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Effect of a Toolkit and a One-Day Teacher Education Workshop on ESD Teaching Content and Methods—A Study from Kosovo

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Abstract: Environmental education in Kosovo is currently under reform. The new strategy for sustainable development demands a strong focus on education for sustainability in schools. However, a lack of teacher education might impede new approaches in the classroom. This study investigated how teachers in Kosovo approach locally-relevant environmental issues in the classroom before and after a one-day in-service workshop on teaching approaches related to education for sustainable development (ESD). Data were gathered in nine classes with a systematic observation scheme and processed using Flanders’ interaction analysis categories system. During the workshop, a specially designed toolkit was introduced to the participants (nine biology teachers from the upper secondary level). The toolkit included teaching approaches suitable for ESD and focused on air and water pollution, waste management, energy saving, and the conservation of biodiversity. Before the workshop, teacher-talk occupied more than 90% of a typical 45-min lesson, and instructions were frontal and directive. After the workshop, pupil-talk strongly increased (up to 88%), and pupils were actively engaged in activities suitable for ESD. Supportive training can thus help teachers to improve their instructional practices. However, only those teachers who had reported support from head teachers and colleagues were still frequently using the toolkit after one year.

Keywords: education for sustainability; Kosovo; high school teachers; teacher education; observation study

1. Introduction

“Students got out their exercise books containing notes from earlier class lectures. For 45 min, the teacher asked a series of general questions. Following each question, some students would raise their hands to answer...Most of the students in the front row had their hands up for every question, leaning towards their teacher with pleading eyes, hoping to be called on. Few in the back half of the classroom ever lifted their hands. The student upon whom the teacher called would stand up and recite the answer rapidly. The information from each student’s answer was all obtained, apparently, by memorizing notes in their exercise book. Nothing was demonstrated, everything was described. ... The contents in the students’ books were virtually identical, a result of students each recording everything that their teacher had written on board during previous classes. ... By the end of the class, very few students in the back half of the class were paying attention. They talked among themselves. Conversations dimmed each time their teacher pleaded for quiet, and then perked up again afterwards. It would have been difficult to hear what was said at the front of the class even if it had been quiet, however. After class, the teacher explained ... That’s how I teach” [1] (p. 108).

The education system in Kosovo has been characterized as authoritarian, frontal, and directive [2]; teacher-centred knowledge and dissemination of facts are typical approaches in secondary education (as outlined in the citation above) [1,3]. However, (environmental) education in Kosovo is currently under reform, and a strong focus on education for sustainable development (ESD) is envisaged. ESD wants to raise awareness and transfer skills, perspectives, and values that will guide and motivate people to pursue sustainable livelihoods, participate in a democratic society, and live in a sustainable manner [4–7]. This is especially relevant in Kosovo as public perceptions of citizens’ ability to influence policy and hold leaders accountable is extremely low. Less than 14% of citizens believe that they can influence decision-making processes in their municipality or at the central level [8,9].

Already in 2001, the New Kosovo Curriculum Framework was launched [10]. For the first time, environmental education (EE) was explicitly mentioned as a cross-curricular theme which should be approached in ways of ESD, implying a process-oriented, participatory, and action-oriented learning approach. Today, a revised curriculum framework exists which, however, is still not fully put into practice [11]. It demands the integration of ESD into all levels of education by using a competency-based, instead of content-based, approach [11–13]. The competency-based approach will have important implications for classroom practices such as the integration of cross-cutting issues, creative problem solving, interactive teaching and learning, and a focus on teaching and learning that is pupil-centred [11,13].

