



## Self-regulated learning strategies for students' academic success

Altemar Lima

Chrystiane Viegas Rocha

Deys Araújo Santana

### ABSTRACT

This article is a review of narrative or traditional literature. The objectives were to identify, in the literature, self-regulated learning strategies for students' school success and to point out the contributions of programs to promote self-regulated learning in basic education based on the Rosario theoretical model (PLEA). Self-regulated learning refers to the active process in which the learner has and makes appropriate use of a set of strategies to improve their own learning. Currently, there are several projects based on models of self-regulation of learning, and the most used programs are those based on the theoretical model of Rosario, called PLEA (Planning, Execution and Evaluation). The use of appropriate learning strategies can increase students' school performance levels and combat school failure. There are projects to promote self-regulation of learning, aimed at different levels of education based on the Rosario model, such as The Mischief of the Yellow and (Mis)adventures of the Testas: Studying the Study. It is possible to conclude that there are positive relationships between the use of self-regulation strategies for learning and school success.

**Keywords:** Self-regulated learning, Rosary Model, School success.

### 1 INTRODUCTION

Self-regulated learning is a well-known topic in several areas of psychology and, currently, it has been standing out in the field of Educational Psychology, especially for bringing together several aspects that are essential when thinking about the educational context. Self-regulated learning refers to the active process in which the learner has and makes appropriate use of a set of strategies to improve their own learning. It is during formal schooling that learners can develop self-regulated learning and, consequently, improve their performance and achieve success in their school activities (SIMÃO, 2004; ZIMMERMAN; SCHUNK, 2011).

The promotion of self-regulated learning in students at all levels of education enables them to perceive themselves as more autonomous, independent, and responsible for their school success. Self-regulated students exhibit good academic performance, are more confident, know more learning strategies and recognize those that work best, set goals, study less superficially, plan, execute and carefully evaluate their study and learning activities (ROSÁRIO et al., 2007).

Initiatives aimed at promoting self-regulation of learning are widely described in the literature. Currently, there are several projects based on models of self-regulation of learning that aim, above all, to facilitate the development of self-regulatory processes in students so that they can significantly improve



their school performance. Lately, the most widely used programs are those based on Rosario's theoretical model, called PLEA (Planning, Execution and Evaluation). This model allowed the proposition of programs to promote self-regulation, aimed at different grades and levels of education, as we will see later.

This article is a review of narrative or traditional literature. According to Rother (2007), the narrative review does not use explicit and systematic criteria for the search and critical analysis of the literature. Thus, narrative reviews are broad publications, appropriate to describe and discuss the development of a given subject, in this case, self-regulated learning, from a theoretical or contextual point of view.

In this perspective, a survey of articles published in scientific journals in national and international electronic databases was carried out, respectively, through the website of the Virtual Library in Health-Psychology Brazil (BVS-PsiBrasil) and through the database in education research Education Resources Information Center (*ERIC*). The search was conducted in April 2016, based on the following keywords: self-regulated learning, self-regulation of learning, and school success. The inclusion criteria were: articles, availability of the full text in electronic format, published in national and international journals. The exclusion criteria were: conference proceedings and technical and scientific reports. This study did not delimit the time of publication of the productions on the theme addressed.

The objectives were to identify, in the literature, self-regulated learning strategies for students' school success and to point out the contributions of programs to promote self-regulated learning in basic education based on the Rosario theoretical model (PLEA).

Currently, in the society in which we live, there is a great concern with the success of people in the most diverse areas of their lives. Especially with regard to the school context, a notorious attention has been dedicated to the issue of the academic success of learners. At the heart of the problem is school failure, repetition and the corresponding abandonment of many students from academic life.

It is known that school failure is due to several factors, one of them being the students' lack of organization regarding their study behaviors. In this sense, many experiences of academic failure can be avoided and/or combated through the development of strategies that enable self-regulation of learning. An academic life marked by failure can strongly impair students' cognitive structure, self-concept, and academic aspirations. Thus, would programs to promote self-regulation of learning based on the Rosario model (PLEA) be able to promote the academic success of elementary school learners through prior knowledge?

