

Phan Quoc Lam, Ho Quang Hoa, Duong Thi Thanh Thanh

# **PRIMARY EDUCATIONAL PSYCHOLOGY**

**Using Activity-Based Approach**

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## PREAMBLE

As the earliest discipline of Psychology, General Psychology addresses the most fundamental and common problems of Psychology. It is dedicated to exploring the essential characteristics and general laws of psychological phenomena in humans, in general, and applying them to affect human psychology. General Psychology cannot, however, solve all the problems of Psychology since individual psychological phenomena have their own characteristics besides the general ones of the human psyche and are governed by their own laws of motion. These particular characteristics and laws are up to the individual's living conditions, activities, age, etc. Derived from General Psychology, many other psychology disciplines were, thus, born to study the specific characteristics and laws of the psychological life of different communities of people.

The earliest psychology discipline was Developmental Psychology (originally known as child psychology and then age psychology), addressing the characteristics and laws of individual psychological development in the development of the age groups, first of all, the child age (between 0 and 18 years old). This is followed by pedagogical psychology, investigating the essential characteristics and psychological laws of the teaching and educational processes in schools. Despite different research focuses, these two disciplines are closely interacted by the same research population as children and the same research purpose to look into the psychological basis for educational activities in schools. As such, they are merged into a discipline of Psychology that was formerly known as age psychology and pedagogical psychology, now commonly known as *Educational Psychology*.

Educational Psychology involves a relatively wide research population (from preschool to university). Therefore, it is divided into sub-disciplines for each age group and level of education, including primary educational psychology which is sometimes called primary psychology with its own research focuses and topics.

However, it is different approaches to the research problems that have created different sects of psychology, in general, and primary educational psychology today. These sects have all obtained significant achievements to help clarify the problems, but also have not offered a comprehensive view of human psychology. One of these sects is activity-based psychology,

suggested by Soviet psychologists, formerly L.X. Vygotsky (1896–1934), then A.R. Rubinstein (1902–1960), A. N. Leontiev (1903–1979), A. R. Luria (1902–1977), etc. The theoretical and methodological basis of this sect of Psychology is the philosophy of dialectical materialism and historical materialism of Karl Marx. Therefore, it is also called Marxist psychology. With this approach, the activity category is employed as the most basic tool for investigating human psychology. Therefore, this sect is called activity-based psychology (also known as Marxist psychology). Activity-based psychology has mainly existed and developed in the Soviet Union and socialist countries. Paralleling to other sects, activity-based psychology has obtained achievements and made certain theoretical and practical contributions to 20<sup>th</sup>-century psychology, fundamentally including studies on the psychological development and education of children in schools, in general, and primary schools, in particular.

The book “**Primary Educational Psychology**” presents to the readers the main achievements of activity-based psychology in the field of primary educational psychology.

The book was written by Phan Quoc Lam, Ph.D (Vinh University, Vietnam) as the Chief Author and Ho Quang Hoa, Ph.D (VNU University of Education, Hanoi, Vietnam), and Duong Thi Thanh Thanh, Ph.D (Vinh University, Vietnam), specifically:

- Chapter 1. was written by Phan Quoc Lam, Ph.D and Ho Quang Hoa, Ph.D;
- Chapter 2. was written by Phan Quoc Lam, Ph.D and Duong Thi Thanh Thanh, Ph.D;
- Chapter 3. was written by Duong Thi Thanh Thanh, Ph.D;
- Chapter 4. was written by Phan Quoc Lam, Ph.D;
- Chapter 5. was written by Ho Quang Hoa, Ph.D.

The book was written using maximally selected and inherited fundamental achievements of activity-based psychology on the problem and useful knowledge developed from related publications.

Although the best efforts were made, certain shortcomings and limitations are unavoidable. Readers’ comments and suggestions are highly appreciated for further improvement of the book.

*Best regards,  
Authors*



## Chapter 1.

# INTRODUCTION TO PRIMARY EDUCATIONAL PSYCHOLOGY USING ACTIVITY-BASED APPROACH

### 1.1. Nature of human psychological phenomena using activity-based approach

The root of the differences between the different sects of psychology is the handling of the fundamental problem: the nature of human psychological phenomena. Activity-based psychology deals with problems using the basic category – activities. Accordingly, human psychology has the following essential characteristics:

#### ***1.1.1. Psychology is the reflection of objective reality into the human brain***

Dialectical materialism suggests that reflection is a common attribute of the material world, that is, the ability of one thing to record an image of another in the process of their mutual interaction. In other words, reflection is the mutual interaction between material systems, resulting in traces left by one on the other and vice versa. The traces left by the reflection are called reflection products (reflection forms).

There are different reflection levels, depending on the evolutionary level of the material system involved in the reflection. On such basis, reflection is categorized into the following basic levels:

- Physical reflection is the lowest but earliest form of reflection, corresponding to physical material systems. It is further divided into macro and micro physical reflection. Macro physical reflection exists in systems of macro physical objects such as the collision of objects breaking, distorting, displacing the motion trajectory... Microphysical reflection results from interactions between atoms and elementary particles to generate new atoms and particles, etc.

- It was physical processes that gave the birth of chemical molecules representing a new level of material development. The interaction between chemical molecules leave traces – the formation of new substances and the

creation of new forms of reflection – chemical reflection such as acids acting on metals, bases, salts, combustion, etc.

– The evolution of the world on the basis of physical and chemical movement resulted in a new type of material system: living organisms accompanied by a new level of reflection: biological reflection. It is manifested by **tolerance to stimuli**. It is the ability of the living organisms to receive and respond to the direct effects of the environment on survival and development (adaptation), for instance, plants grow towards the light, roots develop towards the soil rich in water and nutrients, plants flower by the length of the day, etc.

– In animals, for better adapting to the ever-changing habitat due to constant movement, a novel higher-level material system has been established in the animal body. That is the brain made up of special cells – nerve cells. It was the brain that brought about a new form of response of the animal body to the habitat – **Inducibility**. **Inducibility** is the ability to respond to signal stimuli, forewarning animals to adapt to ever-changing environmental conditions. With inducibility, animals can respond to both stimuli directly on their bodies and signal stimuli that, in principle, do not act directly on the bodies but is a precursor to another stimulus. Thus, animals can react in a prompt manner to different situations for their survival. Thanks to inducibility, there appears the highest form of reflection – psychological reflection corresponding to which is behavior – the system of movements of animals' bodies in response to the impacts of the environment. Inducibility first appeared in worms with nerve cells grouping into ganglia. The brain has gradually developed with the evolution of the animal world. The more highly developed animals are, the more complex their brain structure and operation are. The animal with the most developed brain is the human being – the pinnacle of the evolution of the material world.

The human brain is a material system primarily functioning to reflect the effects of the material world. As a result, the human psyche has a higher level of quality than the animals', and humans can shape and change the world. Also, human behavior is fundamentally different from animal behavior and is called activity.

Objective reality covers all that exists outside of the subjective will of humans. It always interacts with humans, which leaves imprints in the brain or, in other words, is reflected by the brain. Such reflection results in psychological phenomena. As such, the human psyche is a reflection of objective reality in the brain, an image of objective reality in the human

brain. Nonetheless, instead of a stereotypical reflection, the brain receives and analyzes the objects and phenomena of the objective world acting on it, and then creates the psyche. According to C. Marx, thoughts and psyche are just matter transferred into the mind and transformed in it. Therefore, there are in the human psyche only images of things that have directly or indirectly entered us. Psyche is not innate and inherent in the brain but is only an image of objective reality in the brain.

However, the psyche is not a rigid copy of the phenomena in the objective world, but rather a vivid, diverse, flexible, multi-level psychological reflection. Not only is the reflection of the human psyche vastly superior to physical and physiological reflections, but it is qualitatively different from animal psychological reflection. Especially, the human psyche reflects reality positively and creatively. Unlike the animal psyche which only helps them adapt to the environment, the human psyche positively helps man both adapt and act back on and change the world. Besides its positive aspects, the human psyche also creatively reflects the world. The human psyche is not an exact copy of the objective world, but in the process of reflection, humans may create new psychological images on the basis of images of the world. These images are relied on by humans to influence and ultimately change the world.

Images of the human psyche are of subjectivity which has two main manifestations below:

- 1) Different psychological images are created in different people from the same object and phenomenon in the objective reality. For example, different people may have different opinions about someone as each individual has included in a psychological image of the world his or her own knowledge, needs, interests, and activities, creating its own nuances. The difference in psychological reflection of each individual is attributable to the differences in people's nerves and brain, living situations, life experiences and educational conditions, activities and social relationships and so on.

- 2) Besides the differences between individuals, the reflection in one person is not the same at different times. For instance, a mother may react differently to the same fault of her child. This difference depends on the state of the body and nervous system, cognition and sentiments, experience and age, activities and relationships as well as other elements at different times.

Summing up, the psyche is a reflection of objective reality into the brain through the subject or the human psyche is a reflection of objective reality through subjective views.

### **1.1.2. *Psyche is a function of the brain***

The human body consists of different parts and organs with their own roles and functions. Particularly, the brain is an organ that acts to reflect the world, creating human psychological life – the highest form of reflection of the material world.

From the viewpoint of dialectical materialism, matter exists prior to consciousness and spirit, but not all matter gives rise to the psyche. There is only the brain – the highest organized material system that can generate the psyche. The simplest psychological phenomenon is sensation that can be found in animals with the ganglion nerve system (brain ganglia in worms) and higher. The level of psychological reflection is proportional to the evolution of the nervous system.

The brain develops to its peak in humans, becoming a special mass of matter or a part of the human body that can reflect the impact of the objective world and produce human psychological phenomena. Engels affirmed: “Our consciousness and our thinking... are the product of matter and the physical organ, that is the brain”. V.I. Also, “Psyche and consciousness are products of highly organized matter and functions of a particularly complex mass of matter, the human brain”, wrote V.I. Lenin.

Psychological images are obtained through a sequential process from the impact of the objective world on the senses, the senses’ reception and transmission to the brain to the brain activity that creates psyche. If the brain is at rest or inactive, there will be no psyche.

### **1.1.3. *Psyche is a form of activity***

#### **1.1.3.1. *Concept of activity***

Activity is defined in many different ways. In the most common sense, activity is considered to be a process of interaction between humans and objective reality in which humans transform the objective reality to create products for satisfying their needs. The nerve and muscle energy of humans is lost during activity.

From the perspective of Marxist philosophy, activity is humans’ mode of existence in the world, which makes a fundamental quality difference between human life and animal life. The activity contains a bilateral interaction between humans (subjects) and the objective world (object) to create products on both sides of the object and the subject.

Humans act in two fundamental modes for existence:

– Micro-level: At this level the body, the senses, and the parts of the human body move according to biological laws. It is through this movement that humans exist and grow; however, activity at this level is not a research focus of psychology. Biological movement is the basis of a higher-level movement – the psychological level;

– Macro-level: The activity at this level has an object and humans act as the subjects of purposeful activity. This is the research focus of psychology. Activity is the process by which humans make relationships between themselves and the outside world – the natural and social world, between them and others and with them.

Humans' activities take place in three main forms below:

– Physical activity, also known as manual activity, in which humans use their material tools by limbs to influence material objects and transform them to make material products to satisfy material needs. This is the first and top-important form of activity for human life.

– Language activity in which man uses linguistic means to influence objects (other people) in the process of communication with the aim to change the psyche (cognition, sentiments and behavior) of the objects;

– Mental activity that takes place at the mental level in the human mind. In mental activities, humans employ mental manipulations and means (inner language) to alter existing psychological images to create their own new psychological images. Mental activities make up humans' psychological lives. In other words, the psyche is a form of human mental activity.

Despite their diversity, human activities belong to the following two basic types: social activities and individual activities. Individual activities are performed by subjects who are specific people and vary in form such as playing, studying, working, and communication.

From the perspective of dialectical materialist philosophy, there are two simultaneous and complementary processes in an activity:

+ First, objectification is the process in which the subject transforms his/her capacity into the product of the activity or, in other words, the human psyche (of the subject) is revealed and objectified during the product making. This process is also known as the “mind departure” process. The “mind departure” process modifies the object to become a product, and therefore, the product always contains human capacity. In labor, a human capacity is delivered into the product and creates the value of the product. It also means that, to perform an activity, humans must have a corresponding

capacity that is not available but is *learned* from the outside. Supported by the mind departure process grounds, Marxism explained for the first time the decisive factor that creates the product value (the law of value of economics).

+ Second, subjectivization is the opposite process that occurs when the subject performs an activity with man-made products, human capacities hidden in them are transferred to the subject to form (or develop and complete) new capacities of activities that have not been existed (or developed or completed). Subjectivization is also known as the “mind entry” process. The discovery of the “mind entry” process has explained the mechanism of learning in general and human learning in particular. It is the process through which man, by practical activities, affect the objects containing the human capacities to be formed to reveal and occupy them.

Human capacities are the psyche, consciousness, and personality of the individual – an extremely complex system of psychological phenomena made up of three basic elements: knowledge, skills and attitudes. Human development and education involve a process of forming in them the capacity to perform activities. Activities are also an objective basis for assessing the human psyche.

During activities, humans create, thus, both products for the world and create their own psyche, or, in other words, human psyche, consciousness, and personality are revealed and shaped during activities.

### *1.1.3.2. Characteristics of the activity*

In terms of appearance, human activities and animal behavior may be very similar (eating, drinking, giving birth and raising children, nesting and building houses, etc.), however, they are different in nature. Such difference can be identified in the following characteristics of the activity:

– An activity is always an object-targeted activity. It means that human activity always has an object, and there is no objectless activity. An object is something (a thing, a phenomenon or its constituent elements) that receives and transforms itself under the action of activity. On the other hand, objects determine human activities. Human activity is only fruitful when it matches the characteristics of the object. Therefore, there exists a dialectical reciprocal relation between the subject and the object: the activity is performed by the subject, but determined by the object. If the human activity mismatches the object’s characteristics, the desired result cannot be obtained. This characteristic requires teaching and educating children to be consistent with the object. This principle is demonstrated by

the requirement to personalize the teaching and education starting from learners;

– An activity is subjective. Accordingly, it is always performed by the subject, and there is no subjectless activity. Subjectivity is shown in positivity and self-discipline. Positivity is reflected in the fact that human activities are always aimed at changing objects. Self-discipline manifests in humans' ability to perceive, express their attitudes and influence (to orient, control and adjust) their own activities. A certain human influence without positivity and self-discipline is just behavior but not an activity (behavior of psychopaths or delirious ones, etc.).

The subject of the activity may be a person (individual), a group of people or a large community of people (country).

Ensuring that students become active and self-disciplined actors in learning is a fundamental principle for the enhanced effectiveness of modern education.

– An activity is purposive. The purpose is the psychological image of the product envisioned by the subject prior to embarking on the activity. Human activities are always purposive. Purposefulness is one of the fundamental distinguishes between human activity and animal behavior. According to Marx, the worst builder is still qualitatively different from the best bee as before embarking on work, the builder has an image of his house in his mind.

Purpose plays a decisive role in orienting, controlling and regulating human activities. With purposes, humans can make mental products before actual material products. Hence, many trials can be carried out in the human mind before an activity is done actually in practice. Human activity is not only more efficient than animal behavior, but also gives birth to countless unparallel products. For instance, beehives of the same species are almost identical in structure, but human dwellings are rarely the same.

– Activity is always preceded according to the indirect principle. In an activity, the subject does not directly affect the object, but always through the mediators which acts to transfer the influence of the subject to the object. In a material activity, those mediators are working tools. In communication, the external language (spoken or written) is a mediator. In a mental activity, humans use internal language and acquired knowledge to influence psychological images reflected from the objective world. As such, working tools, language, and psychological tools are the intermediaries between the subject and the object, resulting in the indirectness of activities.

Working tools and means of activity are products and results of human social development, constituting a measure of social progress, and a decisive factor in the productivity of the activity and its product quality. According to Marx, the difference among eras does not lie in what humans make, but by what and how to make it.

In addition, the means of activity determine the way (manipulation) of human activities. It is the level of manipulating and using means and tools that makes up each individual's capacity of activity – the goal of a modern school.

The foregoing characteristics manifest the qualitative difference between human activity and animal behavior.

### *1.1.3.3. Types of activities*

Human activities occur in an extremely rich and diverse manner. Therefore, they are classified in many different ways and on various bases:

- From an individual perspective, humans have 4 basic types of activities: playing, studying, working and social activities;

- From a subject perspective, there are two basic types of activities: individual activities and social activities. Individual activities are performed by specific subjects and exist in many different forms such as playing, studying, working, communicating. Meanwhile, social activities involve the participation of two or more subjects. Individual activity is the research object of psychology;

- From a product perspective (material or mental), activities fall into the following two main types: practical activities – principally oriented to objects or relationships to create material products and theoretical activities – taking place with psychological images like symbols, concepts, creating mental products (new psychological images).

In another way, human activities are categorized into 4 types below: transformational activities, cognitive activities, value-oriented activities, and communication activities.

### *1.1.3.4. Structure of the activity*

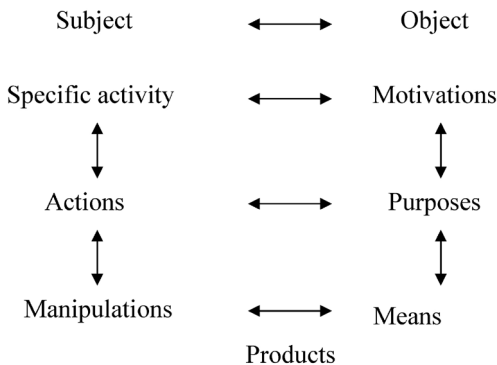
Unlike behaviorism, which holds that human and animal behaviors have a common structure: stimulus-response (SR) or SOR, Marxist psychology has an in-depth insight into the structure of the activity and has developed the macro model of the activity. A.N Leonchiev suggests a macrostructure of the activity which consists of 6 elements and their dialectical relationships. According to him, in an activity, there are two sides: subject



and object with different elements. On the subject side, there exists 3 elements of activity – action – manipulation with their binding relationships which make up the technical aspect of the activity. Accordingly, activity is composed of specific actions. Actions are then constituted by a system of manipulations of the subject. On the part of the object, an activity also comprises 3 elements of motivation – purpose – means and their relationships. On this side, motivation directs and promotes the activity. Motivation is realized by the purposes and the purposes are realized by the means employed by humans. These three components make up the “object content” of the activity (psychological side). Further, the elements of the two sides of the activity are closely interrelated with each other with an association between the activity and the motivation – the guiding and driving factor that decides whether or not to perform an activity. On one hand, the subject always encounters obstacles to overcome during the activity performance. Motivation, on the other hand, supports humans in overcoming those obstacles. Meanwhile, action is, at all times, associated with a predetermined purpose, or in other words, the purpose is realized by action and is also a regulating factor for action. When performing actions, humans use, through manipulations, means to achieve the purpose. Manipulation is the way the subject acts, but it is conditioned or regulated by the means of the activity. In the dialectical relationship between the two sides of the activity, the object side (motivation, purpose, and means) determines the subject side (activity, action, and manipulation).

The general structure of the activity can be summarized as follows:

### FLOWCHART OF AN ACTIVITY



Students' learning activities contain a significant transformation from action into manipulation and purpose into means of the learning activities.

Dialectical materialism affirms that the human psyche is rooted from the outside or the objective world and then, transferred into each person's brain. In the world, the human psyche depends on social relations and social culture. The human psyche represents socio-historical experience transformed into personal experience through activities and communication, with a dominant role of education. Psyche is the product of activities and communication.

#### ***1.1.4. Human psyche has a social-historical nature***

The theoretical point that the human psyche is a reflection of objective reality explains the origin of human psychological life but has not clarified why the human psyche does not reflect all of objective reality but only a very small part of it. This problem has been solved by Marxist psychology with the theoretical point that the main content of individual psychological life results from perceiving the social-historical experience of mankind, also known as social culture. It is the result of objective reality reflection by mankind throughout its entire history. The resulted reflection by each generation is kept and passed on to the next generation. The reflection of the world by the previous generation is then based and developed more deeply. The resulted reflection of the world by mankind is preserved in the world of objects it has created. The psyche of each child after being born is mainly formed and developed not by self-reflecting, but by capturing what has been reflected. This is done by and during activities with the world of existing objects under the guidance of adults through communication. Through activities, communication, learning and so on, individuals acquire existing social-historical experiences of mankind in the culture passed on by previous generations and make them their own. This has been evidenced by the fact that children living outside in a social environment cannot have a human psychological life. The human psyche has, thus, a social nature. Schooling and education represent, therefore, a form initiated by previous generations for children to acquire socio-historical experience to form the minimum required human capacities to live as ordinary people in society.

Mankind's culture and society constantly become richer in the development of history. Also, culture varies by period of human history. Therefore, children of different generations will have different psyches since they perceive different experiences, which makes the human psyche historical.

Each generation of children will consequently have its own characteristics of cognition, sentiments, attitudes, and behavior. For the successful education of children, the influence of adults must be consistent with the characteristics of the era in which children are born and raised.

In addition to the common characteristics of the species, each human community such as ethnic group, class, religion, locality, clan, and family due with its own historical-geographical characteristics of the development process has its unique cultural features that will be then perceived by its children. This creates ethnic, class, local and other features of the human psyche. Therefore, these distinct characteristics must be taken into account for successful influence on humans.

## **1.2. Research focuses, topics and methodology of primary educational psychology using activity-based approach**

Research focuses, topics and methodology of primary educational psychology have been identified on the basis of fundamental theoretical points of activity-based psychology as follows:

### ***1.2.1. Research focuses of primary educational psychology***

Primary educational psychology investigates psychological phenomena arising and developing at the age of primary school students, during educational activities in primary schools. Phenomena are, however, research population while their nature and laws of movement and development are the research focuses of primary educational psychology, specifically:

- Psychological characteristics of primary school students, characteristics of psychological phenomena arising in primary school students during teaching and education, rules of formation and development of psychological phenomena of students in this age group and school activities.
- Conditions of the psychological development of primary school students;
- Problems related to the formation of personality qualities, students' orientation of moral values and factors influencing the attitudes, motivations and behaviors of primary school students;
- Psychological nature of learning activities in primary school students;
- Impacts of the social environment, cultural environment, and educational environment on the psychological life and development of primary school students.

### **1.2.2. Research topics of primary educational psychology**

With the foregoing research focuses, primary educational psychology has the following specific research topics:

- Investigating the psychological basis of educational perspectives and philosophies used in educational activities of primary schools; Seeking and using educational effects in accordance with the psychological basis to achieve the best educational effects;
- Detecting the laws of the formation of knowledge, skills, techniques, and intellectual activities, and the laws of formation and personality development of primary school students in teaching and education;
- Determining the psychological basis of controlling the teaching and educational process in schools, in society and at home; clarifying the psychological aspects in the teacher-student relationship, the relationship between educational forces and the impact of these forces on students;
- Pointing out the aspects of cultural psychology and social psychology of teaching and educational activities, thereby determining the scientific basis of teaching and educational activities in different cultural and social conditions of the teacher and students, best-facilitating teaching and education;
- Providing a scientific basis for family and community education so that everyone can participate in educational activities, creating a learning society and lifelong learning lifestyle.

### **1.2.3. Research Methodology of Primary educational psychology**

#### *1.1.3.1. Methodological principles*

According to the activity-based approach, the following basic principles should be adhered to in applying research methods to address research topics of primary educational psychology:

##### *a. Principle of dialectical materialism determinism*

- From the viewpoint of dialectical materialism, psychological phenomena:
- originate from objective reality and reflect objective reality into the human brain through subjective views;
  - orient, control and adjusts human behavior to in turn affect the world;
  - Individual psyche is subject to the constraints of historical social circumstances.

Hence, psychological research must, on one hand, take into account the origin and specific circumstances to discover the objective causes of

psychological phenomena. On the other hand, as a science, psychology requires the research to reflect the nature and objective laws of the psychological phenomena in question.

*b. Activity-based approach*

Activity is both the driving force and method for the formation and evolution of the psyche, consciousness, and personality. In the opposite direction, activity is directed, controlled and governed by the psyche and consciousness. As a result, the psyche is consistent with activity and is objectively expressed by activity. Besides, the psyche is also a form of activity with the same content as an external activity. Consequently, psychological research must be carried out in activities and by activities. In certain real circumstances, humans can temporarily shield their psyche with pretending actions and reveal the real psyche in *typical circumstances*. Investigating psychological phenomena in activities is the principal approach of Marxist psychology (Activity-based psychology).

*c. Principles of psychological research in dialectical relationships and interconnections*

Human psychological phenomena do not exist independently, but interact, bind, complement, transform into and influence each other. Furthermore, psychological phenomena always have a common relationship and interconnection with outside things and phenomena. Addressing specific psychological phenomena requires considering them in their rich and diverse relationships and interconnections with other psychological phenomena and with external influences.

*d. Principle of evolution-based psychological research*

Like all other things and phenomena, psychological phenomena does not stand still but are always moving and evolving. At each point of time, a psychological phenomenon has its own different characteristics from the past and the future. Psychological phenomena must be investigated in the evolution trend and at each specific point of time. Psychological characteristics of one point of time should not be introduced to another. Similarly, past, present, and future should not be considered the same.

*1.2.3.2. Principal research methods of preschool and primary educational psychology*

*a. Research organization methods*

A scientific research project represents a problem discovered and explored by scientists in theory or practice to figure out the nature and laws

of phenomena, explain them or employ the knowledge of nature and laws for problem-solving.

In psychology, each strange individual or social psychosocial phenomenon once detected to affect social life will be examined for explanation and application in an effective manner in life.

The following points should be kept in mind every time a research project is selected:

- What is the research problem? Is it new?
- What are the benefits of the study?
- Can I research to solve that problem?
- What are references to problem-solving?
- When and how long will it be done?

The researcher will then determine:

- Research methods and means;
- Funding for research;
- Supervisors (instructors or collaborators);
- Research population, focuses and scope: To ensure objectivity and typicality, sufficiently representative of the research problem;
- Develop a research proposal, including Determining the purpose of the research, developing a scientific hypothesis, choosing research methods, and identifying relevant documents.

#### *b. Data collection methods*

##### *b 1, Observation*

Observation is intentional perception to identify the characteristics of a participant through expressions such as behavior, gestures, words. There are many types of observations including comprehensive observation, process observation, partial observation, and focused observation.

One of the advantages of the observation method is the ability to capture the natural expression of participants. However, it seems inefficient and time-consuming when the researcher passively waits for the phenomenon in question to happen and sometimes does not properly explain the nature due to the diverse external manifestations and different explanations depending on the experience and subjective intuition of the researcher.

Therefore, the observation method will become more effective if the following requirements are met:

- Accurately determine the purpose and means, and develop a specific observation plan;

- Conduct a secret observation or get acquainted with participants in advance to collect data in the natural state;
- Make careful and constant observations and take meticulous notes;
- Avoid applying the observation method alone but in combination with other methods.

### *B2, Empirical method*

The empirical method involves a process in which the researcher actively affects participants and controls the objective conditions to cause the psychological phenomenon in question, for instance, proposing certain problems for the participants and then making a psychological assessment based on their solutions.