Many articles have addressed the differences between EE and ESD, arguing that EE and ESD are distinct yet complementary [4]. While EE has its focus on the preservation of the natural environment and the reduction of human impacts, ESD wants to teach awareness, skills, perspectives, and values that will guide and motivate people to pursue sustainable livelihoods, participate in a democratic society, and live in a sustainable manner. EE is thus focused on problem solving, whereas ESD is focused on

capacity-building [5]. However, influenced by the emerging ESD discussion in various regions of the world, EE has been critically reviewed and revised into a long-term empowerment issue, thus decreasing its difference to ESD [6,7,14–16]. Nevertheless, ESD is still more than EE, as it is not only dealing with aspects of people's dependence on the quality of the environment and access to natural resources, but also with economic and socio-cultural aspects such as equality and social justice [17–19]. Today, a wide range of different interpretations, variations and expressions of ESD can be found [20]. Overall, ESD seeks to enable citizens around the globe to deal with the complexities, controversies and inequities rising out of issues relevant to environment, natural heritage, culture, society, and economy [19,20]. ESD is thus centred far more on humans than EE, and it has even been feared that EE becoming ESD would lose some of its uniqueness, *i.e.*, the underlying worldview that humans are part of nature [6]. This is in line with concerns that ESD presents a radical change of focus from prioritizing environmental protection towards mostly social issues, which may or may not be related to the environment [21]. In consequence, there is a danger of marginalizing environmental aspects in ESD [22,23]. Considering the severity of present environmental problems such as the rapid extinction of plant and animal species, such a marginalization is worrisome [21]. A key characteristic of ESD is its flexibility and adaptability to meet local circumstances and needs [19]. In the case of Kosovo, responding to environmental issues is urgent, thus education should give priority to addressing the environmental aspects of ESD.

The new strategy for sustainable development in Kosovo explicitly demands a strong focus on environmental issues and environmental protection. Having environmental issues taught at school is seen as *the* crucial first step to sustainable socio-economic development in the country [13]. Environmental issues include various types of energy resources and their use in daily life, protection of the environment by preventing and decreasing pollution, and issues related to climate change. This is due to Kosovo's severe environmental degradation and its negative impacts on human health [24–28]. The dust emissions from power plants near Prishtina, for instance, are 74-times higher than European environmental standards would allow [29] and the burning of fossil fuels is causing acid deposition and photo-chemical smog [30]. Drinking water resources are dwindling, and access to safe drinking water is among the lowest in Europe [31]. Kosovo lacks proper waste management for virtually all solid waste types (domestic, industrial, health care, and hazardous), and collection, classification, recycling, and treatment systems as well as infrastructure for municipal waste are missing [28]. Progressive approaches to recycling are hardly thought of [32,33]. As many materials are not designed to be recycled, recycling actually means downcycling, *i.e.*, a downgrade in material quality, which limits usability and maintains the linear, cradle-to-grave dynamic of the material flow system. Alternative concepts would want to generate cyclical, cradle-to-cradle metabolisms that enable materials to maintain their status as resources (upcycling) [33]. Other important issues in Kosovo are deforestation and the overall loss of biodiversity [34,35].

There are many obstacles to educational reform in Kosovo that have to be tackled. The education system is characterized by a lack of in-service teacher education, and teaching methods in pre-service education are still mostly lectures [35]. Textbooks are in many cases over 20 years old [3,35], and teaching practice is of short duration (two weeks in total). In addition, average class sizes of 30 pupils (sometimes up to 50 individuals), especially at the upper secondary level, are about 50% higher than the OECD (Organisation for Economic Co-operation and Development) and EU norms [36]. As a consequence, teachers hardly pay attention to individual children or practice teaching methods other than

frontal instructions [3]. Upgrading teachers' professional knowledge and skills, renewing textbooks and giving special assistance to teachers on pupil-centred approaches is urgently needed. However, a study from Albania showed little evidence that reducing class sizes would, in itself, lead to less teacher-talk and more active pupils in high schools [37]. Without providing teachers with skills to apply group-work, problem solving and project activities in school, they will most likely continue with the lecture method, and pupils will continue to memorize the material [1,2]. However, there is a lack of research evaluating the outcomes of ESD approaches at the level of the classroom. One study investigated in a controlled pretest/posttest-design the effects of different teaching methods (normal lessons, computer simulations especially designed for the study) on systems thinking in the field of ESD [38]. Pupils who received both instructions fared best in the posttest. An Australian study found that a preparatory course on ESD can change teachers' ways of thinking and doing things in the classroom [39].

