

Library
„PEDAGOGICAL THEORY AND PRACTICE”

53



MOTIVATION IN EDUCATION: CHALLENGES AND DIFFERENT PERSPECTIVES IN RESEARCH

<i>Publisher</i>		Institute for Educational Research, Belgrade, Serbia
<i>Co-publisher</i>		Institute of Instructional and School Development, Alpen-Adria-Universität Klagenfurt, Austria Faculty of Humanities and Social Sciences, University of Zagreb, Croatia
<i>For the publisher</i>		Nikoleta GUTVAJN
<i>Editors</i>		Nataša LALIĆ-VUČETIĆ Biljana BODROŠKI SPARIOSU Zvonimir KOMAR
<i>Proofreader</i>		Esther Grace Helajzen
<i>Copy editors</i>		Ivana ĐERIĆ Jelena STANIŠIĆ
<i>Cover design and graphic processing</i>		Branko CVETIĆ
<i>Printed by</i>		Kuća štampe plus
<i>Copies</i>		300
<i>URL</i>		https://www.ipisr.org.rs/images/publikacije/motivation-in-education.pdf

ISBN-978-86-7447-163-0

COPYRIGHT © 2023 INSTITUTE FOR EDUCATIONAL RESEARCH

The publication is under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International CC BY-NC-ND license.



INSTITUTE FOR EDUCATIONAL RESEARCH, BELGRADE, SERBIA
INSTITUTE OF INSTRUCTIONAL AND SCHOOL DEVELOPMENT,
ALPEN-ADRIA-UNIVERSITÄT KLAGENFURT, AUSTRIA
FACULTY OF HUMANITIES AND SOCIAL SCIENCES,
UNIVERSITY OF ZAGREB, CROATIA

MOTIVATION IN EDUCATION: challenges and different perspectives in research

Editors

Nataša LALIĆ-VUČETIĆ
Biljana BODROŠKI SPARIOSU
Zvonimir KOMAR

2023.

Reviewers

Professor **Susana RODRÍGUEZ MARTÍNEZ**

Psychology Department, Faculty of Education, University of A Coruña, Spain

Professor **Katja KOŠIR**

Department of Psychology, Faculty of Arts, University of Maribor, Slovenia

Professor **Şengül S. ANAGÜN**

Department of Elementary Education, Faculty of Education, Eskişehir Osmangazi University, Turkey

Note. This book was funded by the Ministry of Science, Technological Development, and Innovation of the Republic of Serbia (Contract No. 451-03-47/2023-01/200018).

CONTENTS

- 7 **Nataša LALIĆ-VUČETIĆ, Biljana BODROŠKI SPARIOSU and Zvonimir KOMAR**
FOREWORD
- 14 **Marko PALEKČIĆ**
PEDAGOGICAL APPROACH TO MOTIVATION
IN THE EDUCATION SYSTEM
- 35 **Zvonimir KOMAR**
INTEREST AS A PRINCIPLE OF ACTIVITY
OF THE PEDAGOGICAL SUBJECT
- 51 **Biljana BODROŠKI SPARIOSU**
CONCEPTUALIZATION OF MOTIVATION IN HIGHER EDUCATION:
THE EUROPEAN UNION EDUCATIONAL POLICY
- 67 **Bo ZHU and Helen PATRICK**
CHALLENGES FOR RESEARCH ON TEACHER MOTIVATION AND EMOTION
- 84 **Eleftheria N. GONIDA**
PARENT MOTIVATIONAL BELIEFS,
STUDENT MOTIVATION, AND LEARNING OUTCOMES:
THEORY, EVIDENCE, AND IMPLICATIONS FOR PRACTICE
- 97 **Slavica ŠEVKUŠIĆ**
STUDENT MOTIVATION IN A COOPERATIVE LEARNING CONTEXT
- 119 **Ljiljana B. LAZAREVIĆ**
BOREDOM IN THE CLASSROOM AND STUDENT MOTIVATION

- 134 **Nataša LALIĆ-VUČETIĆ**
CLASSROOM PRACTICE AND STUDENT MOTIVATION
- 156 **Dušanka LAZAREVIĆ**
RESEARCH ON MOTIVATION IN EDUCATION:
SYSTEMATIC REVIEW OF RESEARCH IN SERBIAN
SCIENTIFIC JOURNALS FROM 2000 TO 2020
- 185 **Jihyun LEEAND and Lazar STANKOV**
A REVIEW OF MOTIVATIONAL AND CLOSELY RELATED
CONSTRUCTS IN PISA 2000 TO 2018
- 210 **Florian H. Müller**
MOTIVATION IN SCIENCE AND MATHEMATICS EDUCATION:
A PERSON ORIENTATED APPROACH
- 233 **Jelena RADIŠIĆ and Francisco PEIXOTO**
MOTIVATIONAL MATHEMATICS PROFILES OF PRIMARY SCHOOL CHILDREN:
HOW DO THEY REALLY FEEL ABOUT MATH?
- 251 **Katre KIKKAS, Äli Leijen and Krista UIBU**
CHARACTERISTICS OF HOME LEARNING ENVIRONMENT
RELATED TO STUDENTS' MOTIVATION TO LEARN MATHEMATICS IN GRADES 3-5
- 271 ABOUT THE AUTHORS
- 279 AUTHORS' INDEX



STUDENT MOTIVATION IN A COOPERATIVE LEARNING CONTEXT*

Slavica Ševkušić**

Institute for Educational Research, Belgrade, Serbia

Abstract. The aim of this paper is to point out the role and potential of cooperative learning, as an instructional strategy in developing students' motivation to learn. First, in the context of numerous studies that confirm the importance of peer relationships for the overall development of children and youth, we analyse the mechanisms through which social competence and social relationships contribute to motivation and achieving academic goals. Different instructional strategies based on students' social relations and group support in the classroom are briefly presented, and key differences between group work, collaborative and cooperative learning are highlighted. Also, we analyse how the basic structural elements of cooperative approach, such as group goals, positive interdependence, individual responsibility, autonomy in work, learning social skills, discussion and group problem solving, contribute to student motivation. Finally, a review of research on the effects of cooperative learning on different motivational variables (for example, student engagement, situational interests, self-competence, goal orientation), in different school subjects and levels of schooling is made.

Keywords: student motivation, cooperative learning, peer relationships, social competence, school.

* *Note.* This research was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Contract No. 451-03-47/2023-01/ 200018).

** E-mail: ssevkušić@gmail.com

INTRODUCTION

Contemporary approaches in motivation research point to the importance studying motivation in context. Investigating motivation in real-life learning environments in increasingly social and interactive situations is expected to provide more realistic information on the conditions and dynamic features that contribute to students' engagement in these contexts (Järvelä et al., 2008).

