RESEARCH LABORATORY/ LABORATOIRE DE RECHERCHE

THE INVESTIGATION OF THE RELATIONSHIP BETWEEN THE MOTIVATION AND PRE-ADOLESCENTS´ PREFERENTIAL LEARNING STYLE - AN OPTIMIZATION CONDITION OF THE EDUCATIONAL PROCESS

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Abstract

The article highlights the relationship between motivation for learning and preferential learning style at the age of preadolescence. The experimental data on the motivation for learning, preferential pre-adolescent learning style, the results obtained on the correlation between the motivation for learning and the preferential learning style of the pupils in the gymnasium are presented.

Key words: *Motivation, Motivation for learning, Reasons, Preferential learning style, Preadolescence age, Correlation.*

1. Introduction

The reflection on the pupils´ learning process is now a challenge for any teacher, on the one hand, due to the increasingly persistent need to identify ways of efficient management of the teaching process, and on the other hand due to the task that the society asks from the school, namely that of forming learners able to adapt permanently, of assuming responsibilities, of contributing to the improvement of the social life. In this context, the teacher is called upon to continuously resize his roles and hypostases, to manifest an open behavior and a positive, activating and reflexive attitude, promoting interactive learning and stimulating the pupils´ full potential. Under these circumstances, it becomes obvious that learning planning must take into account the pupils´ individual learning peculiarities (Cristea, 1998, p. 83).

Knowing their students better, teachers can really come to their support in the learning process. Understanding the individuality of each pupil supports both the design stage and the efficient achievement of the didactic approach.

Correct and accurate individual information about pupils' development and learning peculiarities offers the possibility of encouraging and supporting the pupils according to their specific learning needs, but also adapting personalized solutions to motivate the pupils to achieve better school results.

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2. Conceptual landmarks

Golu (2000, p. 476) states: "Through the term of *motivation* we define a specific structural-functional component of the human psychic system, which reflects a state of necessity in a broad sense, and by that of reason we express the actual concrete form in which such a state of necessity is activated and manifested. Thus, through *reason* we will understand that reason that is at the basis of a behavior or a concrete action". Under the effect of internal or external stimuli, the motives bring the individual into action and support his activity for a while, despite the obstacles that may arise. They can also make the learner pursue one purpose or another and establish a certain hierarchy between possible purposes.

Cosmovici (2005, p. 199) argues that "...motivation includes all the motives that animate the human behavior. One reason is a psychic structure, leading to the orientation, initiation and adjustment of actions towards a more or less specified purpose. Reasons are the causes of our conduct, more precisely the internal causes of our behavior".

Through the learning motivation, Albu (2009) designates the totality of reasons that trigger and enhance the learning activity. The motives for learning are the basic needs of self-realization, affirmation through school /paraschool success, then the impulse of curiosity; the desire to get good grades to meet the parents´ or to be among the class' award winners; fear of punishment or failure, certain interests, professional choices, etc., thus, the reason is the one that activates, mobilizes and regulates the behavior of those involved in the training process.

In the school context, the motivation is the process that leads, guides and maintains a certain behavior desirable to the pupil´s status: attending classes, engaging in classroom and home learning activities, successfully solving tasks, etc. Without motivation, of any kind, a person does not engage (or does not get involved) in conducting an action. This simple phrase contains in itself one of the most important - and often underestimated - aspects of learning and school success: in order to be successful at school, especially to ensure the efficiency of learning, it is necessary to have an optimal level of motivation for the involvement in such activities (Popenici, Fartuşnic, 2009, p. 9).

The key to the pupils´ active involvement in learning is to understand the preferences for learning, the learning style, with positive or negative influences on pupils' performance (Birkin & Rodman, 1995, Dewar, 1995, Hartman, 1995, apud Marcinschi, 2005, p. 67).

Bernat (2003, p. 216) considers that learning styles are a particular form of cognitive styles, which represent a person's preference for the information processing mechanism and describe his particular way of thinking, memorizing and solving problems. It is also a personality dimension that influences attitudes, values and social interaction, and refers to a certain event approach that can be global or analytical.