The empirical method is superior that the researcher can actively create the psychological phenomena in question in a repeatable way to find out the cause-and-effect relationships and the regularity of the research phenomena, or measure them. The speed and number of studies are up to the researcher. The most significant advantage of this method is **verifiability**. It has, however, a downside that participants are often under psychological stress, partially reducing the objectivity of the research results.

### *B3, Conversation*

The conversation is a method where the researcher meets the respondents in person, asks them questions and gather information from their answers about the problem concerned. Conversation can be carried out in such ways as intimate conversation, direct or indirect inquiries about the problem concerned, depending on the content of the questions, the respondents and the circumstances.

For a successful conversation, the researcher needs to clearly define the purposes and problems to be investigated, have a preliminary understanding of the respondents, and prepare some questions to master the conversation instead of being dominated by the respondents. For example, to know more about student psychology, the teacher should personally meet and talk to students.

### *b4. Investigation*

The investigation is a method in which a system of questions about a certain problem is given to the research population and necessary information are collected through the answers. An investigation can be conducted in writing, in person, or over the phone. However, the written investigation is the most common.

– There are three basic types of survey questions: open-ended questions to which respondents are free to answer; closed-ended questions to which answer options are available for the respondents to choose from; and semi-closed questions to which answer options are available for the respondents to choose from or express their own opinions by not choosing any of the available answer options;

– Investigation stands out for its advantage of collecting opinions of multiple people in a short time. Nonetheless, it may obtain dishonest answers or completed questionnaires may not be fully returned. Therefore, for reliable research results of a written investigation, a certain minimum number of respondents must be reached.

#### *b 5, Activity product analysis*

Products of human activities always contain their psyche, consciousness and personalities. Consequently, the analysis of activity products can be relied on when examining the human psyche.

Activity product-based psychological research explores not only the product itself but also the process of activity and the circumstances in which the product is made. For maximum objectivity, activity product-based psychological research should be carried out in combination with other research methods.

#### *b 6, Personal biography research*

It is possible to find out the causes of psychological phenomena as well as the psychological characteristics of an individual at a point of time through the analysis of his/her biography since historical characteristics always appear in the present psychological life and many stable psychological phenomena survive the past and exist in the present and future.

It is worth noting that prejudice against individuals should be avoided when using this method.

#### *c. Data processing methods*

The foregoing methods just obtain raw data. It is needed to be then arranged, edited, and presented to be fine data that serves as the basis for interpretation, analysis, and statistics. The processing involves the following operations: data checking, editing, encoding, and table entry (tabulation). With the use of statistical methods, the data will be processed and analyzed to draw conclusions. The most commonly used algorithms are:

- Calculate frequency and draw graphs;
- Calculate the mean, median, and range of variation;
- Calculate the variance and standard deviation;



- Calculate the reliability of the conclusions.

The results obtained after statistical processing must be interpreted using scientific thinking methods to explain the research results such as analysis, synthesis, comparison, generalization, abstraction, inductive method, deductive method, and relationship demonstration.

### **1.3. Relationship between primary educational psychology using activity-based approach and other scientific disciplines**

#### ***1.3.1. Relationship between primary educational psychology and philosophy***

As the theoretical and methodological basis for the study of the psychological, consciousness and personality development of primary school students in activities – communication and social relationships, the philosophy of dialectical materialism and historical materialism has indicated the historical and social nature of primary school students' psyche. In another hand, the achievements in research on primary educational psychology contribute to the affirmation, concretization and development of dialectical and historical materialistic views of philosophy into a particular scientific field.

#### ***1.3.2. Relationship between primary educational psychology and general psychology***

General psychology is a basic science of primary educational psychology as it offers the theoretical tools that are the categories and basic concepts of psychology for primary educational psychology to address specific problems in its research area. Also, the achievements of primary school psychology concretize and make the theory of general psychology to be concretized and dig out the theory of general psychology.

#### ***1.3.3. Relationship between primary educational psychology and primary education***

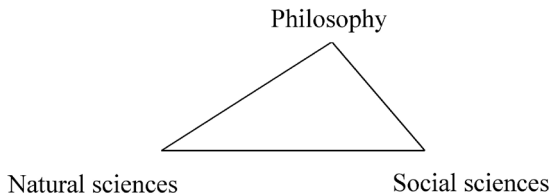
With the research on psychological aspects and grounds of teaching and educational activities, primary educational psychology is closely associated with primary education. The subject matter of primary education is the process of teaching and educating children of primary school age. Having a clear understanding of teaching and educational activities is vital for grasping their psychological aspects. On the contrary, mastering

children's psychology better facilitates teaching and educational activities. Hence, primary educational psychology is an important basis of primary education since it provides primary education with knowledge about primary school students' psyche, psychological characteristics, and the laws of formation and development of primary school children's psyche as both the subject and the object of primary education activities.

### ***1.3.4. Relationships between primary educational psychology and some other sciences***

Primary school students are the research population of various sciences. However, each scientific discipline considers a certain aspect of the human being as a research focus. Educational psychology takes a special place among the sciences that study primary school students.

Psychology is related to many different sciences. According to Russian psychologist **B. G. Ananhiop**, psychology is the center of the triangle with three vertices: natural sciences, social sciences and philosophy.



- Primary educational psychology according to the activity-based approach is methodologically based on dialectical materialism and historical materialism in research on psychological phenomena. On the other hand, the achievements of primary educational psychology according to the activity-based approach contribute to asserting the most general laws of the world (nature and society), through renovating nature, society and humans discovered by dialectical materialist philosophy;

- Primary educational psychology is allied to the natural sciences, especially advanced neurophysiology. Accordingly, advanced neural activity is the natural basis of the human psyche, and the achievements of biology, genetics, and evolution doctrine have contributed to clarifying the formation and development of primary school students' psyche;

- Psychology has a relationship with social sciences: Many research results of primary educational psychology are applied to many areas of social life such as education, school and social management, sociology,

and culturology. Besides, the achievements of social sciences have been devoted to educational psychology's handling of the nature and laws of psychological phenomena arising in primary school students.

To sum up, primary educational psychology is the basis for educational activities at primary schools. As suggested by K. D. Ushinskij, education needs a comprehensive understanding of humans before educating them. Based on the knowledge and understanding of primary educational psychology, teachers are aware of children's developmental level, from which they can choose appropriate educational objectives, content and methods, and support them in finding the most suitable learning method, as well.

### **Summary of Chapter 1.**

Chapter 1 presents an overview of the general problems of primary educational psychology according to the activity-based approach, including activity categories, focuses, topics, methodology and research methods of primary educational psychology; and the relationships between this scientific discipline and others relevant.

Primary educational psychology examines psychological phenomena arising and developing at primary school age in school educational activities. These psychological phenomena are the research population of primary educational psychology. Their nature and laws are the research focuses of primary educational psychology.

Primary educational psychology has the following tasks: Investigating the psychological basis of educational perspectives and philosophies used in educational activities; Employing and using educational effects in accordance with the psychological basis to obtain the best educational effect; Figuring out the laws in knowledge, skill and technique formation, and intellectual activities in teaching and education; Pointing out the laws of students' personality formation and development in teaching and education; Establishing the psychological basis of teaching and educational control in schools, in society and at home; shedding light on psychological aspects in the teacher-student relationship, relationship between educational forces and the impact of educational forces on students; pinpointing aspects of cultural psychology and social psychology of teaching and educational activities, thereby determining the scientific basis of teaching and educational activities in cultural and social differences between teachers and students, best facilitating teaching and education; Providing a scientific basis for all-inclusive family and community educational activities, creating a lifelong learning society.

## Chapter 2.

### **THEORY OF CHILDREN'S PSYCHOLOGICAL DEVELOPMENT USING ACTIVITY-BASED APPROACH**

It is the diversity and complexity of children's psychological life that makes it difficult to be fully and completely captured. In psychology, there has been, hence, so far, different theories about children and their psychological development. Different psychologists view this problem from different perspectives while no theory has solved it thoroughly. Each theory has its own merits and drawbacks. Therefore, a general understanding of psychological theories about children and their psychological development will assist teachers in obtaining a more complete and comprehensive view of children's psyche and, ultimately taking reasonable and effective methods in their educational activities. The following are the main contents of the activity-based psychology theory of children's psychological development.

#### **2.1. Concepts of children and children's psychological development from perspective of activity-based psychology theory**

##### **2.1.1. Concept of "children"**

Succeeding the views of J. Russo, activity-based psychology supports the opinion that children are not miniature adults. They are both quantitatively and qualitatively different from adults. This is the fundamental and main difference. Accordingly, adults have psychological functions and structures that are not found in children. Adults and children are different in the structure, function and laws of psychological life. Therefore, to trigger children's development and educate them successfully, adults' effects must be consistent with children's psychological characteristics in each particular stage of development. For example, teaching content, teaching methods, and communication method must match each certain age of students.

On the other hand, activity-based psychology affirms that despite having different quality of psychological life compared with an adult's, a child from birth is already a member and an entity of society. He or she is not a mere being but a social being. He or she must be, therefore, treated humanly. In particular, helping children perceive the social culture created by mankind by their own active activities is determinant for children to become adults and have a personality.

Under different living conditions, development level of the social culture and children's activities in different historical periods, the psychological life of different generations of children are not the same. Each generation of children has its own needs, aspirations, attitudes, feelings, thoughts, etc. that are different from the previous and subsequent generations, in other words, children are products of the times. Each historical time has its own generation of children. Therefore, universal education for all historical times is impossible. Educational goals, contents, methods, etc., in each historical time, need to be suitable for its generation of children. A correct-proven educational goal, content, and method suitable for the previous generation may no longer be effective for the next generation. For example, the teaching content that forms skills by generalizing experience is suitable for children of the first industrial revolution era (18th – 19th century), but it is no longer suitable for children of today – the era of scientific-technological revolution. As such, the conventional teaching contents and methods have increasingly been appearing to be less fruitful in modern schools. It is, therefore, vital to innovate objectives, contents, means and methods for enhancing the quality of teaching and education at all levels. This innovation is not only short-term or immediate but also long-term and constant. Preschool and primary education nowadays does not require a partial change in contents or methods separately, but a comprehensive and thorough innovation in all elements of preschool and primary education.

### **2.1.2. Concept of children's psychological development**

Activity-based psychology addresses the problem of children's psychological development using the development theory of dialectical materialism. Accordingly, development means a process of movement and transformation of things and phenomena from a low, simple level to a high, complex level. It is a quantitative accumulation process, leading to a qualitative change and leap; a process by which the new is born on the basis and dialectical negation of the old – a change in the structure and function of

a thing. The motivation that promotes development is the contradiction between the opposites in the thing itself.

Exploring children's psychological development from the dialectical materialist perspective, activity-based psychology holds that children's psychological development is the process of transformation from a low, simple level to a high, complex level, of the structure and functions of children's psychological life. It is not a quantitative increase or decrease of function(s) or element(s) in the child's psyche but principally a process of qualitative change. It is a gradually quantitative accumulation that creates a qualitative change in children's psychological life. Such development included relatively steady periods and dramatic leaps and bounds.

Children's psychological development is associated with the emergence of new psychological elements, structures and functions from the existing ones, and dialectically negates them. It is the process of repeatedly restructuring children's psychological life, forming specific psychological structures in children, and eventually shaping a relatively complete psychological structure in adults – a personality.

The driving force for children's development is the contradiction between the existing psychological functions and structures and the needs of social relations and activities in which children take part. Children are motivated by needs on lacking psychological functions without which they cannot effectively conduct those new activities or relationships. Such psychological functions are not innate or inherited or directly acquired from the environment but result from children's active learning process. It is the process of children actively working with the surrounding world of objects created by mankind. That world contains the social culture of mankind and human capacities that need to be absorbed and made their own by children to become adults. It can be said that activity is the true driving force and the basic method of children's psychological development. It is the activity that gives rise to the conflict within a child and is also the only way to help the child acquire the human capacities to resolve such conflict. Psychological functions get richer and better through children participating in new activities or working on new subject matters.

Suggesting that activity is the driving force and method for child development, activity-based psychology also indicates that children can carry out activities to develop themselves only under the organization and guidance of adults in communication between children and adults through which children understand the purposes, requirements, contents

and methods of activities with objects and their activities are controlled, checked and assessed. This is the only way for children's activities to be effective and their understanding of the social culture hidden in the world of objects, formation of their own, and establishment of new psychological functions. Therefore, communication with adults is a condition of children's psychological development. Besides, to become adults, children must acquire social norms, standards and values also through communicating with adults. Communication is also the driving force and method of children's psychological development.

Despite evaluating innateness and heredity not to be determining factors, activity-based psychology does not underestimate their roles in children's psychological development. Although innateness and heredity do not determine the content, direction and limit of psychological development, they constitute the material premise of this process. Psyche develops only in a biologically normal human body. Moreover, innateness and heredity affect the speed and pace of psychological development, especially human capacities and temperament. Despite indispensable factors, innateness and heredity do not determine individual psychological development.

### **2.1.3. Fundamental features of children's psychological development**

In addition to the general laws of development, children's psychological development has its own characteristics. The following are principal characteristics:

#### *2.1.3.1. Unevenness of children's psychological development*

Psychological functions and structures of development are uneven, but different in time, speed and pace of development. At one point in the development process, children's psychological structures and functions have different levels of development. Some develop and complete earlier than others. Such unevenness manifests itself in all aspects of development, but most evidently in the following points:

– The unevenness between the physical and psychological well-being of children. Despite their close association, these two aspects of development do not completely match each other. Sometimes, physical development is extremely rapid and vigorous, but mental functions grow more slowly and vice versa. For instance, a child in the first grade has nearly the same body as that in preschool, but its psyche strongly develops with many new psychological functions (specific thinking, intentionality, self-

control and behavior reflection), making it qualitatively different from a preschooler. Meanwhile, at puberty, the child's body grows rapidly and the limbs lengthen, but the psychological functions responsible for controlling muscle movement develops more slowly. That is why its actions are often butterfingereed and inaccurate;

- The unevenness is observed right in the development of children's psychological life itself. In the child's psyche, the speed, intensity and pace of development of its aspects, structure and functions are uneven. Some psychological aspects, structures and functions appear, develop and complete earlier than others. By way of example, the three basic aspects of a child's psychological life comprising cognitive, affective, and behavioral aspects do not develop in the same and uniform way. The cognitive aspect appears very early and expands quickly, and, therefore, completes early. In contrast, the affective aspect develops later but keeps growing and completing long after, even when they become adults. Especially for modern children, their cognition grows very fast; hence, they are wise at an earlier age than previous generations; but attitudes and sense of duty develop slowly. This results in an "asynchrony" in the psychological life of children and poses new, complicated problems in the education of children today.

The uneven development is also seen in every aspect of children's psychological life. For an instance, in children's cognition, their sensory and perceptual processes appear, develop and complete much earlier than thinking and imagination. Meanwhile, cognitive processes develop much earlier than their qualities such as sensitivity, observation, or thinking. In affective life or actions, the will is also in the same condition.

- The speed and pace of development are uneven. The whole psychological life, as well as its individual functions, do not develop steadily in both speed and pace. A child's growth is rapid and slowed down at different times. For example, in the early years of primary school, a child changes so quickly, then he experiences a period of relative stability towards the end of this education level. In his teenage years, he has quick changes. In other words, children's psychological development is a process that has both gradual periods and sharp periods.

In short, children's psychological development involves a complicated and uneven process in many aspects and such unevenness should be taken into account for effectively educating children. Educational content and methods must be appropriate to each specific aspect in each specific stage in children's psychological development.



### *2.1.3.2. Completeness of children's psychological development*

Unlike the adult personality, an entity with a complete structure, the child personality is an incomplete entity. Yet, children's psychological development is complete for the following reasons:

– Although a child's personality is, at all times, an incomplete entity, its development always tends to reach the completeness and perfection of the entire psychological life and, each individual function, as well. During this development, psychological processes (e.g., thinking) are formed, evolve and become complete and psychological states are established and gradually stabilized, becoming psychological attributes that are combined to create systems and ultimately shape a complete personality;

– At its developmental stages, children's psychological life is not as complete as adults', but it is itself a complete entity, typical for a certain age. It means, children's psychological life in each stage of development is a system, as a whole, with its own quality, and a complete structure with certain functions.

The completeness of children's psychological development depends on various factors, namely: living and activity circumstances, education and physical characteristics, most importantly, behavioral motivations and activities of children. In education, it is particularly vital to ensure such natural development in compliance with the inevitable laws and specific characteristics of each stage. Any rough, unscientific and improper intervention can disrupt the completeness of the development process and have long-lasting consequences in children's psychological life. For example, early writing teaching in preschool and propositional thinking teaching in primary school not only break up the completeness of this age group but also affects their later development of thinking. Considering and taking educational effects in accordance with the natural development of children is a key requirement of democratic and humane education.

### *2.1.3.3. Flexibility and offset of children's psychological development*

A child's body and nervous system are not yet fully developed and nerve pathways are more likely to change; therefore, it is pretty flexible. On the other hand, it is not highly stable and sustainable as the formation of his psychological structures and functions are still in progress. Hence, children's psychological structures and functions do not stand still, but are likely to change under the impact of living, operational and educational

circumstances. This means that education can impact children so strongly that it can change the content and direction of the development of their psychological functions and life structure. Obviously, the younger a child is, the greater the power of education is and vice versa.

It is the flexibility of the nervous system and the psychological life that also creates an offset in children's development. This occurs when a certain psychological function is underdeveloped or impaired, while others develop stronger to make up for the missing function. For example, children with visual disabilities have more developed hearing and touch than those of normal children; or children with poor abstract thinking can be endowed with stronger visual behavioral thinking or visual-figurative thinking or mechanical memory...

These specific characteristics of children's psychological development are possible trends but do not govern this process. Children's psychological development first and foremost follows the basic laws of general development and is up to living, operational and educational circumstances. It is noted that psychological development does not adhere to biological laws but follows social laws. Biological development is only the premise of psychological development, without determining the content and level of such development. A human body is compulsory to become a person, but without living in society and acquiring the socio-cultural culture, a child cannot become a real person with its full meaning.

#### ***2.1.4. Schooling and children's psychological development***

Children's psychological development is the process by which children acquire the culture – society by their own active activities through communication with adults – that is the general principle of such development. In the early stages of human society, children's acquisition takes place mainly in a non-specific way, everywhere and every time in their lives. This acquisition method no longer meets the requirements of children's development in a developed society. Amid the development of human culture – society, children's acquisition is required to be organized specifically with far faster speed and higher quality and efficiency than the old method – that is the education at school. Schooling is the process of organizing children's psychological development in a new way, the school method. This process purposefully, consciously, and methodically influences children's development and acquisition of socio-historical experiences so that human qualities are established in children and meet the requirements of society. The

role of the school method in the development of children is embodied in the process of organizing life, mainly playing activities in preschool and the teaching process in primary school. The real role of schooling in children's psychological development has not, however, been agreed upon in psychology. Its role is underestimated by some psychologists while others believe that schooling has a decisive role in children's psychological development. Meanwhile, the majority of psychologists following the activity-based approach support the viewpoint that schooling plays a key role in the development of modern children.

#### *2.1.4.1. Theory of activity-based psychology on children's psychological development in the educational process.*

Children's psychological development is a complex and diverse process under the influence of many factors and the control of many different conditions. In such context, activity-based educational psychology has pointed out the specific role of schooling and teaching as well as the significance of its specific elements for children's psychological development.

##### *– Teaching content and students' psychological development.*

From the perspective of activity-based psychology, teaching content is crucial in the role of schooling in children's psychological development as the schooling's content perceived by children will create children's psychological content. Nevertheless, the effects of teaching content on different aspects of children's psychological life are not the same since psychology has not fully clarified the content and mechanism of the formation and development of children's psyche. That is why education cannot fully control students' psychological development in teaching and education.

##### *– School knowledge and students' psychological development.*

Foremost, schooling has the most significant role in the general pattern and structure of the development of children's intellectual and knowledge systems, in which the teaching content is decisive for children's development aspect. Theoretical and experimental studies in primary school students by psychologists using activity-based approach (P. Galperin, D. Enconin, V. Davydov, Ho Ngoc Dai, etc.) have verified that the intellectual development of primary school students is not an absolute and age-invariant process. Experiments show that reasonable changes in teaching content will bring about fundamental changes in the intellectual development of students at early primary school years. Of course, to do this, it is necessary to identify the knowledge and methods of delivery suitable to children's developmental

ability. In the innovation of teaching content in this direction, the complexity of knowledge and mode of action is a decisive factor in children's intellectual development. For instance, according to the experiment by J. Piaget, at 7–8 years old, children have genuine intellectual manipulation (conservation ability) and solve the “Piegetian” phenomenon. In the experiment, two identical cups of water with the same amount of water were placed in front of the child and the child confirmed that the amounts of water in the two cups were equal; then, the water from either cup was poured into a tall but smaller cup or a deep dish, the child under 7 years old would assume the two amounts of water were no longer equal (non-conservative phenomenon). According to Piaget, this non-conservative phenomenon is age-invariant. Yet, experiments have evidenced that a five-year-old child has a conservation ability if he is not only seen but instructed to conduct the experiment himself. The child will then confirm that the amount of water does not change no matter it is poured into containers of different shapes and sizes. Likewise, Piaget suggests that formal logic manipulation can only really appear in children at 11–12 years old; hence, it is not possible to teach true scientific knowledge to students in early primary school years. However, experiments by V. Davydov and Ho Ngoc Dai indicate that first graders can comprehend abstract scientific concepts such as mathematical set, number, addition and subtraction, and syllable, sound and accent in the Vietnamese language if children's activities can be organized appropriately. Grasping scientific knowledge fundamentally changes the development of children's thinking and acting ability, especially in general operations. As such, a profound qualitative change occurs to the mechanisms and stages of children's intellectual development. Children can solve situations by generalized modes of action, other than specific and unique experiential skills like other children of the same age. For example, students who master the concept of addition will be able to apply it in situations that require the combination of parts into a whole. Meanwhile, those learning the simple addition skill only do not have such ability but are merely able to solve situations similar to what they have learned (they are able to perform addition problems within 10 if they learn addition in this range only, without dealing with situations of the same nature beyond 10).

Essentially, each scientific knowledge is a generalized mode of action (a logic of operations) corresponding to an individual within a population. Therefore, when acquiring a piece of scientific knowledge, children learn a generalized logic of operations to solve different situations of the same nature, other than individual situations like when they acquire an experiential

skill. For instance, when children understand the rules, the consonant “cð” when going before the vowels “e”, “è”, “i”, must be expressed in letter “k”, they can write correctly even in specific situations which they have not learned. In contrast, children who only learn to write the letter k in specific cases cannot decide the correct letter (k) on their own when they encounter a word within this rule that they have not yet been learned. The acquisition of scientific knowledge and the formation of a generalized mode of action not only helps children to solve new situations that have the same nature as the learned situations but also supports them to easily solve inverse and forward problems which are challenges for those learning specific skills only. Let's consider the problem below: “A boy has four candies left after giving three candies. So, how many candies does he have in all?”. This problem will make it difficult for students who have only learned simple addition and subtraction skills and, therefore, do not grasp the general meaning of arithmetic operations.

In brief, the teaching content characterized by the mode of action that children acquire (knowledge or skill) determines the pattern and structure of the formation of the knowledge system and intellectual development – a core development aspect of children. In virtue of the current level of psychology and other basic sciences, through teaching processes, the formation of a fundamental scientific knowledge system in primary school students as the basis for children's generalized skills of action can be obviously organized and controlled.

– *Development of psychological mechanisms in knowledge application.*

Children use the same modes of activity (knowledge) with different results. That depends on the characteristics of the psychological mechanisms underlying the formation of specific activities (manipulations of intellectual actions such as analysis, synthesis, abstraction and generalization, materialization) which are generalizable. The generality of these operations will determine the results of applying acquisition methods. The formation of these mechanisms is significant to children's psychological development. It goes through certain stages and is not constant in time, but depends on the teaching content and methods in school, first of all, on the content – the type of knowledge learned by students. Despite being in the same class and the same age, students will have different levels of application, depending on the content and methods of knowledge acquisition used. For instance, some first graders learning addition in the traditional way in which they must accept and memorize each specific calculation such as  $1+1$ ,  $1+2$ , can only solve similar problems to those specifically learned, that is, the gen-

erality of children's actions is very poor. On the contrary, when students learn addition on the basis of the part-total relationship, from a particular addition case, they can apply it to solve all other cases of the same nature, which means that their actions are already highly generalizable. There is a broad "field" of application of this part-total relationship, including learning phonetics, nature and society, etc., not limited to solving operations. In short, children's ability to apply acquired knowledge depends on and varies by teaching content and teaching style.

Thus, in terms of children's cognition and actions, schooling plays a decisive role. Through teaching, adults can organize and control this aspect of their development (knowledge and intellectual manipulation). This, however, does not support the misconception that teaching can firmly organize the entire psychological development of students. Science has not fully understood human mental life and has not really made clear the path and mechanism of its formation in a person's life. There are two other fundamental aspects of the soul: beauty and faith.

– *Impact of teaching on children's beauty perspective.*

Beauty perspective is an essential aspect of a true personality, an important element of culture and humanity. As there is a saying that beauty will save the world, the education of beauty for the young generation is very necessary, especially in modern life. At school, students are given access to beauty mainly through art subjects – the pinnacle and quintessence of human beauty. However, unlike scientific knowledge, psychology has currently little understanding of the structure and content of art psychology, the psychological path of creating and perceiving an artistic image. It is only known that an artistic image always has two sides: literary devices – meaning and content – ideas. Literary devices represent a necessary condition for understanding and creating an artistic image, without which one cannot create or perceive art (to cast pearls before swine). Literary devices have a general, explicit social meaning that can be taught as reliably as scientific knowledge. If the meaning of the devices is common to everyone, then the individual meaning is very personal to each person. With the same work, each person will create their own artistic images. The ideas of each individual must create the very life of art, but it is not clear about the psychological content and structure. It has been so far only known that, unlike scientific knowledge, the artistic image contains sensory cognition, thinking, imagination, emotion and other aspects of humans and is made from the entire life experiences of each individual. With his or her own life experiences, each person will

build for himself or herself a “version” of the artistic image he or she approaches. Therefore, it is very difficult to teach art ideas to students as it is required to let them live the life corresponding to the work and guide them to transform their life experiences to build their own artistic images according to the models created by the artists. These are both very tough tasks for the school today because it is not able to organize a real life for students. Besides, the way to build an artistic image from living materials is not clear even to its author. In a nutshell, the current schooling guarantees to reliably teach students the literacy devices only and has not been able to do so with the content side. The teacher only plays the role of providing the devices and directions for students to access the artwork.