Considering that motivation is regarded to be one of the most important predictors of achievement but also one of the valuable educational outcomes, significant efforts are made to create an optimum learning context and to design teaching strategies that would promote student motivation. Searching for features of those strategies, numerous authors find that some of them are crucial, such as: the sense of autonomy and control students have in learning situations, challenging learning tasks, respecting student's interests, contextualized learning that enables application of knowledge and skills in real-life situations, and creating a supporting classroom climate so as to provide the active participation of all students. In light of these stated features, cooperative learning is considered as one of the most promising strategies, especially due to its long tradition and the solid empirical evidence of the success of its application in classroom.

The goal of this paper is to analyse the motivational potentials of a cooperative learning context. In order to realize the goal, we discuss some related issues. First, in accordance with the conceptualization of the construct of motivation as "fundamentally social in nature and origin" (Järvelä & Volet, 2004), we highlight the importance of peer interaction as a critical social context for shaping the development of children and youth and we analyse the basic mechanisms through which social competence and social relationships contribute to motivation and achieving academic goals. Second, we discuss how different theoretical perspectives explain the beneficial effects of essential structural elements (positive interdependence, individual accountability, appropriate use of social skills, promotive interaction and group processing) on student motivation. Third, in order to get a more comprehensive insight into the effects of cooperative learning on motivation we make a review of recent research in this field. Based on established criteria, we selected and analysed relevant studies that were published in the period from 2000 to 2022. Finally, we point out some implications for practice regarding the implementation of cooperative learning in the classroom.

SOCIAL NATURE OF MOTIVATION: THE ROLE OF PEER INTERACTIONS

Schools and classrooms are by definition social environments. Within classroom, students have social interactions and build social relationships with their teachers and with classmates. In accordance with the self-determination theory of motivation (Deci & Ryan, 1985), schools and classrooms are places where students strive to fulfil their needs for relatedness as well as for autonomy and competence.

There are many dimensions of interpersonal relationships that have the potential to influence academic motivation. A number of researchers interested in students' motivation, particularly those who focus on the dynamics of motivation within classroom settings, have begun to pay increasing attention to the potential role of interpersonal and relational variables in students' engagement. The idea that individuals pursue social motives or that social perceptions are associated with academic motivation is not new (Deci & Ryan, 1985; Juvonen & Wentzel, 1996; Wentzel, 1998). An extensive body of research suggests significant relations between positive motivational outcomes and supportive social relationships (Anderman & Kaplan, 2008; Furrer et al., 2014; Wentzel et al., 2012; Wentzel, 2017). The latest research in the social-psychological framework confirms that interpersonal relationships that provide students with a sense of belongingness can be powerful incentives of children's motivation, interest, and subsequent engagement in school activities (Allen et al., 2021; Allen et al., 2022; Baumeister & Robson, 2021; Korpershoek et al., 2020). A sense of social support from teacher and peers is believed to lead to the adoption of socially valued goals and objectives (Anderman & Anderman, 1999), and recent research evidence shows that social support influences students' learning motivation (Martinot et al., 2022; Song et al., 2015; Wang & Eccles, 2012). Wentzel and colleagues (2010) extended the work on social support in school by investigating the utility of multiple dimensions of support from teachers and peers in predicting student motivation. Results of the study indicate that students are likely to display positive aspects of social and academic motivation when: (a) they perceive their teachers and peers provide clear expectations for social and academic outcomes; (b) attempts to achieve these valued outcomes are met with help and instruction; (c) attempts to achieve outcomes can be made in a safe, non-threatening environment; (d) individuals are made to feel like valued members of the group. From a theoretical perspective, these dimensions have been identified as essential characteristics of

contexts that promote positive developmental outcomes in school-aged children (Bronfenbrenner, 1989). Identifying different types of activities that comprise the broader notion of support is important for determining which specific provisions are most effective in promoting student engagement.

It is widely acknowledged that experiences with peers constitute an important developmental context for children and adolescents. In general, researchers have focused more on teachers and parents than peers as socializing agents of motivation and engagement. Wentzel (1998) found that perceived support from peers is the only independent, positive predictor of prosocial goal pursuit, meaning that peer support motivates children to cooperate, to be socially responsible, and to follow classroom rules. This finding is consistent with the notion that adolescents' perceptions of their relationships with peers play a fairly unique role in motivating them to help and cooperate with each other. Ryan (2000) found that the peer group was influential regarding changes in students' intrinsic value for school (i.e., liking and enjoying) as well as achievement during their first year in middle school. Students have the potential to create a climate of emotional support and adolescents report that their peer groups provide them with a sense of emotional security. Those who do not perceive their relationships with peers as providing care and support, tend to be at risk of experiencing academic and behavioural problems (Goodenow, 1993; Wentzel, 1994).

Interactions with peers that contribute to structure in the classroom are important for the development of a sense of control. Although they do not provide structure in the same way that teachers do, classroom peers provide contextual affordances that can support academic competence (Wentzel, 2009). For example, when interacting with classmates, students practice communicating, give and receive feedback, model academic competencies, resolve conflicts, provide help and advice, create shared academic goals and behavioural standards. Interactions with classroom peers can also fulfil students' need for autonomy. Similar to structure, peers are not autonomously supportive in the way teachers can be, but research suggests that peers can promote each other's autonomy when they try to understand each other's points of view (Furrer et al., 2014). When students work together to negotiate activities in the classroom, cooperate on group projects, examine and challenge their own beliefs, explain the relevance of classroom assignments to each other, engage in self-exploration, and share their ideas, they create an autonomy-supportive context.

Early adolescence is a particularly important developmental period for examining the role of peers in academic motivation (Brown & Larson, 2009; Reindl, 2021). Peer relationships during this period are viewed widely as more intense, closer, and more influential than those formed during childhood. Generally, this influence may peak during early adolescence, as youth spend more time with peers, place increased importance on peer approval and advice, and look to peers as a source of identity (Hartup, 1996; Wentzel, 2017). Early adolescent cognitive development produces greater sensitivity to peer feedback and greater skill at using social comparisons to assess one's own competence level (Dweck, 2002). The transition to middle school brings more competition for grades and ability-grouped classrooms. These changes may prompt adolescents to re-evaluate their academic beliefs and behaviour and may increase the salience of peers in these processes. For these reasons, one might expect to find stronger evidence of peer influence on achievement motivation after the transition to middle school. For example, Molloy et al. (2011) use longitudinal data to examine the relative role of three distinct types of peer relationships (reciprocated friendships, frequent interactions, and shared group membership) in within-year changes in academic self-concept and engagement before and after the transition to middle school (fifth and seventh grade). Results suggest that the unique roles of each type of peer relationship differentially influencing changes in youths' academic adjustment, as well as stronger effects during seventh rather than fifth grade for both academic self-concept and effort. The authors conclude that different patterns of influence across grade levels bolster evidence that academic motivation may be especially susceptible to influence after the transition to middle school.

