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Emancipatory or instrumental? Students' and teachers' perceptions of the implementation of the EcoSchool program

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Emancipatory or instrumental? Students' and teachers' perceptions of the implementation of the EcoSchool program

We present findings of a mixed method evaluation study of the EcoSchool program in the Czech Republic. The innovativeness of this study is its specific focus on implementation strategies rather than learning outcomes. Using data from 148 students and 65 teachers from 54 different schools involved in the program, we investigated perceptions about the nature of the implementation and the impact of the approach on students' and teachers' feelings of ownership of success, loss of meaning of the program, or satisfaction with their participation in the EcoSchool program. The findings support the relevance of the emancipatory approach: students' perceived participation predicts both their satisfaction with the program and perceived ownership of the success of their EcoTeams. Unexpectedly, the study also found that another factor predicting the program's effectiveness is the level of students' control over non-participating students.

Keywords: EcoSchool; emancipatory pedagogy; instrumental pedagogy; empowerment; satisfaction; environmental education

Introduction

The complexity and unpredictability of sustainability issues call for empowered citizens, motivated to exercise their responsibility in action. One of the effective ways for promoting empowerment is to provide students with an opportunity to shape the environment by their own decisions and develop their action competence in the process of experiential learning (Jensen & Schnack, 1997). The EcoSchool program is one of the major programs worldwide attempting to realize this ambition.

The EcoSchool program is one the most widely implemented environmental education (EE) and education for sustainable development (ESD) programs. Since 1994, when the program was launched in Copenhagen, it has spread to 64 countries. Currently, 49,000 schools with approximately 16 million students are involved (Ekoskola 2018). In the Czech Republic,

the program was introduced in 2005. In 2017, more than 400 elementary and secondary schools participated in the program (TEREZA, educational centre 2017). While the participating schools work independently, they are coordinated and supported by the national coordinator, the educational center TEREZA, which provides a general instructional design of the program and methodical support for schools.

In the Czech EcoSchool program, students, teachers, or other adults form EcoTeams. Together they follow the “7-step Guidelines”, including analysis of the school’s environmental management, planning, promoting, and evaluating changes (EcoSchools 2018, TEREZA, educational centre 2017). The program also includes a certification process. The schools which have successfully met the criteria to the required level may apply for the Green Flag certificate. The certification process is based on assessment of the evidence of success and a one-day auditor school visit including interviews with teachers and students. In the Czech Republic, the program focuses on direct support of schools, especially teachers, by the national program coordinator. Teachers are encouraged to support students’ participation in decision-making in all of the EcoSchool activities. They participate in leading the EcoTeam meetings, provide suggestions of what should be changed at their school, prepare action plans and learn how to evaluate their own work. Typically, students start with a relatively easy-to-implement agenda: for example, they prepare an informational campaign for saving water, energy or promoting waste reduction at school, help with installation of resource savings facilities, design relaxing zones or shape the school garden into a more natural state (by designing herb beds, small ponds or constructing houses). More experienced students run their own projects to benefit the environment not only in the school grounds, but also in the wider community.

In view of its worldwide implementation, diverse interpretations of the EcoSchool program can be observed, ranging from approaches focused on improving school management to approaches highlighting the importance of developing students’ competence (Mogensen &

Mayer 2005). In this study, we argue for the importance of the latter, student-oriented interpretation of the program.

The following passages briefly introduce theoretical approaches relevant to the EcoSchool program, summarizes findings of previous evaluations highlighting the main findings, communalities and inconsistencies of findings across studies. We then introduce research on the EcoSchool program in the Czech Republic.

Theoretical framework

The EcoSchool is an example of the “*whole-school approach*”; a process of change to integrate environmental and sustainability principles across all aspects of school life and the whole school community. The program’s goals include improving the school environment to be more sustainable, raising environmental awareness and changing attitudes of students and teachers, but also changes in the social and cultural climate. Such complex issues require support of the wholeschool community, rather than being only teacher-driven (Henderson & Tilbury 2004; Tilbury & Wortman 2005).

According to Eames et al. (2006) the *whole-school* approach comprises several aspects that can be developed at different levels, e.g., (a) engaging the wholeschool community in participatory key decision-making concerning sustainability initiatives conducted in the school, (b) having support from school leaders, (c) ensuring school practices reinforce the whole-school program and goals, (d) having a comprehensive school plan for sustainability... The success of efforts to accomplish whole-school organizational changes depends on formulation of a clear vision based on values that are linked to behaviors. Moreover, a supporting mechanism is modeling the behavior to students through individual role models, facilities and operations, governance, and school culture (Higgs & McMillan 2006; Schelly et al. 2012).

In the *whole-school* approach, students should participate in decision-making processes (Eames et al. 2006). Involving students in decision-making in school is a key feature of an emancipatory approach, as defined by Wals (2008, 2012). According to Wals, there is a continuum between two poles of teaching: the *instrumental* and the *emancipatory* approaches. In the *instrumental* approach, the system, including the teachers, sets the goals and educational activities. At the other end, the *emancipatory* approach views the learner as actively engaged in establishing the shared objectives and plan-of-action. It reflects a social learning process, implementing participatory methods. Accordingly, the goals and learning activities are designed by the students, or by the students in cooperation with their teacher (Wals et al. 2008).

A closely related rhetorical tension is that of Jickling and Wals (2008), who make the distinction between a *transmissive* approach towards learning and a *transformative* approach. They categorize a *transmissive* approach as the transmission of values, skills and facts, whilst a *transformative* approach is based on the assumption that “knowledge and understanding are co-constructed within a social context – new learning is shaped by prior knowledge and diverging cultural perspectives” (Jickling and Wals 2008, p. 7).

Sterling (2009), who also addresses the fundamental differences between these educational methodologies, describes *transmissive* as externally imposed and “instructive”, i.e. related to the transfer of information, while *transformative* is participative and “constructive”, i.e. the learners are actively engaged in the construction of their knowledge and its meaning. Although researchers describe ESD in slightly differing words, there is a consensus that it is an approach to teaching that should deal with the complexity of a globalized world. Many initiatives in the sphere of ESD in many countries focus, either intentionally or unintentionally, on the transfer of knowledge. Such an approach could be classified as ‘education about sustainable development’ (Jickling and Wals would label this as *transmissive* education) rather than ‘education for sustainable development’ (*transformative* education). While ‘education

about sustainable development' aims to teach children about the principles of sustainable development and about the scientific, social, economic, and political concepts and reasons behind sustainability issues, 'education for sustainable development', or 'education for sustainability' (EFS) aims to empower children with the competences they need in order to take informed decisions to tackle or contribute to addressing sustainability issues. Jickling and Wals (2008) argue that in this sense, a major function of environmental education (and EFS) is to enable students to become critically aware of how they perceive the world, with a view to fostering citizen engagement with social and environmental issues and participation in decision-making processes.

