LEARNING MOTIVATION AND SELF-REGULATED LEARNING AT VOCATIONAL TRAINING SCHOOLS

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ABSTRACT

At vocational training schools, a low level of students' learning motivation can be observed. There are some important questions to be considered from the point of view of the school's effectiveness: what kinds of factors affect learning motivation, and how the efficacy of education can be enhanced. Self-regulated learning is an active, constructive process that includes students' goal setting, monitoring, controlling and reflections [13]. There has been no research on self-regulated learning among students (from the 9th to 11th grade) in vocational training school/vocational grammar school. The research is based on Pintrich's and De Groot's Motivation Strategies for Learning Questionnaire (MSLQ) concerning students' motivational beliefs and self-regulated learning strategies [14]. The goal of the study is to point out why these students are unmotivated and in which domain it is worth planning an intervention.

KEYWORDS

learning motivation, self-regulated learning, vocational training school, self-efficacy, test anxiety.

INTRODUCTION

The role of learning and information processing ability has become more appreciated as a result of social and economic changes that can be experienced in these days. Students cannot be taught everything that they need for their whole life, which is why students need well-applicable and transferable knowledge, way of thinking and problem solving skills that they can activate during lifelong learning. Lifelong learning requires well-founded learning ability possessed by both young people and adults. Motivation is placed in the centre because there is no learning without motivation. It requires fundamental changes in curriculum and pedagogy, emphasizing the individual learning willingness as well as content mastery [8].

The connection between learning and motivation is the key question of efficiency. Educators often ask how students' motivation can be enhanced, respectively how it is possible to learn efficiently [7]. Learning motivation is constantly decreasing from the fourth class of elementary school and an especially significant reduction can be experienced during the transitional period from the elementary school to secondary school [5]. So it is not surprising that teachers teaching at secondary vocational training school tend to face a low level of students' learning motivation. Thus, teachers have the task to attract the students' interest in the given subject and enhance their learning motivation.

Learning motivation

Learning motivation is to be handled as a multidisciplinary problem by reason of its complexity [12].

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Motivation is an internal power, which drives the student to find the learning source even if they have not had success yet. Personality develops itself. Everybody strives for a higher level of self. This intrinsic motivation is called forethought or sapiency. Success does not depend on innate abilities, but it depends on efforts, namely hard work [17]. Learning motivational factors can be various sort: intrinsic, extrinsic, direct, indirect, primer, secondary, general, special, internalized, as well as prestige motives [16].

Self-regulation
The concept of self-regulation has received an emphasized attention as a key factor that predicts students' school readiness.

During the last decade, varieties of concepts were created to conceptualize learners as active seekers of knowledge and skills. These formulations have been labelled as "self-controlled," "self-instructed," or "self-reinforced" learning to draw attention to the importance of self-regulation processes. Explanations have been seeking to explain not only students' abilities to learn on their own but also their motivation to do so. Recently, several theoretical studies have striven to relate various views of self-regulated learning to academic motivation and achievement [21]. In the present study, the term self-regulation will be used to describe this general theoretical approach.

According to a generally accepted interpretation self-regulation is a multi-component, hierarchically organized process of long- and short-term goal pursuit. It does not work isolated, but it is realized by a number of core psychological components including attention, action, and emotionality, thought, and imagery, physiological responses, and animate and inanimate aspects of the environment [6], [3].

Stable components of the personality (as temperament, traits) determine the direction of the development of self-regulation, but cognitive abilities, emotions and environmental effects have an impact on the functioning of this ability. Parental behaviour plays a determinate role in forming self-regulation properly. Children learn in family environment to control feelings and behaviours, and endorse their will in an effective way. The stable and dynamic factors' joint manifestation can also mean, for example, that if conscientiousness or will as a stable personality feature works at a lower level, parents and later teachers can compensate the shortcomings with correct, consistent behaviour. They can teach children how to handle their negative emotions, develop their thinking, and organise their learning effectively [3].