In light of evidence that links children's adaptive functioning across social and academic domains, an important issue that is addressed is, why do these relations exist? Ryan (2000) discusses three basic mechanisms of motivation and achievement in peer socialization: information exchange, modelling, and reinforcement of peer norms and values. Findings from experimental studies suggest that the influence of peers depends on information exchange, because discussions with peers may present an adolescent with new ideas and different perspectives. Modelling refers to individual changes in cognition, behaviour, or affect that result from the observation of others. Depending on the consequences, observation of a model can strengthen or weaken the likelihood that the observer will engage in such behaviour or adopt such beliefs in the future (Bandura, 1986).

Experimental studies prove that peers are potentially powerful models for the socialization of motivation, engagement, and achievement. For example, children's preference for challenge on a different task is influenced by exposure to a peer model's preference for a challenge (Sagotsky & Lepper, 1982). Studies that documented that peer groups become more similar over time have assumed that peer pressure and social reinforcement also play a role in how the peers influence adolescent motivation (Brown et al., 1986). In other words, beliefs and behaviours that are encouraged or positively received by the peer group are more likely to manifest again in the presence of one's peers.

The increasing number of studies relating to academic and social processes expands understanding of the complex and multifaceted ways by which interpersonal relations and academic motivation affect each other. The research evidence indicates two important features of the effect of peers on academic motivation. First, the effects are complex and vary across students, depending in part on culture and the values of students and their peers (Urdan & Schoenfelder, 2006). Second, the relationship between social and academic goals can be influenced by teacher policies and practices in the classroom. Teachers can reduce the potential conflict between social and academic goals by not forcing students to choose between the two. In other words, allowing students to fulfil both relatedness and competence needs in the classroom can enhance motivation and achievement. One way that teachers can do this is by effectively using cooperative learning structures in the classroom.

Cooperative Learning Contexts: Essential Structural Elements as Motivational Components

A basic mechanism underlying cooperative learning is using the benefits of peer interactions for the purpose of achieving academic and social outcomes. Researchers have defined cooperative learning contexts as situations in which students work together in small groups to achieve individual and group goals, in order to maximize their own and each other's learning (Johnson & Johnson, 2009; Johnson et al., 2013). Interpreting cooperative learning from a motivational perspective, Slavin (1984) attributed success of cooperative learning to cooperative incentive structures. According to this premise, these structures create situations

in which students need to encourage one another to do their best in an effort to successfully achieve group goals.

Cooperative learning entails small groups working on specific tasks. It seeks to overcome some of the weaknesses of traditional small group approaches by structuring activities carefully. Growing literature on small-group learning distinguishes between cooperative and collaborative learning. Cooperative learning may be described as a structured, systematic instructional strategy in which small groups work together toward a common goal. In contrast, collaborative learning is characterized by relatively unstructured processes through which participants negotiate goals, define problems, develop procedures, and produce socially constructed knowledge in small groups (Matthews et al., 1995).

Not all group efforts are cooperative. Simply placing individuals in groups and telling them to work together does not in and of itself result in cooperative efforts. Seating students together can result in competition or individualistic efforts with talking (traditional learning groups). Effective cooperative groups are rarely encountered in class because teachers and students are not well prepared and accordingly try to find a shortcut to quality group work. Cooperation will only develop under a certain set of conditions. In order to build and maintain cooperative effects, five essential elements must be carefully structured into the learning situation: (1) positive interdependence, (2) individual accountability, (3) promotive interaction, (4) the appropriate use of social skills, and (5) group processing (Johnson & Johnson, 2009; 2014).

Creating positive interdependence in the group is the prerequisite for students to cooperate during learning (Deutsch, 1949). Positive interdependence is the perception that one is linked with others in a way so that one cannot succeed unless they all do (and *vice versa*). When individuals' successes contribute to the group's success, positive interdependence is established. Structuring this element ensures that group members become aware that they have two types of responsibilities: to learn the specific material and to help all group members learn their part of the task. Such positive peer pressure affects especially low-ability students and unmotivated ones to put in more effort (Ševkušić, 1993). Structuring positive interdependence can be achieved through: learning goals, rewards, complementary roles, and teaching materials.

Telling students that they need to achieve a group goal is the most important moment in ensuring cooperative learning. It is a way to provide support to group

members so that they are willing to exert maximum effort in accordance with the group goal. As Slavin (1996) discussed, a cooperative learning context has unique characteristics that lead students to work not only independently, but also cooperatively as a collective group agent for the sake of accomplishing group goals or shared tasks.

Rewards are an integral scaffold of well-defined cooperative methods. Group rewards given based on individual performances are known to increase individuals' learning and are thought to do so by motivating them to share knowledge. In the absence of external scaffolds, such as group rewards, cooperative learning shows little educational benefit (Sears & Pai, 2012). One of the most extensively studied and successful scaffolds of cooperative learning promotes positive interdependence by providing group rewards based upon individual test scores. As an example, if the combined average of each group member's test score is higher than their previous average, then the group members may each receive a certificate of achievement (Slavin, 1995). The idea is that with the right balance of motivation toward the task and the group, students will balance their degree of social interaction and task interaction to learn the material themselves while helping their peers learn it too. Based on this assumptions, Slavin (1978) devised a cooperative strategy technique – STAD (Student Team Achievement Division).

Structuring positive interdependence can also be achieved by assigning complementary roles to group members, without which it would not be possible to complete the group task. For example, in the group there may be a researcher who is assigned to provide the appropriate sources of information, a controller who periodically checks whether the other members have understood the task well, etc. (Ševkušić, 2003). The way in which teachers structure learning material and sources of information can contribute to positive interdependence. For example, the learning content can be structured in a way that it represents a kind of puzzle, of which each member of the group gets a piece. A cooperative technique *Jigsaw* is based on this strategy (Aronson et al., 1978). Some research has examined which strategies for structuring positive interdependence are most effective in terms of group productivity. The results show that a combination of interdependent goals and rewards, as well as a combination of interdependent goals and teaching materials, produces the best results (Mesch et al., 1988).

Individual accountability as an essential element of cooperative learning context exists when the performance of each individual student is assessed and

the results given back to the group and the individual (Johnson & Johnson, 1989). Each group member has a personal responsibility for completing his/her share of the work and facilitating the work of other group members. Group members also need to know who needs more assistance, support, and encouragement in completing the assignment.