This study investigates how high school teachers in Kosovo approach environmental issues in the classroom before and after a one-day preparatory workshop on new teaching approaches related to ESD. Data were gathered with a systematic observation scheme and processed using Flanders' interaction analysis categories system [40]. During the preparatory workshop, a specially designed toolkit for ESD was introduced to the participants. The toolkit included teaching content and approaches suitable for ESD in Kosovo; this focused on air, water and soil pollution, waste management, energy saving, and the conservation of biodiversity. Its feasibility for use in school was evaluated by the participating teachers during the workshop and one year later. Main objectives were to investigate (1) whether the toolkit for ESD is suitable for use in schools and, if not, for what reasons; (2) whether the toolkit and a one-day in-service workshop will help to improve high school teachers' environmental knowledge, understanding of ESD, and use of methodological approaches suitable for ESD in Kosovo; and (3) whether teacher-talk will decrease and pupil-talk will increase in class after introducing the toolkit.

2. Methodology

In Spring 2012, ten high school teachers (all teaching biology) were selected from a pool of teachers who had already expressed an interest to participate in further studies when filling in a questionnaire [3]. Selection criteria were a special interest in environmental education, different years of professional experience, and different location of their schools. The chosen teachers were contacted by phone and asked if they were still willing to participate in a workshop and an observation study. Nine teachers (five men) agreed to do so. They were between 26 and 49 years old (mean age = 43), and had between two and 26 years of teaching experience (mean experience = 17 years). They were from three different regions of Kosovo (Prishtina, Peja, and Prizren).

The study was carried out as follows: (1) A toolkit for ESD was designed; (2) Teachers were shown its table of contents and asked to hold a 45-min lesson on a topic of their choice; (3) An observation sheet was prepared and each lesson observed; (4) Shortly afterwards, teachers participated in a one-day workshop in which all topics and teaching methods of the toolkit were introduced. The workshop was held by author 1. At the end of the workshop, teachers were asked about the feasibility of the toolkit and changes they would like to make; (5) Half a year later, teachers presented another 45-min lesson on their chosen topic which again was observed; (6) Another half year later, all teachers were contacted again and asked about their experiences with the toolkit in the meantime.

2.1. The Toolkit and Its Evaluation

Due to a lack of suitable textbooks in Kosovo [3,41], a toolkit was designed by author 1. The toolkit covered a wide range of locally-relevant environmental topics such as air, water and soil pollution, waste management, energy saving, and the conservation of biodiversity. In a previous study [3], high school teachers in Kosovo were found to be especially familiar with various kinds of pollution and also to place high priority on the dissemination of knowledge about the effects of pollutants on human health. It was thus assumed that they might also be curious and willing to teach different aspects of pollution by using pupil-oriented approaches. The toolkit thus included three environmental topics that dealt with air and water pollution as well as waste management. Furthermore, two topics dealt with energy saving and biodiversity, *i.e.*, topics about which high school teachers had been found to be less knowledgeable [3].

Each topic included different activities, which focused on the dissemination of practical skills. These skills were in compliance with the environment-related key competencies of the new Kosovo Curriculum Framework [11], and are thought to enable pupils to continue learning after leaving school, to live sustainable lives and to manage and interact with the local environment. Moreover, the new strategy for sustainable development in Kosovo [13] (p. 31) explicitly demands a focus on hands-on, interactive, pupil-oriented forms and methods of learning with the goal of achieving action competence and a spirit of teamwork, responsibility, and community feeling. Overall, 23 different activities were described (overview in Table 1; detailed description of activities, goals and objectives in the supplement). Most activities could be carried out during normal 45-min lessons, and did not rely on material such as lab equipment, data projectors or PCs that might not be available in high schools in Kosovo [3]. The chosen activities were place-based, included scientific and non-scientific approaches, and specially aimed to foster pupils' action competence. The toolkit was designed in Albanian.

