable Development can be considered an essential approach in hindering this undesired development (UNESCO, eds. 2015).

Apart from regular school teachers, we have professional, vocationally trained educators, able to establish the concept of Education for Sustainable Development in their educational approach and planning of lessons, especially with out-of-school-learning

(Hepper, 2016). Curricula for green vocational education courses in Germany considered this demand and shifted their course layout, owing this to the UN Decade of Education for Sustainable Development, while other countries still consider to establish similar structures (Anyolo, Kärkkäinen, & Keinone, 2018). These professions include forest workers, professional hunters, animal keepers, and others. For farmers or horticulturists some schools offer optional classes, but this is only rarely the case.

With these professions, sustainability education and environmental education has an average of 16 weeks of training during their three-year apprenticeship (Kunze, 2010). This can be considered to be an indicator, that teaching sustainability is an essential part of the future work of these vocations. This is particularly true for animal science professions (Kunze, 2010). Nowadays half of the former students work full-time as educators or as education and extension officers (Hepper, 2017).

This paper follows two research questions: First, it delves into the subject, how the generation affects the choice of methods for planning education in the whole field of sustainability. Second, it follows the question what role social learning plays in students who are living together in everyday situations, to identify aspects for a holistic approach on the issue of teacher training.

Methodology of the Study

This study monitors the educational process of 56 groups of students, who were participating in classes on environmental education and Education for Sustainable Development from 2010 until 2018. All groups learned about the principles, concepts, limits and strengths of Education for Sustainable Development, environmental education and environmental instruction, according to the standards of German forest education scheme (Hepper, 2016). The introduction phase included a reflective learning opportunity, where new skills, knowledges and competences were taught according to the concepts of the three approaches mentioned above. During earlier part of the study, the various concepts were evaluated externally, by teachers in training as a part of their written thesis for the higher teacher exam (Wolkenhauer, 2012; Weihberg, 2013).

Lessons held, following the concepts of environmental instruction had the lowest learning outcome, with Education for Sustainable Development offering the best results in the tests (Wolkenhauer, 2012; Weihberg, 2013; Hepper, 2015). Both teachers in training had initially preferred more instructional approaches, so the research led to a change of their own conviction.

Participants of the Study

Getting back to the students participating in the courses: After being told about the outcome of the tests and as a part of their final examination in this subject, the students had to plan a day with out-of-school-learning for pupils, from class 3 to 12 (9–18 years old) on a topic related to the environment and the sustainable use of natural resources. All of the participants were allowed to choose for themselves, what kind of topic and how they planned to address during their day (2–6 hours) and had to hand in a detailed excerpt, including the intended learning outcomes. The students worked together in a group of three to six people, typically in their flat-sharing communities. The planning for this occurred in their free-time after school.

The author, as the teacher responsible for this project, documented the whole process, following a qualitative approach for the research (Langner, 2000; Mayring, 2000; Jenker, 2007). For this, the content and structure of the lesson, as given in the planning and the actual teaching were analyzed, following the structures of qualitative content analysis (Langner, 2000; Mayring, 2000; Jenker, 2007). The number of participants with $n=208$ cases is small, so the qualitative approach is appropriate (Helferich, 2005).

Furthermore, qualitative interviews were held, following a narrative-focused approach, meaning that the student interviewed tells the interviewer his opinion on the subject of the lesson and the reasons for their choice of methods and concepts (Marotzki, 2003; Lenz, 2006; Ludwig-Mayrhofer, 2006).

The research was done on the level of an educational course experiment (Severing, 2001), due to the fact, that the approval for this was given by the schools principal, rather than the governmental school administration. All of the steps mentioned above, can be considered to be an integral part of research in such a setting (Voigt, 2013). The methods and approaches as well as the interview technique were tested in a pre-study (Marotzki, 2003; Lenz, 2006; Ludwig-Mayrhofer, 2006).