Self-regulation is the explicability of personal goals, which hangs together with individual needs, and it is also a flexible learning strategy selection ability that serves the solutions of conflicts, which occur along the way. Self-regulation activates the self-reward system, and enhances success by arousing positive emotions [17].
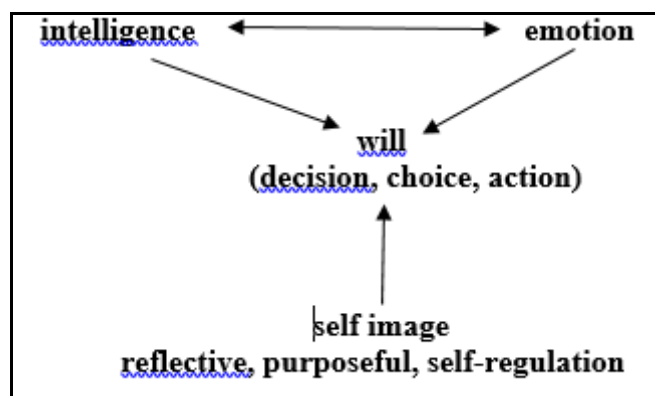

Figure 1: Process of reflective self-regulation [18]

During reflective self-regulation the student depends on momentaneous, external circumstances decreasingly. External effects and the earlier experiences are compared, and the received outcomes can be overridden. Thus reflective self-regulation is based on cognitive, motivational, emotional and volition factors, and at the same time it affects forming of the self, which reacts on cognitive, motivational, emotional and volition components, as illustrated in Figure 1 [17].

According to Karoly [6] two types of self-regulation can be distinguished. Type 1 refers to the temporally extended process of moving toward or away from relevant goals in a relatively flexible and situationally coordinated manner under conditions of conflict, error, or threat. This type deals with self-reflective attempts. Self-regulation type 1 can be defined regulation by the self. Self-regulation type 2 refers to the short-term action of moving toward or away from self-relevant goals in a relatively inflexible and situationally primed manner under predictable, controllable routine or stable conditions. Type 2 has been variedly called associative, implicit, automatic processing, and is also known as physiological self-regulation. Type 2 self-regulation is the regulation of the self.

Self-regulated learning
Recent research on self-regulated learning has emphasized the importance of both motivational and cognitive components [2], [1]). Self-regulated learning, which is an active, constructive process, plays an important role in the learning process at school, and includes students' goal setting, monitoring, controlling and reflections [13]. Réthy [18] has formulated another definition for self-regulated learning, which says: „a person motivates himself, and plans, structures, manages and controls his activity independently, in a responsible way. Self-regulation is a self-integrative form of control activities, but self-control is the aspect of self-discipline".

Extraversion and introversion relate to a complex package of neurological function, information processing and self-referent knowledge-level cognitions. The more malleable aspects of personality are shown in Figure 2. The Cognitive-Adaptive Model of Extraversion model represents the fact that there are typical outcomes of typical behaviours. Self-regulative factors such as self-efficacy may also motivate the individual to choose activities in which skill is required (e.g., extraverts seek out companions fostering a greater expertise, practice and self-confidence for them) [9], [10].
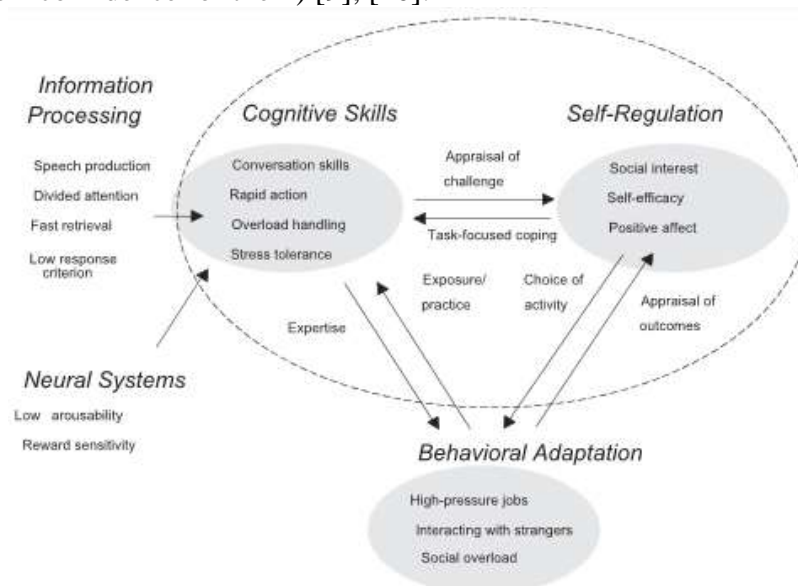

