

## Formation of student's self-education and competence in the process of developing mental skills

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*Self-education is aimed at heights and perfection, self-education puts simpler issues. An impulsive person with an explosive character gets used to not yelling, self-control helps – this is self-education. A calm and adequate person teaches himself/herself wisdom – this is self-education. The child teaches himself/herself not to lie and not to fight – this is self-education. A young graduate of the conservatory willingly performs transitions masterfully day after day – this is self-improvement. Self-education is the first step towards self-development. Self-education is one of the very necessary links of a single complex of intellectual labour. This type of activity, which includes the elements of independent activity, has been the centre of attention in all structures and stages of social life as a means of improving a person's socio-political and professional-specialization training and acquiring knowledge, it has always engaged people with progressive views and has been highly valued based on its usefulness "coefficient". It is necessary to perform the opposite operation in the mental work process. In addition to giving these operations a great place in training, the teacher should also take care of their formation in students. Insufficient development of students' analysis-composition activities negatively affects not only the depth of their knowledge, but also the level of their skills.*

*The purpose of the article is to examine the high demands placed on school preparation in the era of scientific and technical progress, in a situation where information is growing rapidly. In addition to arming the young generation with scientific knowledge, the school should teach them to acquire independent knowledge, free work habits, intellectual work culture, independence of thought, self-education habits, and better prepare for independent work activities. This is one of the important directions of educational reforms.*

**Keywords:** *self-education, student's competence, mental skills*

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**Introduction.** Pedagogical-psychological studies show that the mental development of students in the learning process is characterized not only by what is reflected in his/her mind, but also by how it is reflected. Compared to the billions of years of Earth's history, 6,000 years of human existence is like the first second of a new era in the formation of the planet. It is true that the 6,000 years we are considering is a very long time compared to our short existence. As it was two thousand years ago, the understanding of the time that is remembered by a person as a memory creates such an association that everything is still ahead: But a person can ask the question – "is not the whole history of mankind a passing episode in the history of the earth?" When this question coincides with a person's desire to reach the truth, the picture of the future can be seen more clearly. Provided that the new interpretation of the world is in harmony with the predictions dictated by education.

**Formulation of the problem.** Psychological research materials make it possible to determine the following conditions necessary for the mental independence of students:

- a) the student must have the necessary knowledge to solve a certain training issue;
- b) the student's effort in training and having the appropriate skills and principles;
- c) that the student has the ability to check the results of his/her own learning activities.

Hence the importance of instilling in students effective principles of intellectual activity. The more proficient a student is in mental work principles, the better he/she can master those mental work skills.

**Research objectives.** Since mental work skills are based on relevant principles, special attention should be paid to teaching mental work principles to students. There are many methods of mental work. It includes the principles of thinking, the principles of memory, the principles of observation and attentiveness.

The principles of mental work are based on the principles of thinking. It includes logical principles, which are means of mental operations. Analysis and composition take a leading place in the work of thinking processes. As academician I. P. Pavlov showed, the mental activity of a person is an activity of analysis and composition. Searching for an answer to every question, solving every problem requires that a person should analyze and compose operations.

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**Main part.** The principles of abstraction and concretization occupy a special place in the training process. Abstraction is the process of moving away from the non-essential signs of a body and an event and separating important features from the idea. Any understanding in training is created through abstraction. Any analysis activity involves making this and other abstractions.

The ability to abstract is closely related to the ability to concretize. If in abstraction the object and the event lose their completeness, then the abstract concept enters into various connections and dependencies through concretization. Concretization serves as a kind of example for visualizing, confirming any abstract issue. If in abstraction the transition from concrete to abstract takes place, then the process of transition from abstract to concrete takes place in concretization.

In the process of training, the method of concretization should be applied and taught in unity with the method of abstraction. A relatively common type of concretization in school practice consists in understanding the patterns in concepts and rules on the basis of specific material. Concretization is more often used in the application of grammatical and mathematical rules, in finding and analyzing specific cases. It is of great importance for students to learn the principle of a concretization in terms of their ability to apply theoretical knowledge; this helps students to form more conscious and solid habits.

The teacher should try to teach students how to use this method, as well as giving wide coverage to the principle of concretization in education. In this case, it is useful to refer to the following rules:

1. It is necessary to find examples from a textbook or other sources on the general provision under study (try to make the examples numerous and colourful).

2. It is necessary to select specific facts, examples from the examples given on the general provision under study.

3. It is necessary to explain specific facts or examples according to the general provision.

When teaching students the methods of abstraction and concretization, special attention should be paid to the transition from concrete to abstract and from abstract to concrete during the lesson. The more such transitions, the more consciously and deeply the program material is assimilated.

