A MODEL OF STREAMLINING ACADEMIC LEARNING

Mihaela Aurelia ȘTEFAN [1]

Abstract

The present paper aims to draw attention to a model of streamlining academic learning. The model is based on a holistic approach to learning, taking into account the following directions: a) boosting the student's motivation for undertaking responsibility and engagement in the learning process; b) training and development of cognitive and metacognitive abilities; c) learning through situated parctice and cooperation.

The motivational dimension is deeply involved in the learning activity, success being engendered not by constraints, but by the stimulation and maintenance of the intrinsic motivation, of the mindset, of the responsible attitude.

The proposed model is intended to be a starting point in the direction of developing students' competence to learn autonomously, with the training (meta) cognitive skills and motivational-attitudinal support at the core of this approach.

Key words*: Competence; Cognition; Metacognition; Autonomy, Motivation.*

1. Introduction

The model is based on the constructivist theory of training and is designed based on my teaching and research experience.

In the literature, the competency-based approach is often accompanied by the constructivist learning theory. Like the cognitivist one, the constructivist paradigm brings to the fore the student with his/her active, personalized mental activity in learning, but the optimal application of constructivist theses and their training value depend on the level of professionalisation of teachers, the level of the skills involved - educational, didactic, managerial, self-development (Joiţa, 2006).

Effective learning requires students to take control. It is necessary to develop metacognition, students must be aware and able to monitor their ideas, thoughts and knowledge. Transfer - the ability to apply knowledge in new situations - is affected by the degree to which one learns, understanding becoming crucial. Understanding determines meaningful learning, but it does not identify with it. Thus, one of the basic principles of learning is the problem solving and stepwise revision rather than the mechanical, quantitative, merged and uninterrupted repetition in the act of learning.

The approach focuses on the needs and interests of students, on prior learning experiences, it promotes self-organised and self-directed learning. Learning involves

[1]Associate Professor, PhD, Department of Teacher Training, University of Craiova, Romania, e-mail address: stefan.mihaela25@yahoo.com.

the involvement and development of all mental processes, the student learning to identify problems, search for information, select it according to certain criteria, organise, process, formulate hypotheses, outline questions, find strategies to overcome obstacles and find solutions.

The social factor is as important as the individual factor in learning. As such, the proposed model also takes into account the idea of social constructionism, promoting learning based on the exchange of information, cognitive and emotional experiences, through the use of interactive methods, cooperative learning methods, polarised around provocation and resolution of socio-cognitive conflicts.

Constructivism also promotes the reflective competence of the teacher, which is condition for the efficiency of the teaching activity. Thus, the reflective teacher develops the reflective attitude of his/her students, explicitly stimulates metacognitive processes and skills, creates opportunities for capitalising on reflection in the classroom, uses and encourages responsible interactive styles (Le Cornu, Peters, 2005; Mogonea, Stefan, 2014).

Throughout the teaching activity, we maintained our interest in developing the students' competence of independent learning, we constantly monitored and recorded the effects of our interventions on academic performance, which involved the alternative combination of traditional methods with modern ones, the implementation and testing of various models of design and constructivist organisation of training, as presented in the literature.

Experimenting various models and training strategies (some applied within a research project focused on constructivist training strategies, others designed during and after the completion of the doctoral thesis, focusing on autonomous academic learning and independent student activity), allowed for the construction of our own model of stimulating autonomous involvement, responsible engagement in academic learning. We consider that autonomy in learning is closely related to motivation, and as such, the focus of attention is constantly on the stimulation and motivational-attitudinal support provided for students throughout the learning process.

In what follows we present the model of motivated engagement in academic learning (MOTIVATED).

Table no 1. Model of motivated engagement in academic learning - MOTIVATED

STAGES	OVERVIEW
M **MOTIVATION**	Stimulating cognitive motivation, arousing students' interests is the first step in the learning process and it is related to the way of presentation, identification of the given task, the way the teacher manages to establish relations with prior experience, organise materials, ask questions, make analogies with similar solutions, specify a series of difficulties and expectations.