The third essential element is promotive interaction (Johnson & Johnson, 1989). Students promote each other's success by helping, assisting, supporting, encouraging, and praising each other's efforts to learn. Doing so results in cognitive processes, such as explaining how to solve problems, discussing the nature of the concepts being learned, teaching one's knowledge to classmates, challenging each other's reasoning, and connecting present with past learning. It also results in interpersonal processes, such as modelling, appropriate use of social skills, supporting, and encouraging efforts to learn.

Theories of group dynamics are based on the assumption that social skills are the key to group productivity, so the essential element of cooperative structure is also the appropriate use of social skills. A cooperative effort requires interpersonal and small group skills such as: leadership, decision-making, trustbuilding, communication, conflict-management skills, etc. Social skills have to be taught just as purposefully as academic skills. In addition to improving achievement, these skills contribute to building more positive relationships among group members. The fifth essential element is group processing, which occurs when group members (a) reflect on members' actions as helpful or unhelpful and (b) make decisions about which actions to continue or change. The purpose of group processing is to clarify and improve the effectiveness with which members carry out the processes necessary to achieve the group's goals (Johnson & Johnson, 2009).

Considering the essential elements of cooperative structure, the question arises: how can the beneficial effects of cooperative learning on student motivation be explained?

Motivational perspectives on cooperative learning focus primarily on the reward or goal structures under which students operate (Slavin, 1996). Learning motivation theorists assert that the traditional learning environment, where students tend to compete against each other for reinforcement, creates peer norms that oppose academic efforts. This is because one student's success reduces others' chances for success, and thus academic effort is typically not encouraged by peers. In contrast, in the cooperative learning context, students

provide reinforcement for one another because of their positive interdependence. Rewarding groups based on group performance (or the sum of individual performances) creates an interpersonal reward structure in which group members will give or withhold social reinforcers (e.g., praise, encouragement) in response to groupmates' task-related efforts. The theoretical rationale for the group reward is that if students value the success of the group, they will encourage and help one another to achieve it. Use of group goals or group rewards enhances the achievement outcomes of cooperative learning if and only if the group rewards are based on the individual learning of all group members (Slavin, 1995). So, from the motivational perspective, students help their groupmates learn at least in part because it is in their own interests to do so. Experts in cooperative learning hold that having external reasons to work together in cooperative groups can lead to the development of intrinsic motivation to learn in the long term.

A somewhat different point of view is represented by the theory of group cohesiveness, which emphasizes the idea that students help their groupmates learn because they care about the group. Slavin concludes that the *Jigsaw* technique is based on the premises of the theory of group cohesiveness because it uses "task specialization" method, which should support the students' need to experience social relatedness (Slavin, 1996, p. 47).

In relation to a group goals (or shared goals) structure, Ames (1992) states that cooperative learning creates a more mastery-oriented context, leading students to adopt mastery goal orientations (or learning goal). Research has indicated that students who adopt learning goals accept challenging tasks and expend effort in the face of task difficulty, while students with performance goals (i.e., those trying to look good to others or avoid looking bad) tend to avoid challenges and are less persistent when difficulties are encountered (Elliot & Dweck, 1988). Mastery goal orientations have been mainly associated with adaptive patterns of behavior, such as student intrinsic motivation and engagement (Dweck & Leggett, 1988). Nichols and Miller (1994) also reported that high school students in cooperative learning showed higher levels of mastery goal orientation, intrinsic value, and achievement than students in a traditional lecture group.

The results of a large amount of research on the effects of self-determination and self-regulation on student motivation, as well as on the effects of student's sense of control over the learning situation, indicate their positive influence on intrinsic motivation. Learning in a cooperative context establishes, to a certain

extent, students' control over the learning process and consequently increases their motivation (Johnson et al., 1978). In cooperative learning, students have opportunities to meet challenges, to choose activities and to be actively involved in developing curricula and class procedures and gives the group members sense of "ownership" of their learning, instead of passively accepting information from an outside expert. According to SDT theory, empowering students in terms of supporting their autonomy in learning is considered to be a critical component in increasing an individual's intrinsic motivation (Deci & Ryan, 1987).

Also, intrinsic motivation tends to result from meaningful feedback relevant to the extent to which students competently complete their current tasks (Ning & Hornby, 2014; Johnson & Johnson, 2009). In the cooperative context, meaningful feedback is provided by group peers and the teacher immediately after selected teams have presented their work. Through feedback, students should gain a clear picture of their strengths and weaknesses and understand how they can improve their work, which could lead to the feeling that their work and effort were valued and recognized by the teacher and their peers.

One of the main assumptions is that cooperative learning methods have the potential to accomplish the basic needs in the theory of self-determination: autonomy, competence and relatedness, and thus to enhance the probability of intrinsically motivated, deep-level learning (Ryan & Deci, 2000). Hänze and Berger (2007) found that students in cooperative learning groups reported significantly higher autonomy, competence, and relatedness than peers in traditional classrooms. The experience of competence seemed to be central as a psychological mechanism, explaining the benefits of cooperative learning. Relatedness, the need to feel a sense of belonging or connectedness with others, is particularly relevant to cooperative learning. Cooperative structure emphasizes the importance of creating a supportive, caring and positively interdependent environment, where students feel safe to speak and are highly motivated to contribute to group goals. Special attention is paid to the quality of communication that takes place between students during cooperation. Proponents of cooperative learning consider such a context crucial for engaging students in discussion and exchange of ideas and viewpoints which is a favourable environment for practicing skills at higher cognitive levels. Four strategies of thinking are most often used by students during work in cooperative groups: problem solving, decision making, critical thinking, and creative thinking (Ševkušić, 2006).

As teachers observe and facilitate the group processes, more opportunities are created for students to interact personally with the teacher. Numerous studies confirm that students are motivated to engage in classroom activities if they believe teachers care about them. Wentzel (1998) found that students described caring teachers as demonstrating democratic, supporting interaction style and as those who model caring behaviour in students. Cooperative learning structures foster these characteristics in teachers.

Effects of Cooperative Learning Methods on Student Motivation: A Review of Recent Research

Based on the amount and quality of research evidence collected especially since the 1970s, Slavin (1996, p. 43) stated that “research on cooperative learning is one of the greatest success stories in the history of educational research“. Hundreds of studies have compared cooperative learning to competitive and individual efforts and confirmed its superiority for the broad range of measures. The diverse outcomes of cooperative methods may be subsumed within three broad categories: effort to achieve, positive interpersonal relationships, and psychological adjustment (Johnson & Johnson, 2014). Numerous meta-analyses up to year 2000 indicated that by far the most frequent research goal was to determine the effects of cooperative learning on student achievement (e.g. Johnson et al., 1981; Johnson et al., 2000; Slavin, 1996). However, considerable attention was also focused on the potentials of cooperative methods for the development of student motivation (e.g. Slavin, 1984; Nichols & Miller, 1994; Nichols, 1996).

