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The Determinants of Self-Regulated Learning Development in Students of Helping Professions

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Abstract

In their research the authors focused on functioning of mechanisms of self-regulated learning in students of helping professions at Tomas Bata University in Zlín. They examined which cognitive and non-cognitive determinants play a key role in the process of developing self-regulation. They also looked into how and under what conditions the determinants are transformed into skills necessary for one´s own learning management. Due to nature of the presented issue the researchers chose a qualitative research strategy. They chose the focus group technique out of possible research techniques, which is among the most progressive ones. The researchers built a focus group composed of seven respondents on the basis of an intentional selection. The grounded theory method was chosen as a method to analyse the date obtained. The method involves searching for a "substantive" theory concerning a defined population, environment or period. It was applied in accordance with Strauss and Corbin. The obtained data were transcribed and processed using open and axial coding. In the course of open coding 32 open codes were abstracted, amalgamated into eight categories and classified in three areas (motivation, cognitive and meta-cognitive strategies). The authors gripped the emerged codes and categories with their dimensions as the founding stones of a new emerging theory. Two cyclical models crystallised. The first one describes the mechanisms of choosing a study field and the second one depicts mechanisms leading to the development of self-regulated learning in students. Both models were subsequently united into a third model covering the mechanisms leading to the development of self-regulated learning in students of helping professions. The findings serve as clear evidence that success in learning depends on motivation which is markedly influenced by a suitable choice of a study field / future profession along with fulfilled expectations which become a significant motivation factor. A motivated student then actively regulates the process of his/her learning. In the course of learning, such a student also thinks about the applied strategies and modifies them on the basis of his/her success or failure.

Keywords: self-regulation; learning; students; helping professions; grounded theory; focus group.

1. Theoretical background

The presented article identifies determinants playing a key role in the process of self-regulation of learning in students of helping professions. As authors, we are particularly interested to see whether specific determinants

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influencing the level of self-regulation enter the process of self-regulation of learning in students of helping professions. We understand the concept of helping professions in accordance with Vávrová (2012) in its broadest sense that it covers an area of human activity, primarily focusing on working with people and containing subjects falling within the range of educational, social and medical activities. Mechanisms of self-regulation pervade majority of human relationships and activities. Any interpersonal interaction and hence all human behaviour is based on the principles of self-regulation. We can certainly talk about permanent latent presence of self-regulation of behaviour in everyday life of an individual. Self-regulation is understood as an interaction of three factors, i.e. personality, behavioural and environmental in the socio-cognitive approach, e.g. as described by Bandura (in Zimmerman, 2005) (see Fig. 1).

Figure 1. Self-Regulation as a three-factor interaction

Source: own.

Besides the individual´s personality, their social environment which is a significant determining factor has an important function in self-regulation. Self-regulation is a product of one´s own thoughts, feelings and activities that are planned and cyclically adapted to the stimuli that an individual receives from their social environment, in order to promote personal development. The cyclical nature of self-regulation stems from feedback obtained in the previous performance (e.g. learning). This feedback is then used to analyse the success of the performance carried out, and serves as a tool to modify or change one´s behaviour in the future performance. Experts dealing with self-regulation adopted a postulate that each individual attempts certain degree of self-regulation on their way to life goals. Hence self-regulation is a natural process affecting behaviour of each individual. The differences are only in the quality and quantity of the individual´s self-regulation, i.e. in the success of this process.

In the research carried out we focus further on self-regulation of learning. The concept of self-regulated learning is most often processed, either theoretically or empirically, in pedagogical psychology. Experts have been systematically engaged in the research since the 80s the 20th century (Boekaerts, 2002). Over the last three decades different approaches regarding the presented phenomenon emerged in the literature. Different perspectives on self-regulated learning are primarily caused by the fact that individual authors build on different theories of learning (cf. Boekaerts, 1995, 2002; Pintrich, 1999, 2002; Winne and Hadwin, 1998; Zimmerman, 1995, 2002). For example, Zimmerman (2001) speaks of self-regulated learning as a systematic influencing of thinking, feelings and actions leading to set objective. He regards self-regulation as a process of regulating oneself, in which the individual transforms their mental abilities into skills needed for learning. Self-regulated learning is hence, according to Zimmerman, not a preconditioned mental capacity. Similarly, Pintrich (2005) sees self-regulated learning as a way of learning in which a pupil / student becomes an active agent in terms of activity, motivation, and metacognition. While trying to achieve certain goals the student initiates and manages their own cognitive efforts, uses specific learning strategies with regard to the context in which learning takes place, and connects the accent of their personality and individuality with the social dimension of learning. Lennon (2010) summarises common contents of various definitions of self-regulated learning into the following three points:

1. Students are aware of the self-regulation process and its potential use in improving their performance. This means that the process of self-regulation is *a conscious process*.

