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Knowing how to learn and how to teach motivation: Contributions from Self-Regulation of Motivation to more effective learning

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Abstract

Students can monitor and regulate their motivation to learn – self-regulation of motivation (SRM) – and this process has a positive impact on achievement. In this paper, we analyze the SRM process with middle school students, through three studies. On the first, it will be evaluated determinants of SRM (e.g. expectancies, goals and values) and SRM strategies. In the second, we will analyze through two focus group teacher’s perceptions about the most effective educational practices to promote SRM. From these, in the third study, will be designed a classroom program directed to the stimulation and development of strategies for SRM.

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1. Introduction

The significance of education for inclusion into the labor market and the high levels of school failure are priority issues for national and European education policies. In this sense, it is essential to invest in promoting more effective learning of students. According to the theory of self-regulated learning (e.g. Zimmerman & Schunk, 2001), students with good self-regulation competencies are individuals who have mastered cognitive and metacognitive processes (e.g. goal setting, self-monitoring), strategies for task performance (e.g. management of time and effort) and appropriate motivational beliefs (e.g. self-efficacy, interest in the task).

In the last decades theoretical models have been developed to explain the functioning of students in the learning environment. Those models also tend to support the development of intervention programs that promote the use of self-regulation strategies among students and therefore an improvement in quality of learning (Lopes da Silva & Sa, 2003; Zimmerman & Schunk, 2001). Among the latter, studies point out that motivational strategies affect the quality of the selection and use of various learning strategies. Motivational research has collected ample evidence that students are more successful in their learning process when they’re actively involved (Pintrich, 2000). This means that students are able to manage other aspects of their learning beyond the cognitive and profit from it. As stated by Wolters (2011), students' ability to regulate their motivation has an impact on their learning and performance. More specifically, self-regulation of motivation in learning (SRM) is conceptualized as a process that guides the choices of the student, his effort and persistence in carrying out activities.

In the school context, students are confronted with tasks perceived by many as boring, repetitive, monotonous or unimportant. The classrooms environment and school work, the noise and distractions are multiple barriers to motivation (Wolters, 2003). The students attempts to overcome these obstacles and maintain their motivation to persist in school tasks becomes a key determinant of self-regulation in learning (Wolters, 2003). SRM is recognized now as an essential, but least studied element, in the process of self-regulated learning (Wolters, 2003), that contributes to the interest, perception of competence and effective performance in school tasks (Pintrich & Schunk, 2002). Several authors stress the limited research done on how students can monitor, control and regulate their own motivation (e.g. Boekaerts, 1995; Wolters, 1998) noting that this should be a promising area of research in the future. At the same time, the lack of motivation is perceived by technicians, students and teachers as a major obstacle for investment and school success, on which action is needed.

Wolters and Benzon (2010) distinguished three key components of the SRM which are: knowledge of motivation, monitoring and control of motivation. The knowledge of the motivation refers to a metacognitive level concerning the areas and tasks that students find interesting or intrinsically motivating, as well as declarative procedural and conditional knowledge, necessary for the effective use of regulation strategies of motivation (Boekaerts, 1995; Wolters, 2003). A second key area is monitoring the level or state of motivation, meaning that the management of personal motivation implies that students are aware or have the ability to observe and collect feedback from their motivation in the course of an activity. Monitoring involves the ability to account for internal (e.g. fatigue, anxiety) and external reactions (e.g. criticism), which may affect the motivational state of students. Finally, the third component of SRM is the effective effort, spent by the student, to intervene and control their motivation through the involvement and the implementation of strategies adapted to this purpose. Each one of these three components is required for a successful regulation of motivation (Wolters & Benzon, 2010). Within this framework, a strategy to regulate motivation is the procedure used by individuals to intentionally influence their motivational level, i.e. the activities through which individuals act to initiate, maintain or strengthen their determination to engage and complete a task or goal. Once this strategy is encouraged and monitored by the student, it may also be characterized as a strategy of self-regulation and one of the factors to address when characterizing a student with good self-regulation skills.