Research Findings

This paper relies heavily on defined subtypes of environmental education, as there are generational differences perceivable. The main problem of this study, is the differentiation of what is commonly called education in English. Easiest to explain, is the term "Education for Sustainable Development", due to the simple fact, that there is an internationally recognized definition from the UNESCO stating:

This means moving beyond literacy and numeracy, to focus on learning environments and on new approaches to learning for greater justice, social equity and global solidarity. Education must be about learning to live on a planet under pressure. It must be about cultural literacy, on the basis of respect and equal dignity, helping to weave together the social, economic and environmental dimensions of sustainable development. (UNESCO, eds. (2015) Rethinking Education. Towards a global common good? UNESCO Publication, France, page 3)

The consideration of economic, ecologic, social, and recently cultural aspects on any learning subject are therefore not separable from each other, regarding educational processes in Education for Sustainable Development (Iliško et al., 2018). One of the basic competencies of ESD is, that vocational students should be able to address unsustainability (Iliško et al., 2018), especially in regard of learning processes (Wolkenhauer, 2012; Weihberg, 2013).

It gets a little bit more difficult, when it comes to the German understanding of environmental education (EE). This concept is closely related to the aforementioned Education for Sustainable Development (ESD), originating in the 1970s and encompasses learning how to deal with nature, the environment and natural resources in a responsible manner (Rost, 2002). What is the major difference, is the thinking on a global scale, which environmental education lacks (Rost, 2002). Furthermore, there is a perceivable tendency in focusing on a single aspect of the environment, for example forests and woods, and is less competence- but rather knowledge-oriented (Rost, 2002), compared

with Education for Sustainable Development. Thus it often focuses on a single aspect of the environment, ignoring others to the degree, that it is more public relations work, rather than education (Hepper, 2016).

Finally, we have, what Germans call environmental *Erziehung*. To put it simple, the approach in *Erziehung* is, to influence students and learners to change their behavior in a way, that will lead to a better world and lesser damage (Rost, 2002). The students are being told to behave in a certain manner, that furthers the desired learning outcome. The main problem with this concept is, that the changes in behavior do not occur; it is more common for the concepts learned to compete with the other desires and intentions of the individual, what shows the major problem of this educational approach (Rost, 2002). In translations, this concept is often mixed up with the German word for environmental education. As these two terms describe something completely different, the author suggests that this concept should be called “environmental instruction” (EI), as it is more closely related to a manual how to do things, in this case, caring for and protecting the environment. Environmental instruction is based on a threat (Tempel, 2001), that has to be fought. Problematic issue is that this threat is only perceived by some, who want to make others behave in a certain way, without offering them the opportunity, to develop the knowledge, why this is necessary for themselves (Tempel, 2001).

These three concepts and structures compete with each other in the daily routine of educators and can be considered to be an integral part of modern day educational processes in Germany, concerning environmental und sustainability issues. Furthermore, resiliences, as an integral part of affecting bitterness before it occurs, can be more likely developed in holistic approaches following the concepts of Education for Sustainable Development (Wilderer, 2013), while it is absent in environmental instruction, due to the fact, that it is not a competence, learned by being told how to behave and act, but rather through experience and empathy (Sit, 2008).

Furthermore, these three concepts emerged in a chronological order, with environmental instruction preceding environmental education, followed by Education for Sustainable Development. This means that different generations of educators experienced different concepts of education for sustainability, thus forming their own concepts of how lessons should be held (Mangels, 2003), heavily influencing their own lessons. Furthermore, it can be assumed, that the more holistic approach of ESD, that was formed over the last decades is more likely part of the modern concepts compared with those of older generations (Fedosejeva et al., 2018), thus hindering the development of sustainability competencies (Fedosejeva et al., 2018; Iliško et al., 2018).

