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MOTIVATION IN EDUCATION:
CHALLENGES AND DIFFERENT PERSPECTIVES IN RESEARCH

MOTIVATION IN EDUCATION:

challenges and different perspectives in research

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CONTENTS

CLASSROOM PRACTICE AND STUDENT MOTIVATION*

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Abstract. Motivation to learn is a very complex and dynamic phenomenon, which depends on the situation or context in the classroom and school. This paper analyzes various theoretical approaches and empirical findings on student motivation and actualizes important didactic-methodical points of support for developing motivation in classroom practice. It starts from the assumption that the teacher's understanding of the student's motivation for learning can be considered within the framework of the "meanings" that arise between the teacher's conception of teaching and the learning process, as well as the way in which they observe their own role in that process. Supporting teachers to learn and reflect on motivational theories and strategies can, in the long run, lead to changes in their motivational beliefs as well as to improving classroom practice. Although many questions related to this problem are still open, the paper concludes that teachers' actions designed as continuous, planned and systematic dealing with the motivational side of school learning can represent a significant potential in developing motivation for learning, as well as a way to improve many educational and educational solve problems at school more successfully.

Key word: student motivation, teacher, teaching, classroom practice.

INTRODUCTION

Contemporary understanding identifies learning motivation as part of teaching, with beliefs about students' learning abilities and expectations being important determinants of the teaching practice (Good & Brophy, 2000; Hattie, 2009). In class, the teacher creates optimal learning situations that acknowledge and encourage students' cognitive potentials as well as students' motivation (Assor et al., 2002; Reeve et al., 2004; Reeve & Jang, 2006). Teacher's beliefs, practices, and attitudes are crucial for understanding and improving educational processes. They are closely related to teachers' strategies for dealing with everyday professional challenges as well as their general well-being. Furthermore, they shape the learning environment for students and influence student motivation and achievement. Research has shown that teachers' influence needs to be considered within the framework of the *meanings* that arise between the teacher's conception of teaching, the learning process, the syllabus and the curriculum, the way teachers set student achievement criteria, and the way they view their role in the teaching and learning processes (Hattie, 2003; Hattie, 2009). A perspective that focuses on what teachers believe and do in practice (Nespor, 1987; Pintrich, 2004; Pintrich & De Groot, 1990) is based on the assumption that beliefs are the best indicators of decisions that individuals make during their lifetime (Bandura, 1993). Accordingly, since beliefs and conceptions constitute a group of constructs that describe the structure and flow of the thought process of a teacher's individual subjective knowledge, they define and concretize the teacher's actions (Pajares, 1992; Turner et al., 2009). Some authors focus on teachers' knowledge, conceptions, and beliefs, considering them to be the essence of everyday activities in teaching (Fives & Buehl, 2008; Munby et al., 2001), while others analyze and interpret effective teaching practices and strategies in the classroom, without considering their meaning or what teachers want to achieve through certain activities (Turner et al., 2011; Woolfolk & Hoy, 1990).

Quite often, teachers' motivation, the logic of their actions, and the principles they apply in practice are not reflections of special, specific knowledge (Turner et al., 2011). Instead, reasons for certain behaviors in practice may lie in institutionalized routines (e.g., excessive use of instruction in classroom management), the dominance of textbooks and standardized tests, or widespread beliefs in the school culture. Along with students' own teaching-related experiences (Pajares, 1992),

these conditions also influence teachers' beliefs about motivation. Commonly, teachers rely on extrinsic incentives to engage students, assuming that ability and motivation are absolutes (Weinstein et al., 1995) rather than subject to change (Dweck, 2000). For this reason, teachers believe that some students are "not motivated" to learn and are unlikely to change (Cherubini et al., 2002). However, when provided with an opportunity to learn and think about motivational theories and strategies, teachers can also change their motivational beliefs and practices. This is evidenced by the results of a study that surveyed middle grade teachers' beliefs and practices related to motivation in mathematics (Turner et al., 2011). The results of the research showed that the support provided by certain strategies (for example, supporting students' competencies, sense of belonging, and autonomy) led to a change in the practice of individual teachers and familiarization with new techniques for motivating students, while also stimulating reflection, discussion, and learning with colleagues. The authors highlighted self-efficacy assessment as a significant factor contributing to changes in teachers' practice. Furthermore, they particularly emphasized the need to contextualize motivational strategies for specific subject areas and provide appropriate support that would allow teachers to make conceptual changes (Turner et al., 2011).