In order to get a more comprehensive insight into the effects of cooperative learning on student motivation, we have carried out a review of recent research in this field. The purpose of the review is to analyse the selected studies published in the last two decades with regard to the following characteristics: educational levels and teaching subjects in which cooperative intervention was implemented, type of cooperative strategies that were applied, the dimensions of motivation that were examined, and the effects that have been achieved.

Study selection. The method included systematic computer searches for relevant primary studies and meta-analyses via Google Scholar and in Educational Resources Information Centre (ERIC), Scopus and the Social Sciences Citation Index (SSCI) databases: We used the following key words or phrases and their

combinations for searching: cooperative learning, cooperative context, cooperative structures, cooperative methods, student motivation, intrinsic motivation, student engagement, student in-class participation. Studies were selected if they met the following eligibility criteria: (a) a study was published in the period from 2000 to 2022; (b) a study is an article published in a peer reviewed scientific journal; (c) a study comparing effects of cooperative learning with traditional teaching methods or study using “one group pre-test/post-test” research design.

In line with these criteria, 13 primary studies and one meta-analysis were identified; considering that meta-analysis encompasses 5 studies, the research corpus on which the analysis is conducted consists of 18 research papers. The selected studies on the effects of cooperative learning on student motivation, classified according to the units of analysis, are presented in Table 1.

Tabela 1. Studies examining the effects of cooperative learning on student motivation (2000–2022)

Study	Edu. level	Subject	Strategy	Duration	Effects
Artut & Tarim (2007)	Higher	Math	Jigsaw	9-week	+
Artut (2009)	Preschool	Math	Jigsaw	10-week	+
Fernández-Espínola et al. (2020) (meta-analysis)	Elem & Sec & Higher	Physical Ed.	mixed	3-week to 6 months	+/-
Hanze & Berger (2007)	Secondary	Science	Jigsaw	semester	+
Herrmann (2013)	Higher	Political Sci.	mixed	10-week	+/0
Hortigüela-Alcalá et al. (2019)	Elem & Sec	Physical Ed.	TSP & Jigsaw	14-week	+
John et al. (2014)	Secondary	Science	mixed	?	+
Ning & Hornby (2014)	Higher	English	STAD	18-week	+/0
Peterson & Miller (2004)	Higher	Psychology	Jigsaw	semester	+
Saleh et al. (2005)	Elementary	Science	STAD	9-week	+/0
Tarhan et al. (2013)	Elementary	Science	Jigsaw	semester	+
Tran (2019)	Higher	Methodology	GI	9-week	+
Tombak & Altun (2016)	Higher	Elective course	UbD	4-week	+
Wyk (2012)	Higher	Economics	STAD	12-week	+

Note. + indicates positive effect on all motivational variables; +/0 indicates mixed effects on different motivational variables (0 indicates no effect); - indicates negative effect.

Regarding the research design, the largest number of studies (16) applied an experimental or quasi-experimental design (with control groups) comparing effects

of cooperative learning with whole-class instruction. Only two studies used pre-test/post-test one group design (Herrmann, 2013; Saleh et al., 2005).

Education levels. The studies have been conducted at all levels of schooling. The largest number were done with participants attending university (age 18 and over), an almost equal number of research papers included students from elementary (six studies) and secondary school (five studies) and one study dealt with preschool children. Prior comprehensive meta-analyses had demonstrated that the vast majority of studies about cooperative learning were conducted with students in elementary and secondary schools (e. g. Johnson et al., 2000; Slavin, 1996). Our review indicates that in recent years the scholarly interest in cooperative learning has increased in higher education research.

Teaching subjects. The results of analysis show that the trend of cooperative learning research across different curriculum domains continues. Our review is dominated by studies that examine cooperative intervention in physical education (six studies). Namely, in addition to study comparing the effects of cooperative learning in physical education at two educational levels (Hortigüela-Alcalá et al., 2019), five more studies in physical education were included in the meta-analysis (Fernández-Espínola et al., 2020).

Cooperative strategies and duration of the interventions. Cooperative learning is a generic term that refers to numerous methods for organizing classroom instruction. In most studies in this review, the authors applied well-known and well-defined cooperative learning strategies which have strong empirical support, such as Jigsaw (Aronson et al., 1978), STAD (Slavin, 1978) and Group Investigation – GI (Sharan & Sharan, 1990). Examining the effectiveness of various cooperative methods in terms of maximizing student achievement, Johnson and Johnson (2000) stated that these three methods to be among the most effective. In studies that are marked as “mixed” in terms of the applied strategy (see Table 1), the authors used hybrid cooperative techniques (Fernández-Espínola et al., 2018) or combined cooperative structure with some other learning methods, for example with Mastery Learning Approach (John et al., 2014). Duration of the intervention (application of cooperative learning) ranges from 3 weeks to 6 months. In one study, the authors did not specify how long the intervention lasted.

Motivational variables. Different dimensions and components of student motivation were examined in selected studies: intrinsic motivation, extrinsic motivation, task-value, academic goal orientation, self-efficacy, self-regulation,

external regulation, motivational beliefs toward cooperative learning, degree of student engagement, student in-class participation, interest in the topic, etc. For the most part, motivational variables were measured using scales and questionnaires (16 studies). For example, the motivational scale developed by Pintrich and colleagues (1991) was applied in two studies (Tombak & Altun, 2016; Tran, 2019). This scale includes six sub-scales: self-regulation, intrinsic value, task value, learning belief, self-efficacy and exam anxiety. In two studies, authors applied qualitative methods to examine student motivation: observation of childrens' activities (Artut, 2009) and student interviews (Tarhan et al., 2013).

Effects on student motivation. Analysis of the results of selected studies generally shows that cooperative learning is superior compared to traditional teaching methods in terms of effects on student motivation. In the vast majority of studies, cooperative learning significantly contributed to the increase in value of all investigated motivational variables. For example, Peterson and Miller (2004) found that overall quality of college students' experience was greater during cooperative learning; benefits occurred specifically for intrinsic motivation, thinking on task, student engagement, perceptions of task importance, and optimal levels of challenge and skill. Also, comparing the effects of cooperative learning and whole-class instruction in physics classes, Hanze & Berger (2007) reported that secondary school students felt stronger intrinsic motivation; they developed greater interest in the topic; they felt more competent, more autonomous and more related to classmate, and they reported more cognitive activation. From the five interventions based on cooperative learning included in the meta-analysis (Fernández-Espínola et al., 2020), four studies reported a significant improvement in students' intrinsic motivation in physical education. However, one study found a decrease in intrinsic motivation (Fernández-Arguelles & González-González de Mesa, 2018). This study had a sample composed of primary school students with a mean age of 8.4, and the authors concluded that an important limitation of their study was the young age of students, which could have impaired the realisation of the program, given the complexity of the cooperative intervention carried out in the sessions.