– *Teaching and children's moral development.*

Morality is the core of the human soul and one of the foundations for the existence of human society. It creates the humanity of each individual. Moral education is always a fundamental aspect of children's character education in every school despite being an extremely hard task for many reasons. One of the underlying causes is that the current scientific understanding of the formation of personal morality remains very little and insufficient to create a solid basis for influencing this process in a reliable and effective manner. Personal morality is only believed to have two sides: psychological content and behavioral form. The content of morality is a very complex and diverse psychological structure, comprising many aspects and many elements, the core of which is faith. Thanks to faith, humans have a healthy spiritual life and naturally moral behavior (non-instinctive behavior). The content and formation mechanism of faith as well as the entire psychological structure of morality are scientifically unclear. Hence, moral education for children in school is mainly based on the experience and pedagogical reputation of the teacher. This process is very challenging without a completely certain outcome. In contrast, the behavioral form is a practical, relatively independent and controllable side of human morality. The content and formation way are quite clear – in fact, it involves forming in children a system of moral behavioral habits – also known as a lifestyle. This content can be certainly delivered to students at school. Therefore, in modern schools, the moral education of the young generation targets forming a civilized lifestyle for students.

In summary, education – schooling is not absolutely effective for the psychological development of children today. Yet, schooling can certainly guarantee the acquisition of scientific knowledge, intellectual develop-

ment, and the formation of generalized modes of behavior, provide artistic devices, and establish moral habits for the vast majority of children with normal physical and psychological development. The certain benefits of schooling are the psychologically core and necessity to ensure their good lives and work in future society.

### ***2.1.5. Children's personality development in teaching and education***

Teaching and education help form the core of students' psychological life, that is, they can fundamentally change their personalities, in many aspects, the most important of which are as follows:

– Development of personality tendencies: learning to be performed by students in the conditions of teaching and schooling is a difficult, complicated and long-term activity. Therefore, it requires in students a stable and powerful motivation system that both drives students to study and is the basis of forming the main motivation system (personality tendency) of the establishment, development and perfection of their personalities not only in the present but also in the future. In teaching and education, there are many factors (motivations) of personality tendencies in students, but the most important are those of the main meaning. The following are the main tendencies that can be formed in primary school students:

+ Learning tendencies: When they first go to school, most students are usually only interested in the superficial features or learning outcomes. Then, in some students, these tendencies develop into those general toward the learning activity itself. Such students usually set good academic goals, obey the teacher, study hard, complete the school tasks and try to get the best results. In these students, there may be a superficial “academic” learning style.

+ Cognitive tendency: The learning of some other students at first coming to school is only shallow, then gradually shifts towards the content of knowledge or the discovery of such knowledge. These children are motivated to learn mainly by an interest in new knowledge or solving new problems. However, these students often have equally positive learning attitudes towards the disciplines or subjects. They are only passionate about learning their favorite disciplines or subjects while other subjects are taken lightly. Even some children gradually form the “amateur” learning style.

+ Relationship tendency: from autism when they first enter school, some students' learning motivation shifts towards relationships and common activities. Then, the factors that motivate children to learn are relationships with surrounding people (adults, siblings, friends, etc.), most



importantly, classmates. Therefore, children's learning activity is driven mainly by the need to assert their position in the group, social relations or common activities.

The personality tendencies that are formed will determine the content, nature and actual outcomes of students' learning and behavior. In addition, they are also the premise and the basis of the formation of the mainstream personality tendencies of children's later development stages. For instance, students whose dominant tendency is learning are likely to become industrious, disciplined, but stereotypical workers with little interest in creativity.

Students' personality tendencies are established in the learning activity itself and are determined by the teaching conditions of the school. Teaching styles with different content and methods will bring about different dominant motivational systems. The learning tendency is, of course, not constant and unchanged. It can be modified with the change of learning activity by age.

– Activity's psychological structure development: like all other human activities, students' learning activity also has a structure consisting of certain elements and their relationships. It is students' learning activity structure that determines the productivity and quality of this activity of the children and the personality qualities formed in such stage and is relied on for forming psychological structures of other later activities. The entire structure of children's learning activity as well as each of its elements is born in performing their learning activity. In the structure of learning activity, purposes and their relationship with motivations are decisive factors. The purposefulness of activities is established in students during learning at primary school. They are gradually able to propose and control actions according to a predetermined purpose. After that, they will gradually have the skills to establish the relationship between purposes and learning motivations. It is the ability to change the purposes and actions themselves when the motivations change, forcing the purposes to serve the motivations. The organization of activities is also formed through learning. In such process, children can plan actions according to the purposes, choose corresponding methods, means and manipulations for them. Thus, the psychological structure of students' learning activity is set up in the process of doing this activity. It is noteworthy that the formation of the psychological structure of students' learning activity both impacts the learning outcomes and acts as a precursor to the formation of the psychological structure of students' future activities. Meanwhile, the formation of the psychological structure

of students' learning activity is up to the teaching type adopted by the school and is decided by the teaching content and methods.

– Cognitive mechanism development: Students' cognitive content, structure and reflection mechanisms change during the learning process in which thinking development plays a special role. Through the acquisition of the scientific knowledge system at school, real scientific thinking operations are created. On the other hand, school knowledge is a novel system of thinking means for children, outside the schooling process. The acquired knowledge content itself also changes the reality reflection by children. Besides, children's ability to associate and synthesize different signs of things, especially abstract and general signs become better. Yet, like other psychological factors, different teaching styles have fundamentally different effects on students' cognitive and thinking development.

Thence, in teaching, students' mechanisms for applying knowledge and skills, knowledge systems and modes of action, and some basic attributes of personality are developed. In other words, the core elements of students' personalities and psyche are built and developed in the teaching process.

### ***2.1.6. Traditional education and children's psychological development***

The school was a great revolutionary step forward in mankind's child education. For the first time in history, the development of a section of children is held specifically in a specific space and time – the school with specific goals, content, and methods and by experts – teachers. Traditional schools have a role in a certain historical period, contributing to fostering talents and training a small high-level workforce for mankind. Traditional schools of the agricultural and handicraft civilization has a common teaching style corresponding to one fundamental characteristic: the dogmatic nature of its goals, content and teaching methods. Teaching content is mainly the available formal knowledge and skills which are conveyed by the teacher through announcement and explanation to students and implicitly acknowledged and memorized (in case of knowledge) or practised fluently (in case of skills) by students. This teaching type principally develops mechanical memory and builds on students' existing knowledge. A little development is observed in traditional teaching since it mainly focuses on imparting knowledge and skills utilizing experience and, therefore, does not result in children's qualitative thinking development. Particularly, the teaching using this teaching type cannot control his students' development. Objective requirements of industrial

production in the 18<sup>th</sup> and 19<sup>th</sup> centuries forced schooling to be changed and improved in terms of content and methods. Scientific knowledge is introduced and increasingly dominant whilst teaching methods go beyond information provision through visual explanation and illustration. Changes were also observed in the learning activity. Students not only memorized the available knowledge but also that acquired in terms of form, restructured and applied according to predetermined patterns with instructions (practice). This new type of teaching derived from conventional teaching is called traditional teaching. In fact, albeit its changes, compared to conventional teaching, traditional teaching has not yet made a fundamental change in children's psychological development. Its teaching content remains mainly formal knowledge in no combination with practical actions; Knowledge is not the real basis of skills formed in children. The teaching is still delivered by the method the teacher gives and the students absorb the available knowledge by way of experience based on superficial, intuitive and sensory signs; Learners principally receive what is available from the teacher, but have not been able to conduct real independent and active learning activities. As such, besides its benefit to increase students' knowledge and skills, traditional teaching has not created children's qualitative development compared to the previous age. It is important that true scientific knowledge, rational thinking, the ability to act and generalizability in proportion to the acquired knowledge and the ability to conduct real learning activity at school has not yet been established. Therefore, traditional teaching has not yet satisfied the production's requirements for workforce quality in the era of science and technology.

According to traditional psychology, primary school children are only able to think intuitively – figuratively and experientially based on signs, sensory relationships, and the appearance of things. Students of this age – especially students of the first grades – lack abstract – logical thinking based on essential signs and regular generalized relationships. Hence, traditional teaching's principal focus is external attributes that are directly perceptible in specific situations. Concepts are the products of students' generalization of things' external attributes. As a result, students acquire empiricist concepts and thinking. Meanwhile, children's ability to act is limited to practical, specific, single skills acquired through dealing with particular situations and is, therefore, not universal. For instance, students learn phonics from letters o, a, etc., and learn numbers and operations from numbers 1, 2, 3, and so on and  $1 + 1$ ,  $1 + 2$ , etc. Hence, the concepts of letters, numbers, experience-based addition and some practical skills in

reading, writing, and addition. Such learning is not fundamentally different from the way children learn to speak and count in the previous stage. That is why there is a quantitative increase in first graders' knowledge, skill and thinking systems only, rather than a qualitative change.

*Briefly*, traditional teaching lags behind children's development, targeting and perfecting existing things rather than what students possibly have to promote their development. Therefore, this type of teaching has little impact on students' psychological development and has increasingly revealed its inherent drawbacks amidst the increasing requirements of social production. Local and one-sided improvement and innovation attempts have all been proved ineffective. It requires comprehensive and radical innovations in the teaching process at schools.

### **2.1.7. Main directions of teaching innovation to develop students' psyche**

Amidst increasingly urgent requirements of society, especially the strong development of social production in the context of the scientific and technological revolution that began in the middle of the 20<sup>th</sup> century, there have been many studies for 50 years in the world's education, including the (former) Soviet Union and Eastern Europe as well as Vietnam to seek to innovate and improve the schooling content. These studies use different directions based on different theoretical starting points. The following are some of the major research directions associated with Marxist education and activity-based psychology:

2.1.7.1. Strengthening teaching: To determine the relationship between teaching and students' psychological development, thereby building a new proper primary education program that is more effective in promoting promote students' psychological development than traditional teaching, I. V. Zankov has organized a rigorous and strict pedagogical experimental system. His teaching experiments are based on a new principle: theoretical knowledge plays a dominant role in teaching content, teaching is conducted with a high degree of difficulty and at a fast pace, and students learn consciously. I. V. Zankov's experiments indicate that traditional teaching has not effectively promoted primary school students' psychological development ability. According to the experiment results, it only takes three years for children to complete a four-year program in a quality way. Despite positive results, I. V. Zankov's experiments have just improved traditional teaching, without a fundamental reform of the primary schooling's content and methods.

2.1.7.2. Problem-based learning: Modern production requires improving traditional teaching through helping students acquire knowledge extensively and have scientific and creative thinking. Problem-based learning relatively well responds to the foregoing requirements with the basic content of creating “problematic situations” in the teaching process. The teachers will lead students into these situations, creating contradictions in their cognition, stimulating and guiding students to actively think and use existing knowledge and methods to solve tasks, thereby assimilating and applying new knowledge. Problem-based learning enables students to acquire knowledge profoundly and at an applicable level to explain the corresponding phenomena, especially, contributing to forming children's logical and scientific thinking. Nonetheless, problem-based learning has not made a fundamental breakthrough in traditional teaching for many reasons including improper teaching techniques and teaching results. Students have just had a deep understanding without being able to apply the knowledge they have learned in real life.

2.1.7.3. Teaching according to the strategy of students' psychological formation and development: Given unsatisfactory quality created by traditional teaching reforms to meet the increasing requirements of the scientific and technological revolution, some activist psychologists have put forward the view that a new teaching method qualitatively different from traditional teaching must be developed. In this regard, there are many different innovation directions, typically the viewpoint of “teaching according to the strategy of students' psychological formation and development”. This viewpoint is based on L. S. Vygotsky's thought on teaching and the achievements of primary school child development psychology according to the activity-based approach with two bases:

+ The perspective of teaching toward the zone of proximal development suggested by L. S. Vygotsky is based on two points: 1/ Theory of zone of proximal development: Children's psychological development at each point of time have 3 zones: acquired, not acquired and proximal development. The zone of proximal development is the zone of development that is not acquired by children but can be filled by themselves based on acquired abilities under adults' organization. Accordingly, acquired abilities are a means for children to take possession of what is not available to them; 2/ In addition to focusing on and perfecting the acquired area, teaching should be directed at the zone of proximal development, stimulating, organizing, and guiding students to use what they already acquire to turn what is not

acquired into newly acquired abilities, contributing to their own development. Such teaching type not going after but going ahead, organizing and bringing about the development create development in children, provide that the current level and development trend of students' psyche, as well as the movement of the educational content itself, should be mastered.

+ Extending the views of L. S. Vygotsky, D. B. Enconin, V. V. Davydov and Ho Ngoc Dai suppose that teaching can actively create and develop students' psyche. Accordingly to them, it is necessary to fundamentally innovate the schooling content and methods starting from F. Engels' viewpoint that "*creating things is the best way to understand such things*". They and their colleagues have developed a new teaching strategy to build theoretical thinking and develop the potential abilities of primary school students. Experiments conducted have confirmed that, in traditional teaching conditions, students at earlier primary school years, emotionally visual – figurative thinking still prevails. Towards the end of primary school, elements of abstract-logical thinking begin to appear in most students. The point is that such milestone is not a fixed, rigid one. It has been shown through studies have shown that students from the very beginning of primary school can acquire authentic scientific knowledge and have abstract – logical thinking. However, it is completely up to the schooling content and methods to turn this possibility into reality. Based on empirical knowledge and skills, traditional primary education uses visualization, superficial comparison and practice as the main methods. With this type of teaching, students mainly concentrate on observing the external signs of the learning materials in isolation from the real subject matters of learning; Children's learning action is not geared towards the subject matter of learning, but only on the objects and the non-essential relationship of the visual signs (for example, the first-grade Vietnamese language curriculum of Vietnam). Through this type of teaching, previously acquired psychological functions are strengthened and completed while the real development of children cannot be obtained. D. B. Enconin, V. V. Davydov, and later Ho Ngoc Dai have suggested new teaching content and methods aimed at the potential of primary school students' development, delivering them from the very beginning a system of scientific knowledge and theoretical thinking. This teaching strategy relies on the basic perspective schooling must follow and combine the logic of natural development of scientific knowledge and children's psyche. In view of this, students make their own educational products, create their own knowledge, scientific

concepts, and intellectual development by their own actions following the subject matter's development logic under the teacher's guidance and organization. In this teaching strategy, what students have acquired at the pre-school stage of development (visual – figurative thinking, symbols of things, experiential skills, etc.) is not what is focused on in primary school, but a means for children to acquire knowledge and logical and scientific thinking. The essence of the new educational strategy is that existing knowledge delivered by means of explanations and illustrations should be avoided, but children should participate in activities in a way that corresponds to scientific concepts to be formed (products), instead. In other words, the appropriate organization of learning activity is vital to the quality of teaching – children's psychological development. Therefore, to create an education product (knowledge, intellectual, emotions, etc.), it must be able to organize corresponding activities for students.

The superior efficiency in students' psychological development of this teaching style compared to the traditional one has been proved by experiments in the former Soviet Union and Vietnam.

The following points are noteworthy when determining the leading role of schooling in students' psychological development:

- + The teacher's pedagogical impact on students' psychological development is indirect through learning activity and children's interrelationships with the living environment.

- + Education or teaching and children's psychological development are two processes in a dialectical, unifying and reciprocal relationship in which education or teaching precedes, stimulates and clear the way for development based on acquired abilities, age and individual characteristics and internal laws of development.

## **2.2. Stages of children's psychological development according to activity-based psychology**

### **2.2.1. Concept of psychological development stage**

Like other sects, activity-based psychology assumes that children's psychological development undergoes certain development stages, representing a period of relative closure with a characteristic, unique structure and a specific quality in children's psyche. Paralleling to changes in age, there is a reform of the old psychological structure and a completely new psychological

structure with a qualitative spike in children's psychological well-being. Each stage of development reflects a quantitative accumulation before qualitative changes and has a crucial position and role in the whole development process.

Each age stage is determined by a complex and diverse set of factors, including:

- Living conditions (especially society's needs for children, and actual characteristics);
- Types of knowledge and methods of knowledge acquisition by children (activity and relationships);
- Features of children's physical development;
- Children's dominant activity.

Among these factors, the dominant activity constitutes the decisive factor that characterizes age development. In each stage of development, children participate in many activities, but there is one activity that governs qualitative changes and psychological structure of children during such period, called the dominant activity. The dominant activity does not take up the most time but plays a decisive role in children's psychological development in a certain stage. A dominant activity can be determined according to the following bases:

+ A dominant activity is one that first appears, forms and develops in an individual's life, arises based on a dominant activity at an earlier age, and contains elements of another form of activity, dominant in later ages. In primary school students, learning is the dominant activity. It first emerges at this age on the basis of the achievements of playing activity (the dominant activity at preschool age) and functions as the basis of communication activities with peers (dominant activity of secondary school students).

+ A dominant activity continues to exist in later stages (although it is no longer dominant). For instance, playing which is the dominant activity at preschool age, no longer plays a dominant role from primary school age onwards, but it still exists throughout a person's life.

+ A dominant activity brings about a new achievement to age and then become a means of individual life. Thanks to the learning activity, primary school students gain a series of new psychological functions such as knowledge, skills, intellectual manipulation, and will which will then become the basic means for children's future lives such as for studying to higher levels, attending vocational training courses, working, and communication.

Due to that special role of the dominant activity, the core of educating the young generation is to well organize the dominant activity appropriate for the children's age.



The activity-based developmental psychology also notes that:

- Age stage is a relatively defined concept which is the general, typical quality characteristics and psychological structure of the majority of children in a certain period of social history. Age development follows a strict logic, but the specific speed, pace and content of age development in different children and different generations of children can be different;
- Age stage and real age are closely related but not identical. Real age does not directly determine the psychological development according to the age of children. Children's age psyche can develop faster or slower than that of the real age due to factors like living conditions and activities, education and teaching, maturity of the body and nervous system and many others.

### **2.2.2. Division of children's psychological development stages**

The age division is not absolute because children's psychological development is a continuous process without interruption. Activity-based psychology believes that children's psychological development is determined by the dominant activity and it is the new subject matter of the dominant activity that creates new things in children's psyche at each age (D. B. Encolin). Therefore, it establishes a basis for dividing the stages of psychological development, determining the content of such development, and organizing age-appropriate activities for children involves the organization of the system of objects itself. He divides children's activity objects into two classes:

- Class A – other people (communication) – helps children create the emotional side – needs;
- Class B – objects (activity with objects) – helps children create the intellectual-manipulative side.

According to him, each age is characterized by a subject matter class and subject matters are increasingly concretized. As such, children's entire psychological development is divided into two stages: pre-school age and school age, each of which is further divided into specific age substages by subject matter of the dominant activity.

#### *2.2.2.1. Pre-school stage: there are the following ages*

- Newborn age (from 0 to 2 months): the fetal period is continued and completed;
- Infant age (from 2 months to 1 year): the dominant activity is direct communication with adults (A1), thereby forming in children the first social emotions;

- Toddler (kindergarten – from 1 to 3 years old): the dominant activity is playing with surrounding objects (relationship with objects – B1)), helping children form motion functions and use common objects;
- Preschool age (from 3 to 6 years old): the dominant activity is the themed role-playing game (social relations-A2), helping children form norms of social relations and symbolic functions. These functions support children in preparing for forming the learning activity in primary school.

#### *2.2.2.2. School period: There are the following ages:*

- Primary school age (from 6 to 11 or 12 years old): the dominant activity is learning (B2- intellectual manipulations and scientific knowledge). It helps children to form scientific knowledge and intelligence;
- Secondary school age (from 11 or 12 to 15 or 16 years old): the dominant activity is communicating with peers (relationships with unfamiliar people – A3). It helps children form feelings and standards of social relations;
- High school age (from 15 or 16 to 17 or 18 years old): the dominant activity is career-oriented learning (basic knowledge and skills of a career field – B3), helping children form the ability to acquire basic knowledge and skills of career orientation, preparing for vocational training.

At the primary school age, children's dominant activity is learning with intellectual manipulations and scientific knowledge as its subject matters. Therefore, it is fundamental for a primary school teacher to well organize the process of forming the learning activity in students, ensuring that they have the right impact and capture the true object of this activity to establish their own development.

## **Summary of Chapter 2**

Chapter 2 delivers the basic knowledge of activity-based psychology regarding children's psychological development, issues of origin, formation, psychological development, mechanisms, laws and psychological developments stages, and individual's consciousness, helping learners apply acquired knowledge into studying, understanding and explaining psychological phenomena arising in children in education and in life as well as organizing teaching and educational activities.

The main points about children's psychological development from the perspective of dialectical materialistic psychology include:

Psychological development is the result of acquiring human social culture.

Psychological development is the result of the subject's own activities on the objects created by humans in communication relations with adults. It is the dominant activity at each age stage that determines psychological development. Individual psychological development is the basis and companion of the formation and development of consciousness and self-consciousness and personality.

Children's psychological development complies with the following laws: the law of formation of individual psychological functions; the law of development of individual psychological functions (unevenness of psychological development); the law of psychological integrity; and the law of flexibility and offsetting ability).

Children's psychological development is divided into stages. It represents a certain period of development, which is relatively closed. The significance of each stage of development is determined by its position in the development process as a whole. At each stage of development, the general laws of development are always manifested separately. Completely new psychological structures emerge at the transition from one stage of development to another. They are then reorganized and transform the development process.

Each stage of psychological development is up to a combination of conditions: characteristics of the individual's living conditions and activities; system of requirements for the individual in such period; characteristics of the individual's relationships with those around him; the type of knowledge and activities that the individual has acquired and how they are acquired; and characteristics of the individual's physical development.

## Chapter 3.

### PRIMARY DEVELOPMENT PSYCHOLOGY USING ACTIVITY-BASED APPROACH

#### 3.1. Prerequisites of primary school students' psychological development

##### *3.1.1. Position and significance of primary school students' psychological development stage*

Students at primary school age are 6 or 7 to 11 or 12 years old and are attending primary schools. It is the transition from preschool to adolescence, and, at the same time, the first stage, which serves as the most important foundation of school life and the entire later working life of a modern child. At this stage, children undergo extremely important changes in living and activity conditions, preparing for a qualitative change in their psychological lives.

Before the age of 6, children mainly live in family or family settings – kindergartens and preschools. Hence, their social relationships also revolve around family members, classmates and preschool teachers who are pretty familiar and close to them. Their social relationships at this age are primarily emotional in nature.

Entering the first grade, children participate in a new social community – the school where they have new social relationships: 1/ classmates – who go to school together, have to perform the same student obligations, and, importantly, have to perform a common activity – learning; 2/ teacher-student relationship in which the teacher is so knowledgeable and prestigious that their parents must respect and admire... At school, children have to fulfill a series of new responsibilities and requirements in the relationships with the teacher, peers, classmates, seniors and themselves... Doing so is necessary to ensure that children's learning is conducted normally and fruitfully, and to form positivity in social activities and personality qualities in children. In addition to new responsibilities, children are entitled to new rights: in their families, they are given more attention and

care, especially they are often facilitated to study well and become a good-disciplined student.

The transition from preschool to the first grade entails a qualitative change in children's activities – a new activity – learning activity – appears for the first time. Learning is the dominant activity during primary school age albeit the coexistence and development of other activities such as playing and working as complementary activities. The organization of teaching and learning in primary schools and that of preschool games are totally not the same. The success or failure of children's learning will contribute to their success and failure in the next stages of development. Rules, learning styles, and behaviors formed at primary school age will leave their marks throughout children's lives. Through the learning activity, primary school students develop their mental working skills (learning methods) and a knowledge system as a tool for it. These skills and knowledge are the basic and fundamental ways and means to be utilized to acquire knowledge, build scientific conceptual systems, form scientific thinking, etc. at later educational levels and in a lifelong self-study process. On the other hand, emotions, skills, techniques and habits formed in the learning process will also function as important bases for students to create higher emotions, skills, techniques and habits of their later lives, study and work.

It can, therefore, be said that (among ages such as secondary school students, high school students, undergraduates), primary school students' psychological development is key to the entire process of modern children's psychological development. It lays the first brick to create a foundation, which is decisive for their future development.

Yet, it is not until the age of 6–7 that children automatically develop the psychological functions of primary school students. These functions can only be formed in reality based on certain conditions, foremost, a fundamental change in children's living environment.

### ***3.1.2. Characteristics of the living environment of primary school students***

In the first 6 years of life, a child's dominant living environment is family or family-like (kindergarten, preschool) with respective dominant activities and types of social relationships. The dominant activities that children have experienced are communicating with adults and playing whilst the dominant social relations in their family living environment are emotional relationships or based on familiar feelings.

At the age of six – entering first grade, the child's new living environment – the school environment – is dominant and fundamentally qualitatively different from their familiar family or family-like environment. This new environment has the following basic features:

- In school, children have a new social position with new social obligations and rights. At this age onwards, they are students – a new position, different from that of preschool children. With that position, children have to satisfy completely new needs and requirements that have not been set forth before. These are the requirements of a new way of living and working, discipline, authentic mental actions, the ability to orient, control, regulate and strictly control behavior at school as well as at home. These new requirements and needs of school life force children to change themselves to meet them;

- The social relations in the school are qualitatively different from their old ones in the family. The dominant relationships in the school are the teacher-student relationship and the peer-to-peer relationship in which children first participate. The teacher in the classroom is a different subject from the parents at home. The parent-child relationship in the family is an emotional relationship, taking affection as the basis. In contrast, the teacher-student relationship in the school is rational, taking reason as the basis. Unlike parents, teachers always have principled requirements for their students, evaluate them according to objective standards, and try to be fair to different students... Likewise, the peer-to-peer relationship is different from the close brotherhood and the playmate relationship. Like the parent-child relationship, brotherhood is emotionally flavored; and the playmate relationship is built voluntarily due to the same interest and interests in the games. The peer-to-peer relationship is based on a common activity – a learning activity that requires children to agree on goals, to coordinate with each other on intentional actions;

- In schools, learning becomes a dominant activity, directly targeting actively creating the psychological development of primary school children. This activity is specifically organized in all respects: a specialized space – school, a specialized time – from 6 to 11 or 12 years old; a specialized organizer: the teacher with specific contents, methods, forms of organization and means – schooling. The schooling method makes a child's life and psychological development different from the previous stage;

- Thanks to its specialized method, the school creates new achievements for children that have not and cannot be obtained in the first 6 years

of development. These new achievements – logical thinking and authentic scientific knowledge – will remain absent if children's development is kept outside the school environment. The modern primary school is not the continuation, extension and completion of the existing homeschooling content and methods. In fact, it must give children the latest achievements of civilization – genuine scientific knowledge rather than life experiences, and practical and direct insights. By helping students access and absorb scientific knowledge, the school simultaneously teaches children the corresponding thinking method – logical and scientific thinking – and the authentic way of learning and working with the mind. As a result, modern primary school students have the wisdom and knowledge to not only live in the present but also have the ability to self-study, change, and create themselves to meet the requirements of social development and lifelong learning needs of modern people.

Primary school with a new living and working environment drives the new psychological development and achievements of primary school children besides posing great difficulties for children to overcome in order to adapt to it. This adaptation has great significance not only for children's lives and learning activity at primary school age but also for the whole process of learning and social adaptation in their whole lives. The basic common difficulties faced by early primary school students are:

- + The new life mode of the school environment is reflected in the requirements of time, punctuality, discipline and behavior habits, etc., that children have not ever confronted, but must follow to learn effectively. To facilitate students in adapting to this new way of life, the teacher needs to explain clearly, concisely and easily the requirements for children to help them clearly visualize the work to be performed. When students perform the work under his or her requirements and instructions, the teacher must check regularly and carefully and exercise corrections, encouragement and punishments, in a due and proper manner, onto children's right and wrong behaviors.