Motivation for learning is a highly complex phenomenon. The aim of this chapter is to call attention to the diversity of theoretical approaches and empirical findings about it, as well as to actualize significant didactic-methodical support points in the development of motivation in school. The first segment is dedicated to an overview of current knowledge about student motivation. In addition to considering the characteristics of motivation, we discuss the adequate influence of the school and teachers, having in mind that teachers play a vital role in increasing students' learning through motivational support. The second segment summarizes relevant research results obtained in schools across Serbia, including findings on teachers' perception of motivation for learning, current ways of motivating students, and the link between student achievement and motivation for learning certain subjects. All these insights allowed us to more precisely identify and concretely articulate differences in the perspectives of teachers and students. The common denominator for all the selected studies is contained in the understanding that teachers influence student motivation with everything they do in class: the way they communicate, the emotional climate they create, their choice of didactic-methodical solutions, and their methods of assessment. This suggests that it is

necessary to develop awareness among teachers about their importance and role in motivating students and the possibility of changing those conditions. In the final segment, we offer some concluding remarks regarding motivation in the context of pedagogical importance for both students and teachers, with a special focus on the development and modification of teachers' motivational beliefs and practices.

THE COMPLEX NATURE OF MOTIVATION AND DIFFERENT APPROACHES TO ITS STUDY IN SCHOOL PRACTICE

Researchers and practitioners increasingly recognize that motivation is "an important quality that permeates all aspects of teaching and learning" (Schunk, 1996; Schunk & Zimmerman, 2012). The term "motivation" is also used to explain the driving force, its direction and intensity, persistence, and quality of behavior, especially behavior aimed at achieving a certain goal (Brophy, 2004, 2015). Motivation can be found in different quantities, that is, different degrees of expression. At the same time, there are qualitative differences in motivation, precisely due to the complexity of its structure and the multitude of components it comprises. Individuals differ not only in the level of motivation (intensity of motivation) but also in the type or quality of motivation (Ryan & Deci, 2000a, 2000b).

Student motivation in the classroom reflects both intrapersonal and interpersonal processes (Turner & Patrick, 2004). The intrapersonal aspect of motivation refers to how students cultivate personal orientations and beliefs that influence their motivation and success (e.g., interest, achievement goals). The interpersonal segment pertains to the quality of the teacher-student relationship, that is, the commitment and support the teacher offers to the student (Eccles & Midgley, 1989; Tomás et al., 2020; Turner et al., 1998; Wang, 2009). At primary school age, effort, persistence, and interest in school activities are particularly valued characteristics of motivation for learning that influence the teacher's evaluation of students (Hamre & Pianta, 2001). And precisely at that age, during primary and secondary school, research has identified a progressive and significant decline in intrinsic versus extrinsic motivation (Harter, 1981; Harter & Jackson, 1992; Tzuriel, 1989). Such a situation is not surprising, given the increasing use of extrinsic constraints and incentives in many classrooms and the increasing importance that

schools and students attach to marks and test scores in higher grades (Eccles & Midgley, 1989; Lepper et al., 2005). Furthermore, research has revealed a progressive decline in children's commitment to school work, their enjoyment in academic, but not in non-academic activities (Sansone & Morgan, 1992), their pursuit of learning goals (Anderman & Midgley, 1997), their evaluation of effort, their perceived competence (Eccles et al., 1999), their ratings of the usefulness and importance of school, and their behavioral mastery of challenging tasks. Similarly, studies have found developmental declines in overall academic intrinsic motivation and particularly marked declines in the content areas of mathematics and science (Gottfried et al., 2001). Authors warn that the established lower levels of intrinsic motivation for older compared to younger children constitute a real social problem (Lepper et al., 2005). Not only do children lose their enjoyment in the learning process itself, but the system of extrinsic incentives and constraints that schools apply to maintain student motivation does not effectively compensate for the decline in intrinsic motivation.