The experience of the authors of this article as teachers may justify their interest in understanding and deepening their knowledge about the importance of self-regulated learning in the lives of students, since they come across, in their professional practice, many students with a history of school failure/failure. In this sense, school success and everything that involves and influences it will certainly be a topic that will always deserve the attention of all people linked to learning contexts. In this sense, knowledge of programs



that promote the development of self-regulatory competencies in schools is extremely important, since the use of appropriate strategies can increase the levels of school performance of students, as pointed out by several studies such as those by Zimmerman and Rosário.

Next, a brief description of Social Cognitive Theory, one of the forerunners in studies on self-regulation of behavior, will be presented. Next, we will find relevant information about Rosário's theoretical model of self-regulated learning, the PLEA, and its application through programs.

### 1.1 CONTEXTUALIZING SELF-REGULATED LEARNING

Self-regulated learning is one of the many topics studied within the field of educational psychology, both nationally and internationally, and is a key concept within cognitive psychology, especially the Social Cognitive Theory (CST), the theoretical framework of the present study. CST considers human functioning based on the interaction between personal, cognitive, and environmental factors, in which the person can act intentionally in their functioning and in the circumstances of their life, that is, they are agents of their own life. For Bandura (2008, p. 15), creator of the TSC, "being an agent means influencing one's own behavior and life circumstances in an intentional way". This brings us back to what he calls self-regulation.

Knowing what human agency is, its functioning and its characteristics is of fundamental importance for understanding the self-regulation of behavior, especially the self-regulation of learning (ARA). But, after all, what is self-regulation of learning or self-regulated learning?

There are several definitions for learning self-regulation (ARA), and one of the most well-accepted in the literature today is that of Rosário (2004), who says: self-regulation of learning is an active process in which the subjects involved are active and, therefore, establish the objectives that guide their learning, trying to monitor, regulate and control their cognitions. motivations and their behaviors, always seeking to achieve them.

Just as there are several concepts of ARA, there are also some models that exemplify its phases. Although there are other theoretical models that offer similar proposals, in this work, we chose to describe the phases presented by the cyclical model of self-regulated learning called Planning or Planning, Execution, Evaluation (PLEA), developed by Rosário (2002). This model is defined in three phases: Anticipation and Planning, Execution and Control, and Self-Reflection and Self-Reaction, as shown in Fig1.

It is through this model that Rosário (2004) demonstrates the interrelationship between the parts that make up the process of self-regulation of learning. For him, the ARA is a process of feedback feedback, because the subject is in a constant process of construction, reconstruction of his own learning, going through the three phases that complement each other in the organization of a methodological proposal. At



the same time that the subject plans, he evaluates the activities carried out and, when executing them, perceives what is significant for his learning.

Figure 1- PLEA theoretical model (Rosario, 2004)



**Planning or planning** occurs when students analyze the assignment. "Analysis involves the study of their personal and environmental resources to face the task, the establishment of objectives in the face of the task and a plan to reduce the distance that separates them from the final goal" (ROSÁRIO, 2003, p. 122).

**Execution** refers to the application of strategy(s) to achieve the expected result. "Students use an organized set of strategies and self-monitor their effectiveness in view of the established task" (ROSÁRIO, 2003, p. 122).

In the **Evaluation phase**, the student compares the result with the goals initially established, with their adequacy or not, depending on their judgment; therefore, they evaluate the consequences of their performance. According to Rosário (2004), self-regulation occurs in a cyclical process, since the subject only evaluates his activities as he plans them.

Self-regulated learning allows the individual to focus on the protagonist in the learning process, promoting their active and autonomous participation throughout the process (SIMÃO, 2004). Self-regulated students are agents of their own behavior, they perceive the act of learning as a proactive process, so they feel motivated to use the appropriate strategies to achieve the desired academic results (MONTALVO; TORRES, 2004).

