LEARNING EFFECTIVELY IN THE REAL AND VIRTUAL CLASSROOM*

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10.52846/AUCPP.2023.2suppl.15

Abstract

The present study aims to draw attention to a possible systemic model of academic learning. The objectives pursued were:

a) investigating the opinion of students-future teachers regarding the academic learning process;

b) building and applying an experimental program focused on the development of academic learning competence;

c) conducting an opinion poll regarding the role of the experimental Program.

The experimental program designed and applied, based on a holistic approach to learning, had in mind the following directions: a) motivational-attitudinal support; b) action at the cognitive and metacognitive level; c) practicing the skills and affirming the desirable behavior, more precisely, putting the students in a situation. The research undertaken allowed us to collect data that we then subjected to quantitative and qualitative analysis. Following the results obtained, we were able to formulate directions regarding the development of students' competence to learn effectively.

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

1. Introduction

The initial professionalization of teaching staff must be carried out from the perspective of training and practicing the essential skills and roles for an effective teacher, who must be able to manage all instructional-educational, managerial situations in the class of students.

The students-future teachers must affirm and develop a series of cognitive, affective-motivational capacities and personality traits that will allow them to carry

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out effective teaching activities, to fulfill their proposed objectives and to have very good results.

To become a professional in any field, even more so in the field of education, the student needs to learn to learn. The competence to learn to learn is one of the eight key European competences.

The competence to learn to learn refers to the ability to get involved and persevere in learning, to organize one's own learning, efficiently managing time and information, both individually and in a group. The competence to learn to learn includes the awareness of the process and individual learning needs, the identification of existing opportunities and the ability to overcome obstacles that may arise, in order to achieve successful learning.

"The key competencies specific to effective intellectual work at the academic level are defined and understood as packages of knowledge, skills, abilities and attitudes that students and graduates of higher education need to ensure their academic success, for personal development, for employment and further insertion on the labor market (Neacșu, 2006, p. 8)".

These key skills allow the graduate to adapt flexibly and quickly to any context or change.

The key competence status of the competence to learn to learn is based mainly on three considerations (Rychen, Salganik, 2003, pp. 66 – 67):

a) the ability to learn to learn is a highly valued result at the societal and individual levels, being associated with the ideas of "well-functioning society" and "successful life";

b) it is a tool that allows providing answers to the complex and important requirements of a wide spectrum of contexts;

c) it is an important competence for all individuals.

2. Academic learning competence - characteristics, structure

The definitions given to the term competence in the psychopedagogical literature are numerous and not exactly clarifying; most of these definitions do not specify the differences between this concept and others that are part of the same notional sphere (for example ability, capacity) or replace the term competence with that of capacity and vice versa (Mogonea, 2014).

The more extensive definitions given to the term competence have in mind an integrated set of knowledge, abilities, attitudes practiced in different situations, which involves the mobilization of internal and external resources and adaptation to the context of concrete and authentic experience.

Among the characteristics of competence can be mentioned (Ștefan, 2014, p. 21):

- it is integrative: competence implies the integrated use of knowledge, skills, abilities, various attitudes;
- represents the result, the end of the training cycle: a competence requires training time;

- refers to an implementation context; a competence is certified when applying (combined) different knowledge, skills, attitudes that a person has at a given time, in a specific context;
- is a construction or reconstruction system; it develops and can be lost if it is not mobilized for a long time.

In the psycho-pedagogical literature, some authors (Neacșu, 2010), approach learning specific to the university environment/academic study as a processual activity, progressive gradient, carried out by human actors, with an individual rhythm in a defined social-value environment, through the conscious mediation of of educational efforts to achieve some goals - cognitive, psychomotor, affective-emotional and motivational-educational results having characteristics of reversibility, (re)construction and improvement.

Studies (Baker *et al.,* 2019; Blayone *et al*., 2018; Du *et al.,* 2019) emphasize the importance of skills necessary to learn effectively: motivation, perceived usefulness, self-regulation, confidence, communication skills, critical thinking etc.

In summary, academic learning represents:

a) a directed and self-directed sociocultural and psychopedagogical project of intensive assimilation of what is planned in the curricular documents – study plan, curriculum, textbooks, support materials, etc. (Neacșu, 2014, pp. 548-549);

b) a system of systematic activities aimed at the assimilation of curricular values - competences (knowledge, skills, values, experiences, attitudes).