It is interesting to notice that this conceptualization is identical to the one presented by Flavell (1979) for the construct of metacognition in learning, which leads us to consider the process SRM as a distinct, but correlated concept with other dimensions of self-regulation processes and learning.
Nonetheless, to encourage students motivation for learning school subjects is perceived by parents and teachers as a complex task. Understand how students and teachers can work in SRM process is a new and emerging area in psychology, from a social cognitive orientation, in which we fit in this study (Wolters & Mueller, 2010). Personal beliefs and self-regulation processes are recognized nowadays as crucial to understand how individuals negotiate and adapt to the social context (e.g. Miller & Brickman, 2004). Social cognitive models of learning (e.g. Bandura, 1989) explain the importance of the triad between behavior, personal factors and context, including the conceptualization of the environment variables (e.g. the teacher, the room climate class, educational practices) in the process of self-regulation of learning. In this regard, it is important to understand which motivational beliefs contribute to the active effort of students in regulating their motivation and also to explore other possible variables of the school context that might influence the process of SRM.

2. Motivational Beliefs and Self-Regulation of Motivation for Learning

In literature, we find theoretical models and empirical results suggesting that beliefs associated with self-efficacy, task value and students’ goals can be important for a better comprehension of the use of motivational self-regulation strategies. Pintrich (2004), for example, in his self-regulation model, stresses in the motivational components for self-regulated learning, the role of value expectations and affect, for determining the use of self-regulation strategies. Basically we are conceptualizing about the answer to the question: why am I doing this task? In order to achieve it, it seems interesting to explore the various beliefs of efficacy, achievement goals and task value, as well as the use of regulation strategies of motivation, on the approach of school work.

The beliefs that people have about their abilities and the consequences of their efforts determine the cognitive processes that accompanies motivational and emotional functioning. These beliefs appear to be key elements in stimulating the processes of self-regulation (Bandura, 1986; Boekaerts, 2002), intervening in all stages of the SRM (Wolters, 2003). Regarding the close relationship between motivation and self-efficacy, several authors concluded that the expectations of academic self-efficacy affect motivation through the process of self-regulation, including goal setting, self monitoring, self-assessment and choice of strategies (Zimmerman, 2000; Zimmerman & Bandura, 1994; Zimmerman & Martinez-Pons, 1990). Self-efficacy beliefs are also fundamental factors in the regulation of motivation (e.g. Schunk & Ertmer, 2000). When a student has positive expectations about his effectiveness in school achievement tends to approach difficult tasks as challenges, to attribute intrinsic interest to activities, to establish challenging goals and pursue them. In this case, self-efficacy beliefs influence the level of performance that one reaches in a decisive way (Pajares, 2007). Moreover research indicates that students’ confidence in their competencies of self-regulation is positively correlated with academic self-concept and school valuing, presenting a negative correlation with anxiety and avoidance of the task (Pajares, 2007).

Interest and perception of school value also represent factors that determine student motivation (Eccles & Wigfield, 2002). Perceiving school tasks as useful and / or important, guides the planning processes of self-regulation concerning intermediate goals (that lead to the realization of more distant targets), stimulates working and the self-evaluation of the results (Miller, DeBaeker, & Greene, 1999). In the perspective of Eccles, and following the expectancy value theory (e.g. Eccles & Wigfield, 2002, Wigfield & Eccles, 2000), motivation varies according to the value assigned to the goal we want to achieve and to our expectation of attaining it. From a practical point of view, formulating future goals has a fundamental implication on learning. Students must consider school tasks as valuable for the achievement of personal plans or otherwise their motivation to engage in a process of self-regulated learning is diminished. And why school is not seen as useful for the future? There are several hypotheses for this issue, including the low perception of personal competence (self-efficacy) that may influence educational aspirations (Brickman & Miller, 2001). Another common problem relates to gaps in the establishment of personal goals that strengthen the relationship with the school.