The following text provides an overview of relevant research in Serbia with the aim of gaining a broader insight into the study of the phenomenon of motivation in the current school practice. The selected literature includes different constructs of motivation, studied with different methodologies, based on different theoretical designs, and investigated on samples of primary and secondary school students.

On the one hand, starting from the complex relationship between teachers' practices and their beliefs about the nature of motivation and learning, we look at the results of research focusing on the teacher and different motivational strategies that include the organization of teaching and the application of different teaching methods. In our analysis of research on the situation in Serbia, we start from the question of how teachers contemplate the phenomenon of student motivation, which is embedded in a space constructed by teachers and populated by teachers' personal beliefs about the learning and teaching processes. We further explore the questions of what motivational strategies teachers apply in class and how student motivation can be improved within the class context.

On the other hand, we present findings based on the TIMSS survey, focusing on the relationships between the components of student motivation and achievement, which were measured in different ways and different theoretical frameworks. In the most recent TIMSS research cycles, the selection of statements in the questionnaires relied on theories of motivation to a greater extent and

contained psychological constructs, including specific motivational variables. Each of them was operationalized as a separate scale with a large number of statements. Hooper and colleagues drew on self-determination theory to describe the motivation construct that was applied in TIMSS 2015 and 2019 (Hooper et al., 2013; Hooper et al., 2017). As motivation is a latent construct and cannot be directly observed, the results of the TIMSS survey represent an important source of data. Indicators include students' perception of their own ability to learn mathematics and science, their interest and enjoyment in learning these subjects, and the value they attribute to them.

Key Findings of Research in Serbia

Two related studies (Radišić, 2013; Radišić & Baucal, 2015) that analyzed the typical practices of mathematics teachers in secondary schools showed that it was possible to single out latent dimensions around which teachers' beliefs about teaching and learning were organized. Based on the registered conceptions of teaching and learning, teachers' sense of self-efficacy, and dominant teaching practices, the studies identified four types of teachers: "laissez-faire", "traditional", "traditional with a good atmosphere", and "modern". Teachers labeled as "laissez-faire", are not successful in terms of discipline in their classroom and very rarely implement activities aimed at structuring the lesson, as well as activities related to the atmosphere in the classroom. The dynamics of the class are often completely broken and the teacher's communication is dominant. In the group called "traditional teacher", the teacher dominates the conversation, and the students follow the instructions. The teacher asks questions, expecting an assumed correct answer. There is a working atmosphere in the classes, but the students' work is reduced to copying from the blackboard. Teachers who belong to the group "traditional with a good atmosphere" primarily establish discipline in the class, and the rules of behavior are respected. These teachers respect the students and show some flexibility in working with them. A group of teachers called the "modern type of teacher" often uses practices aimed at student participation and creating an atmosphere in the class. These teachers primarily show flexibility in their work, encouraging student participation in class. Students can ask questions in class and the teacher encourages students to find the answer independently (Radišić, 2013; Radišić & Baucal, 2015).

On the one hand, these findings shed light on the frequent application of practices focused on student participation and creating an atmosphere. On the other hand, they revealed a modern set of beliefs about teaching. Another significant finding referred to the use of structuring practices in the classroom and high self-confidence in maintaining discipline in the classroom. It was found that teachers with more traditional conceptions of teaching and learning were less inclined to involve students in the learning process or create a positive atmosphere in class. Conversely, the closer the set of beliefs about teaching and learning was to the modern set of beliefs, the more student participation and autonomy were supported.