In line with this, Sterling (2009) and Wals et al. (2008) argue that since sustainability issues are inherently complex and deeply challenging, the instructive (i.e. *instrumental*) approach may fall short of preparing individuals to address such complexities, while the constructivist, transformative (i.e. *emancipatory*) approach is best suited for enabling building the capacity which empowers individuals with the necessary systemic and reflexive mode of thinking to address such complexities in a constantly changing world. Almost half a century ago, Shaull (1970, cited in Wals et al., 2008) articulated this sentiment as follows:

Education either functions as an instrument which is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it, or it becomes 'the practice of freedom', the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world. (p.15)

In light of this, we assume that an *emancipatory, transformative* approach is more suitable for the *whole-school* program, as it is the intention within the EcoSchool program. This assumption may be further scrutinized by previous EcoSchool evaluations.

A new emerging area of study relevant to the ambitions of the *whole-school* approach and emancipatory pedagogy to empower young people with the dispositions and the

competencies that both motivate and enable them to function as environmentally-responsible citizens is *positive psychology of sustainability* (Corral-Verdugo, 2012), within the broader area of *positive psychology* (Seligman and Csikszentmihalyi 2000). According to proponents of *positive psychology of sustainability*, pro-environmental behavior is commonly associated with negativity; i.e. negative feelings (such as guilt, shame or fear) that may encourage involvement in pro-environmental behavior, or negative emotions such as discomfort or sacrifice that may be associated with the efforts or the trade-offs related to engaging in environmentally-sustainable behavior. Regarding the challenge of promoting environmentally sustainable behavior, *positive psychology of sustainability* assumes that such behavior has not only environmental benefits but also personal psychological benefits. It asserts that these positive emotions are both dispositional antecedents that promote environmentally-sustainable behavior as well as positive psychological outcomes of such behavior, for example, sense of well-being, happiness, satisfaction and achievement. Importantly, these positive psychological outcomes (i.e. intrinsic consequences) comprise dispositional attributes that contribute to the maintenance of pro-environmental behavior. Put otherwise, a reciprocal pro-sustainable effect exists by which the positive psychological benefits reinforce pro-environmental behavior (Corral-Verdugo 2012).

The link between individuals' well-being and addressing environmental challenges is uncontested (for example, Kerret, Orkibi and Ronen 2014; UNESCO 2017). Relating to this, the area of *positive psychology of sustainability* has important educational implications which have only recently been the object of investigation. Kerret et al. (2014) propose a model linking between variables of subjective well-being and environmentally-responsible behavior. Investigation of this model with junior high school students found that the students' engagement in "green" activities correlated positively with components of their subjective well-being (Kerret, Orkibi and Ronen, 2016). Regarding the challenge of environmental education in

promoting pro-environmental behavior, based on their findings the researchers suggest that educational approaches that simultaneously promote hedonic goals (e.g. experiencing positive emotions) alongside normative goals (pro-environmental behavior) may prove to be more effective in promoting environmental behavior (Kerret et al. 2016)

Previous research of the EcoSchool program

The effectiveness of the EcoSchool has been subject of study multiple times. The existing evaluations of the EcoSchool can be divided into two categories. The first group of studies has investigated the impacts of the program, typically on students' knowledge, attitude, and behavior, on the school culture, or on the environment.

These studies generally conducted comparisons between students in schools that are part of the Eco school (or Green school) program and students from schools not involved in the program. They implement a quantitative approach using questionnaires to explore the learner outcomes. In Slovenia, Bajd and Leščanec (2011) found a higher level of environmental awareness and responsibility of Eco school students in comparison to students studying in the Healthy School program. Krnel and Naglič (2009) also explored Slovenian students, comparing between those that participate in the Eco school program and students not in this program but who are exposed to environmental education as part of the regular curriculum during regular class hours. They found a slightly higher level of environmental knowledge and insignificant differences in environmental awareness and behavior among participating students and a control group.

In a large scale study conducted in Belgium, Boeve-de-Pauw and Petegem (2011, 2013) found a higher level of environmental knowledge of participating students but just a moderate difference in environmental attitudes, and no difference in the level of pro-environmental behavior in comparison with non-participating students. According to O'Mahony and

Fitzgerald's nationwide comparison (2001), Irish students from experienced schools awarded by the Green Flag reported a higher level of pro-environmental behavior and slightly higher level of internal locus of control compared to students from non-participating schools. Since no difference was found in the level of environmental awareness of students from both groups, they concluded that pro-environmental behavior is not directly influenced by awareness. Their study also found that Green flag awarded schools produced less waste in comparison with newcomer schools. Similar results were identified by the evaluation conducted by the organization People and Work Unit (2007), who reported positive impacts of participation on decreasing school waste production, and on promoting a healthy lifestyle or collaboration with local communities. Rosenberg (2008) investigated the impacts of the participation on development of school culture. Positive effects of school involvement were reported also by Pirrie et al. (2006), who found improved environmental management, changes in school curricula, and increased status of participating schools as the main effects of the program in Scotland.

Goldman et al. (2018) compared students' environmental literacy and the incorporation of environmental management among Israeli schools that are at different stages of 'Green-School Certification'. Differences found between basic-certified ('green') and advanced-certified ('ongoing-green') schools show a positive relationship between the level of students' environmental literacy and the extent of incorporating sustainability in the school's organizational culture. While this study did not address the learning processes, it indicates the significance of creating a meaningful learning environment for supporting students' learning outcomes.

According to Cincera (2008), students of the Czech schools experienced in the program showed a higher level of internal locus of control and pro-environmental behavior than newcomers in the program, while in the Slovak Republic, due to the failures in program

implementation, the program did not develop any of the investigated variables (Cincera et al. 2012). Oszoy, Ertepinar a Saglam (2012) found a higher level of environmental knowledge, attitudes, and behavior of Turkish eco school students, while Spinola (2015) reported only moderate differences in these variables between involved and uninvolved Portuguese students. A nationwide study conducted in Sweden by Olsson, Gericke and Chang-Rundgren (2016), Berglund & Gericke (2016), and Olsson & Gericke (2017) shows that the schools' participation in certification programs (Eco-school program, the Swedish *School for sustainable development*, The WWF *School on sustainable way*) can even have negative effects on students' sustainability consciousness.