Grasha (2002) states that learning styles are defined as personal arrangements that influence the pupil's ability to acquire information, interact with colleagues and teachers, and participate in learning experiences. These personal arrangements are

materialized in motives, perceptual capacities, modalities of information processing, preferences for a certain sensory modality, social relations and the characteristics of the physical environment (apud Grigore, Macri, 2011, p. 73).

Starting from the idea that learning styles refer to the particular way in which a person, on the one hand, perceives the information and, on the other hand, processes the information, the learning styles are classified according to the level they are placed on.

At the perceptual level, three preferential learning styles are distinguished: *visual* (pupils learn by seeing printed or graphic materials), *auditory* (pupils learn best by listening and conversation), *kinesthetic* (pupils learn by touching objects, by matter sensory perception or by using hands and fingers). This is the simplest and most common way to identify different learning styles and it is commonly called the *VAK* (visual, auditory, kinesthetic) *model*.

On the one hand, the motivation for learning influences the learning process itself, and implicitly the results of this process. On the other hand, the effective learning takes place when the teacher is able to discover pupils' strengths and build on their ability to learn in a wide range of styles. For this to happen, the teacher has to recognize the pupils preferential learning styles, which contributes to the optimization of the choice of the didactic methodology, thus, creating learning opportunities through a variety of teaching strategies. In turn, the pupils who know their learning style are more engaged in the learning process, trust themselves, feel more independent.

3. Experimental design

Problem of research: identifying the interdependence relation between the motivation for learning and the pupils´ preferential learning style in the gymnasium.

The object of the research is the relation between the motivation and the preferential style of learning of the gymnasium pupils.

The aim of the research is the theoretical substantiation and the experimental verification of the correlation between the motivation for learning and the preferential learning style of the gymnasium pupils.

Investigation hypotheses:

1. There is a correlation between the motivation for learning at the age of preadolescence and the preferential learning style.

2. The high level of motivation for learning correlates significantly, at a high level of intensity, with the preferential kinesthetic learning style of the pupils from the gymnasium education.

3. The level of motivation for learning at the age of preadolescence is higher at girls than at boys.

Objectives of the research:

1. Determination of the theoretical bases of the motivation for learning and of the preferential learning style of the gymnasium pupils.

2. Selection of the methods for the research of the level of motivation for learning and identification of the preferential learning style of the pupils in gymnasium.

3. Diagnosing the level of motivation for learning and the preferential learning style of the gymnasium pupils.
4. Determination of the correlation between the motivation for learning and the preferential learning style of the pupils in gymnasium.
5. Deduction of conclusions and recommendations.

Methodology of the research aimed at applying *the theoretical methods*: analysis, synthesis, comparison, generalization, systematization of psychological and pedagogical concepts; *experimental methods*: psycho-pedagogical experiment; *empirical methods*: conversation, questioning, testing; *methods of data interpretation*: mathematical, graphic and statistical processing of experimental results.

The experimental actions were performed on a group of 50 pupils, 9th grade pupils, with the age of 15-16 years.

During the investigation, the level of motivation for learning at the preadolescents was diagnosed with two tools:
1. Methodology of studying the motivation for learning of middle-aged pupils, according to Ginzburg;
2. Questionnaire on pupils' motivational profile, according to Viau (2004), adapted by Popenici, Fartuşnic (2009).

In order to identify the pupils´ preferential style of learning in gymnasium, there were selected the following tools:
1. Questionnaire on preferential learning style according to Turnbull (2007), adapted by Popenici, Fartuşnic (2009);
2. VAK (Auditive, Visual, Kinesthetic) questionnaire on learning style, according to Macri & Grigore (2011);
3. VAK questionnaire, according to Dumitru (2011).

4. Research results

Following the processing of the experimental data obtained through the application of the Methodology "Studying the motivation of learning to middle school pupils" by Ginzburg, we placed the pupils on levels of motivation for learning.