Methods of abstraction and concretization are taught in close association with methods of systematization and generalization. As it is known, systematization is the arrangement of objects and events in a certain system based on any signs in accordance with the set goal. The opportunity to use systematization in the training process is available in almost all subjects.

The teacher should try to teach students the method of systematization starting from elementary grades. At this time, it is appropriate to take these rules as a basis:

1. Getting to know the goal.

2. To determine on what principle to systematize the given objects.

3. Analyzing objects according to that principle, finding their similarities and differences and putting them into a system.

During the teaching of systematization method, certain conditions should be expected: a) to envisage the given objects in interaction, to teach to look at each specific object as a part of the whole system; b) using systematization not only to organize existing knowledge, but also to obtain new information and draw conclusions; c) make extensive use of schemes and tables in the training process.

The method of systematization should be taught together with classification. Classification is the ability to group certain objects according to their main characteristics (Aghayev, 1985: 98)

Students' mastery of the considered thinking processes (comparison, abstraction, systematization, classification, etc.) prepares them for the ability to generalize, which indicates a high level of analysis-composition of thinking. Any concept, rule and law is formed as a result of generalization. As you know, generalization is the process of mentally combining objects and events that have a common property. Conscious assimilation of training materials, application of theoretical knowledge to studies is closely related to the formation of students' correct generalization skills.

The book plays a big role in training. The book is the main source of knowledge: through the book, students acquire the system of knowledge and find answers to the questions they think about. The book helps to consolidate and expand the acquired knowledge. By regularly working on the book, students acquire self-study skills. It is impossible to master knowledge in the full sense without acquiring the skills to use the book independently.

Experience and observations show that one of the main reasons why students fall behind in learning is their inability to work on the book. This also distracts children from self-education. There are even students who do not read texts from the book themselves. She/he asks his/her parents or older siblings to read a text

and a task from the book, and she/he also listens. Taking into account all this, it is important to teach students the skills of working on books from primary school. If such skills are not taught on time, students acquire them too late and have difficulties in training.

There are many skills for working on a book: reading the text consciously and correctly, understanding what is read, approaching them critically, thinking about the material and drawing conclusions from it, determining the main ideas, making a plan, etc.

The skills of working on the book should be inculcated gradually. The scope of these skills should be expanded as we move from grade to grade. It is important to specify the skills of working on the book for individual classes. This can help the teacher in determining the learning level and development of students.

In order to teach students self-study skills on books, advanced teachers use many tasks: a) read the text again and make a plan; b) read the text and prepare to answer basing on the plan; c) choose the main ideas in the passed text or prepare answers to the logical tasks given by the teacher; d) implementation of textbook studies and practical work, etc.

Such tasks, on the one hand, ensure the conscious and solid mastering of the text, and on the other hand, they allow students to create self-study habits on the book.

Homework also plays a big role in teaching students self-study skills over books. When giving homework to students, teachers should give instructions such as how to study a lesson effectively, what issues to pay special attention to, how to collect information from additional literature related to the subject that is not included in the textbook, etc. When assigning homework, it is very important to understand its purpose and how it should be read and studied. The student should know for what purpose he/she should read the given text (first introduction, compare, tell a story, summarize, etc.). During the instruction, the teacher should instruct the students to pay special attention to the topic of the text, the sequence of the content, and the main result. Students should also know the conditions for reading the text from the book silently or aloud (Aghayev, 1985: 7).

It is known that the texts given in literature textbooks are abbreviated. In order to increase students' self-education skills, it would be more appropriate if the teacher instructs them to read, analyze and systematize the original works. This will also lead to the formation of beautiful speech and enrichment of vocabulary. In order to develop speech, it is recommended to read the given text aloud. Silent reading of the text is useful when re-reading the text, studying and performing other logical tasks on the text. During reading aloud, the student usually gets tired quickly, the reading speed decreases and it becomes difficult to understand the text. At this time, it is necessary to familiarize the parents with the specified conditions for the performance of homework.

The skills of using the book should be applied and reinforced in the student's reading process outside the classroom. Apart from these, teachers and parents should give appropriate advice to students. Such advice should be devoted to choosing a book for further reading, book handling rules, taking notes from the reading material, etc. Ganja City, M. A. Sabir Secondary School No. 5 gives the recommendations regarding students' reading outside the classroom as follows: consult with the teacher and librarian when choosing a book; don't finish reading the book you bought, finish it; don't hurry while reading the book, read it carefully; think over unclear words (use a dictionary and clarify their meaning); tell your parents and friends about the books you read, about the interesting things there; Make notes about what you read in your diary, write the name of the author, the book, interesting ideas in your diary.