Differences and similarities between the results reported in these studies are difficult to generalize given the diverse operationalizations of student outcomes, methodological choices made in the studies, and cultural contexts within which the programs that are studied are implemented. It may be summarized, though, that while the EcoSchool program positively affects schools in terms of their prestige and environmental management, its effects on students' environmental literacy is not as convincing as one might suppose. The program likely develops students' environmental knowledge, while its effect on attitudes, motivations and behavior remains doubtful.

This opens a question if these findings are not a consequence of how the program is implemented (Boeve-de Pauw, 2014). The various ways of program implementation are the subject of the second group of the EcoSchool research. Emilie (2014) analyzed learning processes emerging in the program and interpreted the EcoTeams as a kind of community-of-practice. Mogensen and Mayer (2005) compared the implementation of the EcoSchool among 13 countries and identified three different types of program implementation: as an ecological enterprise, as a family of nature-lovers, and as a community of educational research. Boeve-de Pauw and Van Petegem (2017a) showed that if schools apply differential didactical approach

to environmental education, this is reflected in the students' environmental attitudes. The same study showed that choices made by the schools, in relation to the implementation strategy, can also result in differential impact on students' levels of autonomous and/or controlled motivation towards the environment (Boeve-de Pauw & Van Petegem, 2017b). In other words, the quality of the implementation can affect student outcomes. At the same time, the study by Boeve-de Pauw and Van Petegem (2017a) showed that, in Flanders EcoSchools do not differ significantly from non-EcoSchools in terms of their implementation strategy.

Boeve-de Pauw, Gericke, Olsson and Berglund (2015) show that while there are differences in quality of education (which they label as holism and pluralism), the fact whether or not a school is participating in programs such as the EcoSchool program, does not explain differences in their educational approach. Cincera and Kovacikova (2014) interviewed members of EcoTeams in a sample of highly awarded schools. They found big differences in implementation of the program. In schools where teachers tended to dominate the program, teachers controlled the participating students and the participating students controlled their uninformed mates. The participating students often reported a sense of hopelessness and burnout. In contrast, in schools where teachers were willing to involve students in the decision-making, respondents reported a feeling of being empowered by their achievements. This corresponds with a quantitative survey conducted by Cincera and Krajhanzl (2013), who found a significant correlation between students' level of action competence and their perceived participation in decision-making in schools. According to Cincera, Kroufek & Simonova (2015), pupils from kindergartens where the EcoSchool program was implemented in an emancipatory way had a slightly higher level of environmental attitudes than their peers from instrumentally led schools.

Goal of the present study

The bulk of results from studies focusing on the educational effects of the EcoSchool program seems to present transmissive outcomes while the goals are intended as transformative. However, a crucial yet heavily understudied issue is how the program is actually implemented. Many of the studies in this field take on the assumption that the implementation process is transformative (or emancipatory) in nature. Based on the results outlined above, it seems likely to assume that the implementation approach to the program is a crucial precondition for its effectiveness, and that a more emancipatory (rather than a more instrumental) approach is more effective in terms of empowering students. In the present study, we will scrutinize this very assumption by mixed method evaluation research conducted in collaboration with the Czech national EcoSchool program coordinator, the educational center TEREZA, in 2017.

Our overall goal is not to test the effectiveness of the EcoSchools, but to study the way the program is currently implemented in schools in the Czech Republic. The study addresses three main research goals (RGs):

- RG1: Analyze how students and teachers perceive the program implementation (instrumental or emancipatory). As students and teachers came from the same schools, we will also be able to compare the associated variables between both groups.
- RG2: Investigate if the perceived quality of implementation (instrumental or emancipatory) correlates with respondents' sense of being empowered by their achievements.
- RG3: Investigate to what extent we can explain differences among respondents by perceived quality of implementation (instrumental or emancipatory).

Methodology

Respondents

To ensure their participation in the research, we asked all the elementary and secondary schools participating in the program for cooperation. Altogether, 54 schools agreed to cooperate. Originally we planned to focus on a segment of students between the ages 12–15, because they represent the majority of students participating in the program in the Czech Republic. As the EcoTeams often consist of students of different age, we included also slightly younger or older respondents. Altogether, we collected data from 148 students (mean age 13.8 ± 1.49 years), and 65 teachers (45.6 ± 9.06 years) from the same participating schools. All respondents were members of the EcoTeam in their school. Because the sample is not representative of the population (altogether, approx. 400 schools are involved in the program in the Czech Republic), the findings may not necessarily represent all the participating schools. The data are gathered from the EcoTeam members, who are the functional units of EcoSchools. In the Czech Republic, the EcoTeams usually consist of 10 – 50 students (bigger EcoTeams usually split up to smaller teams aiming at specific tasks), led by one or two teachers. As not the schools but the EcoTeams were the units of the analysis, the findings cannot be generalized outside the range of the program. Table 1 and Table 2 summarize the participants' background variables.

TABLE 1 SHOULD BE PLACED HERE

TABLE 2 SHOULD BE PLACED HERE

Research tools

Based on the aims of this study we developed a questionnaire with closed and open-ended questions. The study used this questionnaire in two versions: one for students and one for teachers. We defined a set of dependent variables, based on previous research of the program (Cincera & Kovacikova, 2014), indicating various aspects of empowerment. For students and teachers, we used similar scales with a few changes in wording or the number of items. Figure

1 provides a basic overview of the independent and dependent variables. The following **dependent variables** were used:

- ***Ownership of success***, defined as belief in students'/teachers' own meaningful contribution to the EcoTeam achievements. The scale for students consisted of 5 items with Cronbach alpha = 0.71 and for teachers of 4 items with Cronbach alpha = 0.68.
- ***Satisfaction***, defined as a reported level of students'/teachers' satisfaction with their participation in the EcoSchool (1 item).
- ***Sense of loss of meaning of the program*** (below: "loss of meaning"), defined as a feeling that it makes no sense to participate in the program because of no real chance to influence the situation or other people (1 item for students and teachers).

FIGURE 1 SHOULD BE PLACED HERE

To assess the implementation strategy, we included the following independent variables in the students'/teachers' questionnaire:

- ***Perceived participation***, defined as a belief in students' opportunity to influence the program by their own decisions: 6 items with Cronbach alpha = 0.74. Analogically, for the teachers, the variable ***Emancipatory approach*** was used, as a perceived level of their encouraging students to participate in decision-making in the program. The scale had 6 items with Cronbach alpha = 0.71.
- ***Adults' control***, defined as students' perception of the level of adults' control over the program (4 items, analyzed separately due to the low internal reliability), and analogically, ***Instrumental approach***, defined as teachers' perception of the level of their control over the program (4 items, Cronbach alpha = 0.67). Originally we assumed that the adults' control and the students' control would be two parts of the same scale,

representing the perceived instrumental approach. As this assumption appeared not to be valid, these components were analyzed separately.