Level I - a very high level of motivation for learning - was identified at 26 pupils (52%); Level II - high level of motivation for learning - was found at 21 pupils (42%).

The processing and interpretation of the experimental data allowed the diagnosis of the third level - average of development of the motivation for learning - at 3 pupils (6%). At the same time, the processing of experimental data revealed that no preadolescent was found at the lower level of development of the motivation for learning.

As the result of the analysis of experimental data, we identified the reasons that make the preadolescents manifest motivation for learning.
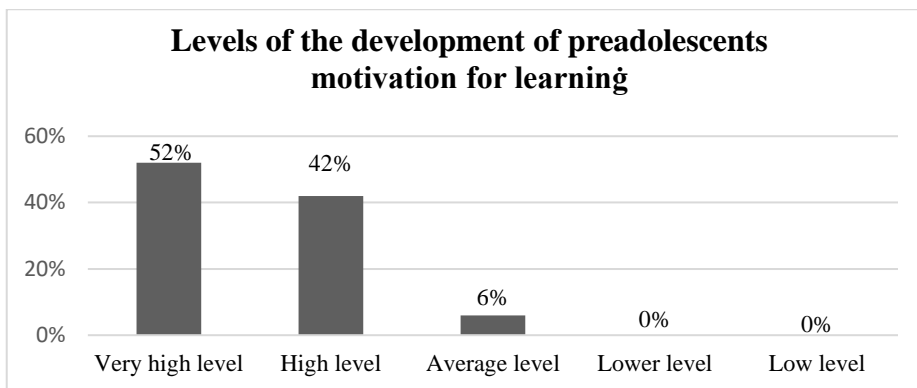
Figure no. 1. The level of the development of pre-adolescents´ motivation for learning after the Methodology "Studying the motivation of learning to middle school pupils" by Ginzburg

From the total number of 50 pupils of average school age, the external reason was assigned to 3.3% of preadolescents; the playfulness motive - 0.7%; reason for obtaining the mark - 11%; position / status reason - 50.6%; social reason - 8.5%; the school motive - 25.9%.
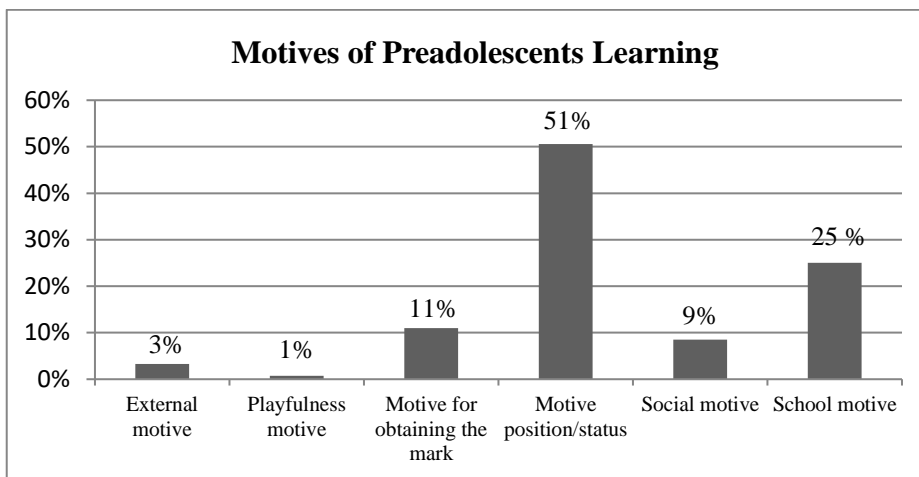
Figure no. 2. The preadolescents' reasons for the motivation for learning after the Methodology "Studying the motivation of learning to middle school pupils" by Ginzburg