Learning is more than an event that occurs in a teaching experience, it is an activity that students do on their own, proactively and autonomously. However, not all students are able to succeed in their learning processes, so self-regulation of learning can represent a viable way to solve the problem of school failure, because through it, students can: improve their learning capacities through the use of motivational and metacognitive strategies, select, structure and create appropriate learning environments and assume a



significant role in choosing the form and amount of instruction they need. need to achieve their goal (ZIMMERMAN, 2001).

For Donovan, Bransford and Pellegrino (1999), in order for a student to obtain the benefits of self-regulated learning, it is important that he recognizes himself as a learner and that he evaluates the demands of each task in order to mobilize the necessary knowledge to perform it in a flexible and active way. The logic of self-regulation of learning reinforces the maxim of learning to learn. Thus, it is important to create moments in which students can, from a very early age, become aware of mental and self-regulatory processes (BORUCHOVITCH, 1999).

Students who self-regulate their learning have a systematic view of it, control their cognitive processes, plan, set goals, monitor and evaluate themselves at various points throughout the study process. Thus, by maintaining control over their cognitive processes, self-regulated students perceive themselves as responsible for their achievements and results (BORUCHOVITCH, 2007).

For self-regulated learning to occur, it is necessary for students to use cognitive learning strategies, be motivated, and make little use of self-harmful strategies, such as excessive use of virtual social networks.

It is important to highlight that just knowing the strategies and executing them does not guarantee academic success. The strategies must make sense to the student, and for that, it is necessary that they realize the usefulness of the strategy and the judgment about their ability to perform a certain task. In this way, the teaching of learning strategies is able to significantly improve students' academic performance; on the other hand, there is no doubt that mere training in strategies is fruitless in developing the student's ability to learn how to learn (HATTIE, BIGGS; PURDUE, 1996).

According to Zimmerman and Martinez-pons (1990), self-regulated students can use the following strategies: self-assessment, organization and transformation, planning and elaboration of goals, search for information, monitoring and maintenance of notes, structuring of the environment, rehearsal and memorization, asking for help from peers, teachers, family, review of tests, notes and texts, etc.

It is important to emphasize that, in self-regulated learning, knowledge is built when the student is provoked to develop skills, through learning strategies, which lead them to learn how to study. Therefore, it is not enough just to promote spaces for reflection and apprehension of knowledge, if the learning is not systematized by the student himself: "Students have to want to apply these strategic teachings in practice" (ROSÁRIO, VEIGA SIMÃO, CHAKETA; GRÁCIO, 2008, p. 118).

## 1.2 PROJECTS TO PROMOTE SELF-REGULATION BASED ON THE ROSARIO MODEL (PLEA)

Rosario's theoretical model allowed the creation of projects to promote self-regulation of learning, aimed at different levels of education. Here only those referring to basic education will be described. These



programs include, in addition to the provision of intervention material based on narratives and activities, subsidies on the theoretical framework that structures the project (POLYDORO; AZZI, 2009).

The projects to promote self-regulation of basic education learning based on the PLEA model are: "The Mischief of Yellow", aimed at the public of early childhood education aged between 5 and 10 years; and "(Des)venturas do Testas: Estudar o Estudar", aimed at the most advanced grades of basic education. The latter includes five books, one for each year of schooling: 5th grade - Testas forever; 6th grade - Elementary, my dear Testas; 7th Grade - 007th. Order to study; 8th grade - The Lord to the papers, the brotherhood of the bulk; 9th grade - Testas, the Lusitano. Below, each of these programs will be commented on.