Some theories of motivation to achievement highlight the importance of the goals that individuals formulate for themselves, which in turn direct the behavior to school performance (achievement goals). These goals have been divided into two major types: mastery goals and performance goals. Each one of these goals is associated with a distinct pattern of performance (e.g. Dweck & Master, 2007) and different motivational behaviors - approaching or
The mastery goals are related to task orientation, the learning process and the challenge of mastery. Individuals who have such goals tend to seek activities that promote greater competence in addressing new challenges and tasks (Dweck, 2000). Previous research has shown that students who pursue mastery goals tend to: 1) seek more challenges, 2) use most frequently self-regulation learning strategies (including metacognitive strategies), 3) report more positive attitudes toward school; 4) have higher levels of self-efficacy and 5) show a greater persistence in carrying out difficult tasks, when compared with students who have performance goals (e.g. Ames, 1992; Elliot & Dweck, 1988; Mattern, 2005; Middletown & Midgley, 1997; Pintrich, 2000; Wolters, 2004; Wolters & Rosenthal, 2000). Performance goals are associated with ego orientations, seeking and maintaining a positive image of themselves and their skills and self-worth. The motivational outcomes of this kind of goals are less clear since there are studies that report positive, negative and/or neutral correlations (Hulleman, Schrager, Bodman & Harackiewicz, 2010).

Therefore, in the study of motivation for learning is essential to analyze variables associated with the self, including how student view themselves in the future through their goals, their beliefs about their own competencies and the value they attached to school tasks. In this sense, if we want to promote SRM process, it becomes essential to investigate the relationship between the various motivational beliefs that are associated with regulation of learning and motivation, including self-efficacy expectations, the value assigned to school tasks and student performance goals.

Self-regulation of motivation for learning in adolescence

Some studies concerning motivational beliefs and self-regulation conducted with adolescents show that, in the course of development, students have increasingly motivational and self-regulation maladaptive patterns, when compared with younger students (Clearly & Chen, 2009). Eccles and colleagues found that students in 7th grade reported a lower use of regulation strategies, are less interested in school work (e.g. math activities) and consider that school has little value, when compared with younger students. These results seem highly consistent with developmental perspectives, which emphasize that students tend to show a decreasing interest in learning during middle school years (Fredericks & Eccles, 2002). The findings of such investigations seem to indicate school years of adolescence as fundamental to the study and intervention in the regulation of motivation in learning.

This study will be conducted with students in the 3rd cycle of the Portuguese basic education (7th, 8th and 9th grades), which is related to several factors, including: during adolescence the processes of self-regulation have the optimal conditions, in developmental terms, to manifest themselves; these young show some consolidation in terms of self-efficacy expectations and goals for school performance, given the experience in the previous schools years (Boekaerts, 2002); this phase represents a period of transition to high school in which students are required greater competences of autonomy and self-regulation of their own learning, and finally, the fact that adolescence is a period of social and personal development, in which school must also be assumed as a source of success and positive experiences.

Teacher's Role in Promoting Self Regulation of Motivation for Learning

Traditional theories of motivation focused their attention on the student, assuming that he would be the only responsible for being motivated or not (Linnenbrick & Pintrich, 2002). However recent theories such as social cognitive suggest that school motivation is influenced by several factors, including school, classrooms and the support given by the teacher (Fredricks, Blumfield, & Paris, 2004). Teacher's role is recognized and identified by students as one of the most relevant factors for their school involvement (Mormane, 2009). Therefore, the importance of teachers in fostering motivation and students engagement in school is a topic of great interest in education research (Fredricks, Blumfield, & Paris, 2004). Murdoch and Miller (2003) found that a good relationship between the student and the teacher was a predictor of students' motivation and that such influence could enhance from year to year, with quite durable results. From this and other studies it was found that the perceived support of the teacher is a strong predictor of academic motivation, self-efficacy expectations, and the intrinsically value assigned by the student to school tasks (Marchand, Paulson, & Rothlisberger, 2001; Murdoch & Miller, 2003).
This brief review of literature identifies some research questions, such as: (1) in what way recognizing the importance of self-efficacy expectations, the value attributed by students to their school assignments and their achievement goals can be useful for teachers and other professionals in promoting a greater self regulation of motivation for learning?; (2) what can schools do to develop in students positive motivational beliefs and ensure that they engage in self-regulation strategies?; (3) what is the role of teachers in promoting students motivation?; (4) which are the educational practices most effective in fostering regulation of motivation in students?