- ***Students' control***, defined as students' perception of their level of control over other students, was expressed by two items labelled as "controller" (I control if other students respect ecological behavior rules) and "eco-cop" (I view myself in the EcoTeam as a kind of "eco-cop" – I get tasks and control other children), analyzed separately, and "the Eco-cop", teachers' interpretation of the role of participating students as the "cops" enforcing eco-management behavior over non-participating students (1 item).
- ***Social support***, i.e. students' perceived support from their peers (1 item) and family (1 item), and support from reference people, i.e. teachers' perceived support from their head person (1 item), other teachers (1 item), and parents of involved students (1 item).
- ***Green Flag***, 1-item variable identifying whether a school holds or has been awarded a green flag in the program.
- ***Effort***, estimated amount of time dedicated to the program by students (1 item) and teachers (1 item).
- ***Demographic variables***, i.e. gender, age, and grade, resp. the length of practice for teachers.

The full item battery is provided in Appendices 1 and 2. The responses were coded on a 5-point Likert-type scale, where "1" stands for "strongly disagree", "2" for "slightly disagree", "3" for "I do not know", "4" for "slightly agree", and "5" for "strongly agree".

In addition to the closed-ended sections, an additional open-ended question requested the participants (students and teachers) to identify the greatest success of their EcoTeam that they are proud of.

To assure content validity, the research plan, including all the variables and associated items was discussed with the national coordinator of the EcoSchools. On the basis of their

recommendation, we modified a few of the originally suggested items. The idea of wording of some of the items was based on previous research evaluating the program, namely Author 1 and Kovacikova (2014) and Author 1 and Krajhanzl (2013). For example, the concepts of “viewing oneself as an eco-cop” or “controlling other students” were literally expressed by some of the EcoTeam members in a previous study (Author 1 & Kovacikova, 2014).

Data analysis

Statistics were conducted with STATISTICA software, version 13.2. Analysis of quantitative data included:

- Frequencies of the responses on the Likert-type scales;
- T-test to test for differences in dependent variables between students and teachers;
- Mann Whitney test was used for analyzing the effect of the Green Flag or gender;
- Pearson correlations to examine the relationships among selected variables;
- Regression analysis to investigate how various background and independent variables predict the dependent variables.

Inductive content analysis was conducted on the participants’ responses to the open-ended question.

Findings

In the *first* part of this section, we assess to what extent the program implemented the emancipatory approach in the sample (RG1). We present both perspectives (students’ and teachers’) separately. We then compare differences between both groups. In the *second* part, we analyze correlations among the variables (RG2). Again, the analysis will be presented separately for both groups. In the *third* part, we present results of regression analysis of interrelationship between the dependent and independent variables for both groups (RG3).

RG1: Implementation of the Emancipatory approach in the EcoTeams

According to our findings, 85-90% of students reported they had an opportunity to participate in decision-making concerning the agenda for the EcoTeams' meetings, planning further work, or evaluating the quality of the EcoTeam effort (see Table 3). The average level of perceived participation was 4.46 ± 0.49 ($SD=0.49$). Approx. 90% of both groups reported they were satisfied with their work in the EcoTeam. Only 10% of both groups questioned the importance of the program. Most of the students believed they were able to improve the environment, and the majority were proud of their involvement in the program. The level of emancipatory approach perceived by teachers was significantly higher ($M = 4.60$, $SD = 0.36$, $t = 2.13$, $p = 0.006$; Table 4). These findings indicate that approximately 90% of the EcoTeams in our sample apply at least partially the emancipatory strategy. These findings support the assumption that emancipatory strategies are quite common in the Czech EcoSchool program, as perceived by both students and by teachers.

TABLE 3 SHOULD BE PLACED HERE

To gain more in-depth insight concerning positive impacts of the emancipatory approach implemented via the EcoTeam framework, the students and teachers were requested to describe what they see as the most important positive achievement of their EcoTeam. Student response rate was notably high (80%). Content analysis of their responses elicited four themes (i.e. focuses of action): school-oriented projects, community-oriented projects, environmental opinion leadership (i.e. persuasion of others) and prestige. Activities within the schools were the most frequent theme: 46.6% of the students indicated improving the eco-management of their schools and initiating nature-related activities as the achievement they are the proudest of. Selected responses exemplifying this:

We created a nature classroom...we launched eco food products and cleaning materials in the cafeteria...we collect electronic waste and raise money from paper collection. (girl, 15 years, 8th grade, >1 year in the EcoTeam)

... we will now create an eco-garden in the small pavilion...we save energy and have new bins for sorted waste so they motivate students to sort more. (boy, 14 yrs, 7th grade of elementary school, 4-5 yrs in EcoTeam).

Significantly fewer students, ~15.5%, reported various kinds of community-based actions, for example,

We tried to persuade our mayor to buy bins for dogs' excrements. Not so long ago, I was walking along the street and noticed there were two new, maybe even more. (girl, 14, 8th grade, 1-2 years in EcoTeam);

...we prevented the company Brumik [Czech company that produces sweet cakes for children] from using palm oil in their products" (girl, 13 yrs, 7th grade, 1-2 yrs in EcoTeam); "...we organize the waste collection in the village every year. (Girl, 15 yrs, 8th grade of elementary school, > 1 year in Eco-Team).

Twelve percent of the students addressed persuasion activities aimed at increasing peoples' involvement in more environmentally responsible behavior, for example,

We motivate young promising students of our school to go to school ecologically (not by car). (boy, 14 yrs, 8th grade of elementary school, 4-5 yrs in Eco Team).

The following citation presents an exceptionally creative project

Organizing an event for the broad public, named 'We cook with our grandmother's recipes'. This event was meant to show that it is possible, easy and cheap to cook without using the palm oil the EcoTeam fights... We wrote all of the recipes shown that day in a recipe book, available for downloading at our webpage. Photos from the event have even been presented in an international journal for teachers. (boy, 14 yrs, 8th grade of elementary school, more than 5 yrs in EcoTeam).

It is noteworthy that the frequency of responses addressing prestige connected to obtaining the Green Flag or money was marginal, indicating the significant influence of the educational

approach implemented on the students' ownership of meaningful pro-environmental involvement, as will be elaborated in the discussion.