Table 1. The structure of academic learning competence

Knowledge	Skills and Capabilities	Attitudes
Knowing the stages included in the learning process	Planning and organizing the learning process	Initiative to learn, intrinsic motivation for learning
Knowing the resources involved in the learning process	Regarding the development of the learning process	Openness to new things, adaptability and flexibility
Knowing the factors that condition and optimize learning	Self-evaluation and valorization of learning results	Confidence in oneself, in the ability to be successful
Knowledge of effective learning methods	Metacogniţion	Autonomy, perseverance

All the components included in the table work integratedly, they give meaning to the competence only through their unitary action, if "it exists and manifests itself separately, it does not ensure the successful completion of the activity. That is why competence can be determined in concrete situations (Frăsineanu, 2012, p. 94).

Competences represent "the result of a long process, they are formed gradually, and the basis of their formation is the previous experience of the students, experience that must be updated within the didactic activities (Popescu, 2014, p. 55)".

We consider motivation and confidence to be crucial for learning competence, in the context of personal and professional self-development management.

More recent studies (Sung, 2016, pp. 252-275) highlight the effects of ICT integration on performance in the learning process. The context of digital devices enable learners to exploit information from online environments, record and act on the data needed to solve their learning problems. Integrating learning in diverse environments is recommended (Tan, 2007, pp. 253-269), and other studies (Sing, 2012, pp. 93-98) compare student achievement in a virtual environment with student achievement in a classroom environment face to face.

Academic learning, approached from the perspective of the skills paradigm, includes cognitive, metacognitive and emotional factors.

Cognitive strategies are a basic objective of the training and have in mind the planning of training sequences so that those who learn perfect this category of strategies (reception, encoding of verbal information, storage and retrieval). JW Rigney (apud Negovan, 2004) states that "the instructional system can be designed in such a way as to help pupils/students to become aware that they do, in fact, have cognitive strategies and thereby facilitate their subsequent use of these strategies" (Negovan, 2004).

Capitalizing on metacognition (Zhao, Wardeska, McGuire, Cook, 2014, pp. 48-54, Mogonea, 2014), of personal reflection (Mogonea and Ștefan, 2014) represents another condition for ensuring success in academic learning, for overcoming cognitive conflicts and socio-cognitive (Mogonea & Popescu, 2015).

Non-cognitive factors should not be neglected either, such as self-confidence or the emotions involved in the learning process.

The training and development of metacognition favors the awareness of one's own cognitive approach, of one's own chained actions during independent study, ensures the identification of one's own difficulties encountered and one's own mistakes made, allows the achievement of self-control, self-regulation of the activity undertaken by students.

Metacognition has a decisive role in the realization of self-monitoring of one's own knowledge-building activity, in the realization of self-evaluation and implicitly in the restructuring of the reaction to oneself, based on the recorded results.

3. Holistic approach to learning – an experimental program

3.1. Research objectives

Our research set out the following two objectives:

a) investigating the opinion of students-future teachers regarding the academic learning process;

b) building and applying an experimental program focused on the development of academic learning competence;

c) carrying out an opinion survey regarding the role of the experimental Program focused on the development of academic learning competence in the training of students-future professionals in the field of education.

3.2. The sample and methods of the investigation

The sample of our study included 68 students, from the Faculty of Law, who are in the third year of the pedagogical path of initial training (level I), from the Department for Teaching Staff Training, University of Craiova.

The methods used for data collection were the questionnaire-based survey, the focus-group interview.

The questionnaire, addressed to the 68 subjects, was made up of 11 items, both open and closed.

As a structure, the constructed questionnaire followed two dimensions:

a) the academic learning process, from the perspective of students-future teachers (items 3, 4, 5, 8, 11);

b) self-evaluation of the capacities involved in the (self)learning process, formed as a result of completing the Experiential Program (items 6, 7, 9, 10).

The first two items of the questionnaire had the role of "breaking the ice" between the subjects and the interviewer, to make the transition to the questions related to the academic learning process.

Items 3, 4, 5, 8 and 11 of the questionnaire asked the students to place their opinion on an abstract scale, marked with numerical values from 1 to 5, (the lexical meaning assigned to the items being "not at all", "to a very small extent ", "to a small extent", "to a large extent", "to a very large extent") or from 1 to 4 ("poor", "medium", "good", "very good"), against a series of aspects raised by the learning process: essence - awareness of the path taken in one's own academic learning process; the reasons why the student learns; the methods and techniques used in the individual study; the difficulties encountered, the strategies to overcome the obstacles; proposals of the students for the development effective academic learning skills.