Students should also be introduced to the rules of bibliographic work. In many schools, teachers have age-appropriate conversations about bibliography with students. In these conversations, students are given instructions on how to find the book they need, how to buy it, and how to use information and dictionary books (Law of the Republic of Azerbaijan, 2009: 78).

Reading technique and sequence should also be conveyed to the students. They should first pay attention to the name of the book, its author, understand its main idea and sequence of events while working on the text, and finally, analyze the text and express their attitude to it. Children of younger school age should be directed in this vector. When talking with a child about a read book, teachers and parents should not only ask about the content of the book, but also find out how the content and the idea of the book are understood, whether the child is able to draw correct conclusions.

Experience shows that in order to successfully inculcate the skills of working on a book, students must master the effective work methods that are the basis of this skill. Our determinative experiment shows that the vast majority of students do not know how to use the book effectively. This is also attributed to the fact that the language of the textbooks is difficult. This keeps them away from self-education, each student tries to read

and learn the text “in his/her own way”.

Although some work is carried out in school practice in the field of teaching students the skills of working with books, this work is not regular or systematic. The ways of inculcating self-study skills that some teachers practice are often not satisfactory.

The ability of self-control occupies an important place among human self-education skills. Self-monitoring is of greater importance in the learning process: this skill is an essential condition for any learning activity. Students who have mastered the skill of self-control perform the assigned tasks at a high level and freely. On the contrary, students who do not master this skill well always work under supervision, cannot organize their learning work, and fall behind in learning.

According to observations, many of the students read a passed text several times, and then, looking at the book, they think that they have already mastered it. However, during inquiry in class, it becomes clear that the text has not been well studied. Even though they spend a lot of time and effort, students get low marks and blame the teacher for not being objective. This, in turn, causes them to cool off from training. Therefore, the ability of self-control has a significant impact on training.

The effectiveness of the student's learning activity depends to some extent on his/her self-control level. For training success, the student should approach his/her activity consciously, reconcile the results of his/her work with the given example, check the task and be able to correct mistakes. It is an important task to pay special attention to this aspect starting from the first days of school. But how is this task implemented in school practice?

Experience and observations show that sometimes insufficient attention is paid to instilling self-control skills in students: the level of these skills in students is much lower than their real capabilities. Defects in school practice in the field of instilling self-control skills can be explained, first of all, by the fact that teachers do not have the necessary ideas about it. There is almost no pedagogical-methodological literature in the Azerbaijani language that can guide teachers in this matter.

It is true that in recent years, attention has been paid to the study of inculcating self-control, self-examination, and self-evaluation methods. In particular, the scope of psychological research is wider.

Since the teaching of self-control skills is closely related to knowing the essence of these methods, let's dwell on this issue, albeit briefly. What does self-control mean? What elements does this skill consist of? What should be considered when teaching self-control skills to students?

In the psychological-pedagogical literature there is no uniformity on the essence of the ability of self-control: there are different views on this issue. Some interpret the ability of self-control broadly, others narrowly: two, three or four signs of self-control are put forward. Some of the definitions given to self-control do not include important features such as activity analysis, verification, and error correction. In some of them, the necessary signs such as monitoring the performance of the activity and regulating it have been overlooked (Abdullayev, 2000: 23).

In order to fully characterize the concept of self-control, it is important to correctly distinguish its components and signs. These include the following: a) monitoring that one's activities are in accordance with the set goal or plan; b) to reconcile the implementation with the relevant plan or example, to analyze and adjust it from this point of view; c) check implementation and find and correct errors (Hamzayev, 1984: 39).

Based on these signs, self-control in training can be defined as follows: self-control in training is the ability of the student to monitor his/her training activity in accordance with the intended goal and plan, analyze and adjust it in terms of a relevant example, self-check and correct his/her mistakes.

In understanding the essence of the self-control skill, it is of great importance to know its physiological mechanism. Physiological-psychological studies show that the human body is the most perfect self-control system. Self-regulation has a certain physiological and psychological mechanism.

The physiological mechanism of self-regulation is the process of feedback and opposite afferentation. Reverse afferentation is related to the regulatory activity of the brain. Academician I. P. Reverse afferent training, founded by Pavlov, was developed by physiologist P. K. It was continued and developed by Anokhin.

Based on psychological research, it has been established that the ability to self-evaluate plays an important role in the relationship between self-control and self-awareness: self-evaluation can help or hinder self-control.

The level of self-control is closely related to the emotional-volitional qualities of the student. Self-control, self-examination requires voluntary effort from a person. Thus, the student has to mobilize all his/her strength to achieve the set goal, not to make mistakes or eliminate existing mistakes. This is possible as a result of intense voluntary effort.

