

Self-regulation of the motivation to learn

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IMPACT CHAPTER

The main aim of this dissertation was to help higher education students better self-regulate their motivation to learn. We sought to achieve this by offering a new perspective on the motivation to learn and its self-regulation through the lens of activity theory. This perspective allowed us to reveal the discrepancies between the motivational regulation strategies (MRSs) hitherto known and students' motivation, and also gave us clues to formulate new MRSs that might close these gaps. Below, I will first describe how the scientific field could benefit from the dissertation findings, before moving on to give recommendations regarding their social and practical impact as well as how we plan to disseminate the results.

Scientific Impact

To our knowledge, the work reported in this dissertation was the first attempt to scrutinize students' motivational elements (motives, goals, emotions, meaning, means, and beliefs) simultaneously at different levels of motivation, consistent with activity theory. These levels were three: 1) Studying in university or for a course; 2) planning; and 3) performing a particular learning task. We have showed that students' motivational problems and the MRSs hitherto known were related to different levels of this structure of motivation. Overall, this dissertation has demonstrated that the type of MRS students used and the motivational problem they encountered were *specific* to each motivational level and motivational element.

In addition, the present dissertation has revealed that the existing MRSs did not fully address the whole range of motivational elements. We observed dynamic changes in students' motivation and MRS uptake within the space of a single module. Another enlighteningly new insight was that the MRSs differed in their function: they caused students to either *retain* or *change* their motivation. Such a change could be positive, by guiding students toward a more autonomous profile, or negative, by directing them toward more controlled motivation. Most strikingly, the existing MRSs essentially targeted only one motivational element, that is, students' motives. Consequently, students might need other MRSs that have not yet been described in the literature to address their remaining motivational elements, being their goals, emotions, meaning, means, and beliefs.

Based on the previous tentative conclusion, we have made an attempt to redefine the existing MRSs to make them more congruent with students' motivation and proposed completely new MRSs to close the aforementioned gaps. We based this revised set of MRSs on the relationships we identified between students' uptake of the existing MRSs and their motivation, their experience of motivational problems, and activity theory. This revised set of MRSs is presented in Table 1.

Table 1.*Introduction of new MRSs based on our survey outcomes.*

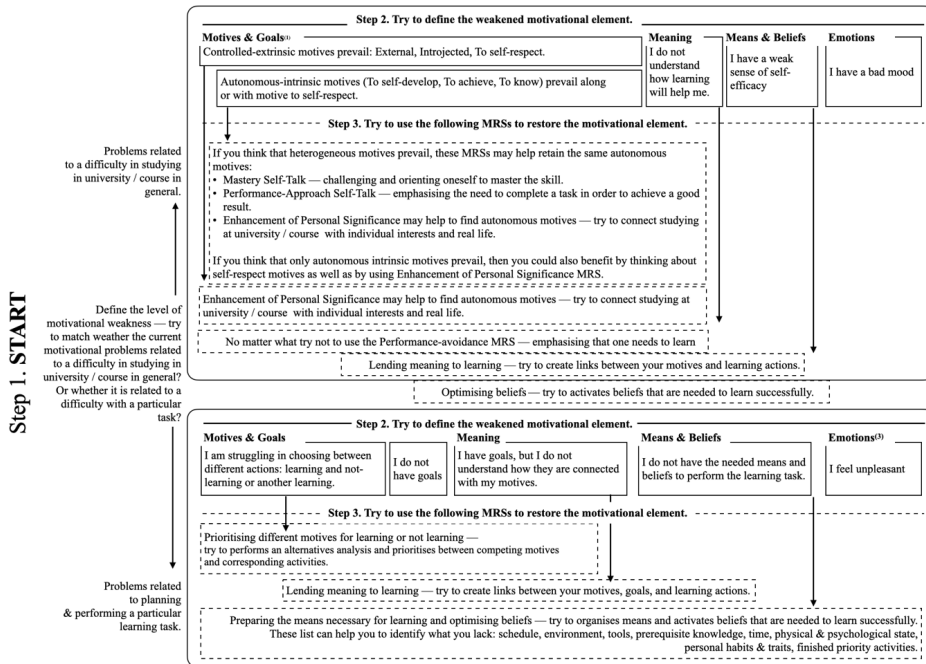
Suggested MRS	Definition	Example
<i>Lending meaning to learning</i>	The students create links between their motives, goals, and learning: They analyze how their learning actions can help them reach what they want, for instance to satisfy their curiosity, obtain good grades, get something pleasant, develop competence, perform a task, fulfill an obligation or meet a deadline.	I try to find out what I want and how a specific learning action could help me get there.
<i>Lending meaning to not learning</i>	The students create links between their motives and neglecting to perform learning actions and how the latter could move them away from what they want, such as good grades, a good relationship with the teacher, the chance to land an attractive job.	I try to find out what I want and how <i>not</i> performing a specific learning action could move me away from it.
<i>Preparing the means necessary for learning and optimizing beliefs</i>	The student organizes the means and activates the beliefs that are needed to learn successfully.	I organize my schedule, time, environment, and tools, and I recall what I have already learned in order to assimilate new knowledge and also form a favorable physical and psychological state, personal habits, and traits.
<i>Prioritizing different motives for learning or not learning</i>	The student performs an analysis of alternatives and prioritizes between competing motives and corresponding activities.	I think about priorities and what I want to do first.