Teachers' perceptions of the program follow similar patterns (see Table 4) as those of students. Most teachers believed they implemented the program in the emancipatory way and were proud of the results' of their work in their EcoTeams.

TABLE 4 SHOULD BE PLACED HERE

Most of the teachers (N=45) in our sample considered changes in the school's eco-management as the most important result of the project. A small set of teachers (N=11) mentioned changes in school curricula or school climate. Seven teachers mentioned increased cooperation with the local community. Exemplar responses of the teachers emphasize the program's influence on increasing positive interaction and collaboration between people within the school and the local community. It is noteworthy that the teachers' focus is more people-oriented, i.e. focused on improving social climate in their school, in comparison with students who did not reflect this aspect.

“...we have managed to communicate together better, to listen to the wishes of others...”

(female teacher, age 35, >1 year of practice in school without Green Flag);

“Older students teach younger students on EcoSchool topics” (male teacher, age 35, 9-10 yrs practice, elementary school with Green Flag);

“For sure we have positively influenced the thinking of people in our village. They participate with us in activities, cooperate sorting waste...we have inspired many schools

by our example” (male teacher, age 48, 6-7 yrs practice, elementary school with Green Flag).

While the students’ and teachers’ levels of perception of the program’s benefits largely correspond, teachers reported a significantly higher level of emancipatory approach than the level of students’ perceived participation was. Despite this difference, both variables reflect the high level of students’ participation in decision-making in the program (see Table 5).

The majority of students felt being supported by their parents ($m=3.82$, $SD=1.06$) and peers ($m=3.60$, $SD=1.00$). Teachers reported perceived support from their school-leader ($m=4.79$, $SD=0.54$) and other colleagues ($m=4.21$, $SD=0.78$), while they did not feel such strong support from students’ parents ($m=3.70$, $SD=0.88$).

TABLE 5 SHOULD BE PLACED HERE

RG2: Correlation among the evaluated variables

As could be expected, students’ satisfaction with the program, feelings of being owners of the achievements of their EcoTeams, and the level of their perceived participation were positively correlated. Additionally, all of these variables were negatively correlated with the sense of loss of meaning of participating in the program. Other variables positively correlating with the ownership of success and satisfaction, and negatively with the sense of loss of meaning of the program were associated with the students’ control over other students. Besides this, other variables with a strong or moderate correlation with dependent variables were parents’ support and students’ effort (see Table 6). We found no significant correlation with age, with the exception of perceived participation ($r=0.17$). The correlations associated with the instrumental approach are provided in Table 7. As we could see, some of the items are negatively correlated

with ownership of success, perceived participation, students' control over other students, or students' effort in the program. For the full wording of the items, see Appendix 1.

TABLE 6 SHOULD BE PLACED HERE

TABLE 7 SHOULD BE PLACED HERE

It can be summarized that the students' satisfaction, ownership of success, perceived participation, perceived support from peers and parents, and the perceived control over other, non-participating students, are highly intercorrelated. From the teachers' perspective (see Table 8), the ownership variable positively correlates with the amount of time dedicated to the program (effort), satisfaction, support from students' parents, emancipatory approach, and support from their colleagues. It negatively correlates with the sense of loss of meaning of the program or instrumental approach. Support from headmaster significantly correlated only with support of other colleagues. Age does not significantly correlate with any of the variables.

TABLE 8 SHOULD BE PLACED HERE

RG3: Predicting the students' satisfaction, ownership of success and sense of loss of meaning of the program by independent variables.

The regression analysis revealed a pattern similar to that found in the correlations. Perceived participation, i.e. the result of teachers' emancipatory approach, together with students' control over their peers, and peers' support predict participants' feeling of ownership of the success of their EcoTeam and their satisfaction with the program (see Table 9). Neither students' age nor gender are important to their satisfaction with the program.

TABLE 9 SHOULD BE PLACED HERE

The level of teachers' feeling of ownership of the success was significantly predicted by their effort and support by students' families, while the effect of other independent variables (emancipatory and instrumental approaches, support from head person and colleagues, age, gender, Green Flag) were insignificant. Instrumental approach and support from other colleagues were the significant predictors of sense of loss of meaning of the program. No variable was found to be a significant predictor of teachers' satisfaction with the program (see Table 10).

TABLE 10 SHOULD BE PLACED HERE

Discussion

The findings should be interpreted in light of their limitations. As the sample was not representative of the whole population; results cannot be easily generalized for all of the Czech EcoTeams. It may be argued that schools which struggled with the program and were less likely to follow the methodical guidelines provided by the national coordinator were also less willing to participate in the research. While the group of teachers represented a big number of schools, it was still too small to prevent statistical analysis from being vulnerable to statistical errors. Last but not least, as some of the items had to be analyzed separately or were represented by one item only, they could be misinterpreted by some of the respondents.

Overall, the study supports a spreading of the emancipatory approach in the implementation of the EcoSchool program in Czech schools. Even if the findings cannot be generalized, due to the size of the sample, it seems that students and teachers are mostly satisfied with their participation and that the program may have positive effects on students.

Furthermore, the findings clearly demonstrate the importance of an emancipatory approach to implementation of the program, and reversely, the risks of its instrumental implementation. Not only do the students interpret teachers' control over their work negatively but even the teachers themselves feel a sense of loss of meaning of the program when they apply an instrumental strategy. This corresponds with Lousley (1999), who found a similar effect for the group of eco-club members. When teachers apply an emancipatory approach, they most likely get more satisfaction from their work and feeling of ownership of the success as a reward, and the same effects seem to apply to their students. These findings correspond with the previous evaluation of the program in the Czech Republic, which showed that the level of students' action competence significantly correlated with their participation in decision-making process in school (Cincera & Krajhanzl, 2013; Cincera & Kovacikova, 2014). At the same time our current results provide more specific evidence for the emancipatory nature of the implementation of the EcoSchool program in Czechia.

Both students' and the teachers' responses from the closed and open-ended sections of the survey underscore this. Students reported high levels of perceived involvement in decision-making processes surrounding environmental issues at their schools, and teachers reported (amongst other things) to actively see the involvement of students in such processes. The teachers also expressed increased positive social climate, supporting the contribution of the emancipatory approach to achieving this socially-oriented goal of the EcoSchool. This broader positive social outcome, perceived by the teachers, may provide one explanation for the greater perception of the emancipatory approach expressed by the teachers in comparison to the students. We also demonstrate the positive effect associated with such an approach: students and teachers experience ownership over and goal orientation in the outcomes of the program. A notable result is that the implementation approach seems to be associated with students' increased sense of being able to contribute to positively impacting the environment. This is an

encouraging result, especially when taking into account that studies have shown that students tend to feel that they cannot positively impact the environment or that they do not see how their actions can have any contribution to solving complex issues such as climate change (Boeve-de Pauw & Van Petegem, 2017b).

