Lenka Vojáčková
Czech Republic

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Key Motivational Factors Affecting Teachers' Long-Term Engagement in School Projects

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Abstract

The article discusses the factors that support the motivation of teachers to implement school projects. Based on Self-Determination theory (Deci & Ryan, 1985, 2000), we present specific factors that influence and stimulate the motivation of teachers with regard to the perception of autonomy or control. What is essential for autonomous motivation is the satisfaction of basic psychological needs (autonomy, competence), whereas external incentives have an impact on controlled types of motivation. The results also point to important motivational factors underlying participation in school projects, that is, the perception of the personal significance and meaningfulness of the project.

Key words: *motivation, teacher, self-determination, project*

Introduction

The goal of school projects is to improve the quality of learning and teaching and to aim at school development. However, this is not possible without motivated teachers, who often initiate, implement, or at least co-operate on project activities beyond the scope of their work, in order to do something more for their pupils, the school and their professional development. German researchers such as Jäger (2004), Gräsel (2006) and Schellenbach-Zell (2010) emphasize the importance of teachers' motivation to participate in school projects and confirm that teacher

motivation is an important factor influencing the diffusion of innovation. However, there is a question in the given context: What motivates teachers to participate in school projects?

Problem of Research

The aim of our study is to identify factors that support the motivation of teachers. In general, motivation means directing one's behaviour towards a goal, which is positively evaluated (Rheinberg, 2004). This definition includes various aspects of motivation: evaluation and selection of the target state, as well as the actions leading to this target state. As a result, the area of motivational psychology deals with the questions of "why" and "what for" with regard to the evaluation and selection of goals; while the question of "how" is related to activation of the targeted behaviour (Heckhausen & Heckhausen, 2006). In research on school development these issues prove to be significant. If development is to be achieved through new projects, it is the teachers as participants in the development processes and activities that, depending on their motivation, decide whether and how to participate in the projects. The term 'project' refers to a comprehensive set of long-term activities that the school implements because of finances from funds (EU, government) that are used for development activities of the school (e.g. further teacher education, quality of teaching, etc.).

Research Focus

Looking at past research concerning teaching and teacher motivation in the Czech Republic and abroad, it is mostly connected with teachers' goal orientation in their teaching practice (Elliott & Dweck, 1988). It often involves the roles of individual differences in variables such as qualifications, personality, values, or perception of students (Wayne & Young, 2003). Furthermore, there is also research on subjective theories about teachers (Janík, 2015). Paulík (2014) addresses the meaningfulness of teachers' work. In cases where the focus of the research is on teachers' motivation in particular, it is rather in relation to its strength than quality, which is our primary focus.

In order to explain teachers' motivation, we use Self-Determination theory, which maintains that in order to predict important life outcomes, it is more important to know the type and quality of one's motivation than its overall strength (Deci & Ryan, 1985, 2000). Based on this theory, we distinguish between various types of motivations that depend on perceived autonomy. Motivation is usually divided into internal and external motivation. Deci and Ryan elaborate

this division and speak of intrinsic and extrinsic motivation, autonomous and controlled motivation. External, often referred to as extrinsic, motivation is linked to reaching objectives beyond the field of work itself, and is accompanied by a high degree of perception of control. Internal or intrinsic motivation that is accompanied by a high degree of autonomy is connected with the satisfaction of one's needs by the work itself. The basic premise of this theory is the proposition that one tends to satisfy three basic psychological needs – competence, relatedness and autonomy. Their satisfaction is essential for personal growth and wellbeing (Deci & Ryan, 2006). The need for autonomy is one's tendency to perceive oneself as the originator of one's own actions and to manage one's actions according to one's interests and values, or the external motifs that are in line with them (Deci & Ryan, 2000). Autonomous behaviour is one that happens independently of the social environment. An activity without the option of choice is controlled – the opposite of autonomous. The need for competence is based on White's concept (White, 1959) and brings a sense of efficiency in interacting with one's social environment and the feeling that one's abilities can be demonstrated and applied. The need for relatedness refers to the need to be accepted in the social environment, to create a safe and positive relationship with the environment, and to be a part of a community.