The quality of self-control is influenced by the child's emotional state, his/her self-confidence or lack of confidence, success or failure, whether he/she enjoys his/her work, etc. Based on the conducted special research it was determined that the effectiveness of self-control depends very much on the student's knowledge and confidence in that knowledge. If a student does not have such confidence, then self-examination does not produce effective results. Therefore, self-control is closely related to various mental processes - intellectual and volitional-emotional qualities. In the training process, it is important to connect the formation of self-control skills with the development of the student's mental processes.

Self-control skills play a big role in training. This skill, above all, is an important condition for increasing the activity and independence of students in training. A student's regular monitoring of his/her learning activity, analyzing the results of implementation, critical approach to his/her activity, spotting and correcting his/her mistakes requires great mental activity and independence.

Self-monitoring gives a conscious character to the learning process. Thus, a student who has mastered the ability of self-control consciously approaches his/her learning activity, finds and applies effective ways to better perform his/her tasks, checks his/her performance and corrects his/her mistakes. All this helps to fight rote learning and conscious mastering of the material. Therefore, it is necessary to involve students more widely in self-control and self-examination.

Self-monitoring helps students to better acquire skills and habits, and to deal with mistakes. As Ushynskiy shows, the mistake that the student finds and corrects leaves a deep mark on him/her, and the student gets the opportunity to repeat that mistake again.

As it can be seen, self-control is an important condition for the effective organization of the student's learning activities. Taking into account its great role in education, it is necessary to pay special attention to instilling self-control and self-examination skills in students.

Experience and observations show that today students' self-control is limited and simple. The development of this skill depends greatly on the training conditions, the teacher's requirements, and the teaching methods she/he uses. Self-control and self-examination skills can be formed in students under specially directed and properly organized learning conditions. Teachers should periodically engage students in self-monitoring and self-examination in the subjects they teach and in extracurricular activities.

It is an important condition to use all the indicated types of self-control when involving students in self-control in the training process. An important means of inculcating the skill of self-control is to teach students the general principles underlying this skill. A student should know certain principles and be able to use them in order to be able to control his/her learning work and self-check (Hashimova, 2005: 38).

**Approbation of research results.** The main provisions of the article are reflected in the author's theses submitted to scientific conferences in Azerbaijan and abroad, as well as in scientific articles published in various journals in Azerbaijan and abroad.

**Conclusion.** The teacher should try to teach students the method of systematization, starting from elementary grades. In this case, it is appropriate to take the following rules as a basis:

1. To get acquainted with the set goal.
2. To determine on what principle to systematize the given objects.
3. According to this principle, to analyze objects, find their similarities and differences and reduce them into a system.

When teaching the method of systematization, it is necessary to wait for certain conditions: a) to consider given objects in interaction, to teach to look at each specific object as part of a whole system; b) to use systematization not only in order to put existing knowledge in order, but also to obtain new information and draw conclusions; c) extensive use of the layout of the scheme, schedule in the training process.

The method of systematization should be taught in unity with classification. Classification is the ability to group certain objects according to their main characteristics.

Students' mastery of the considered thinking processes (comparison, abstraction, systematization, classification, etc.) prepares them for the ability to generalize, which indicates a high level of analysis-composition activity of thinking. Any concept, rule and law is formed as a result of generalization. As you know, generalization is the process of mentally combining objects and events that have a common property. Conscious assimilation of training materials, application of theoretical knowledge to studies is closely related to the formation of correct generalization skills in students.

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## Формування самоосвіти та компетентності студента в процесі формування розумових якостей

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У статті обґрунтовано, що самоосвіта є однією із найнеобхідних ланок єдиного комплексу розумової праці. Цей вид діяльності, який містить елементи самостійної діяльності, був центром уваги в усіх структурах і ланках суспільного життя як засіб удосконалення суспільно-політичної та професійно-професійної підготовки людини, отримання знань, завжди залучав людей із прогресивними поглядами і цінувався за «коефіцієнтом корисності». Доведено, що у процесі розумової праці необхідно виконати протилежну операцію. Зазначимо, щоб окресленим операціям відводилося велике місце в освіті, вчитель повинен також дбати про їхнє формування в учнів. Недостатній розвиток аналізують-складальної діяльності учнів негативно позначається не тільки на глибині їхніх знань, а й на рівні їхніх умінь.

Мета статті – розглянути високі вимоги до шкільної підготовки в епоху науково-технічного прогресу, в умовах стрімкого зростання інформації. Окрім озброєння молодого покоління науковими знаннями, школа повинна виховувати у нього самостійні знання, навички вільної праці, культуру розумової праці, самостійність мислення, навички самоосвіти, краще готувати до самостійної трудової діяльності. Це один із важливих напрямків освітніх реформ.

**Ключові слова:** самоосвіта, студентська компетентність, розумові здібності

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