Following the processing of the results obtained after the application of the Questionnaire on the pupils´ motivational profile by Fartuşnic & Popenici we placed the pupils on three levels of motivation for learning as follows: Level I - very high (coefficient 4-5) was identified at 23 pupils (46%); level II - high (coefficient 3-4)

was determined at 23 pupils (46%) and level III - average (coefficient 2-3) was identified at 4 pupils (8%).
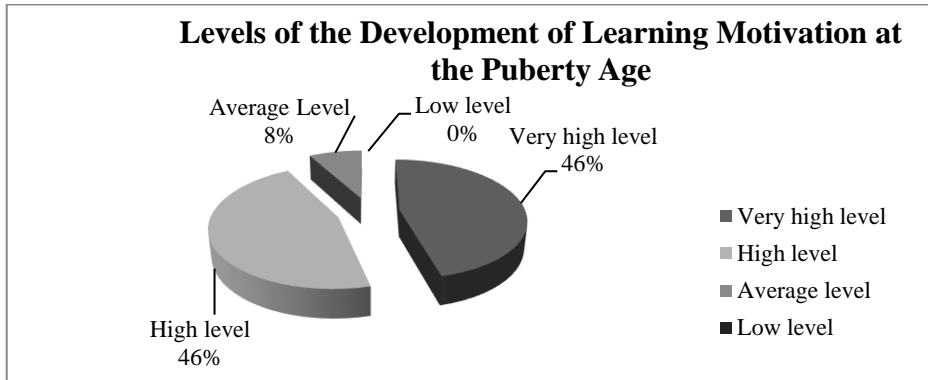
Figure no. 3. The level of motivation for learning at pre-adolescents after the Questionnaire on the pupils´ motivational profile by Viau, adapted by Popenici, Fartuşnic

We have also researched the level of motivation for learning of gymnasium pupils according to the pupils' gender. In this respect, it was formulated hypothesis no. 3. The level of motivation for learning at the age of preadolescence is higher at girls than at boys.
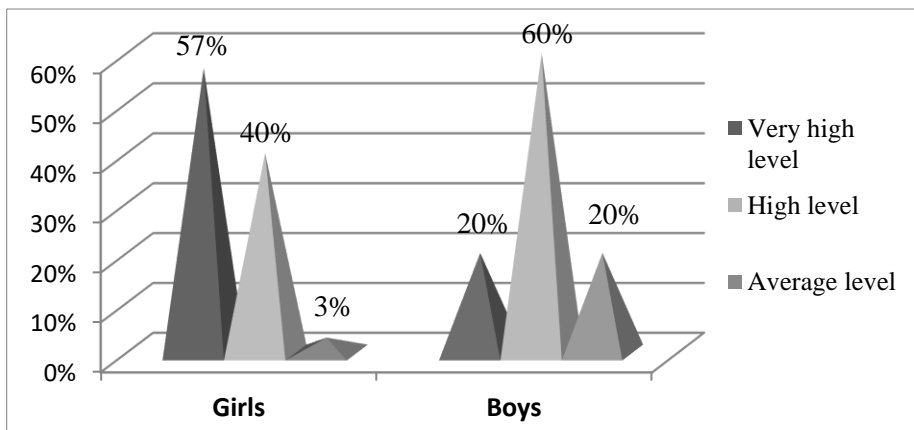
Figure no. 4. The distribution of preadolescents by the level of motivation for learning according to gender

The processing and interpretation of experimental data revealed that 20 girls (57%) and 3 boys (20%) show a very high level of motivation for learning from the total number of 35 girls and 15 boys.

The high level of motivation for learning was identified at 14 girls (40%) and 9 boys (60%).

One girl (3%) and 3 boys (20%) have an average level of motivation for learning.

The low level of motivation for learning was not determined in any of the categories of preadolescents. *In conclusion*, the hypothesis that the level of motivation for learning at the age of preadolescence is higher at girls than at boys has been partially confirmed.