If we apply this theory to projects implemented by schools, we can take into account the structure and potential of the school project that can meet teachers' needs and thereby facilitate their work. This may increase the likelihood that teachers will commit to implementing projects and actively participate in school development in the long term. When implementing projects, teachers can behave autonomously, feel responsible for their tasks, perceive that there is room for their own initiative, or a chance to focus their work on their individual needs. In addition to these modes of supportive autonomy, projects can also provide useful feedback, which is important in terms of competence needs. Projects also promote co-operation between teachers in the form of working (project) teams, often across more than one school, thus serving to cultivate relationships. The reasons why teachers are involved in school projects include the development of their own personality, or the opportunity for further education. These belong to autonomous motivation. Conversely, controlled motivation can occur, for example, in situations where teachers are working on school projects because they feel it is their duty, or it is expected of them.

In addition to these basic psychological needs, we also consider the variable of the personal significance of the project, which is strongly related to internal moti-

vation and an autonomous form of behaviour, in accordance with the pedagogical-psychological theory of an individual's interest in an object (Prenzel, Krapp, & Schiefele, 1986). For our research, the most important aspect of this theory is the fact that if a person (teacher) attaches great personal importance to a given subject (project), it has an impact on strengthening his or her intrinsic motivation. Interest may be of a long-term or short-term nature, which is important with regard to the project work of teachers.

Still other factors that enter the process may also have a motivational effect. Schellenbach-Zell (2009), in accordance with the Advanced Cognitive Model of Motivation (Heckhausen & Rheinberg, 1980), points out that the concrete consequences of each action have a stimulating (incentive) character, which affects whether the action actually takes place or not. It is therefore appropriate to ask what kind of incentives support teachers' motivation to become involved in projects. She distinguishes between (1) material incentives, such as rewards, or free hours for teachers, (2) social incentives, such as recognition by colleagues or directors, and (3) project-specific incentives, such as a well-designed project, or structured activities leading to a goal. We assume that, in addition to the above-mentioned basic needs and external incentives, the meaningfulness of the work itself can have a motivational effect. Meaningfulness of work is not a one-dimensional variable; it consists of a complex of processes, which mutually interact and define the meaning of work perceived by an individual at a given moment (Paulík, 2014).

Methodology of Research

General Background of Research

The aim of the research was to determine the factors that increase teachers' motivation to work on school projects and the strength of these factors in relation to intrinsic, autonomous and controlled motivation.

Sample of Research

We present the results of a set of 121 teachers working at secondary schools in the South Moravian Region participating in school projects. The teachers were asked to cooperate via an electronic version of the questionnaire sent to them by e-mail by the heads of schools.

Table 1. Structure of Sample

School type	%
Secondary technical school	55.4%
Grammer school	40.5%
Secondary vocational school	12.4%

Gender	%
Men	41
Woman	58.7

Instrument and Procedures

The teacher questionnaire was designed as a compilation of three questionnaires tailored to the needs of the research: 1) The Self-Regulation Questionnaires (Deci & Ryan, 2006a, b, c) – Intrinsic Motivation Inventory, Basic Need Satisfaction at Work, Learning Self-Regulation Questionnaire; 2) The Work and Meaning Inventory (Steger, 2001); 3) Conditions influencing motivation (Schellenbach-Zell, 2009).

Teachers answered questions on a scale: agree – rather agree – do not know – rather disagree – disagree, which was assigned a value of -2, -1, 0, 1, 2. The scale of intrinsic motivation corresponded to the enjoyment and pleasure of working on the projects. The variable of personal significance described the importance of a project for teachers. The range of autonomous and controlled motivation included questions related to internal and external sources of motivation. The three scales of basic psychological needs showed the extent to which teachers feel encouraged in their autonomy and competence, but also how they perceive relationships with their colleagues. We also asked the teachers about the external conditions influencing their motivation, namely material conditions (free hours, financial reward), social (recognition from colleagues or pupils) and project-specific conditions (project coherence and structure). Finally, the last factor was the meaningfulness of work, whose scale shows the degree of positive significance for the teachers themselves. Most scales have a reliability greater than 0.7. It is lower in only two cases, which is taken into account in the interpretation.

Results of Research

Table 2 lists the average response values expressed on the respective scales. This provides an overview of average respondents' answers (that is, which point of the scale they chose most often). The average of the variables is on a scale of -2 to 2. For the last three conditions, the values were calculated as the number of answers given in the given area. In general, this variable could have values of 0, 1, 2, 3.