The other 4 items investigated the subjects' opinion regarding the role of the experimental Program focused on the development of academic learning competence in the training of future education professionals.

In order to highlight the reserved attitude of the students towards the aspects mentioned above, as well as to avoid the appearance of non-answers, I considered it necessary to introduce two more steps in the scale: "I don't know/can't appreciate", "I don't answer".

Another method of gathering information that we used was the focus group, used with the aim of identifying the perception of the students who participated in the activities carried out within the experimental program.

The working tool used to conduct the focus group was the interview guide. In the interview guide, the questions were ordered logically, starting with more general questions and continuing with specific, detailed questions.

The interview guide consisted of 8 questions, as follows:

- an opening question, to create a relaxed, trusting atmosphere between the subjects and the interviewer;
- a transition question that has the role of directing the discussion towards the questions related to the creation of a "portrait" of the effective/inefficient teaching staff;

- five key questions regarding the activities in which they participated, within the experimental program, with an emphasis on the difficulties encountered, suggestions, proposals regarding the organization and further development of similar activities;
- a closing question designed to highlight aspects that were not captured by the previous questions.

3.3. Presentation of the experimetal program

Overcoming the stage where training aims to teach pupils/students cognitive strategies is evident in the fact that a series of programs have been developed to stimulate self-motivated learning, school (self)discipline, independent learning, assuming roles (Neacșu, 2006, p. 8).

One of the objectives pursued in our investigation, more precisely the second objective, was: the construction and application of an experimental program focused on the development of academic learning competence. We present this program in the following.

The complexity of competence being given by the coexistence of its components - knowledge, abilities, skills, attitudes, which aim to achieve performance in a certain activity, we have identified, within each component, a series of aspects that we consider essential in the development and affirmation students' competence for effective learning.

The experimental program designed and applied in the direction of the holistic approach to learning had the following directions in mind:

a) action at the level of non-cognitive factors;

b) action at the cognitive and metacognitive level.

Regarding the non-cognitive dimension, our approach focused on:

- Stimulation of intrinsic motivation;
- Developing an attitude of openness to new things, adaptability and flexibility;
- Positive influencing of convictions and beliefs about oneself, increasing self-confidence.

Action at the (meta)cognitive level focused on the following objectives:

- Listening attentively to the courses;
- Organized note-taking;
- Active involvement in the didactic activity (identifying key words from a text; formulating questions; outlining some hypotheses; synthesizing main ideas; developing cognitive maps; reflecting on the learning process, etc.);
- Processing and schematizing notes;
- Additional documentation;
- Creating and applying a learning plan (self-direction);
- Elaboration, by the subjects in the sample, throughout the experimental program, of personal reflections.

3.4. Data analysis, processing and interpretation

To achieve the first objective pursued - the investigation of the opinion of students-future teachers regarding the academic learning process, we built and applied a questionnaire.

The first aspect pursued (item 3) was the identification of the subjects' perception of learning. We found that most of the sample subjects changed their perception of the learning process, in the sense that 68% of the students understood that learning is not reduced to memorization, but is a process that involves going through several steps: reception - appropriation, linking - storage in memory, fixation correction, updating/conscious reproduction - application, transfer, innovation.

The subjects also admitted during the focus-group interview, that at the beginning of the experimental program they were not aware of the path taken in their own academic learning process.

Regarding the reasons why the student studies (item 4), the data recorded after the applied questionnaire showed that 51% of the student subjects study to have a successful career.

Table 2. The reasons why the student learns

The reasons why the student learns	Percentage
a) for his/her own professional training/successful career	23%
b) for his/her own personal development	21%
c) for grades	20%
d) for the attractiveness of the discipline/field	18%
e) the teacher's teaching style	18 %

Among the methods and techniques of individual study (item 5), students mention: a) reading notes (28%); b) consulting bibliographic recommendations (15%); e) creating summaries/plans of ideas (12%); f) development of schemes (5%); g) surfing the Internet (22%); h) carrying out tasks/applicative works (18%). Below we present the mentioned answers (table 3, figure 1):

Table 3. Methods and techniques for individual study

Methods and techniques for individual study	Percentage
a) reading the notes, materials presented/posted by the teacher	21%
b) elaboration of summaries/plans of ideas	19%
c) carrying out tasks/applicative works	19%
d) drawing up schemes	16%
e) self-initiated search for additional information/browsing on the Internet	15%
f) consulting bibliographic recommendations	10%