- + New social relations in the school environment: Many students, especially pampered ones at home, at the beginning of primary school find it difficult to adapt to the rational nature of their teacher-student relationship and take action together with their peers in learning and group activities. They feel isolated and lonely in the school community.

The impact of the school environment on primary school students' psychological development is indicated in a focused, typical and direct way through the change in children's activity structure in this new environment.

### **3.1.3. Characteristics of primary school students' activities**

Although primary school children still participate in all the activities formed at the previous age with a certain impact on their psychological development, the roles of these activities have changed. This change results from a fundamental change in children's activity structure with the appearance and dominant role of the learning activity.

#### *3.1.3.1. Characteristics of primary school students' activities*

Asserting the role of activities in the psychological formation and development of humans in general and children in particular, leading Marxist psychologists like X.L. Vygotsky, X.L. Rubinstein, A.N. Leonchiev and many others have emphasized the significance of learning activity for modern children's psychological formation and development. Especially, since the 1960s, learning activity has become one of the most interested research focuses of educational psychologists, typically: D.B. Enconin, V.V. Davydov, and Ho Ngoc Dai who have all supported the idea that learning is the dominant activity at primary school age as:

+ It is an activity that first appears and is most strongly formed at primary school age. According to D.B. Enconin, the main function of activity or another is performed when it first appears and is strongly formed and developed at a certain age stage. Real learning activity is only formed after children enter primary school and it strongly develops at the primary school and reaches a fairly complete level and will be perfected in later grades.

+ It is the learning activity that brings about primary school students' new psychological structures such as intentionality, self-control and self-checking ability of behavior, ability to internally plan actions, authentic mental actions (manipulative thinking). These new psychological structures are only born, formed and developed during children's participation in the learning activity and they themselves create changes in the quality and structure of children's entire psychological lives.

+ Learning activity is built in the heart of playing activities at an earlier age. However, it is only really formed by the schooling method under the teacher's strict direction. Besides, it serves as a ground for the formation of new dominant activity in secondary school age – communication with peers.

D.B. Enconin can be considered the father of the activism theory. While before 1960, in psychology, learning activity was often equated with the learning process, D.B. Enconin suggests that the learning activity is



a conscious activity to change the subject itself (the learner). In this activity, students are aware of and distinguish the general methods of acting on its results. Thus, learning activity is taken into account not only in terms of how much knowledge and skills are acquired; and which objects are changed, etc., but to the extent that the subject itself is changed. Such change can be viewed from three directions:

- + The change in the level of mastery of knowledge, skills and techniques.

- + The change in the level of formation of separate aspects of learning activity such as learning tasks, learning motivation, etc.

- + The change in intellectual manipulations, and personality characteristics in students, that is, the change in personality, in general, and in the intellectual field, in particular.

Learning activity is a special form of personal engagement, structurally complex and needs to be specifically formulated. Just like adults, when doing work, children must know clearly: What to do? How to do? And for what to do? Also, they need to see their mistakes, be able to self-check, evaluate and correct their actions.

Before entering school, children can not yet know how to proceed, or in other words, they have no real learning activity. When the learning activity has been formed, children not only acquire knowledge, skills and techniques but also learn how to set themselves learning tasks, discover ways to master and use knowledge, know how to check, evaluate and adjust their own learning actions.

### *3.1.3.2. Labor activity at primary school age*

At primary school age, apart from learning, labor (along with the creation of a certain product) also greatly affect the formation of important personality qualities.

If the pre-school children's labor is mainly self-serving activity, or performing some very small delegation: going somewhere, getting something, etc., then labor activity at primary school age is an independent and responsible activity which is deployable because it is often composed of a definite set of actions and has a relatively complete structure.

For primary school students, labor activity is organized and guided by adults with the main task of forming and developing their independence, intellectual positivity in the labor process, and establishing good relationships with labor and labor products. In fact, children who are often as-

signed work at home also study well, have better relationships with labor and faster-formed labor products. Hence, labor activity at home is closely linked with their labor activity at school and is the basis and premise for this activity to fulfill the set tasks.

To arouse primary school students' interest in various types of labor activities, students can listen to and read stories about labor, practice observing the labor process (observing builders constructing high-rise buildings, etc.), and visit architectural structures, etc. Then, they should be suggested to express their impressions and feelings through games and paintings, etc. Although these activities just attract primary school students' attention to the superficial aspects of the labor process, they also have a powerful effect in educating them about labor.

The feelings of primary school children related to the results of their labor are of great significance to the formation of their good relationship with this kind of activity. For example, children are really happy and satisfied when they can practically help adults and can make a certain product by themselves. It is noteworthy that, in such case, the praise of parents and teachers has a very strong impact on children.

– *Primary school students' intellectual development in labor education*

During the labor class, on the one hand, students can systematically master the knowledge, skills and techniques of the labor process and that affects their intellectual development, on the other hand. According to Davydov's developed teaching principles, labor in primary grades contributes to the establishment in students of crucial new psychological structures including abstract thinking, intentionality of action, self-examination, self-assessment, inner planning of action, etc. Labor classes that are properly and rightfully organized under appropriate conditions also play an important role in the formation of these psychological structures.

Nonetheless, abstract thinking cannot be formed in primary school students through the traditional labor classes (in which students are instructed in detail about each action and this limits their ability to imagine and plan for the following actions). The research by E. A. Pharaponova has indicated that the important step in the transition from external to mental activity (which ensures the development of abstract thinking) is programming (planning) on labor classes. Programming by operation, according to E. A. Pharaponova, is not only employed in the first days of the first grade; but is necessary for primary school students to create something. Students' programming skills are formed from the fact that their program of activities is developed

on a visual basis with the teacher's collaboration (in a given pattern) to their independent programming according to their own thinking and analysis. In the first lessons, the teacher gives specific instructions to students for each operation and the order to perform the operations (according to pictures – visual aids). Then, as students follow through each step of the work, they have to figure out on their own what needs to be done next. Around the end of the first term, when looking at the pictures or visual aids, students mark the order of work themselves and indicate the materials and tools needed to make the required products. The next path of students' intellectual development in the working classes is contained right in the independence of the design of the works and the pictures.

Finally, primary school students' abstract thinking will become developed when the product is more complex. At first, students should be assigned open samples (students can look at all from inside to outside). Then there are closed samples, which require students to imagine and visualize their internal structures.

Programming, graphic design, and step-by-step action support primary school students to act with a plan, develop intentionality, independence, and the ability to check step-by-step actions to quickly correct their mistakes, and have self-assessment formed in the process of creating products.

– *Formation of students' good relationship with labor*

To some extent, the most important outcome of labor classes is the formation of students' personality qualities, foremost, a good relationship with labor or the motivation of this activity. If in the learning process, the cognitive motivation and interest in the acquired knowledge are the most important, then in the labor classes, in the process of creating products, the social motivation must be the dominant driving force over others.

It is often extremely hard to form the social orientation of labor because 1/ Students' personal orientation is frequently clearly manifested in this process and they often want to make their own products, 2/ The resulting product is often not used according to its functions and significance. The undervaluation of children's labor and labor products can result in negative character traits such as students' indifference towards the process itself as well as to the product of labor.

To have social motivation formed in primary school students, students must be aware of the following problem: what to do and for what? Hence, labor activities may vary from preparing gifts for the children at kindergarten, gifts for mothers on March 8<sup>th</sup>, gifts for teachers on November 20<sup>th</sup>,

etc. It should be noted that teacher evaluation is vital for the formation of social motivation for labor. Students' attitudes and feelings towards labor depend a lot on how the teacher evaluate their work and how much he care about the process and results of their work and many other factors (according to the research by C. G Jacobson and H. Ph. Sukina).

The organization of collective labor for children plays an important part in the formation of primary school students' good relationship with labor. It involves having a whole class or a group of students proceed with making a product. During such process, there will be a labor assignment and each student must do his/her part during the joint activity to make the product. The organization of such collective labor activities will assist children in gradually getting used to uniting and working together under a common plan and coordinating with each other, increasing their interest in their labor and their peers', developing students' sense of responsibility to the group, learning to objectively evaluate their own labor and the group's, as well as becoming aware of the requirements for how to organize the work and labor plans and their implementation, and determining the criteria for evaluating the resulting products.

In brief, collective labor helps develop students' personalities, especially the ability to work together – an important quality of modern workers.

### *3.1.3.3. Primary school students' playing activity*

Despite losing its dominant role, playing still has an important place in primary school students' lives, taking a lot of time and strongly influencing their psychological development. Properly organized games with good content and without infringing on children's study and work time will have great educational significance. Games are abundant for students and it is quite tough to categorize children's games. Below are some popular and important games for children's psychological development:

- Themed role-playing game is one of the important games for early primary school children. In this game, a child is assigned to play an adult role in a certain situation and perform the behavior corresponding to his/her role. In these specific imaginary situations, the child can invent the behavior of an adult.

D. B. Enconin emphasizes that it is a type of game that is distinguished by its special sensitivity to the environment of human activity – the interpersonal relationship. When playing this game, primary school students try to grasp the personality qualities of the character they play, which attracts them

in life. Therefore, they like roles with bravery, heroism and kindness. On the other hand, in the role-playing game, students begin to express themselves even in unreal situations. For instance, a poor student chooses to play the role of a good student and performs it very well. As a result, the student starts to see the requirements necessary to become a good student.

The role-playing game can be considered a method of bringing primary school students closer to self-education activities. Therefore, it can be used as an effective means of education for students. For example, the daily routine at the children's camp is considered important but very boring for the children. If some game terms such as soldier, guard station and telephones are integrated and students still have to perform their duties, then, the daily routine will become attractive and even challenges will begin to become more pleasant. It should be noted for teachers and team leaders to hold and instruct the role-playing game taking into account close relationships to stimulate students' independence and creativity, make them realize the healthy beauty of daily life, and most importantly, keep children's faith in the authenticity of the game. During working together in the game, children learn the method of interpersonal communication. Unlike preschoolers, primary school students spend most of their time debating plots and casting roles, knowing how to choose appropriate roles. In conflicting situations, children appear to be able to analyze their actions in previous roles, accurately assess their abilities, align their behavior with their peers, and resolve conflicts by means of general methods such as ordinality and symbolism.

In a few words, for effective game playing, the teacher needs to pay close attention not only to the act of playing but also to how to consciously solve conflict situations by students.

– Learning game: at primary school age, students love the learning game (it can be a game with a plot, with objects or a game of competition). This game is made up of the following components: playing tasks, playing motivation and problem-solving methods. As a result, students acquire new knowledge through the playing content. Unlike the learning tasks in class that are set directly, in the game, learning is presented as playing tasks for the children themselves, and how to solve them is also a learning method. The game "We are tourists" aims to teach the children to map out the route of the tourist team on the map. The roles they play are the tourists. If done correctly, each child will receive a "tourist" badge – that is the main motivation of this activity. Their playing task is to set the correct trip route. The game rules are to attentively listen to

the teacher read the route and put arrows on the map. The teacher then checks and confirms the results.

It should be emphasized that, during and after playing, a jump from playing motivation to cognitive motivation can occur. For instance, in the said game, students begin to ask teachers and adults questions, read the information in books, newspapers, mass media, etc. That means, their interest in the cognitive content of the game is now placed on the game itself.

D. B. Enconin concludes that the central problem of the learning game is the conflict between the playing motivation and the non-playing activity methods. As a result, children's activities change as a whole. All these non-basic conditions and components of the game become more important and meaningful in terms of content to children and less dependent on it. According to him, the learning game facilitates the acquisition of knowledge and promotes primary school students' cognitive interest.

– Movement game: This game is relatively important for primary school age. Children love playing with the ball, running, jumping, crawling, and climbing and so on. Various activities stimulate metabolism, blood circulation, air exchange, exercise and muscle development. Also, they have a great influence on the formation of personality qualities such as high concentration, will, and courage and make children get along with their peers with their agility, cleverness, and strength. Group sports games or sports competitions bring about the skills of working in groups, serving friends, striving to fight for the honor of the class and the school. It is necessary for homeroom teachers and team leaders to prepare for sports competitions in a special way and comply with the following conditions:

- + They should be held as collective activities, with the same tasks for all participants, not just for a few children.

- + Children's achievements should be monitored through the evaluation of the established groups, teams and stars to promptly praise the children with higher achievements.

- + The highest score should be given to the skills, techniques and mutual relationships acquired by students during the competition. In such evaluation, the winners could be all the participants in the game.

In addition, the team leaders and teachers can guide primary school students to organize the following games by themselves:

- + Games with health-boosting effects such as tug of war, merry-go-round, mountain climbing, boating, practising opening eyes for a long time without blinking, standing still for a long time without moving, etc.

- + Games to practice cleverness such as pitch and toss, spinning tops, juggling games, kite flying, hide and seek, stilt walking, slow bike riding, etc.
- + Brain training games: puzzles, paper folding, Chinese chess, international chess, mancala, card playing.
- + Character training games: capturing the flag, volleyball six, etc.

In short, at primary school age, games can be used as a means of organizing and supporting students' learning and working activities for more efficiency. Playing contribute to promoting the formation, in all aspects, of psychological life, especially developing children's independence in determining tasks as well as choosing their methods of action.

#### **3.1.4. Psychological development from 0 to 6 years old**

Primary schools accept children with 6 years of age of psychological development into school because the achievements of psychological development in the first 6 years of life are an important premise and basis for psychological development in school. elementary age. Psychological development from 0 to 6 years old includes different ages with different development contents and achievements but dialectically successive. By the sixth year of life, children have made important developmental achievements in psychology. These achievements are enough for children to enter an important stage of modern child development – the school period with a first fundamental turning point – grade 1.

#### **3.1.5. Physical development of elementary school students**

Compared to preschoolers, at primary school age, students have quite basic changes in their bodies. Their skeletons continue to thrive, especially with important changes in the spine: forming curvature in the neck and back, making their movement more flexible. The knuckles become harder. Ligaments and muscles are strengthened. Those developments ensure that children can perform movements of the learning activities that require ingenuity and a long time such as writing, drawing, and sitting for a long time. Yet, it should be noted that children's skeletal system is still developing and needs a long time to be perfected; hence, it is very easy to be harmed and get long-term sequelae such as scoliosis, wrong body posture, inadequate development of the musculoskeletal system. Therefore, the teacher should instruct students in the correct learning posture and regularly check their performance in primary education, especially in the earlier grades.

Children's cardiovascular system is also much more developed than that in preschool age. A primary school child's heart muscle is already quite strong, providing enough blood for the body, especially the brain. However, the child gets tired quickly due to the poor toughness of the heart. Hence, it is necessary to avoid for primary school students to perform overstrong or prolonged movements.

The nervous system of primary school children is entering the mature stage. The brain volume of a child is equal to that of an adult with a strongly developed frontal lobe, facilitating the formation of higher psychological functions. Primary school students' neural activity is also more balanced than that of preschoolers, paving a way for the formation of self-control and self-restraint in children.

To sum up, the physical development of primary school students is sufficient for them to carry out new dominant activity – learning activity and form new psychological structures.

## **3.2. Fundamental psychological characteristics of primary school students**

### **3.2.1. Characteristics of cognitive processes of primary school students**

#### *3.2.1.1. Attention of primary school students*

Despite not being a cognitive process, attention participates in and is a condition that ensures other processes take place effectively. Types of attention are all found in primary school students at different levels of development.

– Unintentional attention is the most common type of attention in early primary school age. It is physiologically based on the directional reflex – human response to the new thing, the sudden thing, and the unusual thing. Early primary school children find it very difficult to control their attention, and they are always distracted by external impressions. Even with attention, students cannot distinguish the basic and essential thing from the outstanding one and that attracts their unintentional attention. This is associated with children's level of thinking. Since thinking at the early primary school age is still heavily visual-figurative, children often pay attention to attributes, appearance, randomness or individual things and phenomena. Together with



the development and completion of intelligence, they will concentrate more on the essence and the basis of things and phenomena.

Unintentional attention keeps growing throughout primary school and plays a certain role in children's learning as this type of attention helps children quickly orientate to what is attractive and related to the needs formed in the learning process, reducing psychological stress and enhancing the effectiveness of their activities. Therefore, instead of limiting students' unintentional attention, it is important to direct children's interests and cognitive needs with this type of attention to serve the learning activity.

– Formation and development of intentional attention in primary school students: Intentional attention is really formed only when students enter the learning activity due to its inevitable requirements. Learning cannot be effective only with unintentional attention. Contrary to the perspective of some people, the educator K. D. Usinxki is very interested in the development of intentional attention in primary school students. He does not suppose students' learning process should be mainly determined on the basis of their interests, hobbies and concerns. "Of course, making your class time busy may help kids less bored, but remember, not everything can be turned into joy and excitement because in life there are boring things and things you don't like but need to be done. Teach children to do both interesting and uninteresting things, to fulfil their obligations..." – emphasized K. D. Usinsky. According to him, weak attention is not enough. Even lacking or excessively lacking positive attention will make people mentally ill, weak, and lazy because they can only be moved by an attractive job, story or passage, but can't devote themselves to a job that doesn't appeal to them.

Some psychological studies suggest that intentional attention can be strongly developed in early primary school age under adults' appropriate direction as manifested in the development of students' directional working skills. In this process, at first, parents and teachers set goals for students and provide them with support in the process; Students then set goals for themselves, accomplish them, and check their performance.

Intentional attention goes closely with students' sense of responsibility in learning. If students learn responsibly, they can force themselves to perform any task. In contrast, learning irresponsibly only involves working with interesting materials. Hence, educating a sense of responsibility for learning among primary school students is one of the conditions for the formation of their intentional attention.

The development of intentional attention is closely associated with the development of its properties below:

+ Attention amount: Primary school students pay far less attention than adults and usually can only notice a very small number of subject matters. Because learning activity requires students to pay attention to many different subject matters at the same time, their attention volume is gradually increased.

+ There is also a weak distribution of attention of early primary school students. They do not know how to properly distribute their attention to different objects during the activity. For example, listening to what a peer is reading and reading by himself at the same time will make the student read wrongly, faster, or slower. During the learning process, children's ability to distribute attention is gradually improved; By the end of primary school, they are already able to consciously and rationally distribute their attention to the various but necessary subject matters of this activity.

+ Sustainability of attention: Early primary school children's attention is not stable. They have not been able to maintain their attention to objects for a necessary time without mentioning that their attention is very easily distracted by other objects. This phenomenon is explained by the stronger excitation than inhibition in excitatory neural activity in primary school age. In learning, students' attention is distracted for many different reasons including the new way of posing the problem, the activity of the directional reflex, the wrong use of visual aids. Further, students easily get overwhelmed and tired quickly during performing a type of activity for a long time. Therefore, the teacher should hold a variety of activities in an interesting way.

+ Attention movement: Primary school children cannot know how to quickly move attention from one object to another. Their attention movement depends much on their interests and needs and external characteristics of the objects than on the learning goals and tasks. This attribute of attention will be strongly created in the learning process and progress remarkably from the middle year of primary school onwards.

- Primary school students' attention development in the learning activity.

A primary school teacher needs to maintain and develop students' attention in class. According to **H. Ph. Dobryn**, primary school students can be pretty concentrated for a long time when they are fully engaged in work that requires them to be maximally active in their minds and movements. If students both consider things and objects and act on them – such

as analyzing, comparing, finding essential signs using acquired knowledge, grouping things, establishing a cause-and-effect relationship between things and phenomena, they will pay greater attention to the objects.

Besides, through generalizing the experiences of primary school teachers, **H. Ph. Dobryn** comes up with the idea that students' attention depends a lot on the appropriateness of learning materials. Students will concentrate on hard but possible problems and thereby obtain a certain achievement which will then uphold their attention at work.

Primary school students' attention is closely related to children's emotions and feelings. Both strong emotions and attention come from the same sources. For example, students can attentively listen to the teacher's story for quite a long time. Interests and needs also have a great influence on primary school students' attention. They often pay attention to what they find attractive or necessary.

Primary school children's attention becomes powerful in creative activities in which there is a harmony of both wisdom, emotions, and will. Second and third graders often forget everything when they write an essay on a topic they are interested in, when they are working on an assignment where they can find a new problem-solving method, or when they draw a picture according to their impressions. Primary school children's attention is reflected in a diverse and rich way and can be classified into the following forms: action attention; pretentious inattention; pretentious attention; and real inattention.

+ Action attention: It is manifested in students' active preparation at the beginning of the lesson, their active thinking in the learning process, their curiosity and inquisitively, and preparing questions for the teacher, thinking, adjusting and supplementing the answers of other peers, along with the serious working posture and focused facial expressions of the students in class.

+ Pretentious inattention: It is often observed in students with Melancholic (weak) and Phlegmatic (cold) temperaments. These students are often passive and quiet and do not actively raise their hands to answer the teacher's questions by themselves, but, in fact, they are very attentive and provide very good answers if asked for their thorough lesson preparation. In children with a gangly personality (vibrant and energetic), pretentious inattention is expressed in over-activity. Children move all the time, often change their sitting positions, gestures, and facial expressions, talk to their peers or search things in their bags, etc. but they are not confused by the

teacher's questions. Their answers show that they are still working with their classmates. Attention education for these students often accompanies the education of principles and standards of behavior in the classroom and behavioral focus on the content of learning activity.

+ Pretentious attention: Students of this type appear to be very attentive to learning, but, in fact, they are focusing on something else. Therefore, when asked by the teacher, the child seems to be daydreaming and cannot answer the teacher's questions.

+ Action inattention: Children of this type are not attentive in learning at all. Their work performance is very low and they often make mistakes at work for no preparation, inattention and carelessness during learning. They often work and talk privately, make fun of others or wander while studying.

P. I. A. Galperin believes that the formation and development of primary school students' attention is actually the development of the self-checking function in forming intellectual actions in stages. Studies carried out under his direction prove that the formation of attention is similar to that of self-checking in the learning process of primary school students in which the teacher's knowledge and proficiency in organizing activities and initiating the development of attention as the quality of children's personalities in the learning process plays a particularly significant role.

### 3.2.2.2. *Perception of primary school students*

- The differentiation of perception in first and second graders is still poor. First graders often get confused between teachers and subject matters of learning that are close to each other in a certain relationship. For instance, children feel confused between number 6 and number 9, letter b and letter d, etc. One of the most common mistakes is flipping shapes, letters, or numbers when children have to describe them. In fact, the omission or change of letters in words is a common spelling mistake of students. It results from the incorrect perception of the sound-based texts. To avoid such mistakes, children must compare similar subject matters to find differences between them. Through learning, their perception will gradually change in nature. In learning, children acquire perceptual techniques, learn to see, hear and distinguish the basic and the focus, and discover more and more details of things; As a result, their perception becomes more complex and consciously controlled. Yet, in a primary school student, perception of different objects can develop at different levels. Their

perception seems to be better for certain types of things and phenomena than others. Hence, some perceive pictures worse than words or vice versa if they do not learn the corresponding perceptual technique.

Although the elements of intentional perception are already present in preschoolers, the unintentional perception still prevails in early primary school students. First and second graders may not know how to control their perception and cannot analyze things themselves. Therefore, when looking at pictures, or reading texts, children often confuse this part or line with another, omitting words or details, etc. The intentionality of perception in primary school students will be established and developed, then will prevail in the learning activity.

It is the characteristics of things themselves that determine the perception of primary school students. Therefore, in learning, children often notice the things that have a clearer expression than others (in terms of color, size and shape) other than the basic, the important and the essential. On the other hand, the perceptual process of early primary school students is usually limited by their old experience of things and their names.

In his research works, E. I. Ignatchév has indicated various characteristics of perception in primary school children. For instance, first graders were assigned to draw a kettle. After considering and recognizing its shape and name, they began to draw without seeing the sample kettle anymore (even when reminded by the experimenter). As a result, the first graders drew kettles of different shapes. It means that children were not able to analyze the shape of the perceived object. This feature of perception in primary school students is overcome during children's learning process. The experiment by L. V. Jacobs has demonstrated that it is the organization of learning activity that regulates the development of perception. During primary school teaching, the teachers can employ appropriate measures to help students:

- + Identify more basic signs of things and phenomena.
- + Make plans when considering things and phenomena.
- + Make general judgments after carefully considering things and phenomena.
- + Form interest in the perceptual process itself.
- + Perceive things with increasing time.
- + Choose more things and phenomena to consider, observe and so on.

In a nutshell, the perception of primary school students flourishes in learning activity if teaching ensures the formation of students' skills to see, analyze, and synthesize what they perceive.

– Perceptual development of primary school students in the learning activity.

Some psychologists have examined and proposed specific stages of children's perceptual development sequentially according to age, considering them as a constant process without taking into account children's living conditions as well as the role of learning. Contrary to the said perspective, activity-based psychology suggests that the perceptual development of primary school students is not a constant and unchanged process. Learning activity with children's active participation will strongly impact the perceptual development through promoting the birth of its elements, which are mainly:

+ Perception of time: For primary school students, the perception of time encounters significant difficulties. Numerous studies on the perceptual characteristics of short periods of time among children have revealed that, although older students perceive the minute more accurately than younger ones, most reduce the actual length of the minute when perceiving it. Conversely, when perceiving larger periods like 5, 10, or 15 minutes, students lengthen them. It is noteworthy that children tend to perceive the time to be shorter when they are busy or focusing on something (or multiple things happen at the same time). Due to the insufficient time reflexes formed in primary school students, they are less able to accurately judge a certain period. Therefore, it is very rare for primary school students to show up at the required time.

The development of time perception is related to the nature of the organization of children's lives and activities. The systematic implementation of learning tasks and strict observance of the timetable will enable children to determine the time in the general form of signs, rather than their constituents. Support should be given to children to break a sign down into smaller constituents and again construct the sign from them.

+ Perception of shape and space: Children's measurement activities in Math, labor, physical education and learning about the natural-social environment play a great role.

At primary school age, the perception of pictures with content is perfected. By this means, students can see the spatial relationships and interrelationships between the components of the picture. The French psychologist **A. Bin** and then the German psychologist **V. Scheps** propose three stages of perceiving pictures for children: Listing stage from 2 to 5 years old; Descriptive period from 6 to 9 or 10 years old; Interpretation and demonstration stage after 9 or 10 years old.

Studies by Soviet psychologists have demonstrated that primary school students' picture perceptual development stages depend not only on age but also on the content of the picture and perceptual experiences. According to A. A. Liublinxcaia, in this regard, adults' questions for children are of great significance. The question "What is on the picture" will lead to a list while questions about the elements and characteristics of the picture help control children's perception and children can orally solve perception exercises.

The role of words in students' perception gradually changes through the years of primary school. For first graders, the names of things and phenomena seem to disturb their perceptual processes. They feel confused with the names of the things with their subsequent analysis. Meanwhile, for second and third graders, words perform a different function, that is naming things, and children can describe them in words. For the first time perceiving things, the teacher's verbal instructions are vital for children to orient their actions, then their role is gradually reduced during students' perceptual processes.