Some studies report positive effects of cooperative learning on certain dimensions of motivation, but not on others. For example, Ning and Hornby (2014) compared the impact of the cooperative learning approach with that of traditional whole-class instruction on six aspects of learning motivation: intrinsic motivation,

integrated regulation, identified regulation, introjected regulation, and external regulation. Findings suggested significant differences in favour of cooperative learning in improving intrinsic motivation, but no differences were found on any of the four subtypes of extrinsic motivation. Herrmann (2013) stated that cooperative learning structures raised the level of engagement of university students but do not promoted their deep approach to learning.

An important question that the authors of the selected studies also asked was: Whether the effectiveness of cooperative learning on student motivation depends on students' personal characteristics? Hänze & Berger (2007) revealed that critical group of students with a low academic self-concept felt more competent and more motivated in cooperative groups than in the traditional teaching setting because they experienced a feeling of greater competence. Also, the results of the study by Saleh and colleagues (2004) indicated that low-ability students were more motivated to learn in heterogeneous than in homogeneous groups, whereas the experience of high-ability students does not differ as a function of group composition. These results are consistent with the findings of previous studies, not included in this research review (e.g., Azmitia, 1988; Hooper & Hannafin, 1991). It turns out that the low-ability students benefit most from the social interaction involved in cooperative learning because they can ask their group mates for help and explanations.

In general, based on the analysis of the results of selected studies, some important conclusions could be drawn. *First*, the most consistent effects of cooperative learning across studies were obtained for intrinsic motivation. This finding is similar to the results of Csikszentmihalyi and Schneider (2000), who found that group work resulted in higher levels of *flow* (deeply involved in an activity) than did lectures. Cooperative learning provides a context that made *flow* possible because students rate the challenge of the cooperative activities significantly higher and feel more competent. The greater opportunity to experience *flow* during cooperative learning is important because *flow* has been associated with higher levels of concentration, enjoyment, motivation, self-esteem, perceived task importance and consequently to greater student achievement. *Second*, these studies demonstrate that cooperative methods are almost equally effective for motivating students at different educational levels. In particular, increasing motivation among secondary education students is noteworthy because numerous studies indicate that school motivation tends to decrease at this level (Anderman

& Maehr, 1994; Pintrich & Schunk, 2002). *Third*, the diversity of the applied cooperative learning methods provides additional validation of the effectiveness of cooperative learning for student motivation. These methods range from direct, specific procedures (such as Jigsaw) to more conceptual frameworks (such as Group Investigation), and the results indicate that regardless of those differences, all strategies contributed to greater student motivation compared to whole class teaching.

CONCLUSION AND IMPLICATIONS

Our analysis of recent research on the effects of cooperative learning on student motivation supports the previous extensive empirical evidence consistent with theoretical and conceptual consideration about this teaching strategy. However, despite its numerous and various benefits, it should be understood that important conditions are necessary in order to achieve the above-mentioned effects. Among the most important are those concerning teachers: their knowledge, skills and attitudes towards cooperative learning. Teachers should carefully design cooperative learning tasks that help students achieve future goals and engage more actively in their learning experience. All motivational theories emphasize the importance of providing students with appropriately challenging academic tasks. To be intrinsically motivated, students need to perceive the task as challenging and interesting but not too complex. At the same time, research suggests that teachers have difficulty creating challenging tasks for all their students and with providing constructive, informative feedback (Urduan & Schoenfelder, 2006). Teachers also need to monitor their students' learning process and intervene when necessary to provide assistance or to model students' social skills. There is considerable question about whether teachers are well equipped to create cooperative, mastery oriented, and autonomy-supportive environments. This and similar questions related to the role of teachers in designing cooperative learning context have important implications for teacher education and professional development.

It should be noted that although it is evident that cooperation contributes to better results in various areas of students' development, compared to competition or individual work, using these teaching methods provide students with important

lessons for life. In addition to learning cooperative skills, students need to learn how to work independently and compete for fun. The main problem with these methods is that they dominate in teaching. Cooperation should provide an overall context for learning in which competition and individual work can be applied under certain conditions. It is up to the teacher to decide which goal structure is the most appropriate for the lesson.

REFERENCES

- Allen, K. A., Gray, D. L., Baumeister, R. F., & Leary, M. R. (2022). The need to belong: A deep dive into the origins, implications, and future of a foundational construct. *Educational Psychology Review*, 34, 1133–1156. <https://doi.org/10.1007/s10648-021-09633-6>
- Allen, K. A., Kern, M., McInerney, D., Rozec, C., & Slavich, G. (2021). Belonging: A review of conceptual issues, an integrative framework, and directions for future research. *Australian Journal of Psychology*, 73(5), 1–16. <https://doi.org/10.1080/00049530.2021.1883409>
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261–271.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology*, 24, 21–37.
- Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research*, 64(2), 287–309.
- Anderman, L. H., & Kaplan, A. (2008). The role of interpersonal relationships in student motivation: Introduction to the Special Issue. *The Journal of Experimental Education*, 76(2), 115–119.
- Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The jigsaw classroom*. Sage.
- Artut, P. D. (2009). Experimental evaluation of the effects of cooperative learning on kindergarten children's mathematics ability. *International Journal of Educational Research*, 48(6), 370–380. <https://doi.org/10.1016/j.ijer.2010.04.001>
- Artut, P. D., & Tarim, K. (2007). The effectiveness of Jigsaw II on prospective elementary school teachers. *Asia-Pacific Journal of Teacher Education*, 35(2), 129–141.
- Azmitia, M. (1988). Peer interaction and problem solving: When are two heads better than one? *Child Development*, 59, 87–96.
- Baumeister, R., & Robson, D. A. (2021). Belongingness and the modern schoolchild: On loneliness, socioemotional health, self-esteem, evolutionary mismatch, online sociality, and the numbness of rejection. *Australian Journal of Psychology*, 73(1), 103–111. <https://doi.org/10.1080/00049530.2021.1877573>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.
- Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Annals of Child Development*, Vol. 6, (pp. 187–250). JAI.