Our analysis of scientific sources on motivation in the context of academic learning and development revealed a lack of a sufficiently integrative and comprehensive approach to motivation for learning, which points to the need for further research in this area. We further identified relatively subtle differences in understanding, arising from different definitions of motivation for learning as well as different methodological approaches used in research. An extensive study carried out on a sample of primary school teachers and students in the wider area of Belgrade aimed to identify the meanings that teachers attributed to motivation and map teachers' attitudes toward procedures for developing students' motivation for learning (Lalić-Vučetić, 2016; Lalić-Vučetić, 2019). The emphasis was on the pedagogical aspects of the problem of motivation in school learning. The research sample included primary school teachers and the aim was to examine how they perceived the importance of motivation for learning and what actions they used to stimulate student motivation in class. A factor analysis was conducted and several dimensions were extracted. First of all, teachers emphasized the possibility of developing motivation, which required teachers to invest efforts in their learning and improvement. When fruitful, these efforts could lead to changes in teaching. This dimension was saturated with statements that explained that teachers' personal responsibility and initiative and students' curiosity and interest in learning were crucial for success in developing motivation. The respondents recognized the importance of a research approach to teaching, supporting student autonomy, student teamwork, and strengthening student competencies. They emphasized humor in teaching, which they found to contribute to creating a positive learning environment. According to research findings, teachers believe that the phenomenon of motivation is accompanied by emotions, joy, and enthusiasm for

new knowledge, that intrinsic motivation forms the basis of satisfaction in work and student learning and progress in class; and that intrinsic motivation affects creative task solving (Đerić et al., 2012; Šefer, 2005) as well as the process of understanding the learning content.

Moreover, teachers in the examined sample emphasized the dimension of teacher-student interactions, with teaching as the framework for these interactions. In this context, motivation is understood as a series of direct and indirect connections between teaching methods, teacher personality, and teacher-student communication, which is a combination of various factors that contribute to the development of motivation (Lalić-Vučetić, 2016).

Accordingly, within the broader dimensions of teachers' attitudes about student motivation for learning, items related to teachers' self-assessments of the frequency of student autonomy, initiative, and problematic approaches to teaching were isolated. In such designed learning situations, the teacher aids and supports the learning process and encourages students to design and express learning strategies that are directly related to engagement in tasks and developing internal motivation for learning. It can be said that teachers who adopt this approach usually cooperate with others, they are open to different and new experiences, and they strive to encourage the initiative and engagement of students. In contrast, according to the abovementioned research, there are attitudes that are characteristic of rigid teachers who do not support different ways of working in class and believe that their main task is to implement the curriculum, not to develop students' motivation for learning (Lalić-Vučetić, 2016).

In the next dimension, what emerged was the idea of a teacher who is in charge of creating the conditions and environment for the realization of existing student motivation. It can be said that the primary role of a teacher is to create a psychologically stimulating environment that incites learning, provided that students' individual characteristics are taken into account, especially in terms of the choice of topics, the way that topics are covered, and the availability of various interesting materials for students to use. All of this should aid the awakening of the motivation that the student already has. In other words, the teacher's task is to guide, monitor, and support the learning process while providing conditions for the realization of the subject curriculum (Lalić-Vučetić, 2016).

In addition to the mentioned aspects of teaching, a dimension related to the description of the degree of student motivation in teaching was also isolated.

Teachers described several student behavior patterns that supported low motivation or the complete absence of motivation. Students who exhibited these patterns came to class unprepared, postponed learning, perceived learning as separate from everyday life, and were not used to delving into the material and thinking. Teachers believed that the main reason for students' lack of interest in learning was the emphasis on learning lessons and retelling, which indicated a formal attitude towards teaching and the absence of challenges and interesting content. Furthermore, research results (Lalić-Vučetić, 2016) showed that students' lack of interest in learning was linked to behavior that disrupted discipline in class. Overall, students were not motivated to learn in class and mostly focused on their grades. This research highlighted one of the major problems in teaching and the school system, which refers to students' interest in grades rather than knowledge. Assessment is formalized and aimed at encouraging extrinsic motivation.