The preference for didactic strategies focusing on auditory style was identified at 13 students (26%). The preference for the didactic strategies focusing on the visual style is limited to only 1 pupil (2%).
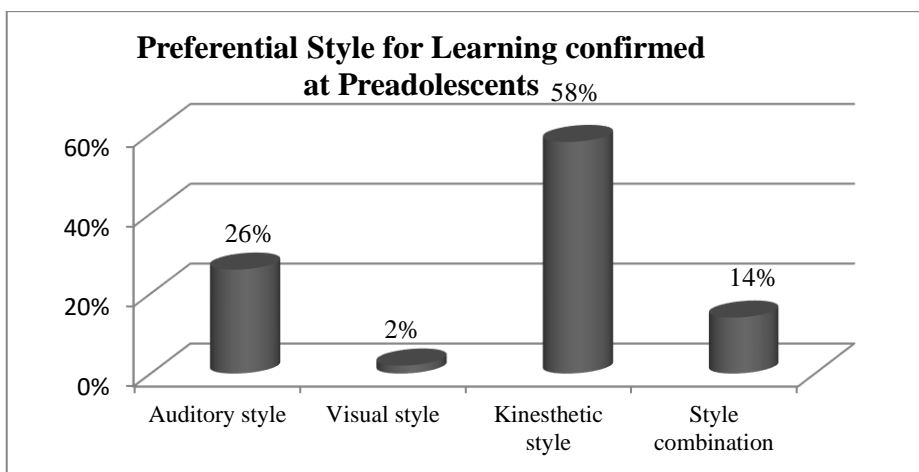
Figure no. 5. Preferential learning style of the middle-aged pupils identified as a result of the application of the Questionnaire on the Preferential Style Learning according to Turnbull, adapted by Popenici, Fartuşnic

The preference for didactic strategies emphasizing kinesthetic style was identified at 29 pupils (58%).

At the same time, we found that there is a number of 7 pupils (14%) who have the preference for didactic strategies that emphasize the combination of two learning styles.

Preferential Learning Style atested at Preadolescents
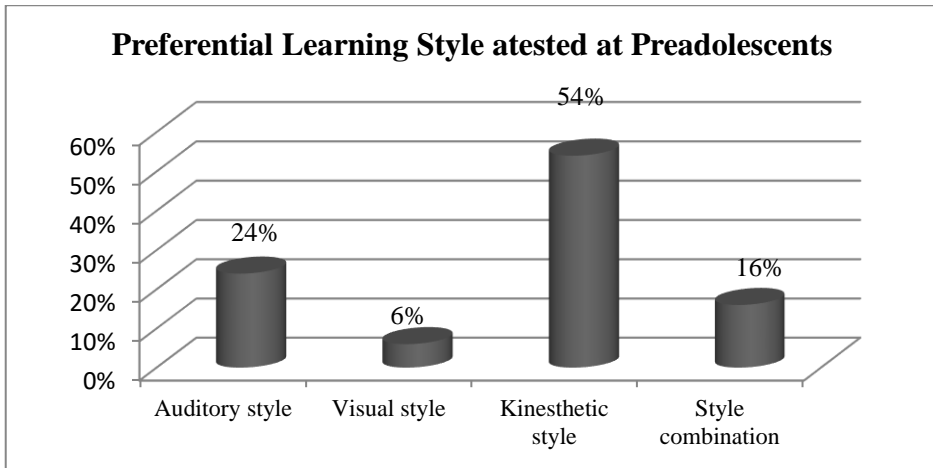
Figure no. 6. Preferential Learning Style of Preadolescents according to the VAK (Auditory, Visual, Kinesthetic) Questionnaire on Learning Style (according to Macri & Grigore)

Applying the Macri & Grigore VAK (Auditory, Visual, Kinesthetic) Questionnaire on learning style has made it possible to identify the preferential auditory learning style at 12 pupils (24%); the preferential visual learning style was determined at 3 pupils (6%); the preferential kinesthetic learning style was found at 27 preadolescents (54%). There is also a combination of two learning styles at 8 pupils (16%).