O **ORIENTATION**	It is the stage of orientation to the topic, of reviewing the available resources, of the identification of the key words, of direct observation/primary processing of the data, individually, in relation to the context; topic orientation can be done under the teacher's supervision or independently.
T **TRANSLATION**	The student is trained to build his/her own way of understanding and solving the task, to order the actions of search and analysis, of decoding the text; there is a reference to one's own way of understanding.
I **INTERACTION**	Confrontation, comparison of one's own interpretation with those of peers, mutual evaluation allowing students to expand the field of understanding, to broaden the perspective through multisided perspectives on the same topic.
V **VALIDATION**	Following the debate, the personal version (synthetic in nature) is outlined and validated; the data are synthesised to highlight the level of understanding, the scaffolding used in knowledge acquisition, the way of mental structuring, in the form of constructs-products: sketches, drawings, essays, solutions, programs, graphs, models, compositions, tables, etc.
A **Self-ASSESSMENT**	The debate highlights the students' progress in learning, the evolution of the degree of complexity of the corresponding cognitive structures; post-processing, a global understanding of how to perform tasks, of the cognitive and action progress levels takes place; the given diagnosis aims at improving the actions in the next stage, at a better choice of methods, at raising students' awareness and at the practice of metacognition, at the correction of mistakes and errors; the involvement in discussions with the teacher or colleagues stimulates the self-assessment of the degree of acquisition of knowledge and skills, self-regulation of the degree of efficiency of the solutions.
T **TRANSCURRICULAR APPROACH**	Students are invited to make connections between the existing information, to integrate particular content elements to new explanatory structures, to continue exploring complex processes and phenomena, so that by corroborating the results to reach a cross-curricular vision, global understanding, beyond the confines of a subject.

E **ELABORATION AND REFLECTION**	At this stage, students are invited to verbalise their own reflections on how to understand, know, decide, solve; such reflections appear in the previous stages, especially when difficulties arise, obstacles that must be analysed and overcome, but they will be reconstructed, analysed and verbalised upon the completion of the task, after drawing up the cognitive map; personal reflections now focus on evaluating the entire cognitive construction, on awareness of the approach taken to achieve cognitive and methodological, theoretical and practical objectives, on highlighting errors and suggesting remedial work, on assessing the context and environment provided.
D **DEVELOPMENT OF THE LEARNING PROCESS**	Students are invited to identify new directions of action (orally or in writing), to target the development of aspects that have not been sufficiently analysed and that can lead to new areas of knowledge and interpretation. Each student can deliver a speech focused on suggesting new approaches, new directions to develop later in his/her own learning.

We further develop the structure and content of the model presented above (MOTIVATE), designed to enhance the development and assertion of autonomy in academic learning.

2. MOTIVATED – theoretical assumptions and action-oriented approaches

2.1. Contexting the model

Considering the essential transformations that the university training system and especially the teacher training programme are undergoing, the new missions of higher education (student-centered, competence-centered curriculum, etc.), the intervention programme that we propose is focused on models and efficient techniques of organising students' learning, equipping them with methods and techniques of fast and efficient independent learning.

In the Romanian system of education, the self-training resources of the learners are not sufficiently capitalised. Rogers (cited in Bertrand, 1994, p. 246), considered the father of non-directive, student-centered pedagogical models, shows that democracy presupposes that education helps students become individuals capable of initiative, who can assume responsibilities, capable of smart choices allowing them to adapt when the situation changes, able to draw on their experience in a creative way to adapt to new contexts and situations. In the process of lifelong learning, self-education becomes a result, a goal and a criterion for evaluating education (Comănescu, 1996, p. 36).

At present, *learning* and *lifelong learning* are key notions of the sciences concerned with learning, and of educational policies. If initially, in explaining learning, the emphasis was on external factors, it gradually shifted to the internal ones. The emphasis on the individual, on the intrinsic factors, does not ignore the extrinsic influences on learning, but configures another context, deeper, for their explanation.

Siebert observes that in the last decade of the last century one could notice a global political revaluation of lifelong learning, a reality that should be understood both as a human resource and as a coping strategy (Siebert, 2001, p. 79).

Preparation for self-education must be done through the whole process of education. The factors that guide and give the character and efficiency of self-education are represented by: the level of development of self-awareness, the volitional qualities necessary to complete the proposed actions, the nature and complexity of the proposed objectives and goals, methods and procedures used. Thus, quality education is enhanced, the relevance of the current values precedes self-education, offering the educated person the direction of growth, developing the skills and abilities required by autonomous behaviour, cultivating self-confidence.

In the current context, the teacher should consider:

a) the development of skills and abilities of independent intellectual activity: use of documentation sources and design of plans of ideas, summaries, fact sheets; using an inventory of tools needed to enrich knowledge; development of tailored learning procedures; of creative strategies in solving learning tasks; of the research, observation and experimentation skills to investigate the phenomena of educational reality;

b) equipping those who learn with methods and techniques of self-awareness and self-education;

c) valuing of metacognition in the teaching activity, this having obvious and immediate implications in the accomplishment of the self-evaluation (...) It is difficult to distinctly separate the two processes, given their interpenetration (Joiţa, 2010, pp. 79-80). Teachers have the task of helping the students to become aware of their own learning approach, of their own knowledge and skills, to understand the specifications of tasks, to select their own learning strategies, to monitor their own learning, etc., in other words, to create the conditions for practising metacognitive strategies (Ştefan, 2007, p. 58).