Table 2: Descriptive characteristics of the results

Variable	Mean	Standard Deviation	Number of Items	Cronbach's Alpha	Example Questionnaire Entry
Autonomy	0.66	0.71	5	0.60	*My work on school projects is voluntary.*
Competence	0.92	0.75	4	0.73	*Among colleagues with whom I cooperate on the projects, I often have little opportunity to show what I can do.*
Relatedness	0.87	0.80	4	0.81	*When I happen to be struggling or falling behind while working on the project, I can always talk to my colleagues.*
Personal Significance	0.50	0.86	5	0.85	*I try to initiate new school projects myself.*
Feeling of Meaning-fulness	0.42	0.91	9	0.91	*Working on projects helps me to see the meaningfulness of the teaching practice.*
Intrinsic Motivation	0.44	0.80	6	0.76	*It makes me happy to work on a project implemented by my school.*
Autono-mous Motivation	-0.26	0.61	7	0.76	*I work/collaborate on school projects because I would like to innovate and make teaching more attractive for my pupils.*
Controlled Motivation	-0.42	0.48	7	0.60	*I work/collaborate on school projects because the school management expects it of me.*
Material Conditions	0.34	0.29	3	*	*I would become more involved in school projects if I had a more interesting financial reward that would make my work on projects worthwhile.*

Variable	Mean	Standard Deviation	Number of Items	Cronbach's Alpha	Example Questionnaire Entry
Social Conditions	0.21	0.26	3	*	*I would engage in school projects more if my effort was recognized and appreciated by the school management.*
Project-specific Conditions	0.29	0.24	3	*	*I would engage in school projects more if there were a more thorough and detailed project plan.*

* We do not list Cronbach's Alpha for these variables (their items were not measured on the scale).

In order to answer the question of what factors are important for teachers' motivation in the implementation of school projects, the dependencies between variables were tested, using Spearman's rank correlation coefficient, suitable for the quantification of the correlation of two ordinal variables.

Table 3. Correlation of variables

Variable	1	2	3	4	5	6	7	8	9	10
1 autonomy	-	-	-	-	-	-	-	-	-	-
2 competence	0.51	-	-	-	-	-	-	-	-	-
3 relatedness	0.32	0.42	-	-	-	-	-	-	-	-
4 personal significance	0.47	0.49	0.26	-	-	-	-	-	-	-
5 material conditions	0.28	0.18	-0.01	-0.17	-	-	-	-	-	-
6 social conditions	-0.15	-0.15	-0.15	0.11	0.24	-	-	-	-	-
7 project-specific conditions	-0.05	-0.08	-0.03	-0.07	0.06	0.20	-	-	-	-
8 feeling of meaningfulness	0.51	0.59	0.36	0.73	-0.13	-0.02	-0.21	-	-	-
9 autonomous motivation	0.30	0.44	0.16	0.50	0.15	0.17	0.06	0.53	-	-
10 controlled motivation	-0.20	0.13	0.14	-0.05	0.25	0.21	0.39	-0.08	0.15	-
11 intrinsic motivation	0.41	0.45	0.30	0.71	-0.17	0.12	-0.10	0.69	0.45	-0.11

* significance level of 0.05

Discussion

Table 3 shows that satisfying the basic psychological needs of autonomy and competence influences the autonomous motivation of teachers to work on projects. Teachers who are more satisfied in both areas (more in the competence variable) are also, to a certain extent, more autonomously motivated. By contrast, rank correlation did not reach statistical significance for the need for relatedness.

A statistically significant correlation is evident in the factor of personal significance. A strong correlation of 0.71 with intrinsic motivation was found. Teachers, for whom working on projects has a strong personal significance, have a high degree of intrinsic motivation and vice versa. The factor of personal significance also has a statistically significant impact on autonomous motivation. However, no correlation was found for controlled motivation.

In accordance with theoretical assumptions, a statistically significant rank correlation was found between external conditions and controlled motivation. The correlation coefficient values were positive and relatively low. In case of the correlation of controlled motivation and material or social conditions, the correlations are rather low (r=0.25, 0.21). In case of controlled motivation and project-specific conditions, we can speak of a moderate correlation (r=0.38). Therefore, for all three types of conditions, the higher the motivation of the respondent under these conditions, the higher the degree of controlled motivation. The results also confirm that these conditions do not have a major impact on the autonomous motivation of teachers, which is in line with the theory of Self-Determination.