2. Students generate own feedback on their learning. Students monitor the effectiveness of their methods of teaching strategies, resulting in hidden changes in their self-image and apparent changes in their behaviour. Therefore self-regulation has *the potential for change and improvement.*

3. Students must be internally motivated to the process of self-regulation. *Motivation* is a prerequisite for successful self-regulation.

Various models were created within the research area of self-regulation of learning. They are models of functioning, which is a systematic arrangement of individual components into a functional whole. These models can be divided into *cyclical* and *level models*. Cyclical models (e.g. Zimmerman, 2005 or Pintrich, 2004) are based on the fact that individual elements of the model follow one another and repeat themselves constantly in a sort of a spiral. It is not possible to say that one component is a prerequisite for the other, i.e. relationships between the components are not hierarchical. Level models (e.g. Boekaerts, 1999) however intentionally create a certain hierarchy between the individual model components. Acquisition of one component conditions acquisition of another at a higher level. All components can hence be considered as factors (agents) that influence self-regulation of learning. These are *motivation, cognitive strategies, metacognitive strategies* and *the environment.* These factors are always present in the process of self-regulated learning and play a key role in it.

2. Research methodology

Within the research of *Functioning of self-regulation mechanisms of learning in students of helping professions at Tomas Bata University in Zlín*, it was investigated which cognitive and non-cognitive personality determinants play a key role in the process of developing self-regulation of learning and how/under what conditions are these transformed into skills necessary to manage one´s own learning. The authors view understanding of cognitive processes in relation to one´s own learning as metacognitive knowledge which enables the individual to gain a perspective of their own learning process.

Based on nature of the research area *a qualitative research strategy* was chosen. We were aware of certain limitations in the qualitative approach. However, there are also certain strengths to it, mainly theoretical sensitivity emphasising researcher´s ability to distinguish fine details in the meaning of the data. Theoretical sensitivity is a term associated with grounded theory, developed in the 60s of the 20th century by Glasser and Strauss (1967). It serves as the foundation for a new theory that matches the reality of the studied phenomenon. Theoretical sensitivity is defined as an ability to recognise what is important in the communicated information in order to deliver the meaning. Grounded theory is a set of systematic inductive procedures for conducting a qualitative research aimed at theory creating.

According to Strauss and Corbin (1998) it is a theory which has been inductively derived from the examination of the phenomenon it represents. The theory is discovered, developed and provisionally verified by a systematic data collection on the phenomenon under examination and verified further by an analysis of the data. Grounded theory emphasises the methodological approach as well as the resulting theory. Given the above, we decided to use grounded theory as the most suitable method of data analysis, which means finding "substantive" theory for the designated population, environment or time. Once found, it has been applied according to Strauss, Corbin (1998). A focus group interview was chosen as the research technique for data collection. In the interviews a selected focus group of respondents discusses a topic provided by a moderator. Morgan (1997) views focus groups as a significant research technique through which qualitative data are obtained using a group interaction in an ongoing debate on a topic given by the researcher. A focus group belongs among the most progressive techniques of data collection.

On the basis of purposive sampling, we established a focus group composed of seven students. The role of a moderator and an assistant moderator of the focus group were selected. They then prepared a detailed strategy and a scenario of group management, including areas of interviewing and model questions. The focus of the discussion was targeted on functioning of self-regulation mechanisms of learning in students of helping professions and on identifying external and internal factors that affect the learning process and the degree of its self-regulation. It was a semi-structured focus group, whose duration ranged from 1to 2 hours. The focus group was divided into four consecutive phases:

1. group opening,
2. initial discussion and motivation of participants,
3. core of discussion and

4. end of discussion.