Figure 2: Cognitive-adaptive model of extraversion [10]

Going clockwise around the triangle, we can see that actual social skills build positive self-beliefs and social self-efficacy, which encourages more engagement with socially demanding situations, which leads to greater opportunities to refine objective skill. Counter clockwise, social expertise generates more actual social success, which in turn leads to more positive outcome expectancies, increasing the likelihood of effectiveness of employing skills as strategies for coping with social pressures. Cognitive skills, self-knowledge and behaviours interact continuously. Success requires a skill set, which includes conversation skills, to impress and influence others; speech of response to dominate a conversation and speak before others, and stress management skills to handle any competition that social visibility may attract. In contrast, introverts' abilities sustain attention in monotonous environments. Typical adaptations are for introverts in working in the absence of immediate reward or help from others, supported by skills for sustaining attention, reflective problem solving, and boredom tolerance [9], [10].

Although there is a wide range of definitions of self-regulated learning, three components seem especially important for classroom performance. "First, self-regulated learning includes students' metacognitive strategies for planning, monitoring and modifying their cognition". The second component is students' management and control of their effort on classroom academic tasks. Its third important aspect is the actual cognitive strategies that students use to learn, remember and understand the material [21], [14].

Self-regulated learning strategy

Self-regulated learning strategy means actions directed at obtaining information or skill that involve students' activity, goals and instrumentality-based self-perceptions. Based on existing literature, a number of categories of self-regulated learning strategies were identified. Most categories were drawn from social learning theory and research. They involved goal-setting, environmental structuring, self-consequences (self-rewarding and self-punishment), and self-evaluating [21].

Students and classroom effects

The most important task is to form a students' community, which can promote knowledge acquisition. It also has to be taken into consideration that learning is an individual process simultaneously. Thus, it is about a double process: individual and communal, but the dynamic interactive learning communities whose purpose is to acquire the highest level of knowledge do not always count with individual differences. Their main assumption is namely to make the learning process as interesting as possible in order to enhance the level of intrinsic motivation. It is a problem, on the one hand, that the learning process of new things demands a priori motivation from the student. On the other hand, working with new tasks evokes a sense of success. Making learning tasks exciting cannot only change the learning process but possibilities as well. Although researches come from different theoretical traditions, they agree that self-regulated learning is basically managed by an effective learning oriented activity [17].

These attempts to control or regulate are self-regulated in the respect that the individuals try to focus on controlling or regulating their own cognition, motivation, and behaviour. Of course, other persons in the environment such as teachers, peers, or parents can try to regulate an individual's cognition, motivation, or behaviour as well, by directing or pressuring the individual in terms of what, how, and when to do a task [13].

In expectancy-value models [4] task value beliefs involve perceptions of the relevance, usefulness, and importance of the task. If a student believes that the task is relevant or important for his or her future goals, or generally useful for him or her (e.g., biology is very important for me if I want to be a doctor; or math is useful because it is necessary for becoming

an engineer), then she or he is more likely to be engaged in the task and will probably choose to engage in the task in the future [13].

The relations between goals and self-regulation may change with age and the growth of expertise. Younger children are less likely to be metacognitive and self-regulating than older children or adults. Most of the models of self-regulation and goals are not explicitly developmental in nature [13].

Another behavioural strategy, which can be very helpful for learning is help seeking. It seems clear that good students and good self-regulators know when, why, and from whom to seek help [19]. Help seeking can be a strategy for students who wish to solve the school job without much work or who want to complete the task quickly without understanding or learning. This goal of learning and understanding dependent help seeking would be a generally maladaptive strategy, in contrast to adaptive help seeking where the student is focused on learning and is only seeking help to overcome a particularly difficult task [13].