At the end of the one-day workshop in June 2012, teachers were asked to discuss the feasibility of the toolkit. In May 2013, all teachers were contacted again and asked about their experiences with the toolkit. Teachers in Prishtina were visited in person, while the other teachers were contacted by phone. In this way, it was hoped to gain more in-depth information than a written questionnaire would have allowed. Teachers were asked (1) whether they had sufficient support from head teachers and colleagues in using the toolkit; (2) how often they had used it; (3) whether they had encountered difficulties with certain activities; and (4) to state which activities they liked most and which they liked least.

Table 1. Overview of activities described in the toolkit.

Activities	Location	Methods/Social Forms	Aims/Achievements
Pencil-and-paper-questionnaires, essay writing for Earth Day	Classroom, local community	Developing and conducting a questionnaire, writing and publishing an essay, practical work, data analysis, presentation and discussion of results, team work	Place-based and participatory learning, promotion of action competence, citizenship education, critical perception of classmates' presentations, respectful and responsible attitudes to the work of others, constructive communication
pH measurements, monitoring of exhaust fumes, carbon emission calculations, waste and energy consumption calculations, soil acidity tests	Classroom, home, local community	Measuring, monitoring, calculating, note taking, data collection, presentation and discussion of results, individual work	Place-based learning, achievement of scientific/analytic skills, critical thinking, critical perception of classmates' presentations, respectful and responsible attitudes to the work of others, constructive communication
Addressing stakeholder (e.g., Kosovo Environmental Protection Agency) on water pollution, preparing and exhibiting posters about water quality	Classroom, local community	Teacher input, practical work (letter writing, designing posters), poster presentation, team work	Formulating a problem, co-operation with stakeholders, networking, engagement in public affairs, becoming active and responsible citizens, participation in nature conservation activities
Monitoring of water management in school, observation of waste and energy saving behaviour, waste separation, garbage container investigation	Whole school	Measuring, monitoring, data collection, scientific experiments, evaluation of peers, self-evaluation, problem solving activities, internet search, data analysis, presentation and discussion of results, team work	Place-based and participatory learning, promotion of action competence, citizenship education, critical reflection and self-reflection, generating ideas for alternative solutions, involvement in decision-making processes, critical perception of classmates' presentations, respectful and responsible attitudes to the work of others, constructive communication
Joining HMIK (Hydrometrological Institute of Kosovo) on a field trip	Local community	Field trip, observation how an organization operates	Learning from experts, networking and co-operation
Nature gallery, planting trees, making a compost pile, species observations	School, local community	Practical outdoor education, field work, observing, taking notes, taking pictures	Participation in practical nature conservation activities, caring for nature, aesthetic expression
Art exhibition (waste), design of a bird feeder, environmental games	Classroom, school, local community	Practical work, process of imagination, creativity, play, exhibitions	Aesthetic appreciation of the natural world, promotion of creativity, artistic expression, caring for nature

2.2. Observation Study and One-Day Workshop

The observation instrument was based on the Flanders Interaction Analysis Categories (FIAC) [40], a system of interaction analysis to study what is happening in a classroom when a teacher teaches. The FIAC is commonly used to analyse teacher–pupil and pupil–pupil interactions [42]. It is an easy-to-use tool that can help to distinguish one instructional method from another. It is only concerned with verbal behaviour, assuming that an individual's verbal behaviour is an adequate sample of his total behaviour. The instrument comprises of seven categories applicable to teacher-talk (direct influences: the teacher lectures, gives directions, criticises or justifies authority; indirect influences: the teacher accepts feelings of pupils, praises, encourages or makes jokes to release tension, accepts or uses ideas suggested by pupils, asks questions) and two categories applicable to pupil-talk (in response to teacher, initiated by pupils themselves). An observer's record using the instrument is a series of numbers representing the different kinds of verbal events over a particular period [43] (p. 174).