Even though the generational definitions are disputable, according to some authors, they do serve the explanation of phenomena, as well as traits and behavior assorted with a certain group of birth years (Anderson, 2004; Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Horx, 2015; Seemiller & Grace, 2016; Bowen, 2017; Patel, 2017).

The students participating in this study ranged from the birth year 1960 to 2002, the majority being from the 1980s and 1990s. This means that the students belong in their majority to the Generation Y (birth years 1980–1995), with a smaller number of the Generation X (1979 and before) and the second largest number from the Generation Z (1996–2010) (Anderson, 2004; Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Horx, 2015; Seemiller & Grace, 2016; Bowen, 2017; Patel, 2017).

Members of Generation X are often characterized as being superficial and more egoistic, or pessimistic, compared to babyboomers and the Generation Y. A growing number of latchkey children, the rise of punk and grunge music are characteristic of this time (Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Bowen, 2017). A certain apathy is part of their reputation, especially regarding political issues (Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Bowen, 2017). As learners these prefer experts teaching them and given structures to lean on (Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Bowen, 2017). What is a problem, is a certain kind of fear and unfamiliarity with certain ways of using modern communication devices (Kaufmann, 2015). This Generation grew up with the perception that education is a way of rising in social and economic status, but not that teaching is a desirable profession, due to a perceived low socio-economic status (Smith, 2014).

Generation Y, on the other hand, was heavily influenced by the 9/11-terrorist-attacks on the World Trade Center and other real or perceived threats (Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Bowen, 2017). As learners, they prefer creative learning settings, trial and error, more mentoring rather than being told, what to do. The intensive use of technology, a need for fast feedback and that diligence will ultimately lead to success are an integral part of their set of mind (Eisner, 2005; Dyson & Zink, 2007; Hobar, 2008; Bowen, 2017). This generation expects that their ideas for improving procedures are accepted and implemented. They need success and want it according to their own opinion (Eisner, 2005; Dyson & Zink, 2007; Eckleberry-Hunt & Tucciarone, 2011; Bowen, 2017). For this generation, it is essential to use new media, to not expect the ability to multi-task, and allow them to discuss and participate (Eisner, 2005; Dyson & Zink, 2007; Hobar, 2008). Being less oriented for a socio-economic status and more inclined in a well-proportioned work-life-balance, these students are more interested in educational professions (Smith, 2014).

The youngest group, Generation Z, needs a wake-up call to participate and a direction, where to go (Anderson, 2004). Information necessary to solve a problem needs to be given online and easy to find (Seemiller & Grace, 2016; Fedosejeva et al., 2018), like using applications instead of books for identifying plants. Furthermore, communication happens mostly with messenger services (Kaufmann, 2015; Fedosejeva, et al., 2018).

Education is very important for this generation, as is (corporate) social responsibility (dpa, eds. 2015; Patel, 2017; Fedosejeva et al., 2018). It is not so important to make big money, but rather work at an interesting workplace (Horx, 2015) and having a family at a very early age, compared with the other two generations (Kaufmann, 2015). Generally speaking, they are more optimistic (Seemiller & Grace, 2016), compared with their predecessors, even though health and environment are of great concern for them (dpa, eds. 2015).

Considering resiliences and it being most likely taught, when a lesson is planned according to the concepts of Education for Sustainable Development, there should be an increase in the prevalence of these concepts over the aforementioned generations.

In regards to this study, the classes and groups living together were characterized as belonging mainly to one of these generations, while the individual with his or her views was taken into account as well.

Research Findings

The majority of the students originated in the Generation Y, as expected considering the normal age of students to participate in vocational education courses during the research (2009–2018). The rather low number of Generation X students is going to decline even more in the coming years, with a growing number of Generation Z students and those coming after them.