A few years later, a study was carried out that included a sample of primary school teachers and students from Serbia, the aim of which was to explore the current practice of encouraging learning motivation in the teaching process through the planning and organization of teaching, the application of different forms of work organization, effective teaching, modeling, and the use of information technologies. Based on the results of this research (Bojović, 2017), we can identify certain actions and solutions that have the greatest motivating effects on students: (1) Student tasks and activities that are interesting, stimulating, and diverse; (2) Student autonomy and their taking responsibility for learning; (3) Effective teaching with clear and detailed instructions for solving class tasks, asking questions, and giving students feedback on their learning progress; (4) Student evaluation and learning progress; (5) Cooperative learning; (6) Individual work; (7) Modeling as a way of demonstrating different content and skills of students and teachers; (8) The use of information technology (IT) in teaching to prepare teaching materials for students. Moreover, the findings suggest that different motivational procedures encourage students to varying degrees and that a large percentage of students show indifference when it comes to certain procedures (Bojović, 2017).

The author of the aforementioned research assumed that primary school students were partially motivated to learn. The results of the research confirmed this hypothesis and indicated that students believed they could achieve their goals through self-efficacy. Students also exhibited high levels of self-perception of competencies, that is, they highly valued their task-related abilities and

competencies. They also highly valued self-determination, that is, the feeling of freedom while doing interesting and important activities. The least valued was self–worth (i.e., students' views of their qualities), with just over a half of the maximum number of points (Bojović & Antonijević, 2017, p. 17). This research highlighted the need for knowledge of the teaching process, forms of organization that encourage student motivation, new motivational strategies, and beliefs about positive motivation among students. The authors further noted that the results of the research triggered significant reflections among teachers regarding their role in creating a teaching process that would encourage students.

The small body of research into the application of innovative models in teaching and teachers' reactions includes the prominent example of a study carried out within the Trolist project. The research included the development of a professional training program for teachers and the creation of conditions for the development of divergent thinking, initiative, and cooperative behavior among students. It encouraged teachers to use cooperative learning methods, open-ended tasks, games, research work, critical dialogue, and project work in class (Lalić-Vučetić et al., 2018; Šefer et al., 2012a; Šefer et al., 2012b). The authors concluded that the successful implementation of innovations in teaching was influenced by the previous knowledge and experiences of teachers and their implicit pedagogical beliefs (Džinović, 2017; Vujačić et al., 2017). The results showed that during the process of introducing innovations into the teaching process, teachers' implicit beliefs changed through interaction with colleagues and facilitators. Teachers were increasingly motivated and more efficient in their work. They cooperated with colleagues more often and used more teaching methods in class, while students showed greater engagement in class, a better quality of knowledge, and a higher degree of motivation (Džinović, 2017). The study yielded the significant finding that the change in approach to learning created conditions for motivation, autonomy, and self-organization of students at the group level, in which the teacher played the role of the mentor and coordinator of activities (Lalić-Vučetić et al., 2018). Such organized and well-designed teaching process creates conditions for students to develop an awareness of their learning through different phases of work and to monitor and manage it. Teachers estimated that students were dedicated and persistent in completing the tasks and that they were more motivated to learn when classes were organized this way, suggesting

that this form of work organization should be reimplemented or applied to other areas and subjects.

As a special advantage of this approach, the teachers highlighted students' interest in group work, role-play (dramatization), critical dialogue, and research work. Teachers explained that the degree of student motivation increased with the time spent on activities, which was encouraged by the freedom of choice and the initiative of students. Students understood the meaning and importance of what they learned in class and during preparatory activities. They had the opportunity to talk to the teacher and to agree with their peers. In this way, they showed responsibility for the task assigned to them and towards the group they represented. No teacher mentioned grades and each step in the process of task completion represented a reward in itself. The application of research work, critical dialogue, and games in teaching emphasizes the importance of challenges, unpredictability, and uncertainty in activities. Furthermore, intense experiences accompanied by strong emotions constitute the basis of learning and a source of motivation (Lalić-Vučetić & Gundogan, 2015).