The positive effect of the emancipatory approach on the students' sense of satisfaction and achievement is linked to the emerging area of study – *positive psychology of sustainability* (Corral-Verdugo, 2012). Variables evaluated in this study, such as satisfaction, ownership-of-success (i.e. sense-of-capacity, reflected in both the closed and open-ended responses), which also expresses psychological well-being (sense of development of their personal abilities and growth) correspond to various psychological benefits that reinforce the reciprocal pro-sustainable effect presented by Corral-Verdugo (2012). This has implications for the role of the EcoSchool program as an educational framework that aspires, among else, to promote environmental responsibility of the students. While this study did not aim to measure the effectiveness of the EcoSchool in terms of student outcomes (e.g. environmental behavior), viewing the variables investigated through the lens of *positive psychology of sustainability* supports the idea that the emancipatory approach may provide an effective educational strategy for overcoming the behavioral gap by aligning hedonic goals (e.g. experiencing positive feelings) with the normative goal of promoting environmentally-sustainable behavior as put forth by Kerret et al. (2016). Thus, this educational approach may better achieve the combined goal of promoting people's well-being and the state of the environment.

It is notable that the teachers expressed a significantly higher level of the emancipatory approach in comparison to the students. One explanation for this may be that the teachers, compared to the students, have a better understanding of how the program is intended to be implemented and as such are more susceptible to socially desirable answers than their students. Another possibility is that the broader positive social outcome the teachers identified in their

school (see above) contributes to their increased appreciation of the participatory educational approach. Additionally, since the mainstream approach to teaching in schools is still largely instructive (i.e. transmissive), while the constructive participatory approaches are still not common, any deviation from this presents for them a significant change from the teaching approaches and methods they are used to implementing. Students, on the other hand, despite that they positively acknowledged their participation in decision-making processes concerning the content of their projects and how to conduct them and despite their sense of satisfaction, may still not be able to fully appreciate the uniqueness of this educational opportunity since they still view their work as being conducted within the framework and requirements of school.

It is also notable that variables such as support from the students' parents or the school headmaster or the school's Green Flag did not significantly influence the teachers' sense of ownership or satisfaction. This finding supports the teachers' strong internal (*intrinsic*) motivation to their function in this program (Ryan and Deci 2000). It seems that the teachers' involvement is less influenced by *extrinsic* (external, instrumental) prods or benefits (such as support from others or the receiving the Green Flag) and more by the *intrinsic* benefits, such as a sense of satisfaction itself (Corral-Verdugo 2012; Ryan and Deci 2000). In contrast, the students' satisfaction and ownership-of-success were significantly influenced by factors which can be considered external or instrumental, such as their perceived participation, sense-of-control, peers' support or the efforts they invested. To conclude, the findings appear to indicate that *intrinsic* motivation is more significant for the teachers as compared to their students, and while *intrinsic* motivation does come into play for the students, *extrinsic* sources of motivation are still significant.

The findings of the importance of students' sense of control over non-participating students are highly surprising. While in Cincera and Kovacicova (2014) the role of "eco-cop" was interpreted as a manifestation of the instrumental approach and it was hypothesized as

being responsible for the sense of loss of meaning of the program or even burnout of participating students, our current results lead to an opposite interpretation. An opportunity to control others seems to be one of the sources of students' satisfaction with the program and feeling of ownership of successes of their EcoTeam. From the perspective of the Schwartz' (1994, 2012) Basic Human Value theory, the value of power contradicts the self-direction and universalistic values. It is a big and surprising paradox of the EcoSchool program that its effectiveness seems to originate from an interplay of freedom and power, aspects that, contrary to the original expectation, did not prove to be antagonistic but complementary. This finding also seems to deviate from the virtue of humanity which in *positive psychology* involves kindness and caring (Corral-Verdugo, 2012). It is not easy to provide a conclusive explanation. According to Binka et al. (2015), power, as one of the universal values, tends to be concealed and presented as another, socially more positively accepted value. We may hypothesize that while teachers may believe they promote other values by the way they shape the program (i.e., justice, empowerment), they unconsciously promote power structures, interpreted by students as necessary and positive aspects of EcoTeams' work.

Another possible interpretation is that EcoTeam students are not necessarily expressing "control over" their peers, but rather a sense of being "agents-of-change" for their peers, and in this they are reflecting change-agency (as opposed to control) as an aspect/component of leadership. While the phrasing of the items uses the term "control" or "eco-cop", it might be that the students are interpreting these items as an opportunity for them to effect positive change in their peers' environmental behavior. In light of this, we assume that both ways of implementation of the EcoSchool may be at play at the same time: while EcoTeam members are treated through an emancipatory approach by their teachers, other students may be treated in an instrumental way by their teachers and/or participating peers.

Higgs and McMillan (2006) showed the importance of four aspects of modelling sustainable behavior in schools: individual role models, school facilities and operations, school governance, and school culture. The EcoTeam members are the example of individual role models for other students. They can thus feel a strong obligation to show other students how to behave and control if they actually do so. Arnold et al. (2009) found that young environmental leaders identified their friends and peers to be an important factor in their development as environmental leaders by acting as examples. This supports the potential positive influence that these EcoTeam members may have, as role models, on their peers' pro-environmental action. EcoTeam members learn how to work as a leader from their teachers, so if they practice the control mechanism over students, the students will likely follow their example. Wong et al. (2010) support the idea of shared control between students and teachers instead of the only youth-driven process. It is more appropriate for students and teachers to distribute the tasks and responsibilities according to their respective strengths, for example the students suggest the ideas and teachers find the strategies for their implementation.

The perceived importance of students' control over other students does not imply this practice should be promoted in participating schools. As the study focused on EcoTeam members, we cannot be sure how non-participating students interpreted their role of being controlled by their peers. It is possible that the power structures facilitated by the EcoSchool launch unexpected effects on group dynamics, not investigated by our study. As we assume overall positive effects of the EcoSchool program on school culture (Rosenberg, 2008; Fazio & Karrow, 2013).