Finally, we also revealed that, in order for students to successfully self-regulate their motivation, they need more than the MRSs hitherto known. Sadly, they did not consider them at all when confronted with problems of motivation in planning and performing their learning tasks. Although they reflected upon their motivational state, they did not try to do something about it. We have shown that motivation is a dynamic, multilevel system of motivational elements that each have different weights. Knowing this, it is comprehensible that students did not consider the MRSs. There seems to be more to effective motivational self-regulation than mere knowledge of the MRSs or using them. Rather, it is a complex problem that students should learn to solve, for it makes them more resilient and autonomous from unexpected changes and lays the foundation for lifelong learning.

Social Impact

As said, the main aim of this dissertation was to help higher education students better self-regulate their motivation to learn. Our findings are valuable for students, tutors, educators involved in education program design, and university leaders. First, students could benefit from using the rules of thumb specially drafted to help them self-regulate their motivation (see Figure 1). Tutors, too, can use these guidelines to discuss different aspects of motivation with students and find ways to help them when they are lacking motivation.

Figure 1.
Rules of thumb for supporting students during self-regulation of motivation.



- (1) The following are examples of each motive taken from Gordeeva, Sychev, and Osin's (2014) Academic Motivation Scale questionnaire. The motive to know: "I like to study"; the motive to achieve: "I like to solve difficult problems and invest intellectual effort"; the motive to self-develop: "I like to know how to increase my competence and knowledge"; the extrinsic motive to self-respect: "To prove to myself that I am a smart person"; introjected motive: "Because it is embarrassing to do poorly in studying"; and external motive: "I have no other choice, as they will check my attendance".

As depicted in the above figure, motivational self-regulation ideally consists of three steps: 1) identify the level at which motivation is weakened; 2) identify which element is weakened; and 3) Choose the appropriate MRS. More specifically, we advise students to first identify the level at which they experience reduced motivation: Does it apply more generally to their study in university or for a course or does it set in when planning and performing a specific task? (Step 1). After determining the level, they should focus on that relevant level and find the weakened motivational element (Step 2). This self-analysis can then be followed by selecting an appropriate MRS and testing it (Step 3).

Figure 2.
The structure of activity and motivation.

Levels		Categories of motivational elements & their operationalization on two levels			
		Motives & Goals	Emotional states	Meaning	Means & Beliefs
1	Forming a motive to study at university or a course	Motives <small>(Seven motives that are varied from controlled-extrinsic to autonomous-intrinsic)</small>	Mood	Perception of instrumentality	General Self-efficacy
2 & 3	Planning & performing a particular learning task	Goal	Affect	Meaning	Specific Self-efficacy
		<ul style="list-style-type: none"> • to accomplish the learning task • achievement • obligation • deadline • motives hierarchy 		<ul style="list-style-type: none"> • to learning • to not learning 	<ul style="list-style-type: none"> • schedule • environment • tools • prerequisite knowledge • time • physical & psychological state • personal habits & traits • finished priority activities

Those involved in education program design could use the system of activity and motivation depicted in Figure 2 to evaluate whether and how the specific program and course design and teaching strategies support or frustrate each motivational element. For instance, they could consider the first level of motivation (upper part of Figure 2), by asking themselves whether any activities help students to create links between their motives and the program or course. In other words, do they allow students to answer the question “Why do I need this program or course?” Next, educators could evaluate whether the program or course offers activities that actualize and support students’ beneficial learning beliefs. In a similar fashion, they could evaluate the second and third levels (bottom part of Figure 2), by analyzing each learning task they give to students in terms of whether students accept its goal, whether they have all the means necessary to perform it, and whether the task supports students’ beliefs about performing it.

Finally, university leaders could develop policies that support different aspects of student motivation at university level. Discussing the above-depicted system of activity and motivation with staff and students could provide insights into how to support students’ motivation from different angles. The motivation to learn is at the heart of learning in university and is fundamental to future lifelong learning. If students are able to self-regulate their motivation, they will be more resilient and autonomous from unexpected changes in the world.

Dissemination of Results

The results from this dissertation have been published in international peer-reviewed journals with a broad readership in the field of educational sciences and educational psychology. In addition to this, I discussed their practical implications with students

during my courses about self-regulating one's motivation and with educators during courses on the motivational design of education programs. The further development of frameworks such as the one presented in Figure 1 would help to make the results more accessible and facilitate their practical application.