TIMSS research in Serbia as a source of data on student motivation. Motivational variables are considered to be important predictors of achievement as well as important educational outcomes. When it comes to the connection between motivational constructs and student achievement in science and mathematics in Serbia, research has shown that there is a strong relationship between students' academic self-concept and their achievement in mathematics and science (Džinović & Vujačić, 2017; Hooper et al., 2017). For example, an analysis of the data obtained in the TIMSS 2015 survey revealed that there was a relatively high correlation between fourth-graders' sense of self-efficacy and their motivation to learn mathematics. Namely, a higher level of self-efficacy was accompanied by a higher level of motivation to learn (Lalić-Vučetić & Mirkov, 2017).

Both in Serbia and in other educational systems, research has shown that clusters with the highest values of motivational variables were represented by a relatively small percentage of students. The application of the student-centered approach showed that among students from Serbia, there were three motivational profiles in mathematics, with the smallest number of students exhibiting extremely high levels of intrinsic motivation and perceived self-efficacy. Approximately equal numbers of students were encompassed by two profiles characterized by high and moderate/low values of motivational variables. When it comes to the connection

between motivational profiles and achievement, it has been shown that a higher level of motivation is accompanied by a higher level of achievement in mathematics (Lalić-Vučetić et al., 2021).

These results indicate the importance of respecting the different motivational profiles of students and the need to coordinate teaching strategies aimed at strengthening students' mathematical competencies and developing students' self-confidence in solving mathematical tasks. Student motivation for learning can be significantly improved with the application of strategies for encouraging students' beliefs, such as connecting mathematics with everyday life, encouraging autonomy and actively involving students in class work, using real situations and problems, applying problem-solving methods, and discovering the relevance of mathematics in everyday life situations, along with student self-assessments. Shifting the focus from a practice in which teachers try to get students interested in mathematics and help them understand the value of mathematics in everyday life to a practice in which teachers help students become competent in mathematics is set as a teaching goal that should lead to the encouragement of intrinsic motivation (Lalić-Vučetić et al., 2021).

TOWARDS THE IMPROVEMENT OF THE TEACHING PRACTICE

Viewed in the light of motivational research, guided largely by self-determination theory, it is considered that the improvement of education quality hinges on the promotion of conceptual understanding and flexible use of knowledge in the school context, that is, the stimulation of certain kinds of motivation in students. When applied to the realm of education, self-determination theory primarily relates to encouraging students to show an interest in learning, value education and to feel confident about their own capacities and attributes (Deci & Ryan, 1985; Deci et al., 1991).

For teachers to ensure the practical effects of certain motivational procedures, it is necessary to have a common understanding of the concept of motivation and an alignment of the expectations of students and teachers regarding the effectiveness of these procedures. Numerous learning situations can contribute to the reduction of motivation for learning or a permanent aversive attitude towards activities, content, and school in general (Harter & Jackson, 1992; Gottfried et al.,

2001; Lepper et al., 2005; Tzuriel, 1989). Therefore, it is important to establish cooperation between students and teachers, so that students could get a sense that teachers give them a degree of autonomy, set appropriate demands, and gladly help and support them in their efforts to acquire important knowledge and competencies. Likewise, it is important for teachers to be aware of the "challenge" of other content and activities outside of school and make joint efforts to direct motivation and connect knowledge with student experience, so that students could build new knowledge, reshape existing knowledge, and apply what they have learned in practice.

From the teacher's perspective, motivation is understood as a dynamic, ambiguous phenomenon, in contrast to the quantitative view that assumes that students are either motivated or unmotivated or that student motivation can be characterized in some quantitative way, between two endpoints on a continuum. Instead, this perspective emphasizes that students can be motivated in many ways; an important issue is understanding how and why students are motivated for school achievement. Motivation is not a stable trait of an individual but is more situated, contextual, and domain-specific. In other words, not only are students motivated in diverse ways, but their motivation may vary, depending on the situation or context of the classroom or school. Although this assumption makes research and assessment difficult, it means that student motivation is characterized as inherently variable and context-sensitive. As such, student motivation varies as a function of subject domains and classroom characteristics (Pintrich & Schunk, 2002).