Preferential Learning Style at Preadolescents
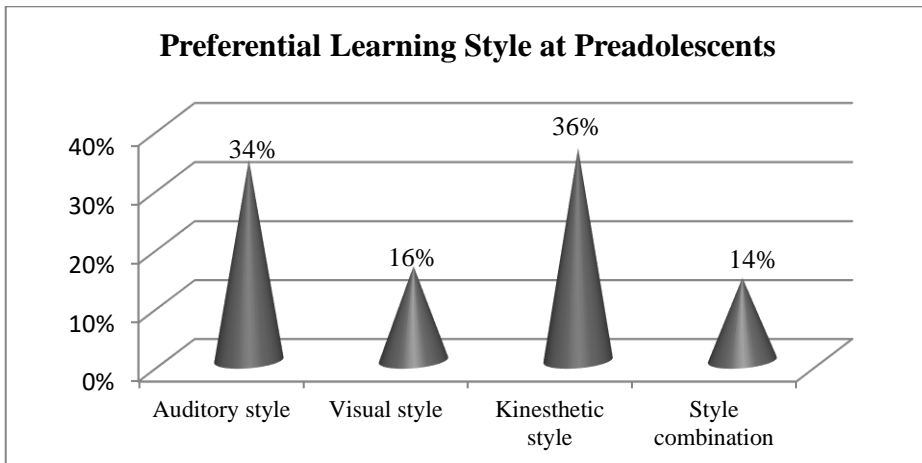
Figure no. 7. Preferential learning style at middle-aged pupils according to the VAK Questionnaire, by Dumitru

The processing and interpretation of the experimental data obtained by applying the VAK Questionnaire by Dumitru made it possible to find out that 17 pupils (34%) have a preferential auditory learning style. The preferential visual learning style was diagnosed at 8 pupils (16%). The preferential kinesthetic learning was identified at 18 pupils (36%). The combination of two preferential learning styles is found at 7 pupils (14%) of the total number of 50 pre-adolescents surveyed.

In order to demonstrate the interdependence between the motivation and preferential learning at the age of puberty, the primary research data obtained from the diagnosis of the level of motivation for learning and the preadolescent manifestation of the preferential learning style were analyzed statistically. We have used the Bravais-Pearson Correlation Coefficient (r), which is a statistical tool for measuring the degree of dependence between two variables. To facilitate data processing we used the SPSS-16.0 Program.

Table no. 1. The correlation coefficient between pre-adolescent motivation and preferential learning style (according to Pearson, based on SPSS-16.0)

Preferential Learning Styles / Levels of motivation for learning	Auditory Preferential Style	Visual Preferential Style	Kinestetic Preferential Style
Very high level	r = 0,234 p≤0,102	r = -0,238 p≤0,096	r = 0,194 p≤0,176
High level	-	r = 0,168 p≤0,243	-
Average level	r = -0,244 p≤0,087	r = 0,196 p≤0,173	r = -0,202 p≤0,159
Motivational Profile High level	-	r = 0,208 p≤ 0,151	-
Motivational Profile Average level	r = 0,319[*] p≤ 0,024	r = -0,154 p≤0,286	-
General Level of Motivation for Learning	r = 0,276 p≤ 0,052	-	r = 0,261 p≤0,067
General Level of Motivational Profile	-	r = 0,227, p≤ 0,113	-

After processing the results obtained on the entire experimental sample regarding the level of the two variables we investigated, we determined the correlation coefficient (r) between the motivation for learning and the preferential learning style at the puberty age.