All observations were done by author 1. In both pretest and posttest, the teaching approaches used were observed. A list of possible activities was compiled in advance, including lectures, demonstrations, reading exercises, question-answer-phases, discussions, debates, experiments, practical work, project work, group work, independent work, homework, and others. It was hypothesised that teacher-centred knowledge dissemination would be reflected in approaches such as lectures, demonstrations, or question-answer-phases, whereas learner-centred teaching focusing on the development of competences would be reflected in, for instance, debates, independent or group work, practical exercises, or presentations. During the observations, the respective approaches were ticked or, if not on the list, added. However, due to capacity restrictions (just one observer), it was not possible to record the exact duration of the different approaches used. It was also recorded whether teaching content and approaches used were suitable for ESD, and to which degree a teacher dominated the classroom or allowed pupils to be active (weak, medium, strong). Moreover, it was roughly recorded how many minutes the teacher was talking during one lesson period, and how many minutes the pupils were talking.

The workshop took place on the 9th of June 2012 at the University of Prishtina, starting at 9 a.m. in the morning and ending at 4 p.m. in the afternoon. Teachers had been informed about the place, date, and time of the workshop in due time and asked to confirm their participation. Shortly before the workshop, they received a reminder by phone. At the beginning of the workshop, all participants received the toolkit. With the help of PowerPoint slides, its contents were presented step by step. Each activity was discussed with the teachers. The discussion focused especially on how best to implement the different activities into the classroom and on the feasibility of approaches. At the end of the workshop, all teachers were informed about the posttest, which took place six months later. In the meantime, all teachers were contacted several times to check whether they were actually using the teaching contents and methods presented in the toolkit and workshop. They were contacted one week before the second observation to make an appointment and to remind them about the topic they had chosen in the pretest. In all observation exercises, the observation instrument was identical. This allowed a comparison of the behaviour of pupils and their teachers before and after the workshop.

3. Results and Discussion

3.1. Experiences with the Toolkit

At the end of the workshop, teachers were rather satisfied with the toolkit and considered it useful. Typical comments were: *“The toolkit and the exercises described are easy to implement in school”* (female biology teacher, 42 years old). *“For the first time I have received a toolkit that is really useful”* (male biology teacher, 49 years old). *“I think that the toolkit will help me a lot in implementing new teaching methods”* (male biology teachers, 26 year old). Almost all teachers were sure that they could work with the toolkit during normal lesson hours (45-min units). However, they were less sure whether they would have support from head teachers and colleagues. Typical comments were: *“I had other training in the past. Unfortunately, I was never able to implement the new methods learnt as I never had any support from my head teacher”* (female biology teacher, 47 years old). *“I can only implement the toolkit in school if I have support from our head teacher. Without such support I can do nothing”* (male biology teacher, 26 year old). *“For some of the exercises I will need double lesson time. I fear that some of my colleagues might not want to re-schedule their lessons accordingly”* (female biology teacher, 44 years old). *“It would be best to explain the importance of the toolkit first to head teachers”* (female biology teacher, 42 years old). Only two teachers felt that large class sizes or financial constraints might restrict the implementation of the toolkit. However, neither could come up with a solution. They argued as follows: *“The number of pupils in class is too high for some of the exercises”* (male biology teacher, 46 years old). *“I cannot force pupils to buy equipment such as indicator strips for measuring rain water pH. I cannot even buy them myself”* (female biology teacher, 45 years old). One teacher pointed out that pupils themselves might be an obstacle to the implementation of the toolkit as they are not familiar with the methods used.

One year after the workshop, study participants still liked the toolkit. However, only two teachers were using it frequently. They were the only ones who reported support from head teachers and colleagues. Moreover, they reported that everything they needed for the implementation of the activities was provided by their head teachers. The other teachers had given up working with the toolkit, mainly due to a lack of support from head teachers and colleagues. Typical answers included: *“As I had no support from our head teacher, I stopped using the toolkit, although I still think that it is a good guide”* (female biology teacher, 47 years old). *“I gave up using the toolkit as I realized that without support from the head teacher and my colleagues it was impossible to do so”* (male biology teacher, 26 years old). *“In order to use the toolkit, we would need more training and also a formal agreement with the head teacher”* (female biology teacher, 42 years old). Another obstacle was the limited lesson time of 45 min. In theory, almost all teachers were sure that they could work with the toolkit during normal lesson hours. However, when actually faced with a 45-min unit, they encountered time problems, but also unsupportive colleagues who were unwilling to change their lesson plans. Teachers reported that they had to split large classes to carry out certain activities and to teach in two consecutive lesson hours. This was not liked by their colleagues and resulted, among other things, in the feeling of lack of support.