The importance of the support for environmental education by a head person was reported in multiple studies (Fazio & Karrow 2013; Kadji-Beltran et al. 2013, Mogren and Gericke, 2017). It seems that the support from other colleagues and students' families plays a more important role for teachers participating in the program. Similarly, support of their peers

was important for the students. These findings correspond to one of the obstacles identified in the literature to the sustainability of the *whole-school* approach – the fact that the program often becomes the responsibility of a limited group of teachers as opposed to the intention of broad involvement of the teaching staff as well as the school community which is crucial for the sustainability of the program itself (Goldman et al. 2018; Krnel and Naglic 2009; Mogensen and Mayer, 2005). Thus, the findings concerning both the teachers and the students underscore the importance of the community-based approach which promotes involvement of community members, supports mutual teachers' cooperation in schools and students' peer support. Combined, the enhanced in-school and out-of-school community interaction (expressed by the teachers), the students' positive psychological outcomes (enhanced well-being, see above), and examples of meaningful environmental initiatives support the significance of the emancipatory approach in achieving goals of *whole-school sustainability*.

Conclusion and suggestions for further research

The necessity of monitoring and evaluating accomplishments and factors contributing to the success of the *whole-school* approach has been repeatedly raised in the literature in the efforts of developing good practices (Henderson and Tilbury 2004; UNESCO 2014). Within this, Rickenson, Hall and Reid (2016) emphasize the importance of giving attention to the question what it is about a program that is influential, and not only addressing the program impacts. The present study reflects their approach. In this study, we analyzed how the EcoSchool program is implemented in the Czech Republic. From a practical perspective, our study has important implications for the national program coordinator, as it indicates that the emancipatory approach seems to be common. Furthermore, the reasons for implementation of the program in the emancipatory way seem to be well supported by our findings: students who believe they have a chance to participate in decision-making and teachers who give students

the right to participate seem to be more satisfied with the program and more empowered by their work. The next steps in this specific field of study are designing studies that allow to connect the implementation process to its outcomes. Longitudinal studies and case studies seem to be suited methodologies to address such issues. While its proper implementation in schools needs to be investigated further, we argue that our results indicate that the emancipatory approach is probably more suitable than the instrumental one.

The study also raised the question of distribution of power among involved and uninvolved students. Surprisingly, the perceived control of EcoTeam members over their non-participating peers seems to be significant for the positive effects of the program. This finding needs to be investigated in further studies, as it raises questions we are currently unable to answer, like ‘What is the impact of the EcoSchool program on non-participating students from the involved schools?’, and ‘How do they react to the “controller” role of EcoTeam members?’. A social network approach would be an interesting avenue to explore in this regard. Above, we connected the finding of the eco-cops arguments to Schwartz Human Values and Positive Psychology. Alternatively, it would be interesting to look deeper into this finding through lenses such as the Social Dominance Orientation (Pratto et al., 1994). Empirical investigations into the connection between students’ diverse motivations to participate in the eco-teams and their psychological needs for power and social dominance orientation are promising in this respect, as this could help to understand the complex interactions between what drives people to commit to programs such as the EcoSchools.

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Appendix 1 Applied scales for students

Perceived participation

- Whenever I want, I may suggest what we should do in our EcoTeam.
- As students, we can promote our ideas in the EcoTeam even if our teacher does not agree with them.
- Every EcoTeam member may openly say his/her opinion even if our teacher disagrees with it.
- Every EcoTeam member may suggest how we should best implement our planned tasks.
- Together with all of the EcoTeam members, we decide if our work is good or not.
- I am in the EcoTeam voluntarily and I may leave any time.

Ownership of success

- I think we have improved something at our school.
- Thanks to the work of our EcoTeam we have helped the environment.

- I play my part in the success of our EcoTeam. I contribute to the success of our EcoTeam.
- I am proud of being an EcoTeam member.
- I feel as someone making the world a better place.

Satisfaction

- I like my work in the EcoTeam.

Students' control

- I view myself in the EcoTeam as a kind of “eco-cop” – I get tasks and control other children.
- We control if other students respect ecological behavior rules.

Teacher control

- It is usually the teacher or another adult who comes up with ideas of what we should do in the EcoTeam.
- The teacher or another adult decides what we should do in the EcoTeam and how.
- The Teacher or another adult controls the work of our EcoTeam.
- If our teacher does not like something we do in EcoTeam, we have to correct it.

Social support

- I am proud that I am member of an EcoTeam.
- Other students support the work of our EcoTeam.
- My parents support me being an EcoTeam member.

Loss of meaning

- Our work in EcoTeam has only limited impact. We are unable to influence anything or anyone.

Effort

- I give a lot of time to the work of our EcoTeam.

Please, provide us with one example of something from your school or its environment that you, as an EcoTeam, managed to change, and you would say you took part in and are really proud of:

Appendix 2 Applied scales for teachers

Emancipatory approach

- Students participate in the EcoTeam voluntarily and may leave at any time.
- We all decide together what we will do in the EcoTeam.
- Students may suggest what we should do in the EcoTeam.
- Every EcoTeam member has the right to openly express his/her opinion, even if I or the others disagree with him/her.
- We all decide together if our work is good or not.
- If I do not like a student's idea but the majority of students agree with it, I accept it.

Instrumental approach

- I, as a teacher, usually come up with ideas of what we should do in the EcoTeam.
- It is usually me, as the teacher, who assigns tasks to students and says what they should do.
- If I want our EcoTeam to be successful, it is mainly up to me to plan and manage its work.
- If students were to decide what we should do, we would soon slip into total foolishness.

Satisfaction

- I like my work in the EcoTeam.

Loss of meaning

- Our work in the EcoTeam has only limited impact. We are unable to influence anything or anyone.

Ownership of success

- Thanks to the work of our EcoTeam we have helped the environment.
- I play my part in the success of our EcoTeam. I contribute to the success of our EcoTeam.

- I am proud of being an EcoTeam member.
- I feel as someone making the world a better place.

Social support

- The management of our school supports the work of our EcoTeam.
- Other teachers support the work of our EcoTeam.
- Parents support the involvement of their children in our EcoTeam.

Effort

- I give a lot of time to the work of our EcoTeam.