Students who anticipate being anxious on tests and worry about doing poorly even before they begin the test can set in motion a downward spiral of maladaptive cognitions, emotions, and behaviours that lead them to do poorly on the exam. In this way, the anticipatory affects such as anxiety or fear can influence the learning process later and set up conditions that require active and adaptive self-regulation of cognition, motivation, and behaviour [13].

Research questions and hypotheses

The present study was set out to answer the following questions:

Q1. What kind of factors effect learning motivation?

Q2. How can the efficacy of education be enhanced?

Q3. At what levels do students of the vocational grammar school use self-regulated learning strategies?

Q4. Whether results can justify the downside of self-regulated learning between the 9th and the 11th graders

Hypotheses are as follows:

H1: Students who have a higher level of the self-efficacy and intrinsic motivation, are less stressful when writing tests or in exam situations.

H2: Older students use self-regulated learning strategies to a larger extent than their younger schoolmates do.

H3: Students with intrinsic motivation use more self-regulated learning strategies than their less motivated classmates.

Methodology

The instrument for the purpose of this study was a questionnaire containing a variety of statements to assess motivational orientation, key source of motivational beliefs and self-regulated learning strategy use. It was adopted from Pintrich and De Groot [14], who developed the Motivation Strategies for Learning Questionnaire (MSLQ). There are 44 items in the questionnaire, which include five scales: (1) self-efficacy (9 items), (2) intrinsic value (9 items), (3) test anxiety (4 items), (4) cognitive strategy use (13 items) and (5) self-regulation (9 items). Examples from the statements of the questionnaire are found in Table 1.

Table 1: Examples from the statements of the questionnaire

Scales	Items of the questionnaire

Motivational Beliefs	
Self-Efficacy	"I think I will receive a good grade in this class."
Intrinsic Value	"I prefer class work that is challenging so I can learn new things."
Text Anxiety	"I am so nervous during a test that I cannot remember facts I have learned."
Self-Regulated Learning Strategies	
Cognitive Strategy Use	"When I do my homework, I try to remember what the teacher said in class so I can answer the questions correctly."
Self-Regulation	"I ask myself questions to make sure I know the material I have been studying."

I used a one-step procedure. The questionnaire was filled in by students being at school on the day of the record, the students of six classes. The students could respond to the items on a 7-point Likert scale (1 = very untrue of me to 7 = very true of me), how much they feel the given statement true of them. The questionnaire was filled in by 87 students (23 boys and 64 girls) learning from the 9th to the 11th grades at vocational training school, and vocational grammar school of shop assistants in Kaposvár, Hungary.

Results
Using SPSS software version 25, the results of Cronbach's Alpha (0.795) showed that the questionnaire had acceptable reliability. Data analysis was made by one-way ANOVA and T-Test.

In the samples taking part in the research, there is a significant difference (p = 0.058) in respect of cognitive strategy use between the 9th and the 11th graders, but a kind of trend can be observed, although the reduction is not significant (see Table 2).

Table 2: Results of cognitive strategy use

Grade	N	Mean	Std. Deviation
9	22	63.72	10.806
10	31	56.58	12.038
11	27	56.44	12.370
Total	80	58.50	12.121

Table 3 shows the outcomes of self-regulation between graders. It reveals a downside from the 9th to the 11th too. The significant difference is not justifiable (p = 0.201).

Table 3: Results of self-regulation

Grade	N	Mean	Std. Deviation

9	26	37.77	7.533
10	31	36.45	7.899
11	28	34.10	7.223
Total	85	36.08	7.627

The first hypothesis is based on the assumption that students who have a higher level of the self-efficacy and intrinsic motivation are less stressful when writing tests or in exam situations. According to findings there is a negative direction and a weak tightness (r = -.154) in the connection between self-efficacy and test anxiety, which are not significant (p = 0.16). The results between intrinsic value and test anxiety are the same as before but with positive direction (r = .126). So, there is no correlation between intrinsic value and test anxiety. It means that students who have a higher level of the self-efficacy and intrinsic motivation are as stressful at tests or in exam situations as students who have a low level of these factors. Therefore, this hypothesis has been unjustified.