Teachers were asked to point out activities they liked most and activities they liked least. Most often, they preferred questionnaire investigations (mentioned six times), the creation of posters which could then be installed at the nearest river or lake (five times) and waste separation (four times), *i.e.*,

time-consuming activities which allow pupils to be rather active (see activities in Table 1). They liked least an organized field trip, *i.e.*, an activity with a low engagement for pupils as usually the host provides information while pupils are only listening (mentioned seven times), and species observations (mentioned four times).

The present results exemplify the crucial role of head teachers and colleagues as key players for the implementation of novel teaching and learning approaches in school [44–46]. Head teachers in particular were found to have a major effect on how new teaching content and methods are implemented, and thus have a leading role in educational reform [44,45]. Their attitudes can determine how much emphasis is placed on approaches to ESD within their school's curriculum [44]. In Kosovo, teachers reported during a study on vocational training that they came up against a brick wall when head teachers were not able to follow [47]. As in other studies [48,49], lack of time and large class sizes were further challenges for participants to deal with. Teachers especially liked activities that allowed pupils to be rather active, which is a pleasing result as the new curriculum framework for Kosovo requires practically-oriented learning and a focus on teaching and learning that is pupil-centred [11,13]. However, the observation of species was less well liked. A previous study has shown that the public's knowledge in Kosovo about biodiversity is very limited [9], which might explain why some participants did not want to teach it. Moreover, species observations outside the classroom were found to be restricted by large class sizes, timetable obligations, and school environments, which are too noisy or even unsafe [3]. This is unfortunate as knowledge of and familiarity with species is the very foundation for an understanding of biodiversity loss, one of the world's most pressing crises [50]. Teachers should thus be especially encouraged and qualified in pre-service and in-service education to deliver biodiversity education in school [51,52].

3.2. Observation Study

Before the workshop, pupils were only rarely provided with opportunities to take initiative or to be in charge of their own learning process. Most of the teachers worked rather theoretically and none used approaches such as independent or group work, practical exercises, or pupil presentations (Table 2). Moreover, none of the teachers provided locally-relevant information, expressed their own ideas, or discussed critical questions. A typical lesson was characterized as follows: The teacher provided information, *e.g.*, about waste, which was taken out of a book with no relation to the situation in Kosovo. The information provided was not related to the daily-life of the pupils. Teachers provided information in a highly theoretical way, *i.e.*, by lecturing far off the understanding of their pupils.

After the workshop, all teachers used at least one new approach suitable for ESD in their lesson. They encouraged pupils, for instance, to work independently or in groups and also to make presentations. A variety of approaches were used (see Table 2) allowing pupils to be active. Most of the time, teachers were observers, giving help to pupils when it was needed. A typical lesson was characterized as follows: The teacher had chosen a topic from the toolkit and provided information, *e.g.*, about waste, enriched with data from reports by environmental protection organisations. The information provided was related to the daily-life of the pupils. Teachers provided the information in a more practical way by including pupils in the presentation. In some classes, pupils were also asked to do homework, *i.e.*, to collect waste for an artistic exhibition, to measure the acidity of rain water or to create a poster.

Table 2. Teaching approaches by high school teachers ($n = 9$) in Kosovo before and after an in-service workshop on education for sustainable development (ESD). Teachers were observed in their classroom during one lesson hour directly before and six month after the workshop, and their approaches were recorded. F = female, M = male.