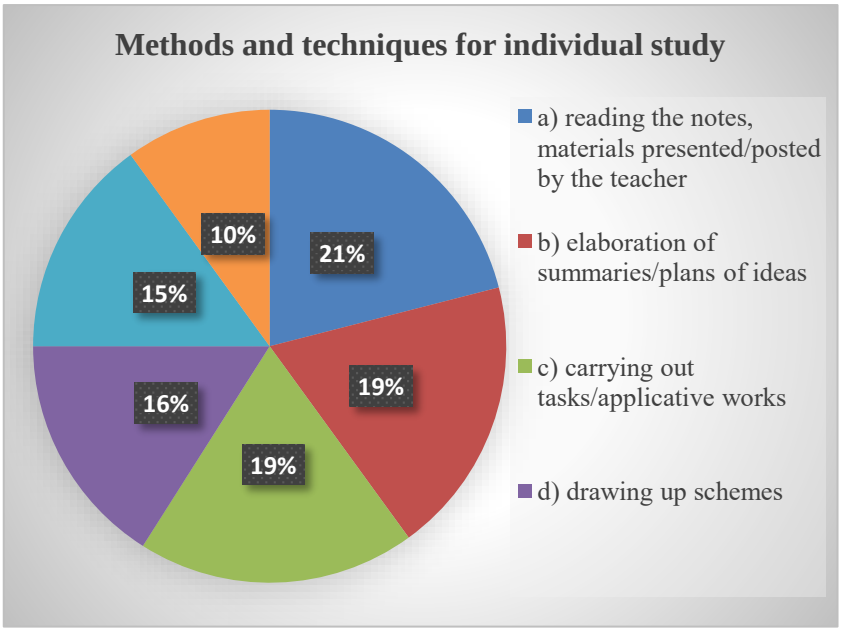

Figure 1. Methods and techniques for individual study

The applied questionnaire was also useful in identifying the difficulties that students often encounter in learning - item 8 of the questionnaire (see table 4):

Table 4. Difficulties encountered by students in learning

REAL CLASS	***VIRTUAL CLASS***
Organizing notes during class activity	Identifying and organizing resources
-	Difficult interaction
Searching and completing some information/notes from the class	-
Systematization, organization / schematization of information	Processing, understanding information
Managing negative feelings (fear of answering, lack of validation, envy, low self-confidence)	Managing negative feelings (anxiety, frustration, low self-confidence, depression)
-	Simulating the "teaching" of sequences of didactic activities
Completion of tasks/applicative works	Completion of tasks/applicative works
-	Difficult involvement in debates on various topics

Regarding the proposals that the subjects outlined for the purpose of facilitating and developing academic learning skills (item 11), we highlight the most frequently encountered in the inventory lists (table 5):

Table 5. Student proposals for the purpose of training effective academic learning skills

Student proposals for the development of effective learning skills	a) establishing clear objectives in learning
	b) completing information from several works/sources
	c) synthesizing knowledge with the help of graphic organizers (schemes, cognitive maps, diagrams, tables, etc.); practicing, within the didactic activities, how to make such instruments
	d) d) allocating time for the sedimentation/deepening of what has been appropriated
	e) positive attitude of teaching staff, trust invested in the student and counseling given in order to develop self-esteem

The third objective pursued was the investigation of the subjects' opinion regarding the role of the experimental Program focused on the development of academic learning competence in the training of future professionals in education. We present the obtained results below:

Item 6 asked subjects to identify 5 competencies that they would include in the desirable teacher profile. We present, in table no. 6, the competencies identified as elements of the portrait of the ideal teacher, but also the subjects' assessments of the competencies developed by the Experimental Program (item 7):

Table 6. Competencies of the ideal teacher

	Competencies of the ideal teacher	Frequency	Percentage
1.	Communication competence	22	32.25
2.	The competence to use some interactive methods	18	26.47
3.	The competence to use digital means	11	16.17
4.	Competence of stimulating students' curiosity/interest	10	14.70
5.	Objective assessment competence	7	10.29