The teaching staff should have the necessary skills to successfully fulfill their new professional roles, those of coordinators of the learning process, of designers of study programmes that aim at the mediation between guidance and autonomy in learning, of evaluators of the quality of the higher education system.

Experimenting new strategies focused on the development of cognitive flexibility, critical thinking and the assertion of metacognition, against the background of an educational context focused on self-directed learning lies at the heart of this paper.

Thus, we premise our approach on the belief that in the academic training of students, it is necessary to pursue, on the one hand, the development of self-esteem,

and, on the other hand, the creation of favourable context and organisation of the learning experience, centred on methods which require the personal effort of students, allowing them to take initiative and responsibility.

The student needs to have confidence in himself/herself and in his/her professional competences, to master the modalities and/or the tools to solve the critical, conflictual situations in order to manage the typical situations and to be able to develop solutions for the atypical ones, to master methods of self-awareness and personal growth, all these being crucial for the optimal development of the professional activity of the teacher, in which the human nature, subjective and fragile, must be known, and its mechanisms mastered (Gliga, 2002, p. 11).

In this context, the proposed model addresses two major components:

a) identification of students' educational needs;

b) design of a specific academic training programme aiming at those skills necessary to enable the students to continue his/her own training and especially to stimulate his/her motivation in this regard. The student must thus be instrumented to become the manager of his/her own learning activity: to autonomously manange the learning process, to cope with the multitude of demands and responsibilities, to be able to adapt to any situation by training the cognitive, metacognitive and self-management skills.

2.2. Theoretical assumptions

The MOTIVATED model is based on the following theoretical assumptions:

a) At the international level there is a constant concern for improving the effectiveness of educational practices at the university level, the specialists proposing various explanatory-interpretative models of academic success/failure. Most existing models are descriptive and exclusively theoretical, not being tested experimentally. Counteracting this shortcoming involves the development of conceptual models and especially their experimental testing to determine to what extent they can contribute to improving the quality of the instructional-educational process and the development of skills complying with the requirements of current social life. In the contemporary society, the learning needs of individuals are multiplying and diversifying, the teacher currently competes with various sources of learning; the emphasis is on the development of transferable skills, abilities, cognitive and metacognitive skills that will ensure subsequent access to knowledge. Educational offers are required to fit for purpose, to take into consideration individual needs, to ensure the profile of competence to meet the demands of tomorrow's society. Professionalisation of teaching requires, not only the harmonization of the dimensions of the teacher's personality in accordance with specific roles, but also a bringing to the fore of those that ensure the quality, efficiency of solutions, namely competencies. The teacher also needs to possess knowledge of different categories, alongside cognitive abilities, practical skills, affective-motivational elements, attitudes, specific abilities (Joiţa, 2007);

b) Pre-service teacher training aims at equipping the individual with the basic skills of teaching, the development of specific competencies for the practice of the

teaching profession. Păun (2002) makes the following mentions regarding the phenomenon of professionalisation of the teaching career: a process of developing a set of capacities and competences in a given field, based on the assimilation of a system of knowledge (theoretical and practical), a process deductively controlled by a model in the field. The author concludes that the essential guidelines for the professionalisation of the teaching career are largely influenced by pluralism and paradigmatic competition in education sciences, where two major paradigms - normative and interpretive - that are rather complementary than opposite ones.

The concern with ensuring a professional approach to the teaching career has been constant in the last decades in many countries. In our country we are witnessing a process of major restructuring of the professionalisation system of the teaching career, the following being obvious:

• the need to redefine the aims of training activities in a systemic vision and in terms of ensuring the balance between professional and general culture, on the one hand, and between training in the specialised scientific field and the psycho-pedagogical one, on the other hand;

• the need to connect theoretical training with the practical application of knowledge and skills in real contexts or as close as possible to the real ones;

• the need to develop digital skills.