The Mischief of Yellow (ROSÁRIO, NÚNÊZ; GONZÁLEZ-PIENDA. 2012) is a preventive project and is oriented to discuss issues about strategies and processes of self-regulation of learning with children aged between 5 and 10 years, instructing them to face their learning tasks and activities with greater quality and depth. The Mischief of Yellow is a text that describes a set of adventures lived by the colors of the rainbow in search of their friend Yellow lost in the woods. This narrative is an opportunity to work with children on a range of learning strategies and self-regulatory processes, enabling them to learn how to learn and, in this way, promote future school success.

The Yellow Mischief project aims to teach children the processes of self-regulation of learning. It is important that children, the earlier the better, know the processes involved in learning, teamwork and problem solving. This declarative and procedural knowledge about what the processes involved in learning are and how they are operationalized will facilitate conditional knowledge about how and where to apply the self-regulation strategies learned. Work with children in pre-school and the first years of primary school: a repertoire of learning strategies that help them in their future school learning and in life. The design of this project is oriented so that children reflect on the learning processes and strategies used by the protagonists of the story, while training the application of these learning strategies at school and in their lives.

In Brazil, some projects based on The Mischief of the Yellow have already been carried out, as is the case of the Pius XII College, which, together with a team of researchers from PUC-Campinas, managed to succeed in promoting self-regulated learning. In addition to Brazil, this project is also being developed in Spain, Portugal, Chile and Mexico.

The (Des)venturas do Testas project, developed to promote processes and strategies of self-regulation of learning in students in the most advanced years of basic education, is an example of a tool that can be used in the classroom. The first book, Testas para sempre, is suitable for students in the 5th year of Elementary School. The work was born from a work carried out by a group of teachers and psychologists from the Colégio Nossa Senhora do Rosário, located in the city of Porto, Portugal. Concerned with





promoting learning for autonomy, the group wanted to build effective opportunities for "learning to learn" in context, increasing students' self-regulatory skills.

This project is based on the conviction that all students are capable of learning, and that they can self-regulate their motivation and learning, whenever they decide to learn, taking control. (Des)venturas do Testas is a project of logical and innovative construction, of accompanied study, of self-regulatory intervention, so it is part of a framework of educational innovation. This tool is based on the ideal that self-regulated learning can be promoted through the modeling and experience of multiple opportunities for the development of independent learning.

In this way, the study project accompanied by 'Testas' (Mis)adventures: studying the study (ROSÁRIO, 2004) was built based on a model that promoted the implicit learning of the self-regulatory process, with its objective focused on the organization of a learning environment that would provide the involvement of parents, teachers and students in the construction of a self-regulatory guide. This project was designed to avoid the decontextualization of concrete learning experiences, which are widely criticized in the literature. The structure of the project is based on narrative stories for each of the school years that are oriented towards the phases of the self-regulation process: planning, execution and evaluation, which, in turn, is a precursor to the planning phase. The use of narratives is an opportunity for students to become aware of a set of self-regulatory knowledge that they use in their learning or to become aware that they should use it. It's also a way to introduce patterns of self-regulatory behaviors into students who didn't know them.

In all the stories, the mission of the protagonist, who, in this sense, is always a hero, is to teach the lesson he has learned in his renewed life. The characters, by showing self-regulated behaviors, can serve as models whenever their behaviors and thoughts are analyzed in relation to the students' lives. For example, the stories we tell and the ones we hear shape the meaning and structure of our lives. Personal stories and narratives fill our lives with meaning and belonging. They have the ability to connect us to others and to our own stories.

Briefly, the interventional project of (Des)venturas do Testas: estudar o estudar, when adopted in educational institutions, seeks to achieve the following objectives:

To develop, in educators and learners, the understanding of the nature of learning strategies, from the perspective of a model of self-regulation of learning that has meaning;

To develop, in educators and learners, the understanding of the cyclical and interdependent nature of the process of self-regulation of learning discussed: planning, execution and evaluation.

Develop, in educators and learners, the understanding of the different ways of teaching learning strategies in order to achieve the objectives of promoting self-regulatory skills;



To expand the knowledge of the educators involved in the process about the different ways of teaching the self-regulatory process through concrete examples reported in the text (Des)venturas do Testas.