In establishing the selectivity of perception in primary school students, subjectivity becomes increasingly important. The perceptual process is determined by students' interests, needs, and experiences, rather than external characteristics of things and phenomena.

+ Characteristics of primary school students' perception of shapes.

The development of spatial perception such as the shapes of things plays a particularly significant role in the learning activity of primary school students. However, there is a lack of sufficient scientific research on the characteristics of perception of the shapes of things at this age. Western researchers suppose that primary school students contrast colors and shapes when perceiving things while **E. I. Ignatiev** in his studies has concluded that primary school students consider shapes and colors as separate rather than opposite signs of things. Nonetheless, different children may perceive, at different times, either of these two factors better. In some cases, during the perceptual process, students choose colors, in other cases, they choose shapes (e.g., flags, cars).

According to A. A. Liublinxcaia, compared with preschoolers' perception, primary school students can more accurately distinguish and name flat geometric shapes (e.g., square, circle, triangle). However, it is often difficult for them to name the shapes. Except for round and square blocks that children have known since kindergarten through games with building materials, other shapes are identified as follows: cylinders are called cups,

cones are known as roofs, etc. A. A. Liublinxcaia notes that it is relatively easy for primary school students to confuse 3D and 2D shapes, for instance, a circle versus a sphere or a ball. Primary school children often fail to recognize geometric shapes if they are placed slightly differently, inter alia, a straight line placed vertically, or a triangle with a base at the top. At this age, children can describe the shapes of common things.

### 3.2.2.3. *Memory of primary school students*

– Primary school students undergo a lot of changes in their memorization when they come to school. They know to intentionally memorize things, but such skill is not perfect. Students often have difficulty in doing their assigned homework, but easily remember poems and fairy tales that provoke vibrant images and create strong emotions in children.

+ Unintentional memorization plays a huge role in primary school students' learning activity. Studies by A. N. Leonchiev, A. A. Smirnov, **P. I. Dutrenco** and many other researchers have confirmed that primary school children memorize without any effort the materials with which they act on.

According to **P. I. Dutrenco**, unintentional memorization quantitatively and qualitatively grows with the age of the students and becomes highly effective at the third grade. For example, preschoolers and primary school children are looked at 15 pictures and then asked to recall them. Preschoolers can remember 9 pictures while that number of primary school students is 13. With the same passage or a fairy tale, primary students also retell in more detail and deeper content.

Paralleling to developed thinking in the learning activity, primary school students' unintentional memorization becomes increasingly thoughtful.

+ Mechanical memorization and logic-meaning memorization

It is supported by several psychologists that mechanical memorization predominates at primary school age (for instance, **E. Meimau** asserts that logical memorization begins to prevail between 13 and 14 years of age; V. Stern argues an insignificant role of memorization associated with understanding meanings of words at this age). However, studies by Soviet psychologists has indicated that children's (as well as adults') mechanical memorization is not as effective as meaning memorization; Even remembering nonsense materials at primary school age is more difficult than in adults since memorizing nonsense materials requires a great deal of willpower, which children are far from being able to do.



Notwithstanding that, a different idea is suggested by A. A. Smirnov. According to him, primary school children's mechanical memorization is very good. Children are easy to remember nonsensical things because of their special relationship with them. If nonsensical things attract children, stimulate their curiosity, and force them to deeply think to understand and interpret them, then these very materials have been described on the basis of what is understood and captured and make children pay special attention to them. Besides, nonsensical materials occasionally arouse children's curiosity with their sounds, their special structure of syllables, and clear rhythms that are easily learned by heart by children and, therefore, are often used in children's playing activities. Despite its important proportion, mechanical memorization is not the optimal memorization method in primary school age, especially in the last grades.

– Intentional memorization and meaning memorization expand strongly during primary school age. A. A. Smirnov provides a series of levels of memorization of a text in primary school students:

+ First level: students can only repeat the text in a simple and same way.  
+ Second level: The students' readings appear to be different from each other, but they are not aware of it since they have not set for themselves different tasks when repeating the text.

+ Third level: before each repetition, the students themselves a special task and use reading consciously to perform the task. The third level is common in third graders when the following repeating methods are used: going back to what they have read for clarifying their content, remembering meaningfully what has been read even before the reading is completely finished.

It is important for forming logical-meaning memorization to divide the text into parts with different but related content. According to A. A. Smirnov, primary school students rarely use this method in memorization. For them, dividing the text into different parts is just to memorize the different parts sequentially, not to figure out the basic and important things in the text. Primary school children often mechanically divide the text into parts and sometimes add a few discrete sentences in independent parts without discovering the common points in the content-related passages. However, content-based text division is a hard task for primary school students which can only be accomplished with special organization and guidance. Children are instructed how to organize the memorization process with a well-understood material, compare different parts of the material according to its content, and use external checks such as observ-

ing things or drawings, and internal checks including making plans, finding associations between the new and the old, reproducing the material by whispering.

Studies by A. N. Leonchiev have revealed that for primary school students, drawings are neither considered an external means or fulcrum for memorization nor used as a means to facilitate memorization.

According to A. A. Smirnov, even fourth graders do not use association to memorize things (even when remembering similar words). For primary school children to use associations and comparison as a means of remembering things, it is necessary to regularly ask children to associate and compare things and phenomena when remembering and reproducing learning materials.

– Characteristics of reproduction: It is quite hard for primary school students to recall materials because it requires goal-setting skills as well as active thinking which must be learnt gradually. As noted by K. D. Usinxki, primary school students are not interested in recalling forgotten things, but only want to convey what has just been memorized. **T. A. Conman**, in his studies, has suggested that primary school children better recall general knowledge science lessons seven months after memorizing them, than immediately after learning them. L. X. Rubinstein also believes that students' recall after a period of time will be better since it involves deeper thinking about the learning materials and the materials will be recalled more generally. In addition, from a physiological viewpoint, some negative effects on students' memorization will be steadily eliminated after a certain period.

+ Some characteristics of memory in primary school students.

At first, children better remember visual materials which are directly acted on. Descriptive pictures are remembered much better than words.

In terms of memorizing words, primary school students remember nouns denoting things better than words referring to abstract concepts. The memorization of concrete and abstract words in children is influenced by the consistency of signaling systems. Students tend to better remember visual materials (e.g., using maps to remember geographical regions). Abstract documents that can generalize a series of events will be easier for students to remember than when those about a specific thing or phenomenon (concepts that are not supported by specific examples).

The specific-figurative nature of memory is presented in children's ability to perform even difficult memorization operations such as association and text division with the use of visual objects. Teachers' account should

be taken into this characteristic when organizing the learning process for primary school students.

#### 3.2.2.4. Primary school students' thinking

– *Concept and characteristics of the formation of thinking at primary school age*

+ At primary school age, the formation of scientific concepts in the teaching process has great significance for the development of children's thinking. Nonetheless, it is vital to distinguish between concepts of things and concepts of relationships in the conceptual system formed in students.

Concepts of things represent an understanding of signs, general properties and nature of things and phenomena in objective reality, for example, bigger, smaller, shape, color. At the early stage of studying the concepts of things, children often discover functional signs which are related to the uses of things. For instance, the cow gives milk and helps plough the rice field while the horse is for riding and pulling carts. In the second stage, upon mastering the concepts of things, students often point out the prominent signs and properties of things and phenomena without distinguishing the basic, the non-basic, the general, and the particular, etc. As an example, a child says that a cucumber is a kind of fruit that grows in the garden, is green, and has seeds. Reaching the third stage – the highest stage of grasping concepts of things, children can come up with general, basic, general and general signs and properties of a full array of similar things and phenomena. There is not, in fact, a completely clear boundary among stages of concept formation in primary school children. Some elements of the second stage have appeared right in the first stage while the highest stage may contain some elements of the lowest stage. In addition, these different stages may also coexist. By way of example, third graders are in the third stage when grasping familiar concepts and often around the first stage when encountering unfamiliar concepts.

+ The difference between the concept of relationships and the concept of things is that the former reflects the relationship between human actions represented by mathematical concepts. They are also captured by primary school students at different levels the lowest of which is considering individual cases and specific expressions of concepts. For example, knowing how to add things to specific, individual quantities. The second level: the child has grasped the concept at a more general level, but the child's generalization activity is limited to only a few considered cases. For

case in a point, children know how to add numbers from 1 to 10, 20, etc. At the third level, children understand the general actions that can be used for all different situations of the same nature and children can add all natural numbers.

Students' mastery of the concepts is much up to the level of development of their intellectual manipulations. Hence, for effectively forming concepts for students, primary school teachers need to grasp the characteristics of the development of students' intellectual manipulations.

- *Characteristics of primary school students' intellectual manipulations*  
+ Characteristics of analysis: Primary school age analysis goes from practical analysis to sensory analysis and finally to intellectual analysis. Among them, practical and subjective analyses are predominant in the early primary school age. First and second graders can easily solve problems where they can act directly with things (e.g., blocks, sticks, plastic pieces) or find parts of objects, observe them in natural conditions or on visual aids (e.g., finding letters in words and finding words in sentences).

Analytic manipulation often develops through certain periods from partial to total, and then systematic analysis. The most common levels of analysis in primary school children are partial and total. First graders are often able to analyze only a part or a particular property of things. As an example, in a story, a child may come up with one or two unrelated events. Hence, primary school students understand learning materials often in a partial and one-sided manner.

When the level of total analysis is reached, students understand learning materials more fully since they are able to consider almost all the elements or signs of things, but may not grasp the relationships among them. For example, a child can list a series of events in a story but has not yet figured out their connections. At a later stage in the development of analytical manipulation, primary school children are able to systematically analyze researched things and phenomena, consider their elements and signs in a certain whole, find out the basic elements and signs, and establish their relationships and connections.

+ Characteristics of synthetic manipulation in primary school students: The formation of synthetic manipulation in children's thinking at this age is associated with analytical manipulation. It is the process by which synthesis goes from a narrow, simple, general to a broader, more complex and systemic scale. At the general level, children can assemble elements, components, and parts into a simple whole, a set of certain signs.

For example, children can list the types of objects, birds, animals, trees, and big cities in pictures or maps. Systematic synthesis is the level at which children establish a new whole, a new qualitative result, and a new meaning of things or phenomena from new actions with partial elements and signs of things. As an instance, children can withdraw the deeper meaning of a parable from its details.

The formation of analytical manipulations in primary school students is easier and faster than synthetic ones. According to A. Vallon children divide the general one into components more quickly than generalizing the individual things they have encountered in the past to create a new group.

Analytical and synthesis manipulations are closely and dialectically related to students' thinking processes. The deeper the analysis is, the more complete and comprehensive the synthesis is. Conversely, the synthesis first has a great influence on the quality of the analysis. **M. H. Sardacop** carried out the following experiment: Third graders were asked to create a story based on a picture (without giving its name). Most of them only listed the events described without establishing their relationships. This shows children lacked general understanding and the ability to synthesize the content of the picture. But when told the name of the picture, the quality of the stories they built immediately increased with not only the events described but also the actions and moods of the characters, as well as their relationships.

+ Characteristics of comparison in primary school students: **L. I. Rumanxeva** investigated the comparative skills of first and second graders and concluded that despite being at the same age, children have different comparisons for the same things and phenomena. Some children just saw the difference between them while others saw both the same and different. Some compared things and phenomena according to the obvious signs (color) while others relied on different signs such as shape, size, color, and clarity. Still, others used less obvious and prominent signs. The number of signs used by students in comparisons also varied: some students used multiple signs which were basic while others used a small number of discrete and nonbasic ones. L. I. Rumanxeva's research also reveals a change in comparative manipulations among students by age in the learning process. There were significantly more second graders who came up with similar and different signs as well could use generalization in comparison than first graders. They indicated more signs for comparison have a higher ability to compare things according to basic signs than that of first graders.

Much of the psychological literature often suggests that primary school students find it easier to figure out the difference than the similarity of things. However, L. I. Rumanxeva argues that this is the case only when children compare new things, and with familiar objects, they find more similarities than differences. Students' understanding of the content of things considerably influences their comparison process. The correct understanding of the content of the things to be compared will enable children to systematically compare them and find out the most essential and main signs. Without a deep content understanding, children's comparison will only be superficial and narrow.

In another aspect, primary school students' comparisons are characterized by simple arrangements of things instead of comparisons. Children will first tell all they know about an object or phenomenon, then move on to tell about the other object or phenomenon without comparing them.

It appears to be difficult for primary school children in the thinking process to compare things on which children are not allowed to act directly, or compare things with too many signs and many unclear, less prominent signs. Primary school children often find it hard to compare things because they cannot plan the process on their own. Therefore, developing their comparison manipulation requires activities for children, thereby delivering them techniques and ways of planning to perform this manipulation.

+ Characteristics of abstraction among primary school students: Abstract manipulation at primary school age manifests itself in the formation and development of the ability to detect basic and important signs, connections and relationships for the tasks of activities, as well as the ability to separate nonbasic and unimportant ones of things and phenomena and get out of them in the thinking process. Like other manipulations, the abstraction is still being formed and unfinished in primary school students; hence, it is greatly different from the adults'. The abstraction of primary school students' thinking has the following basic characteristics:

\* In the thinking process, children often show notable external signs of things or phenomena instead of important and necessary signs for the performance of tasks.

\* Children's abstraction for signs and properties of things and phenomena is easier than for their relationships and connections. That is why primary school teachers need to drive students' attention to the basic, important but unclear signs, relationships, and connections of things and phenomena for the performance of tasks.

\* Abstraction often takes place in isolation and children only attend to giving the basic and important signs of things and ignore auxiliary signs. Meanwhile, for getting deep insights into knowledge, it is necessary to put the essential in opposition to the non-essential on the basis of general understanding.

+ Characteristics of generalization among primary school students.

It is evidenced by research publications that first and second graders often provide clear external signs of things and phenomena. When classifying things and phenomena, children first talk about the various movements of things, phenomena and their actions towards them. For instance, answering the question of what an apple tree is, children said “the apple tree grows and gives us apples; the apples are round and delicious and we eat apples”. Despite a very common difficulty in generalizing things, children can quickly overcome it with question-based clues from the teacher. Yet, there are different levels of generalization among primary school children. (Former) Soviet psychologists have proposed 3 main levels of generalization among primary school students:

+ Level of sensory – physical action generalization: This occurs when students come into direct contact with objects and phenomena during cognition and practical activities with them. This type of generalization prevails in preschool and early primary school age. With this level of sensory-action generalization, children can unify both basic and non-basic signs, properties, relationships and connections of things and phenomena. As a result, the thinking process produces some discrete knowledge in the form of common symbols which help children distinguish objects and phenomena in the surrounding environment.

+ Level of generalization of general and specific signs of things in the form of visual images. At this level, children can arrange the knowledge, concepts and similar images of things and phenomena in a certain order. For example, children define domestic animals as those that live near humans and bring benefits to humans. Cows give milk, chickens give eggs, etc. (answers of first graders).

+ Level of scientific generalization: It is the generalization of general and essential signs of things and phenomena and their indispensable relationships and connections. The results of generalization at this level are scientific concepts, laws, and rules. As an instance, primary school children master the scientific concepts of vocabulary, grammar, math, etc., thanks to generalization at this level.

From a general scale, generalization among primary school students become differentiated. If first and second graders usually only generalize animals such as cows, chickens, dogs, wolves, ducks, and foxes into a group, then according to M. H. Sardakov, in the third grade, children know how to generalize the same animals in a differentiated way into cattle, poultry and mammals.

+ Characteristics of concretization among primary school students. Generalization is carried out in unity with concretization. Accordingly, primary school students' acquisition of general concepts, rules, and laws take place based on considering individual things, elements, and diagrams and taking specific actions on them. On the contrary, the mastered concepts, rules, and laws will be then employed to solve different specific situations and tasks of the same nature.

The investigation into the laws of intellectual development among primary school students indicates that there may be different correlations between generalization and concretization of primary school children, depending on the nature and content of learning materials, teaching methods and students' intellectual development level.

From a given general property of an object, students will concretize each part on a certain example. As an instance, a third grader argues to cool down a larger copper bar so as for it to enter a smaller hollow ring because he has ever seen an ice-cooled metal sphere passing through a smaller ring. In this case, the child uses a common cold shrinkage property of objects.

At a higher level, the relationship between generalization and concretization can be observed in their consistency within the learning materials. In that case, concretization is just used to the extent that it illustrates expressions of the general and generalization is based on students' existing experience, without departing from the visual images and deploying other novel conditions.

The highest degree of relationship between generalization and concretization manifests itself in their complete unity. For example, children grasp an allusion to the extent that they not only understand its underlying meaning but also know how to concretize it with new facts in human life.

- Characteristics of primary school students' thinking development. In traditional teaching conditions, primary school students' thinking development undergoes two qualitatively different stages.

+ The first stage (first, second and third grades) is featured by the perfection and predominance of visual-figurative thinking, which has been



strongly formed and developed at the preschool age. At such level, children's thinking operations are mainly targeted to objects or their visual images. Students' thinking remains limited to the field of vision and is, therefore, still direct – sensory. Children are only able to analyze – synthesize, abstract and generalize the superficial signs of things captured through perception. Therefore, first, second and third graders rely their learning on counting sticks, pebbles, drawings of things and so on. Purely internal mental thinking is absent in most of the students in these grades and their thinking must also be associated with acting or perceiving specific things. Physical actions or observations are indispensable for children's thinking. Discussing the thinking ability of younger learners, K.D. Usinxki argues that children think by shapes, colors, sounds, and feelings in general.

By virtue of learning with its subject matter of scientific knowledge, specific thinking begins to form in the first grade but becomes dominant from the fourth grade. At this level, children's thinking gradually moves away from direct-intuitive nature to become an independent mental, intellectual process. From here, their intellectual manipulations are mainly directed towards the psychological image of things in their minds, without necessarily being associated with the things themselves or their perceptual images. The formation of students' concrete thinking is marked by the appearance of conservation phenomenon – evidence of children's ability to perform a mental action opposite to a physical action or a movement that they have seen (reverse operation). In this second stage, a system of basic thinking operations, typically mathematical operations such as forward ( $a + b = c$ ), reverse ( $c - a = b$  and  $c - b = a$ ), identity ( $a + 0 = a$ ), combination ( $a + (b + c) = (a + b) + c$ ) has formed and developed strongly among children. At the same time, these operations are combined into general operation structures such as classification, ranking, corresponding placement, calculation, space, time, velocity as well as structures like social responsibility and obligation. The formation of operations and their structures functions as a basis for students' understanding of theoretical and abstract scientific concepts of Vietnamese language, Mathematics and Nature – Society subjects. Therefore, it remains the top important task of teaching at this age to help children establish mental operations through training them in dedicated ways. Albeit an independent mental activity, the thinking of primary school students has still been limited to the tangible content of the objects which are real things and phenomena. Typically, for children, the subtraction is still limited to the law that the minuend

must be greater than or equal to the subtrahend. The concrete nature of thinking shows that, in primary school children, the activity of the first signal system still distinctly surpasses the second one. Besides concreteness, primary school students' thinking is also emotional, which manifests itself in the fact that children's thinking is associated with the emotions created by things and situations in children. For example, a first grader protested when he heard the following math problem: "Grandmother gave grandson 3 candies. Mom ate two, So, how many candies left? He said that mom did not eat his candies.

By the end of primary school, most children can generalize symbols of things accumulated in experience based on analysis, synthesis and mental abstraction. It is the reduction of visual-figurative factors that facilitates the increase in language, signs and models in children's minds. These act as the precursors of the formation and development of a new level of thinking – formal thinking – among students in the next stage of development.

The viewpoint that the two stages of thinking development among primary school students are stable and constant was previously supported by several psychologists. Then, a series of modern studies (D. B. Elkonin, B. B. Davydov, Ho Ngoc Dai, etc.) have shown there is very high potential for the intellectual development of primary school students. With special teaching organization (delivering authentic scientific concepts through abstract to concrete teaching strategies and scientifically-organized learning actions), students can master scientific and abstract documents and have logical thinking.

#### *3.2.2.5. Imagination of primary school students*

Primary school students' learning activity requires a certain amount of imagination. During the lessons, in addition to remembering acquired knowledge, students also have to envision a picture of the past and the future, and landscapes, people and new lands that they have never seen. Imagination at primary school age mainly aims at increasingly accurately and sufficient visualization of new symbols based on corresponding knowledge. On the other hand, the realism of their imagination also develops with age. That is explained by the accumulation of knowledge and development of critical thinking during children's learning activity.

The imagination of early primary school students is portrayed by insignificant processing of their previously obtained impressions. That is why their drawings or stories are often close to real life and represent what

they have seen and experienced. At a later stage, their imagination will contain the creative processing from the previous impressions. Take one example, when asked to describe an outing in the woods, third graders visualized new images including many details from previous trips or from things they had read or seen.

Primary school students' imagination is also fulcrum-based. At first, imaginary images are based on concrete things like dolls, paintings, or surrounding objects without which children cannot imagine, nor reproduce the described situation; then, their imagination is based on actions and finally on words.

The full extent of imaginary images created by primary school children also changes swiftly. In the first grade, the imagination is often poor and lacks components and details of things. For example, a drawing of a person by some first graders diagrammatically has only 3 parts of head, body, and legs. It displays the general outline of the object but omits many details and parts representing the object's actions. From the second grade onwards, there are more details and signs including both clear and basic and key ones of the things in their imaginary images. Drawings by first graders (as well as those by preschoolers) can be called descriptive drawings. When asked to complete a drawing they have created, children often do it by drawing and adding objects in it. In other words, they merely add details, instead of finding a correlation between the image and the real thing on the basis of establishing a relationship between them. Hence, the reproduced image is fragmented, especially in first graders. This is basically caused by children's omission of signs, components, and elements of things during perception – a characteristic of perception and thinking at this age. The ability to create a full imaginary image is common among third graders. Even first and second graders can, however, create pretty complete imaginary images of things through a methodical and systematic learning and training process.

Besides the number of signs, elements and components of the object, the completeness of the imaginary images also relies on its structure. The layout of an image created by a first grader is often inaccurate (e.g. picture of a boat with a paddle on top); Meanwhile, a third grader often creates a more reasonable image layout. This evidences the ability to bind individual components of the image, thereby expressing the nature and content of the picture. When primary school students' imagination completely develops, the images they create also become more cultural and intentional.

In a nutshell, during primary school age, students' imagination develops in the following directions:

1) From discrete, blurred, and broken, primary school students' imaginations become clearer and more defined.

2) From only some signs shown in the first grade, their imagination develops to a more complete and basic level in the second and third grades.

3) From insignificant processing in the first grade, until the third grade, children's imagination becomes more general, more accurate, and more creative.

4) At first, all images reproduced by children must be based on specific things and actions, and then words, which allows them to create new quality and meaningful images.

Primary school students' ability to control intellectual activities develops during their learning process, together with which, their imagination also gets controlled and regulated. As a result, children can imagine things intentionally and create images according to the requirements of the learning tasks.

### ***3.2.2. Development of primary school students' personalities***

The most significant and outstanding feature of primary school students' personality is a developing personality. This governs the entire personality structure of a child. At this age, all qualities, personality attributes and their relationships are strongly being formed, developed and shaped. Such development is impacted by a variety of factors and conditions in student life, including learning activity – the dominant activity and school life – their new living environment – as a decisive factor. For effective educational influence on students, primary school teachers' attention should be paid to the characteristics of all child personality qualities, especially the following aspects of development:

#### *3.2.2.1. Characteristics of primary school students' needs*

The personality trends of primary school children are demonstrated in their forming system of needs and motivations. Like preschoolers, primary school students have a wide range of the following needs: playing (although game content varies greatly from that for preschool age), movement and new impressions from the outside (transited into cognitive needs at primary school age)... In primary school children's need system, cognitive needs are dominant and constitute an important

source of their active learning. The need system develops dramatically during primary school age (and beyond) following the main directions below:

- Children's inherent material needs gradually follow the newly formed mental ones. This trend is clearly seen in the change of the object of their needs. When asked what they like to buy, first graders still choose their favorite food such as ice cream; second graders like books and comics while third and fourth graders like to go out somewhere;

- Children's mental needs also feature a significant development. In the first and second grades, they care more about themselves, their beloved and close people. However, by the third and fourth grades, children start to concern about the collective prestige and the achievements of the group, team, class and friends. This trend is evident when children are asked: "If there was a miracle, what would you do?". First graders may answer: "I want to study so well that I can have a summer holiday with my parents in the South" or a similar answer. The answer of the second graders is: "I want A not to make fun of others anymore". And third or fourth graders may say: "I want our class to be at the top of the school's competition ranking in the fourth grade";

- Primary school students' needs are increasingly conscious and intentional. If first and second graders sometimes express and want their needs to be satisfied "naturally", in the subsequent grades, they are more aware of and can assess their own needs according to social and community standards. Their self-control, especially to restrain their improper needs is gradually built. Children can hold back from asking for a thing they like or even need if they find it impossible or unright;

- As required by the learning activity, among primary school children there is the need to self-assess their behavior and, at a higher level, their thoughts. This need helps children regulate and control their behavior because learning requires children to seriously examine, supervise and assess their behavior and thoughts, thereby conducting them properly.

It is very important to establish and develop the system of needs at primary school age since its content and properties will make a fundamental contribution to the formation of children's later system of needs, driving and orienting children's personality development not only at the present stage but also in later stages. In forming the system of needs at the primary school age, schooling activities play a key role.

### *3.2.2.2. Development of primary school students' emotions and will*

At primary school age, children's emotional life has developed to a rather rich, diverse, complex and positive nature. It is basically featured by the sensitivity to the things and phenomena of life. Their entire mental life is filled with the influence of emotions and feelings. Children's emotions are specific and associated with intuitive and emotional objects. They are also expressed in a direct and clear way. For instance, getting high marks or being praised by the teacher makes them apparently happy; On the contrary, when they get low marks or are criticized by the teacher, then they are sad. Take another example, children are scared and cry when watching the scene of death in the movie.

At primary school age, children's high-level emotions including intellectual feelings, moral feelings, and aesthetic feelings are gradually being formed, developed and increasingly apparent and objective. It is the content and method of teaching used by the school that mainly decide the content, nature and level of formation of high-level emotions in primary school students. For example, proper teaching content and methods for children's natural development and enabling children to act themselves to discover knowledge on their own will arouse and consolidate their needs for understanding and exploring new things, thereby creating their feelings for understanding and intellectual activities. Conversely, children's emotions and wisdom will be limited a lot by the absence of the learning need through a passive learning method by which the teacher provides available knowledge and the students only need to acquire and remember it. Similarly, students' good feelings towards friends, honesty, beauty, etc., are also shaped only through the kind of teaching that requires cooperation between children, honesty and aesthetic nature.

Based on these characteristics of children's emotional development, teachers need to, in the teaching process, make use of the influence of visual images to create children's positive emotions; utilize literary and artistic works as means of emotional education for children; properly organize teaching and collective activities to bring out children's genuine high-level feelings; use emotions to educate children, instead of boring theory and crude conventions concerning students, etc.