No.	Location of School	Sex	Teaching experience (years)	Teaching Approaches Used	
				Before the Workshop	After the Workshop
1	Prishtina	M	22	Lecture on air pollution	Introduction and questionnaire investigation
2	Prishtina	F	12	Lecture on water pollution	Introduction and poster drawing on clean water
3	Prishtina	F	14	Lecture on air pollution; use of flipcharts and group debate	Introduction and monitoring the degree of exhaust fumes from different vehicles with the help of a spread sheet
4	Prizren	F	18	Lecture on waste and debate in groups	Introduction and waste separation
5	Prizren	M	26	Lecture on waste	Introduction and garbage container investigation
6	Prizren	M	2	Lecture on water pollution	Introduction and poster drawing on clean water
7	Peja	M	21	Lecture on water pollution; power point presentation	Introduction and letter writing to Kosovo Environmental Protection Agency
8	Peja	M	20	Lecture on plants and animals	Introduction and planting trees
9	Peja	F	22	Lecture on water pollution	Introduction and questionnaire investigation

Before the workshop, teachers were active and pupils rather passive (Table 3). Classroom interactions were highly dominated by teacher-talk. Teachers were standing in front of the class during lesson hours (none of the teachers observed were sitting), lecturing to pupils. They were providing their pupils with mere facts and did in no case express own ideas. Combining the observed lesson hours, teachers talked about 90% of the time; about 40 out of 45-min. Pupils talked only when addressed by their teacher; about five out of 45 min. Thus, teachers gave the directions and expected pupils to comply. Teachers did not encourage pupils to express feelings, and pupils did not do so, or to develop own ideas or suggestions. Pupils hardly ever posed learning-related questions to their teacher or to other pupils. It was even more uncommon that a pupil made suggestions, proposed new ideas or initiated a debate. On average, only about 5.5 pupils per class were usually active during a lesson.

After the workshop, pupils were much more active in class (approximately 88% of the time), while in most classes teachers reduced their prominence but were still rather active (see Table 3). Teachers were only dominating the classroom at the beginning of a lesson when they provided general information about the topic and at the end when they drew some conclusions. Almost all pupils in a class were active. However, as before the workshop, teachers did not praise or encourage the actions or behaviour of their pupils, generally did not make jokes, and did not further build on the ideas of their pupils (see indirect influences in FIAC).

Table 3. Activity level of teachers ($n = 9$) and their pupils ($n = 336$) in high schools in Kosovo before and after an in-service workshop on ESD. Teachers and their pupils were observed in the classroom during one lesson hour each and their activity level judged on three-step scales with 1 = weak, 2 = medium, 3 = strong.

No.	Activity level (scores)					
	Teacher before	Teacher after	Teacher difference	Pupils before	Pupils after	Pupils difference
1	3	1	−2	1	3	2
2	3	2	−1	1	3	2
3	2	1	−1	2	2	0
4	3	1	−2	2	3	1
5	3	2	−1	1	3	2
6	3	2	−1	1	3	2
7	3	2	−1	1	3	2
8	3	3	0	1	3	2
9	3	2	−1	1	3	2

The results indicate that even at the upper secondary level, school education in Kosovo is still characterized by teacher-centred classroom instructions and a lack of activity from the site of the pupils. Recent interviews with 15 to 24 year old pupils came to similar results. Here, pupils reported their teachers' behaviour as overly authoritarian and strict [53]. Findings from an Albanian study also demonstrated that teaching in the first grade of secondary school is still strongly dominated by teacher-talk, that classroom interactions between teacher and pupils hardly take place, and that less than 5% of pupil-talk is initiated by themselves [37,54]. However, classroom situations can change. After the workshop, teachers were far less dominant in the classroom and pupils much more engaged. Not only few, but almost all pupils in a class were active and contributed to the learning process. These are pleasing results as pupil-centred learning is envisaged in the new curriculum framework of Kosovo [11]. The results also indicate that, even without reducing class size, positive changes can be observed if teachers are provided with approaches suitable for ESD. The crucial point, however, is that these approaches have to be trained, e.g., in preservice or inservice teacher education. Without practical instructions, *i.e.*, just by providing teachers with new textbooks or other educational material, teachers will most likely continue with frontal instructions and pupils will continue to simply memorize the material [1]. Practical instructions were found to increase preservice teachers' confidence to approach sustainability issues in school [51,52].