In light of the discussed findings, schools are called upon to provide conditions for students to gradually develop competence and self-determination through learning what is interesting to them (Deci & Ryan, 1985), where autonomy is first of all seen as a continuum encompassing a range of different types of motivation. Behavior becomes more autonomous over time and this happens through the process of internalization, in which individuals seek to transform social norms and demands into their own values and regulations (Deci & Ryan, 2000). For the development of autonomous forms of motivation, three basic psychological needs must be satisfied to the greatest extent possible: the need for autonomy, competence, and connection with other people (Deci & Ryan, 2000). Furthermore, teachers' motivational styles (Deci & Ryan, 1985; Ryan & Deci, 2009) can be conceptualized along a continuum ranging from a style that is highly controlling to

a style that is somewhat controlling or somewhat autonomy-supportive to a style that is highly supportive of autonomy. Research conducted in educational contexts has shown that students who perceive their teachers as warm and supportive exhibit greater intrinsic motivation (Ryan & Grolnick, 1986; Ryan et al., 1994). This indicates that the quality of children's motivation is determined by the quality of interpersonal relationships that are realized in different contexts.

If we understand teaching as an active construction and exchange of knowledge, ideas, and experiences as well as a system of meanings, beliefs, and values between teachers and students and between peers, then based on the previous consideration of research on motivation and the context of teaching conducted on samples of teachers and students in Serbia, we can identify several prerequisites for students' successful and motivated learning: the quality of teacher-student interaction; a positive socio-emotional climate in class; emphasized teacher enthusiasm; encouragement of student autonomy; appreciation of emotions; and, finally, self-reflection and professional development of teachers.

Interaction. Learning motivation is high in an environment that contains positive interpersonal relationships (Guay et al., 2010; Wigfield & Wentzel, 2007), rich pedagogical interactions, and plenty of instructional materials. Such an environment provides comfort, order, and ensures that students feel valued, competent, respected, and valid. Such interdependence implies an atmosphere of shared responsibility, mutual respect, and a sense of personal and group identity. In the mutual influence of teachers and students and their two-way communication of high interactive connection, there is the experiential power of teaching, which engages the emotional and conative spheres of personality in addition to the cognitive and activates the pedagogical potential of the teaching content, which gives the teaching process a new quality (Bratanić & Maršić, 2004, 2005). According to the results of meta-analysis (Palekčić, 2005), the quality of teaching significantly influences student achievement (78% of the variance is explained by the teacher's competencies), cognitive and affective goals can be achieved simultaneously, and the built-up competencies of teachers hold great importance for the achievement of various educational goals. On the other hand, the literature indicates that high-performing students accept, perceive, and evaluate the teacher more positively, have a better relationship with the teacher, and exhibit higher levels of motivation for learning. Furthermore, involvement and engagement in school positively correlate with learning goals, achievement goals,

perceived ability, perceived instrumentality of the curriculum, and the classroom climate (Hardre & Reeve, 2003; Hardre et al., 2009).

Socio-emotional climate. The importance of interpersonal relationships in the classroom is also reflected in the socio-emotional climate, that is, opportunities for establishing peer-to-peer collaborative relationships during teaching activities, which affect the encouragement and increase of motivation for learning (Guay et al., 2010; Wigfield & Wentzel, 2007). The school context represents a suitable environment that should provide students with the opportunity to develop competencies, adapt constructively, find adequate solutions in different life situations, and face different challenges. There is an understanding that students need both cognitive skills and motivation to do well in school (Pintrich & Schunk, 2002). Teachers are expected to create optimal learning situations in the classroom, in which students' cognitive potential and motivation are recognized and fostered (Assor et al., 2002; Reeve et al., 2004; Reeve & Jang, 2006). In other words, teachers should teach, guide, monitor, and support the learning process. Teaching methods are chosen based on students' readiness for learning, their different learning styles, and compatibility with the learning content. Furthermore, learning is a social situation that allows students to connect and develop different quality interactions with their peers.