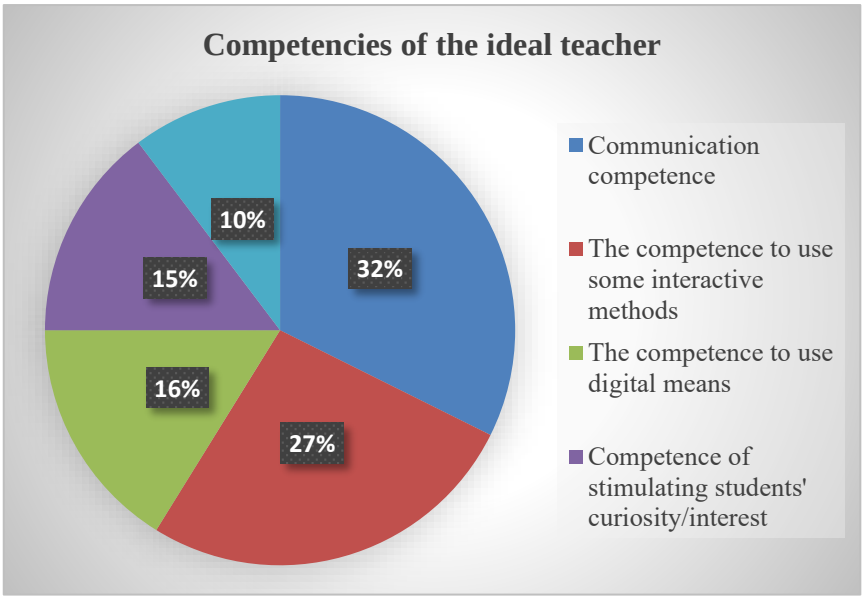

Figure 2. Competencies of the ideal teacher

The data in the table 6 and figure 2, show that among the competencies identified as elements of the portrait of the ideal teacher, the subjects considered that the best developed by the program were: communication competence – 22 subjects (32.25%); the competence to use some interactive methods – 18 subjects (26.47%); the competence to use digital means (16.17%).

Item 9 asked subjects to identify 10 personality traits that they would include in the profile of their ideal teacher. We present, in table no. 10, with the related graphic representation (figure 2), the ranking of the 5 most appreciated personality traits, as resulted from data processing:

Table 7. Personality traits of the ideal teacher

	Personality traits of the ideal teacher	Frequency	Percentage
1.	Pedagogical tact	16	23.53
2.	Empathy, understanding	15	22.06
3.	Respect for students	15	22.06
4.	Fairness, objectivity	12	17.65
5.	Professional training	5	7.35
6.	Responsibility	5	7.35

Among the listed personality traits, the subjects had the task, in item 10, to choose 3 that they believe they have developed, following the experimental Program. The results demonstrate that students primarily appreciate the pedagogical tact - 16 subjects (23.53%); in second place, with the same frequency, is teachers' empathy and respect for students - 15 subjects (22.06%); followed by fairness - 12 subjects

(17.65%) and on the last two places, professional training and responsibility - 5 subjects (7.35%).

It is observed that the subjects in the sample first appreciate aspects related to the teacher's personality, his human qualities, and only then focus on traits related to the professional side, to his psycho-pedagogical training.

4. Conclusions

All the theoretical and practical aspects presented, as well as the x-ray of the current situation by identifying these student opinions, had the role of indicating the directions we can follow in the initial training of students-future teachers:

a) students need the theoretical presentation and explanation of the essence and specifics of academic learning in order to be aware of and optimize their own learning;

b) non-cognitive factors should not be neglected, both regarding students (intrinsic motivation for learning; openness to new things, adaptability and flexibility) and teachers (pedagogical tact, empathy, respect for students, etc.) ;

c) the student's attitude towards their own development is very important: we believe that it is necessary for students to have confidence in themselves, in the ability to be successful, this being the first step towards initiative, perseverance, autonomy;

d) stimulating the student's motivation through the development of self-esteem is an effective strategy in the activity with students;

e) the choice of teaching-learning strategies must challenge the students to be aware of their own cognitive approach, to reflect critically on the steps taken and the difficulties encountered in learning, to identify the strengths and weaknesses in this regard.

The collected and interpreted data show that the implementation of an experimental program focused on the holistic approach to learning in the university environment can lead to a correct perception of the learning process, on the one hand, and on the other hand, to the optimization of the instructional-educational activity and to the gradual affirmation of students' autonomy in learning.