### *3.2.2.3. Temperament characteristics of primary school students*

Temperament is shown more directly in primary school age than that of other age groups. For instance, children are often rushed when following

the teacher's instructions and they seem so slow to switch from one activity to another. Despite four basic types of temperament: vivacious; cold; hot-tempered and sentimental, in most children, temperament is characterized by extroversion, inflexibility, and stronger excitement than inhibition, etc. It should be noted that temperament does not determine any ability and any interest, but it greatly affects children's intellectual and behavioral patterns, moods and reactions. Hence, it is necessary to find out children's specific temperament and have special treatment in accordance with each child's temperament in teaching and education. Notably, the same type of temperament can bring out different personality traits and, conversely, the same personality trait can be formed on many different temperament types. Sensitivity and concern for others can be oriented both in children with an active temperament and those with a cool-calm temperament despite their different behavioral manifestations. As an example, an active child can have emotional statements while a calm child can show it through actions.

The physiological basis of temperament is the activity of the advanced nervous system, particularly that of the excitatory and inhibitory processes. Therefore, temperament seems to be flexible. It is, hence, vital for primary school teachers to employ multiple effective methods and measures to eliminate children's temperamental deficiencies and make their good personality traits form in a stable and favorable manner.

#### *3.2.2.4. Some personality characteristics of primary school students*

– In terms of personality, primary school children outstandingly seems to completely trust and obey their teachers. Primary school teachers act as masters who bring the school civilization to the children. They are exemplary models for children in terms of knowledge, behavior, dressing, treatment and assessment. Every word they say to their students is the truth and unchanged command. Hence, primary school teachers' ability to educate children is powerful, immeasurable and irreplaceable;

– Primary school students often imitate in a very naive, mechanical way the manners and behavior of impressive and prestigious people to them. Therefore, in educational practice, a stably formed personality trait and an imitated one should be distinguished from each other. To promptly prevent bad personality traits such as cunning, dishonesty, in educating primary school children, parents, teachers, and people around them must be exemplary models and keep promises. Children's movies, cultural pub-

lications, social relationships, etc., should be strictly managed to ensure a healthy social environment for children to grow and live;

– Primary school students tend to be close to their teachers because they are often appreciated and encouraged. At this age, students are sensitive to teachers' attitudes and like to do what the teachers ask like being a class officer or doing their own daily duty. Therefore, teachers must be clever in dealing with students, avoiding jealousy, dishonesty or disappointment in the study among primary school students;

– Because of unstable and unsustainable personality traits of primary school students, prejudices such as “*A is a liar and a cunning student or B is a weak-willed person...*” should be absolutely avoided. Teachers should support them to have good characters to prevent bad manifestations by their systematic education combined with the help of the family, class and society.

### **Summary of Chapter 3.**

At primary school age, children's psychological life grows strongly in all aspects, significantly, the intellectual development with completely new psychological structures. Specific manipulative thinking associated with the first, but simple system of scientific knowledge starts to appear. These psychological structures ensure children's effective learning in primary school and function as the cognitive foundation of the entire studying, working and later life. The psychological development of primary school students totally results from many different activities joined by children including learning – a dominant activity since the first grade.



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## Chapter 4.

### **PRIMARY EDUCATIONAL PSYCHOLOGY USING ACTIVITY-BASED APPROACH**

Learning is the dominant activity of primary school students, determining children's psychological development at this age. The intellectual and personality development of primary school students depends on the quality of learning – the result of the organic interaction of various factors, internal and external conditions of children's learning activity itself.

Learning is influenced by external factors including the purpose, content and methods of teaching, the school's requirements, the teacher's teaching style, the form of teaching organization and the facilities of the school and family, and socio-economic conditions... They are the focuses of the theory of teaching.

The internal factors of learning comprise learning needs, interests and motivations, acquired knowledge, skills and techniques, established intellectual development level and learning skills, students' sense of purposes and tasks and so on. These factors and their dialectical relationships are the focuses of educational psychology.

In teaching practice, internal and external factors do not separately exist but interact and bind each other to create the unity of the teaching process and make up the quality of students' learning. Thus, the teacher's teaching is only effective when it combines both aspects of students' learning activity. Based on the working mechanisms of internal factors, the teacher organizes and combines external factors appropriately to create effective pedagogical effects. On their part, students must also rely on external factors to adjust their learning activity, adapt to them, and ensure effective learning.

There has been no consistent concept of psychological factors and their mechanism of influence on students' learning process. Therefore, many sects of educational psychology have existed with their own basic strengths, important findings, along with existing theoretically and practically unsolved problems. Despite differences, sometimes opposites in problem-solving, these sects all aim to make certain contributions to enhancing the teaching quality.

Below are the main theories of activity-based educational psychology.

## **4.1. Primary school teaching activity-based psychology**

### ***4.1.1. Psychological nature of primary school teaching***

Teaching involves a process by which adults help children understand the social culture and create their psychological development and personalities. Teaching children is carried out by different adults right after their birth, everywhere and every time in living activities. It is deployed with social-historical experiences necessary for children's daily life – that is, the experiential – life knowledge. Before entering primary school, children are taught entirely in this way; hence, knowledge is acquired unsystematically in an empiricist fashion. Such teaching completely fails to meet the requirements of modern production – society where the main basis of the productive forces is scientific knowledge.

Until 6 years old, children go to primary school and are systematically taught scientific knowledge and corresponding skills and techniques by specially assigned people in society – primary school teachers. In primary schools, teaching children is no longer a random and arbitrary job of all adults, but becomes a professional activity of primary school teachers – primary school teaching activity.

Primary school teaching is an activity of a primary school teacher to organize the learning activity of primary school students, helping them acquire scientific knowledge and corresponding skills and techniques, and creating children's psychological development and personalities in a specialized space – time – school and by a special method – schooling.

Primary school teaching is basically featured by the following:

#### ***4.1.1.1. Subject matters of primary school teaching***

It is foremost necessary to distinguish the object and subject matter of primary school teaching activity. Primary school students make up the object with a strong formative personality, which is the subject matter of primary school teaching. Thus, the teaching subject matter of primary school teachers is not primary school students in general, but rather the formation of their personalities. Psychologist L. X. Vygotsky clarifies the teaching subject matter of the teacher. According to him, there are three different zones in children's personalities during psychological development: the developed zone, the zone of proximal development and the undeveloped zone. He argues that the teacher's teaching focus is children's

zone of proximal development which has not been achieved by the children but can be obtained by their own activities under the teacher's organization and guidance. Hence, the teacher's teaching must target and affect this zone of the students to help them turn what they can have into their own. Each time, children gain a new development in their psychological life and form a new zone of proximal development. Given such subject matter, teaching involves a process of organizing for students to constantly fill themselves and create a system of zones of proximal development in their own psyche.

#### *4.1.1.2. Primary school teaching purposes*

Primary school teaching is intended to establish in children a system of scientific knowledge and corresponding skills and techniques that serve as the content of students' psychological development, accomplished by forming each respective disciplinary knowledge, skills and techniques in students. It is the final purpose but not the direct one of teaching since the teacher's actions does not directly create knowledge and skills in students, but can only form their active learning actions. Accordingly, in light of the teacher's direction and guidance, every time a student performs an active learning activity, he or she will acquire new scientific knowledge, skill, and technique and consequently his/her psyche develops. Therefore, the direct and true purpose of primary school teaching is students' active learning, through which children acquire new knowledge and skills, and create their own psychological development. Thence, the teacher's teaching quality is up to whether it creates students' active learning. Such organic relationship between the teacher's teaching and the students' learning makes up an inseparable process in practice – the primary school teaching process.

#### *4.1.1.3. Teaching means*

To hold the learning activity, the primary school teacher is required to employ many different teaching means, using the system of scientific knowledge that he has mastered as the core. In teaching, the teacher uses them as a tool and a means of organizing activities for learners to reproduce such knowledge, making it their own to create their own psychological development. Furthermore, the teacher also has to use other means like language and visual aids in the teaching process.

#### *4.1.1.4. Mechanism of teaching*

The subject matter of teaching is always changed and developed. After each act of teaching by the teacher, a new human capacity is formed in the students and, consequently, upgrades students' psyche from the previous A level to the new A' level. That means the primary school teacher's teaching has given birth to a new product – a new mental value in students. This product results from the teacher's creative work. Thus, the teaching mechanism is a creative mechanism and it is different but associated with the students' learning mechanism (acquisition).

#### *4.1.1.5. Tasks of teaching*

To accomplish the foregoing purpose, the teacher's teaching has the characteristic task of rebuilding in the students the scientific knowledge of the disciplines. To do so, the teacher must use it as a means of influencing the subject matter and organizing children's activities to rebuild such knowledge for themselves. Therefore, the teacher is required to make students actively learn, be aware of the learning subject matter, want to acquire, know how to acquire and try their best to acquire it. Thanks to the system of scientific knowledge acquired through active activities, students accumulate for themselves new human capacity, are socialized, develop psychologically and form their personalities.

These are the basic psychological characteristics of teaching which are organically attached and create the nature of this activity. Besides, teaching requires certain psychological factors from the subject (primary school teacher) as conditions for its effective performance.

### ***4.1.2. Required psychological factors of the subject in primary school teaching***

Primary school teaching is usually conducted through the following stages: preparation (planning), implementation, testing and assessment of students' learning. For effective teaching, the teacher must possess a certain combination of competencies below:

#### *4.1.2.1. Understanding and properly assessing existing and possible qualifications*

Understanding and properly assessing the existing and possible qualifications (especially in the cognitive aspect) of students in the teaching

process is the most significant condition for the teacher's teaching to be appropriate and approachable to the learning subject matter and learning activity.

The manifestation of this ability is that the teacher can visualize what has and will be acquired by students and its limits, predict the difficulties and advantages for students when they acquire new knowledge, skills and techniques. From there, the teacher must determine the appropriate speed, intensity and pace of the teaching activity, ensuring that it has optimal effectiveness.

#### *4.1.2.2. Properly evaluating teaching materials*

The ability to properly evaluate teaching materials is a condition of establishing a relationship between the requirements of the curriculum and the students' level. It is shown in the fact that the teacher knows how to analyze the material structure, master the key issues and basic focus of the materials, consider the role and position of each knowledge in a whole to choose appropriate ways and means to organize students' learning activity in a reasonable manner.

Understanding students and properly assessing students, as well as teaching materials, are the first steps to modifying teaching materials.

#### *4.1.2.3. Modifying teaching materials*

The teaching content and curriculum are always provided for all students in a grade. For every student to learn effectively, the teacher should not teach the material in its entirety, but modify it to make it appropriate for the children. The ability to modify teaching materials is the teacher's ability to pedagogically modify the prescribed curriculum and teaching content, making it suitable for age characteristics, personal characteristics, knowledge levels, action (thinking) level of students and socio-economic characteristics of the locality to ensure students' best understanding.

#### *4.1.2.4. Designing students' learning activity*

As an important expression of primary pedagogical skills, it is demonstrated in the teacher's ability to select teaching methods, means and forms suitable to the teaching content and subject matter. On such basis, a process of optimal learning manipulations can be developed for students to employ during learning to capture the focus.

#### *4.1.2.5. Controlling and organizing students' learning activity*

This enables the teacher to help students follow the planned process of actions, check its implementation, adjust the learning action, and evaluate the results of the students' actions. This skill is based on the mastery of knowledge, the teacher's deep and wide understanding of the subject area, as well as the knowledge of the psychological development level and the logical-psychological path of the knowledge acquisition in primary school students.

#### *4.1.2.6. Language competency*

The success of a learning activity basically depends on the language. Language competency is the ability to influence, control, and regulate students' actions with the teacher's words. It is based on the teacher's firm knowledge of the Vietnamese language and ability to use precise and expressive words to properly express the necessary things, ensuring students' mastery of the knowledge conveyed by the teacher.

#### *4.1.2.7. Pedagogical observation*

The ability involves quickly distinguishing between the essential and the non-essential, the important and the unimportant, the necessary and the contingent in abundance of pedagogical situations and phenomena encountered by the teacher. Thanks to that, the teacher can promptly make the right decision.

Pedagogical observation is based on a series of the teacher's psychological qualities including, among others, intensity and depth of perception, understanding of age characteristics and personal characteristics, skills in analyzing situations and behavior, and rich pedagogical experience.

#### *4.1.2.8. Pedagogical communication*

Is the basic competency that creates a favorable psychological atmosphere in teaching between the teacher and students. As such, the teacher can arouse children's interest and encourage them to strive to overcome difficulties in learning.

The teacher's pedagogical communication is mainly featured by his ability to opt to and use the right means of communication in alignment with the content, situations and characteristics of the communication object (students) in the teaching process.

The aforementioned psychological factors are really needed for the teacher and are directly associated with the effectiveness of primary school teaching. Yet, primary school teaching foremost still require the teacher's special personality – the personality of a primary school teacher.

## **4.2. Primary school learning activity-based psychology**

### **4.2.1. Concept of learning activity**

#### *4.2.1.1. Learning and learning activity*

Multi-faceted transformations in behavior are necessary for both humans and animals to survive and adapt to a new habitat. Among them, there is a special type which is the formation of external and internal (psychological) behaviors due to previous behavior. This transformation is essentially the acquisition of a new life experience, so-called learning. In other words, learning represents the formation in animals and humans of new, proper behaviors through practice.

Learning occurs in both humans and animals, despite varying in nature. In animals, learning is the formation of individual experiences by way of repeated exposures. These new experiences are only within the species capacity already recorded in the genetic structure of each individual and involve the “application” of the species’ experiences in a particular habitat only. On the other hand, these experiences only exist at the individual level and cannot become new experiences of the species. Learning in humans also has an element of repeated exposures, but it is not the basic way of learning. For humans, learning is mainly the reproduction of existing human capacities which are not inherited but are fixed and embedded in the material and spiritual cultural products of mankind. It can be said that human learning is the acquisition of the socio-cultural culture created by mankind as a means for an individual to form new human capacities. It is the personal process of developing cognition and forming new knowledge, skills, techniques and attitudes.

#### *4.2.1.2. Learning activity*

Human learning takes place in many different forms and levels. The first form of learning in human history as well as in the history of each individual is unintentional learning (random learning). Random learning happens anywhere, anytime in daily life and is associated with living

activities. In this regard, the formation of knowledge, skills, techniques and attitudes is not mainly targeted, but are by-products of living activities. This type of learning has the following principal characteristics:

- Acquired experiences are not the direct goal of the subject's activity or behavior;
- Learners can only acquire what is directly related to their immediate needs, interests and tasks;
- Only empirical knowledge, pre-scientific concepts and corresponding skills and techniques can be formed with random and discrete attitudes. Thus, random learning only brings about the direct practical capabilities of ordinary life (learning to eat, learning to speak and learning manual labor methods like ploughing, harrowing).

Random learning is common among children in the agricultural and handicraft civilization because it meets the human resource requirements of this production. This is also the main form of learning for modern children in the pre-school age, providing them with fundamental knowledge, skills and techniques necessary for daily life. The development of high-level social production in the industrial and post-industrial civilization expects in workers new practical capabilities based on a scientific knowledge system that cannot be formed through the old way of learning. To meet such objective requirements, modern children have a special type of activity – learning whose basic and direct purpose is learning.

Learning activity is a specific human activity controlled by the self-conscious goal of acquiring scientific knowledge and corresponding skills and techniques and new attitudes to create new psychological structures and personalities of civilized people. Learning activity is children's specialized activity held by the teacher's teaching activity in a special space – time – the school with specific goals, contents, methods and forms – schooling.

Unlike learning, learning activity can only be conducted when children have reached a certain level of psychological development in many aspects, especially the ability to self-regulate their behavior for a consciously predetermined purpose and to perform mental actions (6 years old). Learning activity is dominant and determinant in modern children's psychological development for many years before they become adults.

It is worth noting that the term "learning activity" in education is often used with other meanings (e.g, the activities of teachers and students in a lesson). In such case, learning activity is construed as an action or a task



and has a much narrower meaning than the concept of activity in activity-based psychology.

#### **4.2.2. Characteristics of primary school students' learning activity**

4.2.2.1. Primary school students' learning subject matter is a system of general, basic, minimal, developed scientific knowledge and the corresponding skills, techniques and attitudes represented by the disciplinary knowledge system. It is the development of the learning focus in the learning process that brings about primary school students' psychological development. However, perceiving the learning subject matter does not occur in a passive way but involves a process where children actively and consciously affect it with their own intellectual capacity through activities. Thanks to active learning, primary school students acquire the learning focus and create their own psychological development. In this process, under the teacher's guidance, children reproduce for themselves the scientific knowledge of mankind by logically repeating the path that scientists went through to first discover them.

In practice of primary education today, primary school students' learning subject matter is defined in different ways. It is believed that the learning focuses of primary school students – especially in the early grades – are symbols and empirical skills and techniques, rather than a true scientific knowledge system. Even so, the results of theoretical and experimental studies in psychology have proven that, right from the first grade, children can fully acquire true scientific knowledge through their own activities under the teacher's guidance and it is also the way for the school to stimulate children's real development.

4.2.2.2. Learning activity aims to change the subject: unlike other types of activities intending to change or modify the subject matter, learning activity does not target to change the focus, but change the subject itself. Through their active learning activity, primary school students make the learning focus reveal itself outside the object, dominate it, and convey it into the subject's psyche. As a result, the subject gains new knowledge, skills, techniques and attitudes, creating psychological development and forming the personality.

In a learning activity, students can, of course, change (modify) the subject matter. However, it is not common and not the core purpose of this activity.

4.2.2.3. Learning activity is consciously controlled to acquire scientific knowledge, skills and techniques in terms of both content and form.

The acquisition can be carried out by way of experience through the subject's practical activities. However, the acquired knowledge, skills and techniques, in this case, are spontaneous, empiricist – concrete, not systematic and not general.

In contrast, the learning-based acquisition is of high self-discipline. The learning subject matter is aware of by the subject and becomes the direct goal of the activity. In this type of acquisition, scientific knowledge, and corresponding skills, techniques, and attitudes to be acquired are processed and reorganized into a system of disciplines by mapping out the essential and regular relationships and connections regulating the existence, movement and development of things and phenomena. As a result, children have sound and universal insights that can be used in a range of similar situations. It is the way of reasoning in acquisition. The purpose of this type of acquisition is realized by students' learning activity under the strict organization and control of the teacher's teaching activity. Hence, the teaching activity is actually intended to give birth to students' active learning actions corresponding to the goals and content to be acquired by them.

In the first years of primary school, especially in the first grade, the teacher's control over students' learning activity plays an absolute role. Later, in developing learning activity, students' self-discipline and consciousness about it are gradually increasing and their ability to self-control learning activity is gradually established plays an increasingly important role. This ability depends on many factors, particularly the teacher's teaching style. It will be limited if knowledge is merely available to students with the teacher's whole support. On the contrary, if students act on their own under the teacher's organization to discover knowledge, their ability to self-control their learning activity will be formed quickly at a higher level.

4.2.2.4. Primary school students' learning activity also aims to acquire the learning method (knowledge, skills, and techniques of the learning activity itself).

Similar to other activities, primary school students' learning activity must be conducted in certain ways. Students' academic performance is largely up to their mastery of the learning method. In other words, it is important for students to grasp the knowledge, skills and techniques of the learning activity itself and the attitude towards it. The learning method is an indispensable tool and means for students to achieve the goal of learning activity. There is an organic relationship between scientific knowledge, skills and techniques (learnt things) and learning methods. The "learnt"

things regulate and require a corresponding learning method and the learning method is a condition for acquiring the learnt things. In teaching practice, the learnt things and learning method are inseparable. The learning method can only be formed in the very process of activity to acquire scientific knowledge. Therefore, in the teaching process, the teacher must determine the knowledge, skills, and techniques needed for students associated with the corresponding learning method, path, and means of learning activity to be mastered by them.

The acquisition of the learning method is associated with all elements of learning activity. Children mainly capture basic learning methods in primary school along with their strong intellectual development at this level of education. Later, learning methods are expanded, enhanced and perfected. Thus, one of the important purposes of teaching and learning activities is to form in primary school students a system of knowledge, skills, and techniques of learning activity and attitudes towards it. At this level of education, the teacher is required to organize his/her teaching activity so that students can, through learning activity, acquire and master basic learning methods to best gain scientific knowledge and use them as tools and means for the development of learning activity.

#### ***4.2.3. Basic elements of primary school students' learning activity***

Learning activity is a system of many factors that are closely related to each other as a whole, basically, learning subject matters, tasks, means and conditions.

4.2.3.1. Primary school learning subject matter is a system of scientific knowledge, skills, techniques, and attitudes.

First of all, it should be affirmed that the school is not obliged to teach students experience and life knowledge, but true, basic, minimal and modern scientific knowledge selected from different sciences.

Such knowledge is reconstructed into a system of disciplines each of which represents a system of scientific concepts and the skills and techniques in one scientific field, arranged in a certain order called the curriculum. Curricula are elements of the learning subject matter to be mastered by students.

The learning subject matter is, therefore, closely related to the scientific research focus. However, these two activities have fundamentally different functions. Scientific research is to discover new knowledge for mankind (scientific inventions) while primary school children's learning functions

to re-discover scientific knowledge available to the subject, thereby creating learners' psychological development.

However, it is a misconception that a learning subject matter automatically exists when there is scientific knowledge in disciplines. The learning subject matter is only born and develops when students conduct their learning activity as the subject. For scientific knowledge to become the learning subject matter, the teacher must organize the activities for the students in a way that repeats the logical sequence of operations carried out by scientists to discover the scientific concepts. The learning activity must start from this logic (called the logic of the concept). Because the scientific concept reflects the logic of the focus, the focus always evolves according to its natural logic. Once discovered, this logic is encoded by scientists in the language and the sequence of its development is exactly shown from the starting point. The scientific focus then leaves the real object and is deposited in a scientific term. To make the scientific subject matter an acquired subject matter, it must be brought to life in real history. It is the learning content in its movement and development that determines the content of students' psychological development. Thus, it is especially important to build the curriculum. This must comply with the principle that the scientific focus and the curriculum begin from the same point, for example, the concept of "syllable" in Vietnamese, the concepts of high, low, short, long, point, and line in Math. Doing so is the only way to create a natural and authentic (regular) development of students' psyche, addressing formalism in the acquisition of scientific knowledge.

#### *4.2.3.2. Primary school students' learning tasks*

In the practice of primary school teaching, learning focus (curriculum) is concretized into systems of continuous partial goals to be achieved one by one in the acquisition of the learning focus. To do so, for each specific purpose, students must perform the corresponding learning tasks assigned by the teacher. Mastering the learning focus is essentially a process in that students perform a system of assigned learning tasks.

The learning tasks of primary school students are not set arbitrarily but must follow a strict logic in alignment with the logic of the learning subject matter and develop according to the development of the learning focus. Particularly, every time a learning task is completed (a goal is achieved), students have new human capacities – the true product of education. Thus, the

learning process is essentially the process by which students perform a system of learning tasks, thereby creating a continuous process of forming new human capacities and also the process of developing children's psyche. To create students' psychological development, the teacher must, in the teaching process, design a system of students' learning tasks in a scientific manner and hold their activities to fully and fruitfully accomplish these tasks.

It should be noted that, among human capacities acquired by children at primary school, learning capacity plays a fundamental role. Therefore, the teacher's attention should be paid to forming this capacity for students at this level of education when designing learning tasks.

#### *4.2.3.3. Learning means or primary school students*

Like all other human activities, learning need its own means and tools which determine its productivity, quality and effectiveness. A means (tool) is an intermediary element between the subject and the object that transfers the subject's impact and capacity to the object. Thanks to the learning means, students can act on the object to reveal the learned focus (concept) to possess it. However, learning means is different from other types of activity means and tools in that it is not available outside, but students have to create it for themselves during their learning activity.

At first, primary school students do not have real means of learning. Through the learning process, learning means are formed. Learning activity need many types of means, mainly scientific concepts. They are originally the purpose of learning actions, but once formed in students, they become tools for students to explore the next concepts in the subject matter's logic. For example, the concept of the bend line is a tool to form the concept of shape, triangle, etc.

It is noteworthy that any concept has a corresponding term form or a substitute and conveys a subject matter. Mastering the concept requires grasping both the essence and the term form of the object. The evolution of learning activity is the movement of concepts in the form of terms.

In teaching, the formation of a complete, rich and profound conceptual system in students means that they have been equipped with effective tools to conduct effective learning activity and to well carry out later living activities.

The learning activity of primary school students also has other means such as skills, techniques, and school supplies. However, the most important thing is the existing scientific knowledge system.

#### 4.2.3.4. *Conditions of primary school learning activity*

Students' learning activity always occurs under certain objective conditions, most importantly, the teacher's teaching style. It is the content and nature of teaching activity – called teaching style. The quality and effectiveness of learning activity are determined by the teaching style. In other words, with different teaching styles, learning outcomes fundamentally vary. The difference in teaching styles is first shown in the teaching content and methods, leading to the difference in teacher-student and student-knowledge relationships in the teaching process.

In traditional teaching, the teaching content is a formal concept while the method is explanation – listening – understanding and memorization. The teacher is the one who processes and transmits and the students receive and memorize knowledge. This is the one-way relationship between the teacher and students. This teaching style possibly results in the students' understanding of the concept (visualizing what is in the teacher's mind), but failure to produce the concept, and, therefore, the students have not really mastered the concept. In this case, the role of memory is highlighted while logical thinking is not given due attention, Students passively learn under the dominant influence of external motivations.

In modern teaching, the teaching content is a dialectical and scientific concept and the teacher organizes and controls students' activities. With this teaching content, apart from listing and understanding the concept, students are required to master the concept by creating it by their own activities. Then, the role of teaching becomes different when it does not involve communication, but organization-control; Teaching means, in no way, giving children existing things, but guiding them to work to create their own knowledge. The teacher-student relationship is also different: the teacher designs – the students constructs; the teacher organizes – the students carry out the activities. Changes are also seen in the student-knowledge relationship in which knowledge is not passively received but influences and occupies the active learning process of students. As a result, students well grasp (not just understand) the concepts, develop their logical thinking, and ultimately have a positive attitude in learning.

To sum up, teaching activity serves as a basic condition of learning activity. Students' learning is always consistent with the teacher's teaching style, which is also a significant condition of learning activity.

### **4.2.4. Formation of primary school students' learning activity**

The learning activity is not available before the child arrives at school. It can only be formed in the learning process of students in primary school. The formation of learning activity is the formation of its constituent elements and the dialectical relationship between them. Particularly, the formation of 3 factors: motivation, purpose and learning action is especially important. Their formation determines the formation of the learning activity itself and thereby determines the outcome of this activity.

#### *4.2.4.1. Formation of learning motivations of primary school students*

All human activities are driven by definite motivations and take place in a certain situation. Yet, motivations are not inherent in the subject but are formed during the subject's activity, attached to the object and embodied in the subject matter of the activity. An activity motivation arises when the object and the subject's needs meet.

Motivations are necessary for primary school students to learn effectively. However, learning activity is not driven solely by a single motivation, but often a system of many different ones. The learning motivations of primary school students belong to the following two basic categories.