Key thematic areas and a set of model questions for discussion were prepared in advance and were presented in the given order to members of the focus group. A total of three thematic areas were chosen with sub-categories:

1. MOTIVATION (meaning of learning and value of education, personal aptitude, causal attributions, motivation),
2. COGNITIVE STRATEGIES (ways and methods of learning) and
3. METACOGNITIVE STRATEGIES (determinants influencing the learning process, transfer and emotions).

The data obtained from the focus group were then revised several times and literally transcribed. Then we proceeded to analyse the transcribed text and the notes taken. The text was analysed by using the techniques of *open, axial and selective coding.*

3. Data analysis

In order to carry out the presented data analysis, first open and then axial coding was used. In practice, there are different ways to conceive open coding. We performed the analysis by re-reading the obtained text/document thoroughly line after line, i.e. examining various sentence sections, structures and words, assigning codes (concepts) to matching semantic units. Conceptualisation of data was the first step of the analysis. During the open coding 32 codes were abstracted and then merged in the process categorisation (i.e. a process of clustering concepts that seemed to belong to the same phenomenon) into 8 categories arranged in 3 set areas - motivation, cognitive and metacognitive strategies (see Table 1). The categories above were profiled based on codes overarching the meaning of individual data fragments from the transcribed text. The category names are more abstract and show certain conceptual scope, which as a result determines its terminological groups or subcategories.

Table 1 List of codes and categories

CODES (CONCEPTS)	CATEGORIES (VARIABLES)	CATEGORY QUALITIES AND THEIR DIMENSIONALISATION
1. area – MOTIVATION		
The usefulness of the profession	**Choice of field of study / profession**	Suitability (high / low)
Experience with helping		Asset (high / low)
The composition of objects		Difficulty (high / low)
Necessary choice		
Degree of education	**Ideas about education**	Content (satisfactory / unsatisfactory)
Theory		Quality (high / low)
Practice		Length (long /short)
Easy living		Difficulty (great / small)
Empathy	**Desired competencies**	Degree of importance (more / less)
Communicativeness		
Knowledge of social sciences		
Public performance		
Attractiveness of the curriculum	**Learning motivation**	Rate (high / low)
Linking theory with practice		Relation (positive / negative)
Role models		Origin (internal / extrenal)
Family infleunce		
Valuation		
Fear of failure		
2. area – COGNITIVE STRATEGIES		
Supplementing information	**Learning strategies**	Efficiency (high / low)
Systematisation		
Memory footprint		
Practising		
Setting tasks		
Rewarding		
3. area – METAOGNITIVE STRATEGIES		

Enforcement mechanisms	**Attitude to learning**	Positivity (high / low)
Time management		
Effort and interest	**Success of learning**	Success rate (high / low)
Self-discipline		Impact (positive / negative)
Laziness		Success motivation (internal / external)
Knowledge of self	**Determinants of learning**	Strength of determinants (high / low)
Maintaining attention		Functionality (high / low)
Learning style		

Source: own research.

In open coding, we sorted the data and delineated categories, their properties and possible location on the dimension scales. Authentic data fragments from the focus group regarding the abstracted codes and set categories will not be provided due to the limitations of this paper. However, a table was designed (see Table 2) to demonstrate the main characteristics of the individual categories.

Table 2 Characteristics of the categories

CATEGORIES	CHARACTERISTICS OF CATEGORIES
1. area – MOTIVATION	
The choice of field of study / profession	The contents of this category consists of information about the reasons for selecting the particular field of study focused on helping professions, which may be a pragmatic decision due to the composition of the objects / absence of certain subjects (sciences), or university admission even when the field was not a primary option, or predominant altruism and the need to help other people often based on practical experience.
Ideas about education	A category recording opinions and ideas of students about the ways and approaches applied in professional education of helping professions, i.e. opinions and ideas such as length and degree of training, its intensity, content and its connection with practice.
Desired competencies	A category summarising students' opinions on expected knowledge, skills and abilities of workers in helping profession which they deem important for the future profession.
Learning motivation	A category that covers the underlying key determinants in motivating students of helping professions to learn. It is the attractiveness / attraction of a curriculum and its relation to practice. Practical use/application of a curriculum is associated with arousing interest in the subject matter. In addition, the category covers influence of the external (family / school) and internal environment, including fear of a possible failure.
2. area – COGNITIVE STRATEGIES	
Learning strategies	The main focus here are tactics applied in obtaining and acquiring knowledge and presented information during the learning process. It is a set of techniques aimed at enhancing the success in learning.
3. area – METACOGNITIVE STRATEGIES	
Attitude to learning	The proposed category is closely linked with the category of learning motivation as these two partially overlap. It is a set of statements aimed at application of enforcement mechanisms and time management during learning.
Sucess in learning	This category is closely related to the category of attitude to learning, where the emphasis is placed on determinants underlying successful / unsuccessful learning and on decisive principles which serve as the base for the process of successful / unsuccessful learning of students in helping professions.
Determinants of learing	A category including students' opinions about the most important factors affecting their learning process, in relation to the knowledge of self.

