

developmental approach to education for preschoolers, including both their social and cognitive development will be elaborated. Natalia Shumakova will discuss her research on creativity and how creativity can be taught to elementary school children with the special well-elaborated curriculum that she proposed and implemented in Russian schools. Finally, drawing upon ideas presented within the symposium, Martin Lynch will discuss the potential of self-determination theory and the developmental approach to shape the future of pedagogical practices in both preschool and elementary school.

**General summary of the Symposium.** The goals of the symposium are to foster exchange among researchers actively working in the area of educational psychology and education, and provide audience members with an overview of the state of the field. In particular, in this symposium we will discuss recent developments in optimal teaching styles and teachers' professional development programs that influence children's academic motivation and achievement from the perspective of both self-determination theory (SDT, Ryan & Deci) and the more applied Russian Developmental approach to education theory based on Vygotsky's ideas. We argue that the two approaches can significantly enrich each other, because the

developmental approach to learning contains productive teaching methods, strategies for organizing the learning process and evaluating children, and self-determination theory provides a powerful theoretical framework to understand the origins, mechanisms and conditions of students' motivation and positive development. What are the concrete practices that teachers rely on to foster students' motivation? In the opening presentation Nathalie Aelterman discusses motivating and demotivating teaching styles and their consequences for students and teachers from an SDT perspective. In the second talk, Frederic Guay will introduce the program CASIS, based on SDT, in which teachers are taught to use collaboration, authentic activities, structure, involvement, and support for autonomy. The effectiveness of the El'konin-Davydov system of developmental education will be considered in the presentations of Tamara Gordeeva and Anastasiya Nisskaya. Natalia Shumakova will discuss her research on creativity and how creativity can be taught to elementary school children. Finally, drawing upon ideas presented within the symposium, Martin Lynch will discuss the potential of self-determination theory and the developmental approach to shape the future of pedagogical practices in both preschool and elementary school.

## ELEMENTARY SCHOOL STUDENTS' INTRINSIC AND EXTRINSIC MOTIVATION AS A FUNCTION OF EDUCATIONAL APPROACH

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Although current literature provides valuable insight into how school climate perceptions and student motivation are consistently associated with academic achievement, research examining the mediating effects of motivation in linking innovative educational systems, school climate, and achievement is limited. In this study the potential of the El'konin-Davydov system of developmental education (DE) is considered (Davydov, 2008). With respect to academic

motivation, self-determination theory is applied as a useful theoretical framework that allows for the consideration of both the intensity and the quality of motivation (Ryan, Deci, 2000, 2017). The study examines a model that illustrates the role of different types of academic motivation in linking the El'konin-Davydov system of DE and school climate to the academic achievement of elementary schoolchildren. Participants were 345 3rd and 4th graders drawn from four public

schools located in Moscow, with some (N=192) educated in the traditional system and others (N=153) in DE. To measure intrinsic and different types of extrinsic motivation we created an extended version of the SRQ-A (Ryan & Connell, 1989). CFA for the questionnaire is CFI = 0.841; NNFI = 0.820; RMSEA = 0.061. T-tests conducted upon the academic motivation scales comparing two educational systems revealed that students in the DE system showed significantly lower extrinsic motivation (Teachers, General and especially Parents subscales ( $d=0.60$ )), had better attitudes towards school and studies and a slightly more positive perception of school, which was demonstrated both via self-report and nonverbal measures. The results of SEM showed

that the hypothesized model fit the data well, supporting the hypothesis that student external motivation plays a mediating role in linking educational system (innovative vs traditional) with academic achievement. Students' intrinsic motivation played a mediating role in linking positive perceptions of school climate with academic achievement. The model yielded a good fit to the data: CFI = 0.971; NNFI = 0.964; RMSEA = 0.051. These results highlight that the developmental education approach compared to the so called traditional approach provides better instructional quality, promoting decreased external motivation as well as a better attitude towards school and study, which in turn is associated with higher academic achievement.

## MOTIVATING AND DEMOTIVATING TEACHING STYLES AND THEIR CONSEQUENCES FOR STUDENTS AND TEACHERS: A CIRCUMPLEX APPROACH

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Given the pivotal role teachers play in students' engagement, learning and well-being, it is critical to gain a better understanding of the practices they rely on to foster students' motivation. Multiple studies in the Self-Determination Theory literature (SDT; Ryan & Deci, 2017) have examined correlates of autonomy-supportive and controlling teaching styles as well as the role of structure, whereas chaos has been largely ignored. In addition, few studies have included assessments of multiple critical (de)motivating dimensions simultaneously. Therefore, a new vignette-based instrument (i.e., Situations-in-School Questionnaire, SIS-Education; Aelterman, Vansteenkiste et al., 2018) was developed to obtain an integrative and more fine-grained insight into a broad variety of motivating and demotivating teaching practices. Relying on multidimensional scaling analyses in seven independent samples of secondary school teachers (N = 1332; Mage = 40.90 years) and students (N = 2299; Mage = 14.38 years), evidence was obtained for a two-dimensional circumplex model, with need-supportive relative

to need thwarting teaching, and high relative to low directiveness representing the two axes. Eight different subareas were identified along the circumplex (e.g., participative, attuning, guiding, clarifying, demanding, domineering, abandoning, and awaiting), which appeared highly stable across informants. Correlations of these distinguished subareas followed an ordered sinusoid pattern, both among each other as well in the relation with outcome variables. Overall, students' perceptions of an attuning and guiding teaching approach yielded the strongest positive correlations with desirable motivational (e.g., need satisfaction, autonomous motivation) and academic (e.g., deep-level learning, persistence, rated teacher quality) outcomes and the strongest negative correlations with undesirable outcomes (e.g., need frustration, controlled motivation, amotivation, procrastination), whereas the opposite pattern was found for the domineering and the abandoning approach. Similar results were obtained for teacher outcomes, including experienced need satisfaction and -frustration at school, motivation