Table 1. Summarized information about the respondents

	N	Female	Male	Age (Years)	SD
Students	148	80 (54.1%)	68 (45.9%)	13.8	1.49
Teachers	65	57 (87.7%)	8 (12.3%)	45.6	9.06

Table 2 Background information about the EcoTeams in the sample

	Rural	Urban	Green Flag	The length of involvement in the Eco-school program			
				1 – 2 years	2 – 6 years	6 -10 years	>10 years
Relative distribution in the sample	17%	68%	79%	17%	38%	34%	11%

Table 3. Frequency (%) of students' responses on items of perceived participation, satisfaction, perceived sense of loss of meaning of the program, and ownership of success (N=148)

Perceived participation	Strongly agree	Agree	I do not know	Dis-agree	Strongly disagree
Whenever I want I may suggest what we should do in EcoTeam.	54	36	6	3	0
I am in the EcoTeam voluntarily and I may leave any time.	80	16	5	0	0
As students, we may promote our ideas in the EcoTeam, even if our teacher did not like them originally.	45	38	11	6	0
Every EcoTeam member may openly express his/her opinion even if our teacher disagrees with it.	64	26	8	1	1
Every EcoTeam member may suggest how we should best implement our planned tasks.	57	35	4	2	0
Together with all of the EcoTeam members, we decide if our work is good or not.	55	32	9	3	1
Ownership of success					
I think we improved something at our school.	61	32	5	1	0
Thanks to the work of our EcoTeam we helped the environment.	59	34	5	1	0
I have my part in the success of our EcoTeam.	47	44	5	4	0
I am proud of being an EcoTeam member.	55	31	14	0	0
I feel as someone making the world a better place.	30	45	13	8	3
Satisfaction and sense of loss of meaning					
I like our work in EcoTeam.	50	44	4	1	0

Our work in EcoTeam has only limited meaning, we are able to influence nothing and nobody. 3 6 9 20 60

Table 4. Frequency (%) of teachers' responses on items of perceived emancipatory approach, satisfaction, sense of loss of meaning of the program, and ownership of success (N=65)

Emancipatory approach	Strongly agree	Agree	I do not know	Disagree	Strongly disagree
Students may suggest what we should do in EcoTeam.	53	10	1	0	0
Students are in EcoTeam voluntarily and may leave any time.	58	5	1	1	0
If I do not like a student's idea but the majority of students agree with it, I accept it.	20	37	4	4	0
Every EcoTeam member has the right to openly express his/her opinion, even if I or the others disagree with him/her.	53	11	0	0	0
We all together decide what we will do in the EcoTeam.	37	27	0	0	1
We all together decide if our work is good or not.	36	26	2	0	0
Ownership of success					
Thanks to the work of our EcoTeam we helped the environment.	44	18	3	0	0
I have my part in the success of our EcoTeam.	39	22	2	1	0
I am proud of being an EcoTeam member.	38	17	6	1	0
I feel as someone making the world a better place.	16	29	14	5	0
Satisfaction and sense of loss of meaning of the program					
I like our work in EcoTeam.	36	21	4	4	0
Our work in EcoTeam has only limited menaing, we are able to influence nothing and nobody.	0	2	3	19	41

Table 5. Comparison of the perception of participation in shaping the Eco-team's work between teachers and students. * marks significant effects at alpha = 0.05.

	Students <i>M ± SD</i>	Teachers <i>M ± SD</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Ownership of success	4.34 ± 0.52	4.41 ± 0.46	0.89	0.37	0.14
Perceived participation / Emancipatory approach	4.46 ± 0.49	4.60 ± 0.36	2.13	<0.01*	0.33
Satisfaction	4.43 ± 0.64	4.36 ± 0.85	0.62	0.53	0.01
Loss of sense	1.70 ± 1.08	1.47 ± 0.73	1.57	0.11	0.25

Table 7. Pearson Correlations among selected variables for students (N=148). * marks significant effects at alpha=0.05

	Satisfaction	Ownership of success	Perceived participation	Loss of meaning	Eco- cop	Con- troller	Support students	Support parents	Effort	Length
Teacher comes up with ideas	-0.07	-0.22*	-0.15	0.15	- 0.21*	-0.24*	0.04	-0.16	- 0.34*	-0.17*
Teacher says what and how	-0.16	-0.20*	-0.24*	0.22*	-0.04	-0.01	-0.001	-0.26*	-0.12	-0.02
Teacher controls work	-0.003	0.09	0.16	-0.003	0.14	0.13	0.11	0.01	0.10	0.03
Teacher dislikes, we correct	0.02	-0.04	-0.02	0.15	-0.14	0.01	0.01	0.05	0.09	-0.13

Table 9. Regression analyses for dependent variables in the group of students (N=148). * marks significant effects at $\alpha=0.05$

	Satisfaction ($R^2=0,38$)		Loss of meaning ($R^2=0,17$)		Ownership of success ($R^2=0,58$)	
	<i>p</i>	β	<i>p</i>	β	<i>p</i>	β
Perceived participation	0.01*	0.20	0.10	-0.15	<0.001*	0.31
Teacher dislikes, we correct	0.81	-0.01	0.39	0.08	0.85	-0.01
Controller	0.01*	0.20	0.35	-0.08	0.006*	0.17
Teacher controls work	0.13	-0.12	0.61	-0.04	0.49	-0.04
Eco-cop	0.85	0.01	0.51	-0.06	<0.001*	0.23
Teacher says what and how	0.67	-0.03	0.07	0.16	0.41	-0.05
Teacher comes up with ideas	0.06	0.15	0.49	0.06	0.73	0.02
Support of parents	0.10	0.13	0.21	-0.12	0.77	0.01
Support of students	0.004*	0.20	0.22	-0.10	0.003*	0.17
Age	0.49	-0.04	0.38	0.07	0.66	0.02
Length of participation	0.96	-0.02	0.33	-0.08	0.62	-0.02
Effort	0.002*	0.27	0.08	0.18	<0.001*	0.26
Gender	0.41	0.05	0.30	0.08	0.11	0.09

Table 10. Regression analysis for dependent variables in the group of teachers (N=65). * marks significant effects at $\alpha=0.05$

	Ownership of success (R ² =0,43)		Satisfaction (R ² =0,26)		Loss of meaning (R ² =0,42)	
	p	β	p	β	p	β
Instrumental approach	0.10	-0.19	0.12	-0.20	<0.0001*	0.42
Emancipatory approach	0.43	0.10	0.12	0.23	0.56	0.07
Age	0.13	-0.18	0.76	-0.04	0.16	0.17
Effort	0.007*	0.33	0.11	0.22	0.66	-0.05
Support from parents	0.04*	0.28	0.22	0.18	0.31	-0.13
Support from colleagues	0.40	0.11	0.80	-0.03	0.007*	-0.38
Support from headmaster	0.62	-0.06	0.81	-0.03	0.23	0.15
Green Flag	0.12	-0.18	0.46	-0.10	0.41	0.10