Table 1

Structures of the Students Regarding Their Age and Generation, according to the Definitions Given above and Number of Cases, when the Concept of Environmental Instruction (EI), Environmental Education (EE) or Education for Sustainable Development (ESD) were Used by the Groups

Group year	No. of students	Students belonging to			No. of groups	Lesson was		
		Gen. X	Gen. Y	Gen. Z		EI	EE	ESD
Prestudy1	14	14			3	3		
Prestudy2	8	6	2		2	2		
2011	20	2	16	2	6	5	1	
2012	21	1	18	2	6	5		1
2013	20		20		5	3	2	
2014	27	2	24	1	8	3	5	
2015	29	1	25	3	7		6	1
2016	16	1	4	11	5	1		4
2017	26		6	20	8	1	1	6
2018	17	1	4	12	4		2	2
2018	10			10	2			2
Sum	208	28	119	61	56	23	17	16

As expected, groups, consisting solely out of students from the Generation X preferred the concept of environmental instruction, which originated in their generation and was the prevalent form of education they received regarding the environment and nature, at least in their memory, thus forming their concept of how to plan a lesson (Mangels, 2003). Furthermore, there is a slow shift of the concept from environmental instruction to environmental education and finally Education for Sustainable Development perceivable over the years, as was expected considering the gradual shift of the generations over the course of this study.

What was most striking, was the fact of students of the Generation Y and Z had not such a clear and defined concept for their education. Some preferred a more instructional approach, others followed an environmental education one, focussing on local phenomena and lacking the essential aspects like global thinking, planning for generations or topics like migration. It was not easily identifiable, where this originates, with most students simply stating “I like this better” or “This works better” during the individual interviews. A reason for this might be their own mixture of various teachers.

Apparently, the year of birth is not the sole denominator for belonging to one generation or another, but rather the set of mind. This became apparent during the interviews. One example for this is case#42: The student is a typical member of the Generation Z,

having married being just 21 years old and becoming a father at 22 for the first time. He communicates heavily online, chooses his workplace and employer carefully and is very conscious of his social and ecological responsibilities, even though he is, regarding his biological age, a Generation Y member. The methods he chose for their lesson were part of Education for Sustainable Development and he was able to convince his two older flat-mates in the discussions to use these concepts. These structures were found with many students, who did not belong to Generation Z from their biological age, but advocated the concepts of Education for Sustainable Development.

This group consisted of two Gen. Y, one Gen. X members, and used the concept of Education for Sustainable Development.

Another example is case#17: The student is also a member of the Generation Y, regarding her biological age. Being offered a feedback on the methodical approach she chose with her group, she declined, stating that she did not want to learn anything about sustainability or the possible concepts related to this, but only wished to tell the pupils what kind of taxidermies she had with her – staying with basic zoological knowledge and a strict instructional approach. Thus, there are some generational preferences in using a certain methodical approach, but there is still an individual set of mind, which needs to be considered.

The group consisting of three students of Gen. Y used concepts of environmental instruction.

What was perceivable, was a certain group effect. When those, who dominated the group process, advocated a concept, the others tended to follow. This became especially evident with two groups in 2015 and 2016. In both of them, those who preferred the concept of Education for Sustainable Development literally dragged their colleagues along, which led to an outstanding lesson on education for sustainable development.

In the interviews, students who advocated the concept of Education for Sustainable Development, had either been taught, following this concept, or acquired a deep understanding of sustainability due to personal experience. These had a higher acceptance of new methods, and a certain reluctance in using old teacher-centred methods. They wanted change to happen.

During the interviews, why a student shifted the focus from his or her initially preferred concept to another one, the students typically explained, that the focus in their group was different from their own, and that was the reason for this. In most cases, the students liked the new approach and adopted it as a part of their own concept for planning educational processes.