– Intrinsic motivations (motivations for knowledge improvement) are those that embody the learning subject matters (e.g., knowledge, skills, techniques, and attitudes) or certain aspects of the activity itself (e.g., learning methods or actions). In general, motivations of this kind are associated with at least one of the elements of the learning activity itself. With these motivations, students have to acquire new knowledge (learning subject matters), learn (methods of knowledge acquisition or learning action) or apply existing knowledge (learning means) which are satisfied once children learn and acquire new knowledge, skill, mode of action... In the learning process with dominant motivations, learning situations do not contain inner conflicts in children. They mainly effort to overcome external difficulties and obstacles to learn well. Learning is, in this case, a self-disciplined, active job without any psychological stress on the subject. This is the optimal motivation system from a pedagogical perspective;

– Extrinsic motivations (individual or social-relational motivations) are those whose embodiment is outside the learning activity – especially the learning subject matter. The learning object then is not something that can satisfy the needs but only a means for the subject to reach another

subject matter (the result) that can satisfy the student's needs. Another object can be a reward, reprimand, praise, criticism, threat, need, greed for fame, future life, envy, and challenges which are determined by social relationships (father, mother, relatives, teachers, friends, etc.). In other words, social relations are expressed in the learning subject matter and purpose.

A learning situation in which extrinsic motivations play a dominant role in the motivation system is called a purposeful compulsive situation. In this learning situation, students not only need to strive to overcome objective difficulties but also to handle internal psychological difficulties. Less interest in learning is not to satisfy cognitive needs or actions. This learning situation creates psychological tension on the subject, even an inner conflict, culminating in the destruction of the learning activity itself (dropout or boredom) or children's tendency to stay away from learning activity, then they seek all ways to achieve high marks without any real learning results (local-focused learning, unequal learning, cheating, etc.).

Commonly, primary school students have both types of motivations which combine to form a hierarchy and together inspire the subject to conduct the learning activity. Intrinsic motivations are long-term, fundamental, and sustainable while extrinsic motivations are practical-direct and immediate. The point is that which motivation group emerges first and surpasses the other. The structural formation of students' learning motivation system depends on the learning type and situation organized for students through teaching activity.

In fact, primary school students' learning motivation system is not available but is formed gradually during the subject masters the subject matter. Its formation is called learning motorization. The content and nature of the motorization of primary school students' learning activity depend on the subject's learning situation created by the teacher's teaching style. In different learning situations, different dominant types of motivations will be formed in students' motivation system.

With the teaching style of transmission, explanation – listening and memorization, extrinsic motivations will prevail. In this case, the learning activity is not driven by the learning subject matter or its elements but mainly by external purposes. Meanwhile, through the teaching style of organization – activity to acquire the object, intrinsic motivations will surpass in the motivation system. Then, the subject's need for knowledge and curiosity becomes a learning need, associated with certain aspects of learning activity and promoting this activity since it satisfies and increases



children's need for understanding. Thus, intrinsic motivations are derived from students' cognitive needs, which is the source of their active learning. Awaking this need in students is an important task of primary school teaching. It is only possible in a learning situation where students work on their own to acquire scientific knowledge to satisfy themselves.

It should be noted that it is until primary school children have real learning motivations – especially intrinsic ones. They have only a few extrinsic motivations of learning activity such as *“desiring to be an adult or being more matured when going to primary school”* and needs for general knowledge (curiosity), rather than the need for specific disciplinary knowledge. Therefore, it is extremely vital to motorize the learning activity of first graders. Children's learning motivation system is basically formed during the primary school years. So, in primary school teaching, especially in first grade, it remains the top task of the primary school teacher to arouse students' need for understanding and create learning situations to satisfy and develop them. The situation that some first-graders become bored and afraid to learn after a few days of being eager to go to school is caused by the teacher's teaching method which does not create a motivation system, with the key role of intrinsic motivations.

#### 4.2.4.2. Formation of learning goals in primary school students

A goal is a specific psychological model of the product to be achieved by humans during activities. Thanks to it, humans can direct, control, and adjust their actions to achieve results. The goal is not something available but is formed gradually in the course of action. Before embarking on the action, a symbol of the outcome may be already in the subject's mind, but that is not its real goal. The real goal exists when the subject begins to act, and at this point, the symbol begins to have the real content of the goal which directs, controls and regulates the action.

In the learning activity of primary school students, its subject matter (discipline) is constituted by a system of basic units which are disciplinary concepts. In the learning process, children have to gradually master each concept to then capture the whole system (object). Hence, primary school students' learning activity aims at the scientific concepts of the disciplines. In the learning process, the subject undergoes a psychological change (e.g, the degree of mastery of concepts, rules, standards, values and new methods and new behavior) every time a disciplinary concept is mastered. These changes create the content of students' learning goals.

Like other activities, a learning goal is not available but is actually formed when the child begins to perform the learning action. Since then, together with the subject's intrusion into the subject matter, the goal's content gradually becomes clear and orients the activities, ensuring that the subject's activities are productive and acquire new knowledge and capacities. The formation of a learning goal ends only when a new disciplinary concept comes to mind. In other words, the formation of a learning goal coincides with the making of a product, and the learning goal is also a product of this process.

It is noteworthy that when assigned a learning task and expected outcome, students have not set a goal yet, but only envisioned a symbol of the goal and action to be performed. Therefore, in organizing and controlling students' learning activity, the teacher must make students more aware of the goal to be achieved.

In the learning activity of primary school students, there is always a transformation between the learning goal and means. A scientific concept is the goal of a student's learning. But when the student has mastered it, it becomes the means for a new learning action to capture a subsequent goal – a new concept in the system of disciplinary concepts. Then, the new concept becomes the means, and, in the end, the learning subject matter is necessarily acquired by deploying a system of learning actions.

#### *4.2.4.3. Formation of learning actions in primary school students*

It is students' active learning that facilitates them in acquiring the scientific concept (learning goal). Thus, learning action is the basis of students' psychological development in the teaching process. Accordingly, for students' psychological development, the teacher must initiate their positive learning actions, which is also the direct purpose of teaching activity. Besides, the acquisition of learning action itself (knowledge, skills, and learning techniques) also creates a new capacity and psychological development of students.

Learning is the action of the subject (student) on the learning object to penetrate it, explore and acquire the learning subject matter. However, instead of being governed by the subject, this action is determined by objective scientific concepts to be captured by the subject (learning goal). Each scientific concept has specific content and requires a corresponding learning action to be captured. In other words, the learning content determines students' learning methods and ways.

A learning action, like other elements of the learning activity, is established in the process of doing it itself. The formation of learning actions of primary school students is investigated in two aspects: form and content since disciplinary concepts must be mastered by students in these both aspects. First of all, learning actions are created one by one in different forms, depending on the existing forms of disciplinary concepts to which they are oriented.

– Forms of concepts: A scientific concept exists in three basic forms below:

+ Material form: This is the original form of a concept. Each scientific concept is objectified and embedded in corresponding real things or substitutes. In this form, the content of the concept is intuitive and sensory, but in a hidden form and is revealed only under the influence of a suitable action. For instance, the concept of “syllable” materially exists in verbal form or its substitute is pieces of wood, plastic, or pebbles in a school supplies box.

+ Encryption form: The logic of a concept conveyed by humans resides in another material such as symbols, diagrams, terms, definitions. In this case, the content of the concept is assigned to a non-corresponding form, which does not contain it. Encryption form is also known as the arbitrary form of the concept. For example, the concept of “syllable” in the first grade is demonstrated by symbols such as circle, triangle, square and the term “syllable”, or the concept of “b” sound is the letter b...

It should be noted that the assigned material is not a concept and does not actually contain the concept; Therefore, understanding and remembering terms and definitions do not mean mastering the concept, but only grasping the encryption form of the concept.

+ Mental form (spiritual form): In this form, a concept exists in the form of mental actions and is constituted by its single logic of manipulations in the subject’s psyche. A subject truly grasps a concept only when it grasps this form and the perceived concept becomes the general model of a class of external material actions through which the subject gains a new capacity. The mental form of the concept is, in fact, a special form of speech – the inner speech – whose function is to control the subject’s behavior.

– Forms of learning actions. Based on and corresponding to the three forms of each disciplinary concept, the subject must conduct three forms of learning actions to master it in learning activity:

+ Material actions or materialization (on real things or substitutes). In this form of action, the subject has to manually disassemble, con-

vert, and arrange real things or substitutes of the concept to be acquired. Through this learning action, the logic (content) of the concept hiding in the respective materials is revealed in an intuitive and sensory way and can be perceived by the subject. Some examples of these manipulations are putting a piece of wood or pebble on the table corresponding to teach pronunciation in a sentence (or a verse) when learning the concept of “syllable” or picking out shapes with the same sign from the box (shape, color, size, etc.) when learning the concept of “set” in the first grade.

This form is the starting point of students’ acquisition of a new concept, especially for primary school students.

+ Verbal action and other encryption forms corresponding to the subject matter: this is an intermediate form of action, aiming to convey the logic of a concept discovered in a material action into the subject’s psyche. In this form of action, the subject is required to repeat the logic of the material action in the form of speech. It should be noted that, in this action, the student repeats the material action in verbal form rather than describing the action performed by speech.

The form of verbal action is done by levels: 1, speaking loudly so that others can hear; 2, speaking softly that only the subject can hear; 3, moving the lips, without making a sound despite the vocal organs are still active.

+ Mental action: This is actually the form of inner verbal action. At that time, the action takes place only in mind and the logic of the concept is completely transferred into the subject’s psyche. For instance, the student can separate the syllables in a sentence or find out the objects that share the same sign entirely by thinking in the head. Therefore, he gains an extra human capacity that creates a new development level in his psyche.

***In summary:*** Through the foregoing three forms of learning actions, the concept in a material form has transformed into the inner mental form of the subject, creating its psychological development. Therefore, students’ knowledge acquisition should be based on the formation of their learning action.

– Basic learning actions of primary school students:

A variety of learning actions are carried out during the learning activity. The role of each learning action is determined by the teaching style and perspective of the type of concept to be acquired by students.

Through the teaching style of passive transmission, the concepts that need to be formed are empirical and superficial, basically perceived through listening, understanding, observing, comparing, generalizing experiences and forms, memorizing and rephrasing. With the type of teaching that

forms empirical skills and techniques, the basic learning action is practice and memorization by superficial associations and partial induction-based generalization.

It is advisable for the teacher to hold logical learning actions for forming in them logical scientific concepts. Most importantly, analysis, modeling, concretization, testing and evaluation should be deployed. These learning actions are not inherently available before children enter primary school. Therefore, they must be first considered subject matters of acquisition for primary school students prior to becoming the way to acquire knowledge.

+ Analytical action: This is a type of learning action by which the subject acts on the object containing the concept in a corresponding way and therefore the concept is revealed and the subject discovers its origin as well as its logical structure. Analytical action makes a static concept hidden in things dynamic and realistic and acquirable for the subject. Thus, analytical action rather than observation serves as the most important method for the subject to explore and acquire the subject matter. Through analytical action, a first grader can separate “syllables” in speech and separate accents, sounds, and rhymes from voices... Similarly, thanks to analytical actions, students discover themselves the concept of “sign” and “set” hidden in things. Analytical action takes place in all three forms of learning activity (material, verbal, and mental).

The ability to reveal and acquire a concept by analytical action depends on the subject’s analytical level, which is closely related to its previous knowledge mastery since, during analysis, students must apply previously acquired knowledge as the most basic tools and means to influence the objects to reveal new concepts and capture them.

As an example, the concept of “syllable” is a tool for students to analyze a syllable into the accent, rhyme, and first sounds; Similarly, the concept of signs is a tool for students to analyze things to find common signs and form the concept of “set”...

The concept acquired by students through analysis is still abstract and specific without a general nature and cannot be used for a class of different cases but of the same nature. To realize this, traditional teaching follows empirical generalization – incomplete induction. Meanwhile, activity-based teaching obeys a completely different path, generalizing theory by modeling action.

+ Modeling action: It is an action where students have to use a model to convey the content of a concept, or in other words, children have to

build a model to express the concept they have just come up with. Modeling visualizes the logic of the concept and upholds it to a general level. This action is conducted at different levels and results in children's ability to construct models of concepts at different levels.

i) A lifelike model is a highly intuitive type that enables children to track the entire action process, as well as the position of elements and their relationships and connections in the concept to be grasped. As an example, pieces of plastic and pebbles are models for syllables in speech or drawings of objects express the concept of "set" (birds in and out of a cage, for example). Lifelike models have visually expressed the elements and relationships of the concept despite lacking a general nature. They can only be used for a single case.

ii) Symbolic model: This is a type of model in which the image of the real object is replaced by symbolic signs, gradually eliminating non-essential elements, retaining and describing essential elements and relationships of the concept only. This model is, thus, highly abstract and general. Because it only retains the essence of the subject matter in its visual form, it is applicable to many different cases of the same nature. Symbolic models also have different levels with different degrees of generalization, and, consequently, the different scope of use. For example, the addition model can be a 2-way model that can be used merely for certain sets of numbers (1), or a pure model of relations that can be used for all positive numbers and zero (2).

iii) Notation (encryption) model: This type of model is completely conventional, expressing pure logic of the concept. In this model, the visual element is completely removed and it usually contains formulas, notations, terms, etc., such as the additional model  $a+b=c$  or the term "syllable" of the concept of "syllable". Unlike the said models, this model is just understood by people with the same level of knowledge and knowing the content of the notation only. Understanding this model, students have grasped the concept at a general level and can apply its logic to solve all different specific cases of the same nature. The notation model plays an important role in students' abstract thinking.

The modeling action is intended to visually describe the logic of a perceived concept and make it universally valid. This action significantly enables primary school students to develop thinking and master knowledge.

+ Concretization action: It is a learning action in which students must apply the acquired general action method (the general sense) to

specific and different situations of the same nature. In this regard, students must apply the logic of the concept at an abstract and general level to solve various concrete situations in practice. The abstract and general senses then act to solve specific problems. Concretization represents the final and highest result of students' acquisition of a concept. In learning, concretization is common in solving problems. In such case, children must apply the acquired knowledge to solve new situations of the same nature as that they have analyzed to explore the concept. Take an example: After mastering the "syllable" model, children can utilize it to analyze the structure of another syllable or apply the addition concept model to solve other addition-related problems.

+ Testing and assessment: In performing the said learning actions to acquire a concept, primary school students may make mistakes in any task. Any mistake will lead to poor or wrong knowledge or failure to grasp the concept. Thus, to ensure children's correct and productive performance (bringing about the concept), their learning actions and their results need to be reviewed and checked regularly from the beginning until the end. Testing and assessment are initially on the teacher's part; however, through teaching, students must gradually develop the ability to self-examine and self-assess their work and results. Thereby, testing and assessment become a learning action of children. This action is vital and take a great part in the teaching quality. Testing and assessment are composed of two parts with different contents. Testing involves the review of the entire process of learning actions to detect possible errors and take prompt corrective actions to ensure the right outcomes of the actions. Testing is, for this reason, carried out in parallel with the aforementioned learning actions. For primary school students, testing is essentially the comparison of their actions with the teacher's sample actions and finding mistakes. Meanwhile, assessment is conducted through students' comparison of their action results with the sample results or the given learning goals.

Different viewpoints have been provided regarding testing and assessment and their role in students' learning activity. Some authors (P. Ia. Galperin, A. K. Markova...) reject their independent position but consider them components of other learning actions. In contrast, some others (L. V. Bgerersfai, A. V. Zaklare...) argue that testing and assessment are specialized learning actions that make up the learning activity. It is important that all highlight the significance of testing and assessment for the effectiveness of learning activity. It is the goal, nature, content and method

of testing and assessment that will determine the goals, nature, content, and learning method of students.

Briefly, to grasp a new disciplinary concept, primary school students have to act in the following stages: 1) grasp its general logic by analytical and modeling actions; 2) Apply acquired general logic to understand its own diverse forms of expression. In both of these stages, testing and assessment feature a condition for students to correctly perform the learning actions to gain the desired outcomes.

In primary school teaching, the said four learning actions are formed in students' learning process itself. They are initially the subject matter of acquisition (learning how to learn), then they become methods and manipulations of learning activity to capture disciplinary knowledge and concepts.

### **4.3. Formation of concepts, skills and techniques in primary school students' learning activity**

#### ***4.3.1. Conceptualization***

Every rational and effective human action and individual personality are based on scientific knowledge in situations where new subject matters, tasks and conditions are encountered in life.

At school, scientific knowledge is represented by disciplinary knowledge, which is constituted by a unit system of scientific concepts. Consequently, the formation of disciplinary concepts is the foundation, basis, and part of the entire process of mastering disciplinary knowledge by primary school students. Forming concepts for students is one among the basic tasks of primary school teaching activity and is the core in forming students' personalities.

##### *4.3.1.1. Scientific concepts according to activity-based approach*

A concept means humans' understanding of common signs, properties, and nature of a class of things and phenomena in objective reality; and of their inevitable relationships and connections. Concepts result from humans' generalization of individual phenomena and things with the same basic substance. It eliminates random, secondary, non-essential signs and attributes and external and unnecessary relationships and connections of things; and only reflect common, essential, typical signs and attributes and their regular relationships. Concepts are "results in which empirical data



are generalized". As a result of the generalization of reality, concepts are models of reality that, if tested, reflect reality and are truths. "All scientific abstractions (being correct, serious, and not arbitrary) provide deeper, more precise and fully insights" (V.I. Lenin).

It is necessary to distinguish a fundamental difference between a scientific concept and an empirical (pre-scientific) concept. An empirical concept is derived from empirical generalization by way of incomplete induction of repeated observational results. Concepts of this type only indicate general and superficial attributes, rather than intrinsic properties of things and phenomena. Hence, empirical concepts are not universal, that is, they may be true for certain particular cases but not for all different cases of the same nature. As an example, the empirical concept of "tubers" conveys things of different nature such as peanuts (fruit), ginger (stem), banana tubers (stem), etc., but it does not include several things of the same nature. A similar case happens to the empirical concept of "fish". Empirical concepts still commonly exist and are necessary for daily life, especially in agricultural and handicraft production. Yet, they are not the learning subject matters of modern primary school students who will live and work in a scientific knowledge-based civilization.

Different from empirical concepts, scientific concepts are born through the process of logical generalization, reflecting the general and essential attributes and regular relationships and connections of things and phenomena. This creates the universality of scientific concepts and truthfulness for a class of different things of the same nature. Scientific concepts are not formed through repeated observation but result from humans' practical actions on the subject matter and discovery of its nature.

According to dialectical logic, every scientific concept has a dialectical development. Its content grows with the development of science. Parallel to the development of human cognition and scientific theories, scientific concepts transform and develop with increasingly deep, accurate and complete reflections of reality. Additionally, each scientific concept has its own history of formation which is its content development – "the summation, the totality, and the conclusion of the cognitive history" (C. Marx). Each scientific concept contains a logic that develops from its inception to its most advanced level. The logic of the scientific concept is the conclusion of the history of human cognition of the subject matter it reflects. Besides, it also represents the internal and objective self-generation, movement and development of the object itself reflected and acquired by humans in their

perception through constant and systematical analysis, synthesis, comparison, abstraction and generalization. It can be concluded that conceptual logic is the logic of the development of the concept itself and of the subject matter it reflects. The logic of a scientific concept is investigated in two aspects: formal logic and dialectical (content) logic. The formal logic of a concept means a description of the formal structure of an object, which is reflected in the definability and identification of characteristics of the object. Mastering a concept at the formal logic level is understanding the concept, showing its formal structure but not yet having the corresponding new action capacity. The real content of the concept according to the activity-based approach is a logical structure of manipulations employed by humans to uncover the nature of the reflected subject matter. Each concept is, hence, an action with a logical structure of its manipulations. This structure is generated by: 1) sub-manipulations; 2) their inevitable, fixed, unchanged order. For example, the concept of addition (+) is a logical structure of manipulations: establishing parts, grouping the parts into a whole, counting the whole. Truly understanding a concept is grasping the logical structure of its manipulations. The theoretical concept (content) is the functional structure of the concept, which is essentially a logic (system) of manipulations converging practical human capacities used by mankind to acquire the subject matter. Each concept is, therefore, a human capacity. When mastering a concept, a new human capacity is formed in the subject. The theoretical concept is the real purpose of students' conceptual acquisition in the learning activity. Truly mastering a concept means, of course, students' grasp of the content, the formal structure, and the corresponding concrete symbols of the concept.

Scientific concepts have three basic functions for humans:

- **Eristic function:** A concept is a tool for humans to explore and discover new knowledge;
- **Analytical function:** A concept is a tool for humans to analyze new subject matters to solve or discover new concepts;
- **Synthetic function:** A concept is a tool for humans to come up with general knowledge and concepts from individual knowledge.

In a word, concepts are tools and means of human thinking and cognition.

Each concept has its original origin in external physical things and phenomena (which is the essence and objective laws of things). It is the object where the practical human capacities are crystallized and deposited. In

this form, concepts are static and hidden in things that cannot be detected by intuitive and sensory means. They become dynamic, real, intuitive and acquirable only when the subject properly acts on the object that contains the concept. Then the concept has a second-place of existence – the subject's psyche and spirit.

To easily store and exchange information about concepts, humans use language to arbitrarily send concepts into it. Then, they are conventional to exist in a word, a term, or a definition. However, things, like terms and definitions, are not concepts as commonly misunderstood, but only places of residence of the concepts only.

To have a new concept, the subject must acquire both its content and form, foremost, the content – the logic of manipulations of the concept. To this end, observing things, listening to explanations, seeing illustrations, understanding and remembering concepts is not enough. The subject must look deeper into things, through its own actions, and make the hidden concepts revealed and acquire them. To do so, the subject's actions must repeat the correct sequence (logic) of manipulations previously used by mankind to discover it. Each time it does so, the subject gains a new human capacity. Conceptualization is therefore the process by which children continuously create new human capacities for themselves.

#### *4.3.1.2. Psychological nature of conceptualization in primary school teaching according to the activity-based approach*

Conceptualization is the core of primary school students' learning activity. Yet, the degree of conceptualization among students varies.

– Descriptive-reproductive level: At this level, children can state specific things and phenomena (materials) corresponding to their concepts or functions. For instance, children can name drinking water, tap water, pond water, etc., when talking about water;

– Conceptual understanding level: At this level, children grasp the formal logic of the concept including the definition and characteristics of the concept and figure out the corresponding objects and phenomena. Thus, they can analyze and apply the concept to familiar situations. Conceptual understanding is targeted by traditional teaching. Accordingly, conceptualization is conceived as the “transmission” of an existing concept from the teacher's mind to the student's mind through a detailed description of its formal logical structure. Students “receive” the concept by listening to and understanding what the teacher presents and memorizing it. Abstract

elements are illustrated by visual aids or raised by questions and problems. With this type of teaching, students cannot acquire a true concept, but just visualize the existing concept in the teacher's mind, grasp the formal structure (understanding) and corresponding (intuitive) symbols of the concept. This understanding level is required for most students in traditional teaching;

- Conceptual mastery level: This is a high level of conceptual acquisition in which students not only grasp the formal logic of the concept but also firmly master the logic of its manipulations and can implement them with corresponding subject matters. When the concept is mastered at this level, the subject gains an additional generalized mode of action that can be employed to deal with a class of different situations of the same nature. In other words, the subject has then a new human capacity and a new level of psychological development. This conceptual mastery level is a basic requirement for most modern primary school students;

- Creative level: This is the highest level of conceptual acquisition. At this level, students both master the concept and use it to solve new situations containing new essential elements, thereby discovering new knowledge or modes of action.

In teaching practice, students have different levels of conceptual mastery due to differences in the concept of goals, content, and methods of organizing conceptualization for students through different teaching styles.

Traditional teaching targets the conceptual "understanding" with the concept's formal logical structure as the teaching content. In this style, the teacher presents, explains and describes the formal structure of the concepts with visual aids and, illustrations. As a result, students understand the concept, establish a symbol for it, explain and apply the concept to solve familiar situations but do not yet have a real new general capacity for actions.

Activity-based teaching psychology has a completely different perspective of conceptualization among students in the teaching process. Accordingly, the acquisition of a concept means that students must master and implement its logic of action, thereby gaining a new capacity. To accomplish this goal, conceptualization must follow a different path, repeating its own natural formation path. As indicated above, the true origin of the concept is the object containing it (thing or phenomenon). When discovered by humans, it takes on an additional form of existence – a mental form. The concept perceived by the subject is derived from a process of formation that begins outside the subject, from the thing containing the

concept itself. Through actions organized and controlled by the concept owner (the teacher), the subject (students) acts on the object (the thing) to uncover the hidden concept, make it manifest in a visual way, take over and transfer it into its mind. Since then, there has been a new concept in the subject's psyche. Thus, by active actions, the subject has transformed the concept which is a thing to the human mind, from outside to inside, from a matter to spirit and mind. Therefore, penetrating the object is the basis of the subject's conceptual acquisition. It can be said that the essence of conceptualization is its transfer from a thing to the human mind employing the subject's own active actions.

In teaching, intending to form new concepts in students, the teacher must organize activities for children to act on selected objects (learning materials) representing a class of things that contain the same concept (materials). This should follow a procedure used by the scientists to discover the concept in history. As such, students can separate the concept from the object and capture it.

For instance, to form the concept of "addition", students must act on groups of counting sticks and pebbles, etc., according to the logic of the addition concept. Likewise, divide the rectangle into squares, analyze and synthesize the triangles into half a rectangle in conceptualizing the area of a rectangle or a triangle.

Thus, in teaching, students' actions on objects are the basis of conceptualization. Nonetheless, it is essential to distinguish the role of teaching aids in teaching styles. Traditional teaching uses visual aids, mainly to illustrate the teacher's instructions, and as the subject matters of student's perceptual and observational actions to make an empirical generalization. In modern teaching, teaching aids are the objects (materials) of students' basic learning actions (in fact, intellectual actions). Students must derive the concept from the object itself by their own actions, not passively receive it from the teacher. There is a common question that how students with the old teaching style are still able to grasp some real scientific concepts. In fact, these concepts are acquired not through the teacher's lectures but by children's "accidental" acquisition in the course of life or through doing certain practical exercises. Thus, it is a fact that most of the school knowledge cannot be brought to life. Students understand the concept but cannot do a corresponding action (Speaking or writing wrongly despite understanding the rules of phonetics, vocabulary, and grammar, or failing to connect the electrical network despite

remembering the rules of electricity, etc.). Therefore, traditional teaching must make up for such deficiency with the slogan “learning must go hand in hand with practice” but it is still ineffective because it cannot change the essence of the problem – the concept has the nature of action and learning is students’ active action.

#### *4.3.1.3. Controlling students’ conceptualization during primary school teaching*

Conceptualization happens through students’ own learning actions. However, each concept has its own logic to be complied with during students’ learning action to acquire it. The problem is, students cannot do it by themselves without the teacher’s strict organization and control through teaching activity. To ensure an optimal conceptualization, the teacher’s teaching activity must follow the basic principles:

- Accurately identifying the subject matter to be acquired by the students in each lesson, including determining the exact concept to be formed, content structure (logic of manipulations), formal structure and corresponding basic visual symbols; identifying the means and tools needed for students to acquire it (existing knowledge and necessary thinking manipulations).