The level at which the demands for competence, professionalism and dedication of teachers rise today triggers an immense responsibility (Delors, 2000, p. 122). The teacher is required to possess various skills:

• mastery of the subject taught, of the related knowledge and methodology;

• capacity of processing, structuring and making accessible the transferred knowledge;

• ability to train the students' specific skills in the field,

• capacity to capitalise on the formative-educational potential of the subject taught;

• ability to use effective training strategies;

• use of efficient tools for knowing the personality of the students;

• developing the capacity of students to be autonomous, to become subjects of their own development;

• identifying aspects of one's own activity that need improvement and showing interest in continuous improvement and learning from one's own and the others' experience;

• identifying ways and means of optimising one's own activity;

• reflective behaviour;

• awareness of the fact that the teaching activity also means continuous improvement;

• design and use of multiple forms of assessment of learners, with an emphasis on formative assessment and self-assessment;

• selection of and making accessible knowledge specific to the subject taught, depending on the learning abilities, needs and aspirations/interests of the students, etc.

c) The efficiency and effectiveness of teacher training systems depend on the substance of the concept on which it is based. One of the current metaparadigms in teacher training is that of focusing on the learner. In other words, the learner is placed at the very heart of the instructive-educational process, with his/her mental activity, with the trained cognitive, metacognitive and self-management strategies.

Valuing the individualisation of the student is a fundamental principle of contemporary education. Even the etymology of the term "pedagogy" ("paid" - child, agoge - "to lead") supports the focus on the individual who learns. Constructivist pedagogy focuses on the educator's intervention in the training needs of the student, so that the latter can be actively and consciously involved in the self-training process.

The construction of learning involves the training of the internal cognitive and contextual elements. Knowledge cannot ignore either the individuality of the learner or the context in which s/he finds himself.

The central role in knowledge is played by the student because s/he faces cognitive conflicts (between his/her own ideas and other ideas, between prior and new experience), formulates questions, provides answers and offers solutions, makes arguments, predictions, produces cognitive experiences. The teacher has the duty to support the student, to introduce them to scientific knowledge, to guide them, to coordinate them, to organise the environment and to facilitate their way to knowledge.

We are witnessing a construction of the very authority of the educator; the efficient teacher who seeks to develop the competence of autonomy gives up the privileges offered by normative authority, transforming himself/herself from an informant into a facilitator of self-instruction.

In other words, the current or future teacher must learn not to impose his/her authority by virtue of the status (and prestige). In this sense, s/he is asked to demonstrate cognitive, social-relational, managerial, teaching skills, s/he is asked to opt for the strategies that benefit his/her disciples.

In outlining the profile of future practitioners in the field of education, in order to develop the aforementioned capacities, we consider that the following objectives must be taken into account:

a) knowledge and assimilation (with emphasis on procedures of interpretation, argumentation, solution, transfer, reflection, on the development of critical thinking, divergent thinking, comparative analysis, etc.) theoretical approaches to the educational process, classroom language;

b) identifying and justification of the tendencies and needs of education in the Romanian system (through personal cognitive effort);

c) development of mental flexibility, the construction of elastic structures, which would allow the future practitioner to adapt quickly and efficiently to various educational settings (Ştefan, 2008, 2014);

d) de-construction and re-construction of the internalised teacher model following the traditional teaching practices;

e) development of interpersonal skills, problem solving skills, task completion based on interaction; developing empathy and understanding for colleagues and their opinions;

f) understanding, awareness of the idea that the teacher, in addition to teaching problems, faces many other challenges (class management), that s/he must fulfill multiple roles (besides that of informant);

g) the manifestation of an open attitude towards innovation, towards the new, of a receptive attitude towards the new requirements and changes in education;

h) asserting the affective-emotional side of the students' personalities, arousal of pleasure and enthusiasm in the act of learning.

To put it in a nutshell, in the current context, the aim is to train individuals capable of taking responsibility for acquiring skills. The principle of autonomy and individualisation should be the core of the design and implementation of the instructive-educational process. In this sense, we consider that the methodology that we shall focus on in our research and that underlies the proposed intervention programme, prepares the prospective teacher to become a good organizer of learning experiences by:

• stimulating cognitive flexibility so that students will become aware that many things can be seen differently (Siebert, 2001); the idea of cognitive flexibility (Spiro, 2001) brings to the fore the existing potential of the learner, the constructivist teacher having the role of determining which previous representations are necessary for the achievement of the cognitive compilation (Anderson, 1999) of knowledge;

• eliminating learning algorithms imprinted following traditional practices;

• stimulating the capacity to resolve cognitive conflicts by building the tasks and tools proposed to the students in the independent learning process;

• stimulating the students' creativity through building their own independent learning tools;

• awareness of one's own reasoning that allows for outlining ideas, beliefs;

• encouraging self-directed learning, cognitive and action autonomy in the processing and construction of meanings, in the transfer of learning products to new contexts, based on the abilities developed.

Currently, the emphasis is placed on investigating the profile of competencies specific to teachers involved in the successful adoption and assimilation of new information and communication technologies and e-learning in Romanian schools.