Discussion

There is one trouble in teaching older or in-service educators new approaches: changing one's very own, established concepts on education and, in regards to sustainability, how this competence is learned. Generation X students and those, who had similar concepts, ethics, and set of mind, as given in the definitions section of this paper, preferred following a concept of environmental instruction, rather than one of the two others. Even experiencing themselves, that these led to a very small educational attainment, did not change their preferences. This means, we have unsustainable practices that need to be addressed in teacher and sustainability educator education. This is similar to the concepts of teaching sustainability and teaching about sustainability (Iliško et al.,

2018). This became evident, with the one case mentioned in the results section, who did not want to learn about sustainability education, but rather preferred an instructional approach. Together with the students' experience, that some learning and teaching approaches offer little long-term learning outcomes shows that this elementary sustainability competence (Iliško et al., 2018) was not developed.

The same structures became evident with the other two generations. This points out that for these educators, who are not fully trained teachers, planning educational processes and the way of teaching are apparently formed by one's own set of mind and experience from being educated in a certain way.

This changed, when the students lived together with others, who had a different idea of education, which became evident, when students who initially preferred other concepts started planning a project in a group and agreed in using the other students' approach, finally adopting it. This worked out in both ways, so students initially considering a concept of Education for Sustainable Development used environmental instruction and vice versa. It can be assumed that living and planning together is an integral part of forming new ideas on education and most likely other subjects. Furthermore, experience was given as an important factor regarding the perception of an educational concept being "good" or "bad".

Taking these results into account, the perceptions and the long time planning of the emerging Generation Z raise hope that the coming years will bring a change toward a stronger identification with sustainability and the associated educational concepts. This generations aims in life, for example, having a family at a considerable early age apparently means, that they start caring for their children and want them to grow up in a better world earlier, compared to their predecessors. This behavior can be considered typical for young parents, but might lead to selfishly trying to create a better world for one's own children, rather than for society in general (Howe, 2016).

Following this line of thought, having and planning a family or being a parent can be considered to be an integral part of Education for Sustainable Development, which needs to be addressed in the related classes and courses, even though it seems that there is little evidence of any concept on this in the available literature.

Conclusion

One conclusion from this study is that learning educators living together for a certain time influence each other and their perceptions. To use this in teacher training for Education for Sustainable Development, it could be useful to introduce "every-day-seminars" for teacher education. The concept of these seminars was used locally in church-related social work in the 1990s (Pfaff & Köhler, 1996; Günther, 2009). These circumvented the major problem with typical one- or two-weeks to, for example, a forest youth centre or similar institution with a class or group – the fact that they are staying away from home for a bigger distance, more like a class trip or holiday. Thus it is hard for a training done "somewhere else", to spill over in a normal day-to-day-routine (Pfaff & Köhler, 1996). With the "every-day-seminar", the students stay at a youth hostel/centre in their neighborhood, going to school and participate in their daily routine, like doing homework, cooking, etc. but with a focal topic, formal and informal educational processes and experiencing another way of living together. The underlying structures are akin to those in children's homes in social work (Schleiffer, 2014), and

are apparently similar to the Swedish Naturbruksgymnasium, a type of vocational boarding school for green professions with their own fields, etc. Sustainable development in Sweden can be considered to be particularly successful compared with other European countries (Ahlberg, 2009), following this concept. For teacher training purposes, this means that it might be a new approach to put teachers in a situation, where they are living and studying together, while still going to work and experience their daily routines, reflecting on their educational approaches together. This might be done during their education at a university, while going through their higher teacher examination training or at regular intervals during their professional working time. This might be considered a new form of school-based teacher training, complementary to regular approaches (Alkhawaldeh, 2017).

Considering these findings, it might be a sustainable, holistic approach, to let teachers in training live together for a certain time during their education, as well as their professional life. Furthermore, this could be an approach for educating students as well, to further the implementation of Education for Sustainable Development, its concepts and desired learning outcomes. To delve deeper into this matter, further research will be conducted on interviews with students, who had participated in everyday seminars and similar concept 23 years ago.

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Correspondence concerning this paper should be addressed to Jens Hepper, Düderoder Straße 38, 37589 Kalefeld, Germany. Email: mail@jenshepper.de