Source: own research.

In axial coding the data obtained by open coding were re-arranged based on connections between the categories. A paradigmatic model was created enabling us to sort the categories, depending on circumstances of their formation,

and mutual relations between them, including the causes and the consequences of their existence. During open coding 8 different categories were identified. Some of them refer to the phenomena, others emphasise conditions that are of a certain relation to these phenomena, some indicate acting strategies and strategies used in response to a certain phenomenon and there are of course categories of acting consequences in relation to the analysed phenomenon. The procedure in hand contributes to a deeper knowledge and understanding of the relations between the categories. In line with the above, we proceeded to divide the categories (see Table 3).

Table 3 Paradigm model of axial coding

A	B	C	D	E	F
CAUSAL CONDITIONS	**PHENOMENON**	**CONTEXT**	**INTERVENING (INFLUENCING) CONDITIONS**	**ACTING STRATEGIES AND INTERACTION**	**CONSEQUENCES**
Learning motivation (1)* Determinants of learning (3)	SELF-REGULATION OF LEARNING Central category	The choice of field of study / profession (1)	Desired competencies (1) Ideas about education (1)	Attitude to learning (3) Learning strategies (2)	Success in learning (3)

* (1) motivation, (2) cognitive strategies, (3) metacognitive strategies

Source: own research.

Using axial coding, we have created the basis for selective coding, and after several months of data analysis we decided to integrate the acquired categories in grounded theory.

4. Generating new theory

A set of categories with their dimensions were laid on the basic building blocks of the new emerging theory while the principles of selective coding were followed. The story frame of the particular phenomenon was examined in detail while identifying determinants leading to the development of self-regulated learning in students of helping professions. On dimensional level, all categories were put in mutual relations according to the general coding paradigm while specifying their relation to the central category. Two cyclical models crystallised from the relations between the categories (see Hladík, Vávrová, 2011). The first model shows the mechanisms of choosing a field of study. The second model depicts the mechanisms leading to the development of self-regulated learning in students of helping professions. Subsequently, both models were merged to create a third model depicting the reciprocal influence of a chosen discipline/field of study and motivation to learn. The findings obtained clearly indicate that success in learning depends on motivation, which is significantly affected by an appropriate choice of a field of study / future profession. Significant motivating factors here are fulfilled expectations (of the initial ideas about education) and desired competencies that students acquire in the course of their future professional preparation (see Fig. 2). We further tested the identified relations and investigated other categories in order to supplement, clarify or develop them.

Figure 2. Determinants of learning motivation in students of helping professions
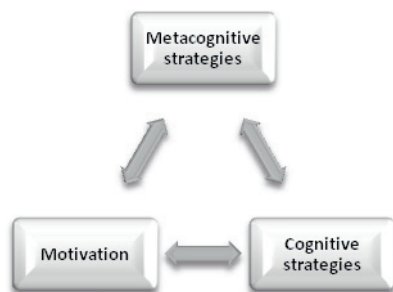
Learning motivation
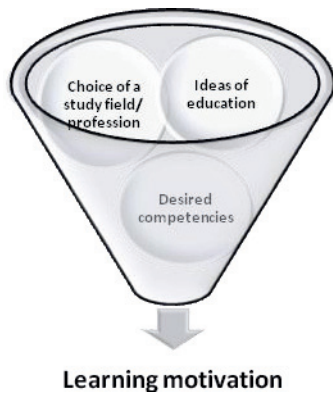
Source: own.

Motivation becomes the base for self-regulation of learning. A motivated student is a student actively regulating their learning process. Such a student considers the applied learning strategies and modifies them accordingly based on his or her own success/failure. The student is not only able to think about their learning but to seek new approaches propelled by external "enforcement" mechanisms but primarily by internal self-motivation. It is their personality with certain volitional qualities which are reflected in their behaviour. The key role is played by internal and external motivation to learn.