A statistically significant correlation was found with the variables of project meaningfulness and autonomous motivation. Teachers who view school projects as meaningful often have a higher degree of autonomous motivation, and conversely, respondents who do not see meaningfulness in projects often have a lower degree of autonomous motivation. In the case of controlled motivation, unlike autonomous motivation, no correlation with the feeling of meaningfulness was found.

Conclusion

Self-Determination theory assumes that there are three basic psychological needs which have a positive effect on autonomous motivation. The first two needs for autonomy and competence play a crucial role, as confirmed by the results of the study. However, these basic needs do not correlate with controlled motivation.

A considerable amount of research supports the importance of these factors: Quinn (1997) shows that the freedom to make decisions at school is linked to teacher engagement. The sense of autonomy also appears to be necessary for the participation of teachers in the implementation of projects (Schellenbach-Zell, 2009). Chambers and Callaway (2008) point out that teachers' confidence in their own competencies has an impact on how they handle new tasks, in our case, projects. Particularly teachers who are significantly involved in school development activities are characterized by a high level of competence in solving them. The social aspect, which is the third basic psychological need, is characterized by integration in a group (project team) and can act as a motivator, by providing the possibility to share views with others and participate in a team (Gräsel et al., 2006).

The Theory of Interest (Krapp, 1999) states that the basic factor of intrinsic motivation is interest. The results obtained in this study can confirm this assumption. The factor of personal significance proves to be the most important predictor of intrinsic motivation, however, not controlled motivation.

In addition to the three above-mentioned basic needs, we have introduced various external incentives to the theoretical model as predictors of both types of motivation. However, neither the prospects of additional financial resources (material incentives), nor greater recognition from colleagues (social incentives), nor easier understanding of the project plan (project-specific incentives) proved to be suitable for increasing the internal motivation of teachers working on school projects. This is also in line with Self-Determination theory that assumes that this type of motivation does not need to be reinforced by external incentives. On the other hand, it states that controlled motivation can be maintained if it is constantly supported by appropriate external influences. The incentives suggested by us seem to be suitable conditions for increasing controlled motivation. Where correlations are low, the influence of other variables which were not the focus of our research needs to be taken into account.

Teacher motivation, which stems from one's autonomous motives, or the kind of motivation that is based on enjoyment and interest, tends to be long-term and is the most effective type according to Self-Determination theory. If the actions of people (teachers) are motivated autonomously, it is their own will (desire) to do the activities that motivate them and this often supports learning and their own professional growth, as well. This statement is important in relation to the research on teachers' work on school projects, which are often of a long-term nature. The distinction between autonomous and controlled motivation is, therefore, relevant. The results confirm the theoretical assumptions that the first type of motivation does not need to be supported by any external incentives. In order to motivate

teachers to implement projects, to increase the quality of teaching, develop themselves through further education and contribute to the development and quality of the school itself, it is particularly beneficial to support autonomous (internal) motivation. It is essential to provide teachers with information about the project's broader links to make them aware of its importance and usefulness. Teachers should ideally already be involved in the preparation phase of the project so as to have an influence, be able to make decisions and act autonomously with regard to project activities.

The results concerning controlled motivation can lead us to the conclusion that financial reward, the director's orders, or other material or social support will influence teachers; however, not in the long run. In addition, although this will make teachers implement projects because they are "forced" to do so by external influences, they will no longer be likely to participate out of joy, interest, autonomous incentives, or in the further education often incorporated in projects; they will only execute orders to meet the project goals. The aim of the school, however, should be its development through those who implement projects, that is, the teachers. Fortunately, even in these cases, according to Self-Determination theory (Deci & Ryan, 2000), external motivation can be translated into internal motivation, precisely because the individual's basic psychological needs (autonomy, competence and relatedness) are strongly fulfilled (through the process of internalization).

As regards the limitations on interpreting the results, we point to the fact that we worked with data we have received from teachers who have been, or are, involved in school projects. A limiting factor is also the fact that it is not possible to calculate the percentage return of the questionnaire, as this was at the choice of the school head, who distributed the questionnaire to their teaching staff with regard to their involvement in the project teams. Therefore, we are not able to provide information about the motivation of teachers who do not participate in school projects, concerning, for example, the reasons that prevent them to do so.

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