To promote in students the development of their systematic routines of approach to learning tasks, helping them to take control and responsibility of their learning process based on autonomy.

Next, some examples of how self-regulatory processes are worked will be illustrated with short passages from the texts of the books that make up the project (Des)venturas do Testas (ROSÁRIO, 2004).

## 2 PLANNING

**Goal setting:** Goal setting is a planning process and, in this sense, is fundamental and consists of the first step in the self-regulatory process. Students who set their goals and develop plans to achieve them take responsibility for the very conduct of their lives. Excerpt from the book Testas, o Lusitano, p. 42: "(...) Well, to-do lists; filling study schedules, knowing our personal resources to face the situation, setting realistic and achievable goals, anticipating the consequences... are some of the elements of my planning action."

**Things to Do Lists (CAF):** This is an effective strategy that refers to listing the concrete tasks to be accomplished in a given period. CAF lists help the student to be aware of the tasks they have to perform, helping them to think about the need to prioritize them so that they can optimize their resources. All of these steps guide your future decision and reflection. "In your room, CAF lists were found. Yes! Don't tell me no. I have studied the code of the enemy and know the meaning: "Things to Do." I know very well that they are lists of tasks to be done, so that those who have bad taste never forget everything they have to do during the day (...)". 007th Order to Study, pp. 43-44."

## 3 EXECUTION

**Take notes and organize information:** taking notes and organizing information is a learning strategy used by many students, although not always in the most correct way. Taking notes during class does not mean indiscriminately recording all the information read or heard. Therefore, during the note-taking process, it is essential to make decisions. "The notes must be legible. You don't have to write down everything the teacher says, that's impossible. The student must listen more than write. If you don't understand something or miss a sequence, it's best to leave one blank and complete it later with the help of classmates or teachers," Elementary, my dear Testas, p. 46.

## 4 RATING

**Preparation for assessment tests:** when we talk about assessment, and more specifically about learning strategies to prepare for exams, in fact, we are discussing the entire study process, since, although





there are some specific strategies for the concrete situation of evaluation of assessment tests, all the student's work revolves around this situation. "When you receive the corrected test, before you put it in a folder at home, you read the teacher's comments and try to think about what you wrote so that, next time, you can do better (...)" Foreheads Forever, p. 85.

## **5 FINAL THOUGHTS**

Based on the above, it was possible to conclude that there are positive relationships between the use of learning self-regulation strategies and school success. In this sense, helping students to regulate their learning, teaching them effective strategies, can be a viable way to combat school failure. For this, it is essential that all those involved in the teaching-learning process, especially teachers, since they are the ones who work directly with students in the classroom, know the self-regulatory processes involved in learning. Helping students to design real learning possibilities is a very important educational role. Therefore, by appropriating this knowledge, teachers will certainly be more empowered and confident to help students become more involved in their school activities so that learning experiences are a reason for enrichment.

It is a fact that, in their training, not all teachers had the opportunity to come into contact with the theoretical models that deal with self-regulated learning. However, this can be a topic that can be discussed in continuing education meetings for teachers, as educational efforts should be less oriented to trying to solve students' problems, and more focused on enabling them to change the course of their school failures, thus assuming a more preventive posture.

As is well known, school failure cannot and should not be thought of solely under the responsibility of the school. No matter how hard teachers try, they cannot be held solely responsible for student failure. Thus, it is necessary for the parents or guardians of the students to help them in the process of promoting self-regulatory strategies. In this sense, the school can promote meetings with parents in order to equip them with learning strategies, so that they can better help their children in this process.

It is hoped that the information contained in this article may have contributed to thinking about the challenges involved in the educational process of promoting effective engagement of students in their learning processes. The Rosario model (PLEA) is promising, as schools can benefit from projects based on this model and, thus, contribute to preventing and combating school failure.



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