The analysis of the statistical data allowed us to state:

- Significant positive correlation of average intensity between the very high level of motivation for learning and preferential learning style, r = 0,234, p≤0.102;
- Significant negative correlation of average intensity between the very high level of motivation for learning and preferential visual learning style, r =-0,238, p≤0,096;
- Insignificant positive correlation between the very high level of motivation for learning and preferential kinesthetic learning style r = 0.194, p≤0.176;
- Insignificant positive correlation between the high level of motivation for learning and the preferential visual learning style, r = 0.168, p≤0.243;
- Significant negative correlation of average intensity between the average level of motivation for learning and preferential auditory learning style, r = -0.244, p≤0.087;
- Insignificant positive correlation between the average level of motivation for learning and the preferential visual learning style, r = 0.196, p≤0.173;
- Significant negative correlation of low intensity between the average level of motivation for learning and the preferential kinesthetic learning style, r = -0.202, p≤0.159;
- Significant positive correlation of low intensity between the high-level motivational profile and preferential visual learning style, r = 0.208, p≤0.151;
- Significant positive correlation of high intensity between the middle- level motivational profile and the preferential auditory learning style, r = 0.319, p≤0.024;
- Insignificant negative correlation between the middle level motivational profile and the preferential visual learning style, r = -0.154, p≤0.286;
- Significant positive correlation of high intensity between the overall level of motivation for learning and preferential auditory learning style, r = 0.276, p≤0.052;
- Significant positive correlation of high intensity between the overall level of motivation for learning and the preferential kinesthetic style of learning, r = 0.261, p≤0.067;
- Significant positive correlation of low intensity between the overall motivational profile and preferential visual learning style, r = 0.227, p≤0.113.

The processing and interpretation of the experimental data revealed that there is an insignificant correlation between the level of the motivation for learning and the preferential learning style at the gymnasium pupils, a fact which allows partial confirmation of *hypothesis no. 1*.

Hypothesis no. 2, according to which the high level of motivation for learning correlates significantly, at a high level of intensity, with the preferential kinesthetic style of learning at secondary school pupils, was partially confirmed because it was

confirmed a significant positive correlation of high intensity between the general level of motivation for learning and preferential kinesthetic learning style (r = 0.261, p≤0.067).

5. Conclusions

1. By *learning motivation*, we understand all the motives that trigger and dynamize learning.

2. Learning styles are a particular form of cognitive styles that represent a person's preference for the information processing mechanism and describe the particular way of thinking, memorizing and solving problems; they represent the preferred way of receiving, processing, storing and updating information with both genetically determined components and components that develop as a result of frequent and preferential exposure to a particular category of stimuli.

3. The identification of the level of motivation for learning, preferential learning style, knowing how to report the pupils to strategies used in formal, non-formal, informal contexts, highlighting the relationship between the contents conveyed in the didactic act and the level of the pupil´s cognitive interest contribute to building an effective learning situation, rallied to the pupils' personal expectations, and to curricular performance standards.

4. The experimental approach has shown that there is an insignificant correlation between the level of motivation for learning and the preferential learning style of gymnasium pupils.

5. The results of the investigation allow the partial confirmation of the hypothesis that the high level of motivation for learning correlates significantly, at a high level of intensity, with the preferential kinesthetic learning style of the gymnasium pupils.

6. The research results partially confirmed the hypothesis according to which the level of motivation for learning at the age of preadolescence is higher at girls than at boys.

6. Recommendations

Recommendations for Teachers:

1. Select and apply the most effective tools for identifying the level of motivation for pupils´ learning!

2. Identify and use a variety of tools to determine the pupils´ preferential learning style!

3. Adapt your teaching style to the pupils´ preferential learning style!

4. Create for learners learning opportunities through the variety of teaching strategies!

5. Form the pupils´ ability to learn in a wide range of styles, along with their preferential learning style!

6. Determine the factors that trigger the motivation for learning and implement strategies that make it easier to raise the motivation level, without focusing on gender differences!

Recommendations for pupils:

1. Determine the preferential learning style to optimize your own learning process, thus becoming more independent and self-confident!

2. Develop the ability to learn in a wide range of styles, which will ensure the quality management of the learning activity!

3. Identify and valorize the reasons that mobilize and dynamize your learning activity!

4. Develop the level of motivation for learning currently attested to ensure your learning efficiency and increase the school performance!

5. Maintain the behavior desirable to the pupil´s status: active participation in lessons, involvement in learning classroom and home activities, successful solving of tasks in formal, informal, informal contexts!

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