Due to the small number of lesson hours and teachers observed, caution should be exercised in generalizing the results of this study. Our study participants are probably not representative of high school teachers in Kosovo, as only those with a special interest in environmental education might have volunteered to participate. Moreover, participants might only have changed their classroom behaviour after the workshop, as they felt obliged to fulfil the expectations of author 1 (who carried out the workshop) and not because of a real wish for change in teaching approaches. In the observation study, Flanders Interaction Analysis Instrument was used [40]. Other instruments might have allowed a more comprehensive view on classroom management [55–57] but were not feasible due to capacity restrictions (just one observer).

4. Conclusions

In conclusion, both the new toolkit and the one-day in-service workshop were well received by the non-representative sample of high school teachers in this study. Continuous teacher education is a key aspect to obtain greater educational effectiveness. However, teachers are often not trained to make effective use of textbooks and, as a consequence, might go back to their schools continuing teaching with the same gaps and limitations or stop considering textbooks as a useful resource at all [58]. It is thus imperative that in-service education improves teachers' abilities in making effective use of textbooks and toolkits and helps them to use these materials in class. The results of the present study suggest that teachers indeed realized the value of the toolkit as an important teaching and learning resource. The combined toolkit-workshop-approach may thus be an important first step in integrating ESD in schools in Kosovo and elsewhere. Gradually, with acquired experience, teachers should be able to produce their own ESD teaching material, *i.e.*, material that best suits their pupils' needs and abilities and also that meets the local circumstances and requirements of the national curricula. This would meet one major ESD principle, *i.e.*, the establishment of locally relevant instead of centralised, homogenous programmes [59]. However, the present toolkit could be improved as some activities required materials that were too difficult to find or too long to fit into a lesson period of 45 min.

Another even more important step would be the involvement of head teachers and colleagues in the implementation process. The present results clearly demonstrate that without the support of internal stakeholders in school, approaches to ESD might not be realized. In addition, the pre-service teacher education should not be ignored. Because of its strong multiplier effect [45], pre-service teacher education is especially effective in implementing new approaches such as ESD. Every teacher educator will educate a large number of teacher students, who will become part of the educational community and eventually educate a large number of children, and share ideas with teacher colleagues.

ESD represents an ambitious educational reform with which even experienced teachers might be reluctant to deal [20,60]. Therefore, ESD induction is important in helping new and experienced teachers to integrate sustainability issues in their curricula and in daily school life. However, if one-day-workshops such as the present are rather isolated events, long-term effects are rather unlikely. Whole-school approaches might be more promising [19,20]. A whole-school approach seeks to address sustainability not only in teaching and learning but also in school's operations and linkages with the wider community, and can thus be called an integrative approach towards ESD [19]. However, such an approach requires visionary leadership, social networking, and high levels of participation [20].

The integration of ESD into all levels of education is a key priority in Kosovo's environmental action plan [13]. The new Kosovo Curriculum Framework explicitly mentions that the focus of teaching should be on the learner and not on the teacher [61]. One important strategy to move away from the dominance of the "classic way of teaching" is the provision of evidence-based teaching methods accessible to teachers and school principals, and high-quality feedback to teachers [54]. Results of the present study indicate that supportive training can help teachers to improve their instructional practices. However, a successful integration of ESD into the education system of Kosovo needs time. Although speedy results might be expected, a change of routines and behaviours in the education sector might be slow—or in the words of a deputy minister [47] (p. 43): "*Education is not like buying a car: you have the cash, you choose your car and you drive away. School change does not work like this!*"

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Author Contributions

Mimoza Hyseni Spahiu was responsible for conceptualizing and designing the study, collecting and analyzing data, discussing the results and drawing conclusions. Petra Lindemann-Matthies contributed to the study design, data analysis, discussion of results, and conclusions. Both authors wrote the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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