Digital competence is considered to be a central part of curriculum development. It represents the starting point for the development of the different dimensions of the competence itself, as well as of certain key competences and general competences as follows:

- understanding ICT innovations and making smart decisions regarding the implementation of new technologies in the training process;

- use of available resources - understanding the forms and methods of access to information sources;

- social-structural competence - understanding the social situation and producing information.

Digital competence is part of the lifelong learning competence and an obvious methodological dimension of the curriculum as a whole.

2.3. Beneficiaries

The design and implementation of the proposed model are determined by the desire and need to improve the quality of the instructional-educational process by conducting student-centred training, capacity building allowing educators to adapt quickly and autonomously to various changes, development of skills and abilities that facilitate the transition from guided learning to independent, autonomous learning.

The MOTIVATED model is intended to be a benchmark in streamlining educational practices at the university level and as such it addresses all those interested in optimising the quality of the learning process and the development of the autonomy competence.

2.4. Objectives of MOTIVATED

In designing and applying the proposed model, the objectives are:

- Identifying and analyzing students' opinions on their needs in relation to independent academic learning;
- Understanding the strategies and learning styles of students, as a premise for course design and teaching activities;
- Use of strategies and techniques to encourage learning independence, fit for purpose, for the specificities of the field of study and the peculiarities of the students;
- Changing the beliefs of students regarding the specificities and purpose of the educational process in order to trigger active, flexible learning, which goes beyond the simple transfer of knowledge;
- Articulation and operationalisation of professional values hat promote efficient, independent learning;
- Regulating and improving learning by asserting metacognition and training the skills of self-management of cognitive resources;
- Adopting a reflective-metacognitive approach to personal growth and initial professional development, including planning and continuing education (through critical analysis, reflection, self-assessment);
- Acquisition, by students, of a set of strategies, techniques, methods, procedures and self-management tools in learning that will eventually lead to autonomy.

2.5. Main lines of action

Reviewing the literature and starting from the stages naturally followed in the learning process, we consider that we should act accordingly, guiding the student in each of the stages of the programme. Admittedly:

a) The first step in the proposed model of the motivated training of students towards knowledge, is represented by the organisation of a learning environment that allows for initiative, responsible involvement, engaging in learning; contexts must be secured so as contribute to motivating students for self-directed learning; from this point of view, we found that the forms of self-directed learning in a constructivist framework, oriented mainly towards practical, real or simulated actions, strengthen/boost motivation more than the systematic variants of direct training; motivational support through the development of self-confidence is, in our view, a principle of action;

b) The second step, in our vision, aims at the direct familiarisation of the learner with the training of cognitive and metacognitive skills involved in independent learning, with the combination in training of the stages that involve self-direction and stages that are guided.

c) The third step involves learning by situating students

The stages of learning, according to Bernat (2003) are the following:

• Acquisition - the first phase, exposure to new information, followed by processing until understanding takes place;

• Internalisation - the internalisation of new knowledge and its integration to a personal, coherent system, which is built based on prior experiences;

• Modification - the third phase that involves action from the perspective of new acquisitions that, once acquired and operationalised, must be used;

• The result - the final step, the concretisation of changes in skills and behaviours.

We could add, as a natural and absolutely necessary stage, the monitoring of learning, in other words, the reflection on the pathways, on the difficulties encountered, on the manner in which self-regulation was or will be achieved later.

By knowing and being aware of these stages, the student can reach the development and use of autonomy. In other words, the student must be taught how to develop effective learning and learning management skills, how to develop a positive attitude towards himself/herself and towards learning, namely:

• how to set learning goals;

• how to gather, select and process information;

• how to effectively internalise information, how to build new knowledge;

• how to be aware of one's own cognitive approach and progress;

• how to identify the factors that determine success or failure in learning;

• how to find the rules of effective learning;

• how to evaluate the results;

• how to use, apply new knowledge, how to transfer new skills and behaviours to other learning situations.

3. Conclusions

The teaching activities focused on the training of students-prospective teachers embed, in our opinion, at least two correlated dimensions:

a) a conceptual-attitudinal one which consists in updating the beliefs in accordance with the current theories and models of taeching action;

b) a pragmatic-instrumental one aimed at using some skills, abilities, capacities to solve various problems, to adapt to various situations, to intervene effectively in order to achieve the proposed objectives, to self-regulate one's own learning process.

The model emerging from the collected data and their interpretation highlights that learning is a complex process and as such must be approached holistically, it is the result of a laborious approach to building multiple interpretations (based on personal effort, study and individual reflection, or by collaboration, social interaction). The model underpins the cognitive-constructivist paradigm and can be a point of reflection on the development of new practices in the current context of training.

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