According to the second assumption, the older students use self-regulated learning strategies to a larger extent than their younger schoolmates do. Results reveal that the older the students taking part in research are, the less they use self-regulation. The connection is negative directional, older students use self-regulation less than younger schoolmates do.

My third hypothesis was that students with intrinsic motivation use more self-regulated learning strategies than their less motivated classmates do. The connection between intrinsic value and self-regulation is significant at value 0.01 and medium tautness. So this hypothesis has been justified.

The T-Test to examine the connection between self-regulation and genders reveals that there is a great difference in the self-regulation of boys and girls (Sig. (2-tailed) = 0.019). Girls' self-regulation is at a higher level than that of boys (boys: M = 32.81; girls: M = 37.22). Between point of intrinsic value there is no significant difference (Sig. (2-tailed) = 0.154) between boys and girls. Although girls are more motivated than boys, the difference is not too remarkable (see Table 4).

Table 4: Self-regulation by gender

	Gender	N	Mean	Std. Deviation
Self-regulation	Boy	22	32.81	8.121
	Girl	63	37.22	7.167
Intrinsic value	Boy	22	37.22	10.469
	Girl	61	40.96	9.867

Students with good self-regulation usually have their self-efficacy at a high level, too. They draw valuable targets, and their own knowledge and skills development are kept in mind.
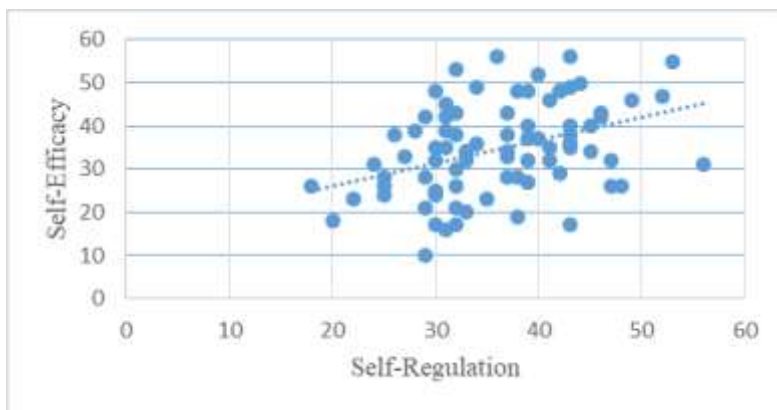
Figure 3: Connection between self-regulation and self-efficacy

Figure 3 shows the results of the connection between self-regulation and self-efficacy among students taking part in the research. The outcomes reveal a middle level of self-regulation and self-efficacy.

CONCLUSION

This study focused on examining what factors affect learning motivation and how the efficacy of education can be enhanced, since students' motivation is the most important factor for learning success.

There are several factors that affect and influence the individuals' learning attitudes; the degree of efforts they can and are willing to make, in order to learn the given subject. Furthermore, it is affected by cognitive abilities as much as by parental expectations. Thus, teachers do not have an easy job if they want to motivate all the students present in the classroom.

Research results reveal that self-regulation of students' learning in vocational training school is at a medium level (average M = 36.08). It entails their self-efficacy, which is at a middle level too. Self-regulation works better at girls than boys. This is due to the fact that girls are usually more hard working and more conscientious.

The success depends on effort, namely hard work. Effort and persistence are two of the most common indicators of motivation.

What can the teachers do when the students are not motivated enough? They can compensate the shortcomings of conscientiousness, effort, persistence with correct, consistent behaviour. Making learning tasks exciting can change the learning process. Frontal teaching methods need to be transformed, so new methods could spread in the classroom practice. Children have to learn how they can study more effectively. Parents have the task that they develop a positive self in their children who will be able to reach high goals in their life later.

In this study it was not examined how self-regulated learning strategies change in the case of extraversion at vocational training school. Another research can answer the question if extrovert persons have less test anxiety and better self-efficacy than introvert individuals do.

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