Goals

We define as general question of research to understand how the motivation for learning, identified as important for school performance, affects the use of SRM strategies. Moreover, we identified some specific research questions, namely questions focused on students: (1) which are the most important motivational beliefs correlated with the use of SRM strategies? Which strategies of self-regulation of motivation are most used by students?; (2) how do different achievement goals relate to the use of regulation strategies of motivation?; (3) in which way valuing school tasks is correlated with SRM? How does the perception of value, interest and usefulness of school tasks contributes to an increased use of SRM strategies?; (4) what is the role of self-efficacy expectations in the use of SRM strategies?; (5) which are the profiles, in the combination of achievement goals, self-efficacy beliefs and value of school tasks, associated with greater and lower use SRM strategies? Questions focused on teachers: a) what is the teachers’ perception of motivational variables associated with student learning?; b) which educational practices are more effective in promoting students self-regulation of motivational?; c) through which strategies can teachers create opportunities for developing SRM competencies in students?

To answer those questions, will be conducted three studies to determine the relationship between the determinants of motivation and the use of SRM strategies by students from 7th to 9th of basic education.

Study 1 – Personal determinants of the use of SRM strategies by students - In this study, developed with students answering a self-report scale, we will analyze the correlation between potential motivation determinants – such as self-efficacy expectations, achievement goals and task value – and the use of SRM strategies.

Study 2 – Teachers beliefs about the stimulation and development of SRM strategies for students - After analyzing the role of motivational variables in the SRM strategies used by students, in this study we intend to explore teachers’ beliefs about them and concerning the best educational practices to promote SRM in students; by conducting two focus groups.

Study 3 - Case study of an intervention program in the school context - Based on data collected in the previous studies, we aim to design a program to promote SRM competencies in students, which will be built and implemented in collaboration with a teacher in the classroom context. This intervention will consist of three phases: assessment (teachers and students); stimulation and development of SRM strategies through educational practices, and outcomes evaluation (effectiveness of intervention and level of satisfaction). From the results of this case study, we intend to elaborate a plan of intervention that can be integrated in educational practice, at this level/school grades. Globally, we assume as goals for this research: a) increase knowledge about the process of regulation of motivation in learning – from the perspective of students and teachers; b) provide guidelines for the designing of appropriate strategies to promote SRM and; c) develop SRM assessment and intervention instruments for students between 7th and 9th grades.

3. Conclusion

Literature identifies positive relationships between the use of SRM and cognitive engagement, effort and academic performance of students. Regulation of motivation is assumed as a central concept in the process of self-regulated learning, which depends on: knowledge about the motivational process and the student's ability to
mobilize and monitor strategies to increase, maintain or modify their own motivation (Wolters, 2011). Recent studies show that students report the use of motivational regulation strategies which is associated with self-efficacy beliefs, task value and achievement goals (e.g. Wolters, 1998; Wolters & Rosenthal, 2000). However, understanding the motivational regulation process is still incomplete. In a recent article, Wolters (2011) identifies three areas for future research. First, the need for empirical studies that address not only the regulation strategies used by students, but also their knowledge of motivation and their monitoring competencies. Second, understanding in what extent the regulation of motivation is influenced by the school context, since it is recognized the influence of context on motivation in general. Finally, the author addresses the need to study the process by which individuals develop their SRM skills.

In addressing the motivation of school work, the study of self-efficacy beliefs, achievement goals, task value and the use of SRM strategies seems to assume great importance. Such research will allow us a better comprehension of the direct or indirect effects of these beliefs in self-regulated behavior and school performance (e.g. Chen & Clearly, 2009). The further exploration of the relationship between the beliefs, the strategies and other factors of context, may also contribute to the implementation of educational strategies to promote motivation for learning and self-regulation competencies in students - particularly in the school years in which the challenges of interest and value of the tasks may be more relevant.

4. References