- ☞ Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behaviour among adolescents. *Developmental Psychology*, *22*, 521–530.
- ☞ Brown, B. B., & Larson J. (2009). Peer relationships in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Contextual influences on adolescent development* (pp.74–103). John Wiley and Sons Inc. <https://doi.org/10.1002/9780470479193.adlpsy002004>
- ☞ Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adult: How teenagers prepare for the world of work*. Basic Books.
- ☞ Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and self-determination in human behavior*. Springer Science & Business Media. <https://doi.org/10.1007/978-1-4899-2271-7>
- ☞ Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behaviour. *Journal of Personality and Social Psychology*, *53*(6), 1024–1037.
- ☞ Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations*, *2*, 129–152.
- ☞ Dweck, C. S. (2002). The development of ability conceptions. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). Academic Press.
- ☞ Dweck, C. S., & Leggett, E. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*, 256–273.
- ☞ Elliot, E. S., & Dweck, S. C. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, *54*, 5–12.
- ☞ Fernández-Arguelles, D., & González-González de Mesa, C. (2018). Physical education and cooperative learning: A practical experience. *Journal of Sport and Health Research*, *10*, 43–64.
- ☞ Fernández-Espínola, C., Abad Robles, M. T., Collado-Mateo, D., Almagro, B. J., Castillo Viera, & Fuentes-Guerra, F. J. G. (2020). Effects of cooperative-learning interventions on physical education students' intrinsic motivation: A systematic Review and Meta-Analysis. *International Journal of Environmental Research and Public Health*, *17*(12), 4451. <https://doi.org/10.3390/ijerph17124451>.
- ☞ Furrer, C. J., Skinner, E. A., & Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday motivational resilience. *Teachers College record: The Voice of Scholarship in Education*, *113*(1), 101–123.
- ☞ Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, *13*, 21–43.
- ☞ Hänze, M., & Berger, R. (2007). Cooperative learning, motivational effects, and student characteristics: An experimental study comparing cooperative learning and direct instruction in 12th grade physics classes. *Learning and Instruction*, *17*, 29–41.
- ☞ Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development*, *67*, 1–13.
- ☞ Herrmann, K. J. (2013). The impact of cooperative learning on student engagement: Results from an intervention. *Active Learning in Higher Education*, *14*(3), 175–187. <https://doi.org/10.1177/1469787413498035>
- ☞ Hooper, S., & Hannafin, M. J. (1991). The effects of group composition on achievement, interaction, and learning efficiency during computer-based cooperative instruction. *Educational Technology Research and Development*, *39*, 27–40.
- ☞ Hortigüela-Alcalá, D., Hernando Garijo, A., Pérez-Pueyo, Á., & Fernández-Río, J. (2019). Cooperative learning and students' motivation, social interactions and attitudes: perspectives

from two different educational stages. *Sustainability*, 11(24), 7005. <https://doi.org/10.3390/su11247005>.

- ✉ Järvelä, S., Järvenoja, H., & Veermans, M. (2008). Understanding the dynamics of motivation in socially shared learning. *International Journal of Educational Research*, 47, 122–135. <https://doi.org/10.1016/j.ijer.2007.11.012>
- ✉ Järvelä, S., & Volet, S. (2004). Motivation in real-life, dynamic, and interactive learning environments: Stretching constructs and methodologies [Editorial]. *European Psychologist*, 9(4), 193–197. <https://doi.org/10.1027/1016-9040.9.4.193>
- ✉ John, K. K., Barchok, H. K., & Ng'eno, J. K. (2014). Effects of cooperative mastery learning approach on students' motivation to learn chemistry by gender. *Journal of Education and Practice*, 5(8), 91–97.
- ✉ Johnson, D., & Johnson, R. (1989). *Cooperation and competition: Theory and research*. Interaction Book Company.
- ✉ Johnson, D., & Johnson, R. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, 38(5), 365–379.
- ✉ Johnson, D., & Johnson, R. (2014). Cooperative learning in 21st century. *Anales de Psicología*, 30(3), 841–851. <http://dx.doi.org/10.6018/analesps.30.3.201241>
- ✉ Johnson, D. W., Johnson, R. T., & Holubec, E. J. (2013). *Cooperation in the Classroom* (9th ed). Interaction Book Company.
- ✉ Johnson, D., & Johnson, R., & Scott, L. (1978). The effects of cooperative and individualised instruction on student attitudes and achievement. *Journal of Social Psychology*, 104, 207–216.
- ✉ Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). *Cooperative learning methods: A meta-analysis*. University of Minnesota.
- ✉ Johnson, D. W., Maruyama, G., Johnson, R., Nelson, D., & Skon, L. (1981). The effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. *Psychological Bulletin*, 89, 47–62.
- ✉ Juvonen, J., & Wentzel, K. R. (1996). *Social motivation: Understanding children's school adjustment*. Cambridge University Press.
- ✉ Korpershoek, H., Carrinus, E. T., Fokkens-Bruinsma, M., & de Boer, H. (2020). The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: A meta-analytic review. *Research Papers in Education*, 35(6), 641–680. <https://doi.org/10.1080/02671522.2019.1615116>
- ✉ Martinot, D., Sicard, A., Gul, B., Yakimova, S., Taillandier-Schmitt, A., & Maintenant, C. (2022). Peers and teachers as the best source of social support for school engagement for both advantaged and priority education area students. *Frontiers in Psychology*, 13, 958286. <https://doi.org/10.3389/fpsyg.2022.958286>
- ✉ Matthews, R. A., Cooper, J. L., Davidson, N., & Hawkes, P. (1995). Building bridges between cooperative and collaborative learning. *Change*, 27(4), 35–40. <https://doi.org/10.1080/00091383.1995.9936435>
- ✉ Mesch, D., Johnson, D. W. & Johnson, R. (1988). Impact of positive interdependence and academic group contingencies on achievement. *Journal of Social Psychology*, 128, 345–352.
- ✉ Molloy, L. E., Gest, S., & Rulison, K. L. (2011). Peer influences on academic motivation: Exploring multiple methods of assessing youths' most "influential" peer relationships. *Journal of Early Adolescence*, 31(1), 13–40. <https://doi.org/10.1177/0272431610384487>
- ✉ Nichols, J. D., & Miller, M. B. (1994). Cooperative learning and student motivation. *Contemporary Educational Psychology*, 19(2), 167–178.