Factors supporting the rates of development of self-regulated learning in students of helping professions were identified within each category and three areas. It has been proved that students of the bachelor degree course are able to control their cognitive strategies very well in theory (strategies leading to effective learning/mastering of the curriculum). However, their practical application and use in everyday learning is less common. Students know very well how to learn effectively but other interests that are more attractive to them at the moment outweigh learning itself. The effectiveness of the learning process is all about priorities which the student attributes to his or her learning. If students believe that the subject/curriculum will be useful in future practice and profession, they are willing to make the necessary effort and acquire it. It is also more than likely that a promise of a future employment in the designated field of studies would be of great motivation.

Cognitive learning strategies are latent potential that needs to be activated and developed by effective means of extrinsic motivation, which is gradually transformed into internal motivation. The role of teachers preparing students of helping professions is essential. The research confirmed that a teacher/pedagogue who becomes a role model to students is a significant external factor contributing to the development of students´ self-regulated learning. Consistent with cognitive strategies, students of helping professions are often very well aware of the importance of metacognitive strategies in the process of self-regulation of learning. They are able to reflect on individual components and steps in the process of learning. They have also developed a relatively high degree of self-reflection. They know their strengths and weaknesses and when provided appropriate external support they are able to properly dispose of the information and use it to streamline the process of their learning.

Figure 3. Components entering into the process of self-regulated learning
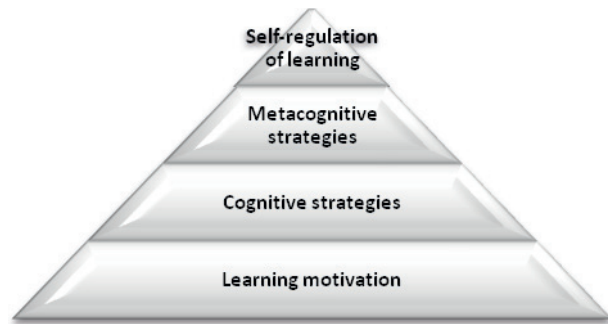

Source: own.

All of these components (see Fig. 3) enter the process of developing self-regulation of learning in students of helping professions. They penetrate and influence one another reciprocally.

5. Summary

Motivation belongs among the determinants that influence the process of self-regulation of learning in students of helping professions the most. It becomes the base from which it is to be proceeded further. Students in a bachelor degree course are primarily propelled by internal motivation, which may be properly stimulated and supported by external motivation. A level of motivation is based on a suitable choice of their field of study / future profession. Provided that one´s choice of studies does not meet one´s previous expectations of the profession, i.e. the student had no prior practical experience with the chosen profession or their original ideas had been distorted, then motivation to learn is low and the student does not activate their latent cognitive strategies. The student is often aware of the fact but does not have the necessary motivation to change. Such a student never reaches the top of the pyramid (Fig. 4).

Figure 4 A hierarchical model of self-regulated learning in students of helping professions

Source: own.

The right choice of a field of study seems crucial in case of students in helping professions whose future career is very demanding and focused primarily on working with and for people. People who are often in difficult life situations and who are not able to manage it by themselves or with help and support of their loved ones. Students should be motivated not only to the actual learning, but their motivation should be aimed prospectively to the future. If the student has a desired goal in mind, towards which he/she is going, e.g. if the aim is work in helping professions, then their motivation for learning is gaining strength. If this is the case, then the student is ready to manifest their latent cognitive strategies which had been mastered practically or theoretically by studying relevant literature. These are subsequently applied in the learning process and modified based on the feedback and thus verifying their effectiveness. As stated above, an important determinant in the process of learning in helping professions is immediate applicability of the acquired knowledge in practice, such as during a short-and long-term student practice, which is of a great importance in training of helping professions. We therefore claim that students who identify themselves with their choice of the field of study and who see helping profession as a mission rather than a profession, is on the right path to become a student with a highly developed level of self-regulation of their learning which will serve as the base for their achievements during their professional university preparation. We conclude that a suitable choice of profession is a source of success enabling to achieve a high degree of self-regulation of learning in students of helping professions. From the opposite point of view, it also means choosing suitable personalities for future career in helping professions.

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