Teachers' enthusiasm. Teachers' commitment also contributes to strengthening student motivation. Motivation to learn is associated with student achievement and perceived efficacy in the school setting (Anderson et al., 1988; Midgley et al., 1989). However, it is also associated with the teachers' enthusiasm for the teaching process and behavior in the classroom, their commitment to work, and the efforts they invest in the planning and organization of teaching (Allinder, 1994).

Student autonomy. The relationship between students and teachers is collaborative, with an emphasis on student autonomy. Learning implies personal engagement, initiative, interaction, and exchange with the teacher and other students. Through such interaction in class, students learn to manage their learning and take responsibility for it. Within teaching partnerships, the nature of teacher-student interaction is important, as is the teacher's style of behavior that supports student autonomy (Deci & Ryan, 1985; Ryan & Deci, 2000a; Vallerand et al., 1997). Students who have a strong sense of autonomy in school show higher levels of engagement in the learning process. They are intrinsically motivated,

more persistent, and demonstrate higher achievement levels. Empirical research (Deci & Ryan, 2002; Grolnick & Ryan, 1987; Hardre & Reeve, 2003) has shown that in comparison to students with controlling teachers, students with autonomy-supportive teachers experience not only greater perceived autonomy but also more positive functioning in terms of their classroom engagement, emotionality, creativity, and intrinsic motivation.

Emotions. Research on emotions has shown that students experience a rich variety of emotions in the academic environment (Järvelä, 1995, 2001). Results have indicated that classroom emotions are significantly related to student motivation, learning strategies, cognitive resources, self-regulation, and academic achievement. Furthermore, the diversity of emotions is accompanied by the diversity of their sources. Learning situations elicit various emotions about oneself and one's surroundings that are linked to teaching tasks (Järvenoja & Järvelä, 2005). Expression, identification, and understanding of emotions are the central constructs in research on interaction in teaching and the understanding of patterns of motivation and learning. Emotions include student and teacher evaluations, action tendencies, desires, feelings, and physiological reactions. They evolve through interactions and serve as important indicators of motivation and cognition as well as signals of what is happening in the current situation or what is expected. As such, their meanings are context-bound. Research has shown that emotions are pervasive in the classroom and important for understanding instructional interaction. For example, positive teacher support involving positive emotions has been associated with students' reports of their motivation (Patrick et al., 2003; Turner & Patrick, 2004). Moreover, it has been noted that emotions, cognition, and motivation during the observation of classroom interaction are impossible to separate.

Teacher professional development. This includes intellectual, emotional, social, and other skills and dimensions and implies a continuous learning process that is necessary for improving teaching quality at the micro and macro levels (Borko, 2004; Yoon et al., 2007). In this context, teachers are active participants in reflective practice within the process of professional development (Clarke & Hollingsworth, 2002). Previous studies have shown that there is a connection between teachers' beliefs and teaching practice (Guskey, 1995, 2002). Hence, there is a need to improve the process of professional development so that teachers could enrich and perfect their professional practice and get the opportunity to

act with more initiative in the introduction and application of different types of knowledge. Some studies have shown that experiences with different teaching approaches (for example, micro-teaching, reflective teaching, and role-playing) gained during initial teacher training have a positive impact on the knowledge and teaching techniques of future teachers (Hattie, 2003, 2009).

Furthermore, teachers who recognize the importance and practicality of innovative projects express a greater willingness to get involved in them and take the initiative when implementing innovations in the future. Recent studies have shown that teachers' motivation and cognition (self-efficacy, attitudes, appraisals, beliefs, and goals) are driving forces of their workplace learning (Gorozidis & Papaioannou, 2014, 2016).

As pointed out in our research review and analysis, it is crucial to encourage teachers' responsibility for learning and their initiative to learn from problems, challenges, and successes in their daily activities. This would lead to changes in teachers' beliefs, knowledge, and behavior and thus contribute to improving the quality of students' motivation for learning as well as the results of their learning.

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