To stimulate students' interest, motivation, active involvement, we recommend that during online teaching-learning:

• students should be encouraged to have a critical attitude, to ask questions when they do not understand something; in addition, to be guided in seeking answers to questions when they realize that they do not understand something; in other words, to be taught to think critically, even in the online environment, and to learn how to learn;

• the call for various exercises, applied tasks, putting students in situations (solving the respective situation/problem, questions and reflections, problems;

• affective involvement by expressing interest, passion; communication must be accompanied by experience, on the one hand, to determine experiences;

We present in the figure below, the main motivational situations that can lead to effective communication:

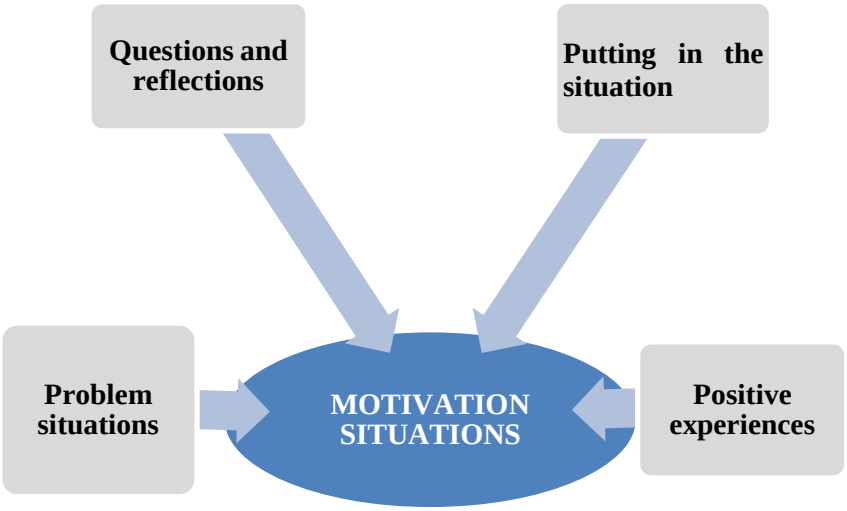

Figure 3. Motivational situations for effective communication

An effective speech must emphasize both the logic of arguments, rigorous organization, and affective aspects. A favorable, warm and harmonious atmosphere created during the educational act helps to prevent difficulties and demotivation of students. Both cognitive-rational and non-cognitive aspects (focused on emotion, affectivity) are important in making communication more efficient.

Being an effective educator means being well prepared for the effort (Caprara, Caprara, 2022), requires a certain level of social-emotional development; qualities such as resilience, flexibility and positivity (Lee & Oh, 2017) made it possible for students to survive the transition from the physical classroom to the virtual learning space (Crea & Sparnon, 2017; Gibson & Smith, 2018; Jena, 2016).

As directions for action, for building a positive instructional climate, we recommend:

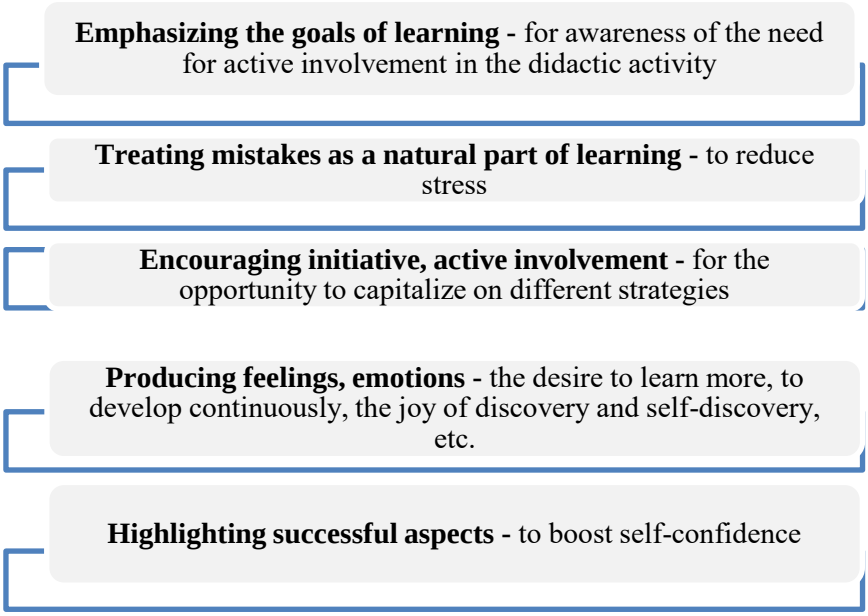

Figure 4. Directions for building a positive instructional climate

The collected and interpreted data show that the implementation of an experimental program focused on the holistic approach to learning in the university environment can lead to a correct perception of the learning process, on the one hand, and on the other hand, to the optimization of the instructional-educational activity and to the gradual affirmation of students' autonomy in learning.

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