- ☞ Nichols, J. D. (1996). The effects of cooperative learning on student achievement and motivation in a high school geometry class. *Contemporary Educational Psychology*, 21(4), 467–476.
- ☞ Ning, H., & Hornby, G. (2014). The impact of cooperative learning on tertiary EFL learners' motivation. *Educational Review*, 66(1), 108–124. <http://dx.doi.org/10.1080/00131911.2013.853169>
- ☞ Peterson, S. E., & Miller, J. A. (2004). Comparing the quality of students' experiences during cooperative learning and large group instruction. *The Journal of Educational Research*, 97(3), 123–133.
- ☞ Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications* (2nd ed.). Prentice Hall Merrill.
- ☞ Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie. (1991). *A manual for the use of the motivated strategies for learning questionnaire*. National Center for Research to improve Postsecondary Teaching and Learning, Ann Arbor, MI. <https://doi.org/10.1037/t09161-000>
- ☞ Reindl, M. (2021). Peer group embeddedness and academic motivation: A developmental perspective. *Frontiers in Psychology*, 12, 701600. DOI:10.3389/fpsyg.2021.701600
- ☞ Ryan, A. M. (2000). Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychology*, 35, 101–112. https://doi.org/10.1207/S15326985EP3502_4
- ☞ Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- ☞ Sagotsky, G., & Lepper, M. R. (1982). Generalization of changes in children's preferences for easy or difficult goals induced through peer modeling. *Child Development*, 52, 372–375.
- ☞ Saleh, M., Lazonder, A., V., & De Jong, T. (2005). Effects of within-class ability grouping on social interaction, achievement, and motivation. *Instructional Science*, 33, 105–119. DOI:10.1007/s11251-004-6405-z
- ☞ Sears, D. A., & Pai, H. H. (2012). Effects of cooperative versus individual study on learning and motivation after reward-removal. *The Journal of Experimental Education*, 80(3), 246–262. <https://doi.org/10.1080/00220973.2011.602372>
- ☞ Sharan, Y., & Sharan, S. (1990). Group investigation expands cooperative learning. *Educational Leadership*, 47(4), 17–21.
- ☞ Slavin, R. (1984). Students motivating students to excel: Cooperative incentives, cooperative tasks, and student achievement. *The Elementary School Journal, Special Issue: Motivation*, 85(1), 53–63.
- ☞ Slavin, R. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology*, 21, 43–69.
- ☞ Slavin, R. E. (1978). Student teams and comparison among equals: Effects on academic performance and student attitudes. *Journal of Educational Psychology*, 70(4), 532–538. <https://doi.org/10.1037/0022-0663.70.4.532>
- ☞ Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Allyn & Bacon.
- ☞ Song, J., Bong, M., Lee, K., & Kim, S.-i. (2015). Longitudinal investigation into the role of perceived social support in adolescents' academic motivation and achievement. *Journal of Educational Psychology*, 107(3), 821–841. <https://doi.org/10.1037/edu0000016>
- ☞ Ševkušić, S. (1993). Kooperativno učenje u razredu [Cooperative learning in the classroom]. *Zbornik Instituta za pedagoška istraživanja*, 25, 73–86.

- ☞ Ševkušić, S. (2003). Kreiranje uslova za kooperativno učenje: osnovni elementi [Creating conditions for cooperative learning: basic elements]. *Zbornik Instituta za pedagoška istraživanja*, 35, 84–110.
- ☞ Ševkušić, S. (2006). Kooperativno učenje i kvalitet znanja [Cooperative learning and learning quality]. U S. Krnjajić (prir.), *Pretpostavke uspješne nastave* (str. 179–202). Institut za pedagoška istraživanja.
- ☞ Tarhan, L., Ayyıldız, Y., Ogunc A., & Sesen, B. A. (2013). A jigsaw cooperative learning application in elementary science and technology lessons: Physical and chemical changes. *Research in Science and Technological Education*, 31(2), 184–203. <http://dx.doi.org/10.1080/02635143.2013.811404>
- ☞ Tombak, B., & Altun, S. (2016). The effect of cooperative learning: University example. *Eurasian Journal of Educational Research*, 64, 173–196. <http://dx.doi.org/10.14689/ejer.2016.64.10>
- ☞ Tran, V. D. (2019). Does cooperative learning increase students' motivation in learning? *International Journal of Higher Education*, 8(5), 12–20.
- ☞ Urdan, T., & Schoenfelder, E. (2006). Classroom effects on student motivation: Goal structures, social relationships, and competence beliefs. *Journal of School Psychology*, 44(5), 331–349. <https://doi.org/10.1016/j.jsp.2006.04.003>
- ☞ Wang M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development*, 83, 877–895. <https://doi.org/10.1111/j.1467-8624.2012.01745.x>
- ☞ Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom behaviour, and perceived social support. *Journal of Educational Psychology*, 86, 173–182.
- ☞ Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90(2), 202–209.
- ☞ Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531–547). Guilford Press.
- ☞ Wentzel, K. R. (2017). Peer relationships, motivation, and academic performance at school. In A. J. Elliot, C. S. Dweck, & D. S. Yeager (Eds.), *Handbook of competence and motivation: Theory and application* (pp. 586–603). The Guilford Press.
- ☞ Wentzel, K., R., Battle, A., Russell, S. L., & Looney, L. B. (2010). Social supports from teachers and peers as predictors of academic and social motivation. *Contemporary Educational Psychology*, 35(3), 193–202. <https://doi.org/10.1016/j.cedpsych.2010.03.002>
- ☞ Wentzel, K. R., Donlan, A., & Morrison, D. (2012). Peer relationships and social motivational processes. In A. M. Ryan & G. W. Ladd (Eds.), *Peer relationships and adjustment at school* (pp. 79–105). IAP Information Age Publishing.
- ☞ Wyk, M. M. V. (2012). The effect of the STAD-cooperative learning method on student achievement, attitude and motivation in economics education. *Journal of Social Science*, 33, 261–270. <https://doi.org/10.1080/09718923.2012.11893104>

CIP - Каталогизacija у публикацији
Народна библиотека Србије, Београд

37.014(082)
159.947.5-057.874(082)
37.015:159.953.5(082)

MOTIVATION in education : challenges and different perspectives in research / editors Nataša Lalić-Vučetić, Biljana Bodroški Spariosu, Zvonimir Komar. - Belgrade : Institute for Educational Research : Institute of Instructional and School Development ; Klagenfurt : Alpen-Adria-Universität ; Zagreb : University, Faculty of Humanities and Social Sciences, 2023 ([Belgrade] : Kuća štampe plus). - 287 str. : graf. prikazi ; 24 cm. - (Library Pedagogical theory and practice ; 53)

Na vrhu nasl. str.: Institute of instructional and school development. - Tiraž 300. - Str. 7-13: Foreword / editors Nataša Lalić-Vučetić, Biljana Bodroški Spariosu, Zvonimir Komar. - About the authors: str. 271-278. - Napomene i bibliografske reference uz tekst. - Bibliografija uz svaki rad. - Registar.

ISBN 978-86-7447-163-0 (IP)

а) Мотивација -- Образовање -- Зборници б) Ученици -- Мотивација -- Зборници в) Учење учења -- Зборници

COBISS.SR-ID 133138185