- Ensuring that students are organized to conduct all steps of conceptualization, especially the stage of material actions to intuitively and sensorily uncover the concept (distinguished from visual things). Teaching activity must act as a model and ensure orienting, controlling, checking and regulating students’ actions according to the model.

- Well organizing both phases of conceptual acquisition: taking over the general and turning the general into a specific case.

The above points provide the completeness and flexibility of the concept to be formed, the high speed of acquisition and the correct application of knowledge by students. It should noteworthy that modern primary school teaching views disciplinary knowledge formation as a linear process (not concentric as before) and each concept is formed only once in a single lesson. Hence, students need to get it right at the beginning and right at all stages. As an example, the concept of **addition** is formed in just one lesson with specific learning material, not from many lessons as before. Likewise, the concept of **rhyme** is only learned in one lesson. Specific addition problems and rhymes are secondary and concretize the acquired concept, rather than synthesizing empirical generalization.

To fulfill this, the teacher must: 1, master basic scientific knowledge; and 2, master the science of pedagogy. It is also the basis of the teacher's teaching capacity.

With these basic principles, the teacher can guide students to form new concepts according to a common process with the following fundamental steps:

1) Arouse students' needs for cognition and acquisition of the concepts because needs are the sources of motivation and activeness. The best way to do this is to put students in problematic situations which contain a conflict between what they have known and what they have not known. Such conflict is aware of and needs to be resolved by students. Thereby, students gain new knowledge. It should be noted that a problematic situation is a subjective situation. A situation seems to be problematic for one student but not for another. In a specific problematic situation, students can solve it on their own to discover new knowledge under the teacher's guidance. Putting students in a problematic situation is crucial in making students the subject of active actions to acquire the concept.

2) Guide students to use available tools and means to work with the object to discover the essential properties and hidden regular relationships of the subject matter.

3) Lead students to figure out the essential signs of the concept and master these signs. The third step is qualitatively significant for conceptualization. The basic measures commonly used in this step are:

– Organize for students to act on typical objects (materials) of the concept (materials) and then compare them with other objects containing the same concepts;

– Lead students to change objects to eliminate non-essential signs and keep essential signs only by analysis, comparison, synthesis, abstraction and generalization;

– Support students in getting acquainted with different forms of existence (regular and special) with the same nature of the subject matter.

4) Help students put the newly formed conceptual logic into its arbitrary forms (diagrams, definitions, symbols, and formulas) by modeling action.

5) Help students put the newly formed concept into the existing concept system based on the necessary relationships and connections between it and others by systematization.

6) Practice and consolidate the concept by encouraging students to apply it in different situations, that is, using concretization to apply the gen-

eral into solving specific situations. Thus, the concept becomes firm and interesting, and its acquisition becomes creative.

These fundamental principles and the general process of conceptualization guarantee that students grasp concepts in a solid, complete, flexible, quick and practical way.

### **4.3.2. Skill formation**

#### *4.3.2.1. Skills*

Skills are the ability to apply knowledge (general mode of action – concepts and knowledge) to solve a new task or situation of the same nature as a typical situation, but obscured by non-essential and insignificant factors; In other words, skills are the way for theoretical knowledge to return to practice. Skills are always based on an understanding (about the purpose, methods and conditions to solve a task, etc.), that is, the subject's knowledge. Each knowledge (e.g., concept, method) has corresponding skills with which the subject can effectively affect the object. In fact, some skills are formed based on empirical perception while some others are built on scientific theories. The former is formed spontaneously, in each specific situation and the outcome is uncertain. For instance, on the basis of experience, 1 counting stick plus 1 counting stick equals 2 counting sticks. From that, children can apply to the operation that 1 chicken plus 1 chicken equals 2 chickens, but they cannot extend it to other cases of the same nature (e.g., 2 pieces of chalk plus 3 pieces of chalk). Only those skills that correspond to scientific concepts are certainly true and universal, dealing with all different situations of the same nature. Thus, it remains the task of the primary school to form in students the skills corresponding to scientific knowledge. For example, for basic concepts of a set (how to describe a set and the operations on it), numbers (natural and decimal ones), quantities (length, capacity, mass, and area), there are corresponding skills such as comparing, ordering, sorting, classifying, calculating, solving equations and solving problems. Or corresponding to concepts of syllables, sounds, rhymes, words, types of words, sentences, etc, are skills of correct speaking, correct writing, correct reading and proficiency in the mother tongue.

With the conception of the manipulative nature of scientific concepts, activity-based psychology views skills as the application (restructuring, shifting, and linking) of the logics of manipulations of a grasped concept into an action to effectively influence a new object of the same class. Thus,



a skill is construed as the ability to build a new (logic) procedure of manipulations on the basis of a mastered general procedure (concept). Action skills share a general structure comprising the following elements: 1) Understanding the goal of action, 2) Knowing how (the means and plan...) to achieve the result, 3) Mastering the conditions to act effectively, 4) Controlling and governing actions to reach the goal and finally, 5) Self-checking the action and assessing the results.

There is a dialectical relationship among knowledge, subject matter and object in a skill. Particularly, the skill is the application of knowledge to transform and discover an existing subject matter in a new object. Knowledge belongs to the subject and is the result of reflecting on the subject matter, is the basis of the subject's action on the subject matter. The object (thing or phenomenon) contains the subject matter of the subject's action. It is the place where the subject matter is hidden and objectively exists in different shapes and sizes (the materials of primary school teaching). A subject matter (concept or learning material) may be present in a certain class or a type of object. For example, pebbles, counting sticks, and figures contain hidden objects – the concept of a set or the concept of addition. A subject matter is a part, component, or attribute of an object and is discovered and modified through the subject's actions. In such relationship, knowledge is the basis of the subject's right action. Thus, a prerequisite for the right skills is students' mastery of knowledge. In traditional teaching, students often confront various difficulties solving specific problems since they have only reached the level of understanding – grasping the formal structure of the concept without grasping the manipulative-content logic of the concept. Students can understand and memorize the rules of grammar but still make speaking and writing mistakes. The acquired knowledge, therefore, provide no basis for skills. To ensure correct action skills, students' acquired knowledge must be real scientific knowledge even at the primary school level. Students' practical action (even if it is hypothetically practical – exercises, for instance,) must be based on scientific knowledge whose content is the logic of manipulations.

In the practice of primary school teaching, skills are grouped into two basic categories: 1) Skills whose manipulations are linked according to a strict algorithm that results in the same products if correctly followed. In this type of skill, the subject merely needs to remember the manipulations and their order and “*stereotypically*” perform them to obtain results such as counting, comparison, ordering and measuring skills. The formation of

this type of skills can be “*technified*” and depends on students’ memorization, 2) Skills whose manipulations are generally oriented, without a strict order. Hence, the subject is required to make a creative effort in linking them together to solve a certain task such as word problem solving, equation and inequation solving, topic speaking and writing skills. Unlike the above skills, with this type of skill, the same knowledge can be employed to solve many different types of problems and create different products for different students. Therefore, children’s thinking will be more flexible thanks to these skills.

#### 4.3.2.2. Formation of primary school students’ skills

i) Factors affecting skill formation: A skill is formed under the influence of multiple objective and subjective factors (subject’s psyche). The basic psychological factors affecting skill formation are:

– The subject’s ability to analyze the object: It is the ability to discover its inherent properties and relationships, to find the subject matter of action through establishing the relationship between knowledge and subject matter which are closely related categories, despite being different. Knowledge is the result of the subject’s reflection and a common mode of action in a class of situations acquired by the subject. Meanwhile, the subject matter exists objectively in the object (a thing, a phenomenon or a situation) but does not manifest itself in an intuitive and sensory manner. With knowledge, the subject must discover the subject matter by himself. The application of knowledge to modify the object and get rid of the superficial and non-essential to find out the subject matter is the skill. Skill formation first depends on the subject’s mastery of knowledge. The skill formation will be challenged if students grasp concepts and knowledge in a manner that is poor and fails to fully reflect essential attributes. With mastery of its logic, the acquired concept is flexible and becomes the real basis of the corresponding skills;

– Students’ ability to identify situations, tasks, and assignments: It is the ability to remove non-essential and fictitious attributes and to discover intrinsic properties and relationships inherent in situations and tasks corresponding to existing knowledge. This ability of students is up to different factors, basically:

+ Complexity of the object of action: It is the extent to which the subject matter is obscured by non-basic properties and attributes. It will be more difficult for skills to be formed if there are more secondary, non-essential

factors concealing the essential in learning situations and tasks because they are easy to disturb and distort students' thinking. Only when non-essential factors are got rid of and the essence of situations and tasks corresponding to students' learned knowledge is discovered, their tasks are completed together with skill formation. For instance, the skills of phonological analysis of syllables with one vowel and diphthong, identification of predicate in simple and complex sentences, etc. will develop at very different speeds.

+ Mood and habits: A good mood and the habit of applying knowledge will be favorable for the formation of skills. Students' skill formation will be difficult when they do not have a favorable mood and habit of applying knowledge to solve new situations. This is relatively evident in students who are only used to relying on or solving specific types of problems. Established habits can facilitate or hinder skill formation. For example, children's habit of mispronouncing or speaking without a subject from a very young age will hinder the development of correct pronunciation skills or correct speaking skills in their mother tongue.

+ Ability to comprehensively assess the subject matter: It is the ability to discover the overarching and overall relationships of elements and their relationships in the object. With this ability, students can see the subject matter in a comprehensive way and as a whole. It will be difficult for students to effectively solve a problem if they cannot cover the problem, but only see each side, each part, or each component of the situation. That means skills will be hard to be formed. For example, Gaox solved the problem of  $1 + \dots + 100$  quickly in a different way by looking at it as a whole.

ii, Formation of primary school students' skills in the teaching process: Forming learning skills for primary school students involves a process that makes them master a complex system of manipulations of actions to transform and clarify information hidden in specific tasks and exercises, compare and solve them effectively by the acquired generalized modes of action (concepts). In teaching, to facilitate students in forming their skills, the teacher needs to:

- Guide and organize for students to analyze situations to explore what is given and what to look for (subject matter) and their relationship in solving exercises;

- Help students capture knowledge (generalized model of action) to solve situations of the same nature;

- Assist students in establishing the relationship between the generalized model obtained from typical situations and tasks and specific exercises.

In teaching, the primary school teacher can adopt the processes of forming skills for students which are carried out in the following cases:

- Math problem: It is a learning situation with a new action logic (concept) to be discovered or formed, and an object containing a subject matter (concept) to be acquired by students. Math problems are often used to form new concepts;

- Sample exercise: It is a situation for a method that has been formed on a new object (material), different from the one used to form such method (problem). Sample exercises are intended to help students grasp the logical structure of the concept and apply it to a variety of real-life situations. This is the most important learning situation for skill formation;

- Exercise: It is a situation for the method that has been formed on different objects for consolidating knowledge and enhancing their applicability. Exercises are an important means of forming and consolidating skills in teaching.

It is noted that the teacher plays different roles in these three situations. In case of the math problem, students' actions are modeled, organized and controlled by the teacher. When solving the sample exercise, students must solve the situation on their own under the teacher's supervision and ask for the teacher's help, only when necessary. Meanwhile, in solving the exercise, students must completely do it themselves and the teacher is merely responsible for performance assessment.

The sample exercise situation is the most important situation for skill formation in teaching, thanks to which the teacher can fruitfully control the skill formation corresponding to a concept in students. The teacher needs to choose the appropriate situations. Sample exercises can be classified into the following types:

- Type 1: It is a type of exercise that aims to form skills corresponding to a concept at the minimum required level. This type of exercise has a different structure and relationships between facts from the problem of conceptualization but is very close to the logic used to solve it. The resulting skill is the ability to apply existing manipulations (concepts) to solve different problems in form. Not much effort is required to solve this type of exercise.

- Type 2: It has more complicated content than the foregoing in terms of the connection of concepts (using multiple concepts and their relationships) or the number of operations (3–4) which is often a combination of many types of sample exercises. This type of exercise requires students' greater effort and flexibility;

– Type 3: It has new content and requires students to apply knowledge in a creative way. This type of exercise is intended for fairly good students and mainly for perfecting skills at a high level.

One example is forming addition skills. The problem to form the concept of addition (aggregation) is combining any two numbers (using plastic blocks to write numbers) to get a whole, using the diagram to record the last manipulation and translating the diagram into symbols.

Sample exercise: students repeat the said logic of manipulations with drawings of objects and clearly describe the manipulations under the teacher's supervision.

Exercise: students fill in the blanks with appropriate number symbols by themselves and translate the addition diagram into number symbols.

### **4.3.3. Formation of techniques**

4.3.3.1. Concept of technique: An human action is a conscious action, that is, it is directed, controlled, regulated, checked and evaluated consciously. However, conscious action is often made up of different components, in complex external conditions and takes place at a certain time. Meanwhile, the scope of consciousness and the ability to maintain concentration (manifested by attention) of human consciousness is very limited. Consciousness mainly takes part in the most basic, key and tough factors, stages and situations. Thus, some components and stages of action take place automatically, under the monitoring of consciousness. They are called techniques.

A technique is an action that has been strengthened and become automatic through practice. Techniques exist diversely in human life and activities and often falls into motor techniques such as typing, driving, walking and intellectual techniques like mental calculation, reading and writing. The techniques have the following basic characteristics:

– A technique is not an independent action. At first, it is an action, but when it becomes a technique, it acts as a part or a way not directly related to the purpose of the action. A technique can be used for many different actions and participates in the action as a manipulation (way of action). As an example, the writing technique can be part of students' learning action, the teacher's teaching action, the writer's composing action, etc;

– Consciousness has very little involvement in techniques, mainly playing the role of checking and monitoring. Thanks to that, consciousness and efforts of will can be focused on dealing with difficulties and obstacles

that require creativity and an expanded scope of actions. However, The monitoring of a technique is ongoing to ensure it is always done correctly and all mistakes are detected immediately. For example, for a good typist, typing happens automatically, but any mistake is immediately known. Checking and monitoring techniques are mainly conducted by sensation and motor perception. Therefore, the range of vision and hearing perception is broadened, with a focus on the main issues, and the accuracy of the action and sensitivity are enhanced. For instance, when first listening to a lecture, students use many senses and organs at the same time like eyes to see, ears to hear, brain to think, and hand to write and this makes it difficult for consciousness to exercise direction. Thanks to subsequently formed listening and writing techniques, students later can focus on observing the teacher's actions and thinking about the lecture.

- Techniques are economical, fast and accurate for no redundant movements and the automated remaining movements. Thanks to that, techniques make human actions optimally time and energy saving, fast, highly productive and efficient with less effort and will.

4.3.3.2. Formation of techniques: A technique is an action that becomes automatic through practice. However, the practice involves no simple repetition but a process of correctly repeating the logic of manipulations of the action to the optimal level. To form techniques for primary school students in the teaching process, the teacher must organize for students to practice according to the following steps:

- First, make the student master the action, the manipulations, the structure and the required means. It is necessary to take a sample action clearly and precisely so that students have a solid and complete representation of it.

For example, to form the technique of writing letter (O), students must understand the structure of the letter O, the steps to write letter O, the process and means to write letter O. The teacher must take a sample of each step and then the entire action of writing this letter.

- Second, practice is the key step and also the basic method to form skills. Practice-based consolidation is the basic condition for the formation of techniques. It is the multiple repetitions of the action under the following conditions:

- + Students are aware of the purpose of the practice.
- + The accuracy of the action is ensured through the teacher's monitoring and checking and students' comparison with the sample action to

promptly detect and eliminate mistakes and deviations. Attention should be paid to forming students' ability to compare the action being taken with the sample action.

- + Reasonable practice: it is required to ensure the amount and frequency of practice in accordance with the techniques to be formed and students' psychological characteristics and development of the motor functions. Too much practice will cause fatigue and more errors and hinder students' technique formation. Conversely, too little practice also inhibit technique formation. Practice, especially for primary school students, must be continuous and avoid too long intervals.

- + Exercises must be a gradually complex system according to a defined, detailed program, in a logical order and according to a well-established plan.

- The third is automation. Then the action once practised, strengthened and regulated has become precise and automated. There is a qualitative change with the following properties:

- + It is universal with a gradual reduction in partial goals.

- + It is economical when redundant movements are eliminated and the rest are linked into a solid system. Particularly, the main movements become prominent.

- + It is automated with a gradually reduced participation of consciousness, fast speed, high quality and fluency.

- + Without its own purpose, it becomes a part and a stage of other complex actions.

With these properties, action has become a technique. For instance, writing is initially a first grader's action of will; however, when it is practised to become a technique, then writing is no longer an independent action, but becomes part of the learning action.

#### **4.4. Primary school students' intellectual development in the teaching process**

The constant and strong progress of science, engineering and technology of a new civilization (post-industrial civilization, knowledge-based civilization, etc.) requires workers to creatively apply advanced scientific knowledge to the production process instead of previous permanent skills, techniques and experience. Moreover, lifelong learning is also necessary to be able to adapt to the continuous change of technol-

ogy. To meet such requirement of modern production, apart from a certain system of knowledge, skills and techniques, the school must ensure students' maximum intellectual development so that they can work creatively and self-study. How teaching can develop students' intelligence remains on top of the primary concerns of all modern education. However, intelligence and its development, as well as its relationship with schooling are complex issues on which a consensus has not been reached in current educational psychology.

#### ***4.4.1. Intelligence and intellectual development according to the activity-based approach***

4.4.1.1. Intelligence is an important and complex issue of psychology and several related sciences. It is often conceived as humans' rational cognition. There has been so far no universally accepted definition of intelligence. Some people believe that intelligence is the ability to use thinking manipulations, some think it is knowledge, some emphasize memory or language while some others attach importance to sensory cognition. However, some of the following basic characteristics of intelligence are relatively agreed upon:

- Ability to be aware of the nature of a new situation and come up with a method to deal with it;
- Creating new tools, methods, and ways suitable to new situations and circumstances on the basis of existing knowledge and experience.

It is clear that intelligence is revealed through both human cognition and actions. The core of intelligence is thinking and the level of thinking determines the level of intellectual development. Nonetheless, besides thinking, there is in intelligence imagination and significant involvement of memory, language and perception. In other words, there is in intelligence all cognitive processes with the decisive role of thinking. Again, the problem is whether intelligence is just the manipulative development of thinking as supposed by some people. Such viewpoint is clearly inadequate as humans' rational cognition must be based on two basic elements: 1) Thinking manipulations, 2) The subject's previously formed knowledge system. Lacking either of these elements cannot give birth to rational cognition. Therefore, human intelligence must comprise both of these basic elements in an organic unity and attachment.

According to J. piaget and later Soviet psychologists such as Galperin, Davydov, etc., intelligence is a mental structure whose elements are



manipulations associated with acquired concepts. Thus, intelligence must include at least two aspects: 1) Method of reflection (intellectual manipulation); 2) Reflected things such as tools or means of reflection (concept).

In teaching practice, students' intelligence is shown in two aspects: 1) the ability to acquire new knowledge; 2) the ability to apply existing knowledge into practice. These two expressions are, of course, closely related, sometimes interchangeable.

#### 4.4.1.2. Intellectual development

Intellectual development means the development of an individual's rational cognition. It is the upward qualitative change of cognitive activity towards progress and perfection from low to high and from simple to complex levels of cognition.

Intellectual development is featured by the reform of its structure, with the formation of new intellectual structures and the unity between the acquisition of new knowledge and the development of mental manipulations. These two aspects of intellectual development are the purposes, conditions and means of individual development and general intellectual development. Thus, attention should be paid, during teaching, especially in primary school, to equipping students with a reasonable system of intellectual manipulations and a necessary system of scientific knowledge.

In summary, intelligence and intellectual development are complex, multifaceted issues. It is necessary to take into account some basic issues below to organize students' intellectual development:

- The main content of intellectual development is the development of creative thinking demonstrated in solving cognitive or practical problems;
- The formation and development of intelligence are regular, ongoing and systematic in children's comprehensive development;
- The formation and development of intelligence must go hand in hand with the development of observation, memory, imagination, language and knowledge acquisition methods;
- Intellectual development must be associated with the education of the right attitude, beautiful feelings, will qualities and personality attributes;
- Teaching content must be suitable and capable of guiding and giving rise to students' intellectual development from the viewpoint that children themselves must adapt to the teaching contents, not the other way around;
- The teacher is obliged and able to make a significant contribution to students' intellectual development by facilitating them in actively, in-

dependently and creatively thinking and seeking knowledge and ways of solving cognitive and practical problems. This is a regular, ongoing and systematic task in the teaching process.

#### 4.4.1.3. Stages of intellectual development

Adult intelligence is the result of a long process of development from childhood. It is a complex process that goes through certain stages with distinct qualities. In the transition from one stage to another, there is a qualitative change in intelligence and new cognitive structures. Essentially, activity-based psychology follows psychologist J. Piaget's theory of the four basic stages of child intellectual development, specifically:

- Sensory-motor stage (from 0 to 2 years old): Children mainly develop motor functions and sensory cognition. At the end of this stage, practical intelligence appears in children, but it is not yet true intelligence;
- Pre-manipulation stage (from 2 to 7 years old): It is a transitional stage from practical intelligence (action visualization and figurative visualization) – children's mental manipulations are still associated with manual actions or words to true intelligence (manipulative thinking). The main content of development in this stage is to prepare the psychological conditions for the formation of true intellectual manipulation;
- Concrete manipulation stage: It is a stage of intellectual development whose manipulations can take place purely in a child's mind, independently of the physical actions of the hands. This stage is confirmed by the phenomenon of **conservation**, manifested by the child mentally acting contrary to the external physical action, for instance, the child confirms a constant amount of water when it is poured into containers of different shapes and sizes. However, children's intellectual manipulation at this stage still has to be associated with specific and real-life objects;
- Formal manipulation stage (from 11 to 14 or 15 years old): It is represented by children's ability to perform mere intellectual manipulations on linguistic propositions, accept assumptions and solve them according to the rules of logic.

Identifying the stages of children's intellectual development is greatly significant for teaching organization, especially for developing teaching content and methods suitable to students' intellectual development level.

#### 4.4.1.4. Indicators of intellectual development

For no consensus on the concept of intelligence, psychology has not provided a complete agreement on the concept of indicators of intellectual development. However, the majority of psychologists support the idea that the assessment of intellectual development can be based on the following basic indicators:

- Speed of intellectual orientation, manifested in the ability to reproduce, seek, and quickly select knowledge, experience, and methods to solve a new situation or task superficially different from familiar, basic samples. Students with high intellectual orientation speed often quickly find appropriate solutions and create new problems with less stereotypical dependence on the sample exercises encountered;

- Speed of generalization, manifested in the ability to quickly figure out the essential elements, regular relationships and connections of things and phenomena in new situations. Students with high generalization speed are able to recognize and quickly group new assignments and tasks to a class or type and, therefore, can fast solve them with existing knowledge and general methods.

- Creativity is indicated in two basic signs:

- + Thriftiness: It is the ability to find the shortest path (number of steps) to get to the result. On such path, the number of manipulations, arguments, and steps to solve new situations and exercises is necessarily minimum. Students with high thrifty intelligence can fully exploit data and information in situations and exercises; regularly check the course of action to solve them and, thus, find the way to solve the problem in a swift, proper and accurate manner. Therefore, it takes them less time and effort to solve situations and exercises. A typical example of creativity is Gaox's solution of  $1 + 2 + 3 + 4 + \dots + 99 + 100$ .

- + Criticality of intelligence, manifested in the ability not to follow the existing path, dissatisfaction with the achieved results and frequent review of the problem and search for new ways to solve it. Students with highly critical intelligence are often dissatisfied with only one way to understand or solve a problem or the achieved results, but always looking for ways to solve it. The criticality of intelligence is reflected in critical thinking.

- Flexibility of intelligence, manifested in the ability to change goals, programs, plans, and cognitive actions to be able to adapt to changes in situations or when the old orientation is outdated. The flexibility of intelligence is often revealed in the following skills:

+ The skill to change the problem-solving method to the variation of the solution conditions. For example, first graders quickly switch from grasping single vowels to grasping diphthongs or from addition to multiplication.

+ The skill to establish the dependence of existing knowledge on another order, opposite to the acquired one. For example, students shift from addition to subtraction, multiplication to division.

+ The skill to approach the same situation or exercise from different perspectives, thereby distinguishing their essential and non-essential signs. As an instance, a “word” is viewed in terms of phonetics, semantics, and grammar.

+ The degree of development and correspondence between the intuitive and logical components in intelligence.

– Profoundness of intelligence: It is the ability to separate the essential from the nonessential, the general from the particular, the necessary from the contingent, the primary from the secondary, and so on to come up with the correct generalization.

The foregoing are the basic indicators of intelligence that are relatively distinguished from each other. These indicators are always closely related to each other, creating intellectual differences between individuals.

#### ***4.4.2. Relationship between teaching and primary school students’ intellectual development***

There are still many different psychological views on the relationship between teaching and students’ intellectual development. J. Piaget and his followers argue that intellectual development is natural and is almost not related to teaching and education. However, most activity-based psychologists believe that there is a close dialectical relationship between them.

Activity-based teaching psychology indicates that teaching and intellectual development have a close relationship with each other, with the decisive role of teaching for intellectual development because both the manipulation side and children’s knowledge are developed in the teaching process. When children enter the first grade, they have not yet have scientific and theoretical knowledge and, therefore, have not had the corresponding intellectual manipulations. Thanks to the school’s teaching process, the formed scientific knowledge gradually becomes systems, creating a qualitative change in their cognition and accordingly, their human capacities change accordingly. Along with such change, their system of intellectual manipulations changes and develops since grasping scientific knowledge and the corresponding

skills and techniques requires students to form their own intellectual operations suitable to the acquired knowledge system itself. These actions and manipulations are consolidated and generalized into widely portable systems of intellectual actions and are considered as a fundamental aspect of intellectual development. Further, in the teaching process, a full array of other important qualities of children's cognition including the sensitivity of sensations, observation, imagination, qualities of memory, and language ability are also established and developed.

Thus, through teaching, students gain development in both manipulative and intellectual aspects. Accordingly, the teaching content and methods determine the content and quality of the formed intellectual manipulations and knowledge. If the teaching content is superficial concepts that are formed through empirical generalization, superficial knowledge and empiricist intellectual manipulations will be formed in students. If the teaching content is scientific knowledge acquired through logical generalization, students will have scientific knowledge and corresponding scientific and logical manipulations. Hence, the teaching content and methods determine the quality of children's intellectual development. Additionally, through the active activities of students, many other personality qualities like cognitive needs, interest and learning motivations, qualities of actionability are formed and developed.

Conversely, intellectual development in terms of knowledge and manipulation is the method and means of teaching activity. In the learning process, students must use their existing knowledge and intellectual manipulations to create new learning actions on learning materials and discover new knowledge hidden in them.

**In a nutshell**, teaching and intellectual development are closely interconnected. Intellectual development is a goal and teaching creates students' intellectual development. On the contrary, students' intelligence is a condition and means of teaching activity.

#### ***4.4.3. Directions to enhance teaching and intellectual development according to activity-based approach***

One of the top tasks of educational psychologists over the past years is to seek ways, means and conditions to develop students' independent, positive and creative thinking in the teaching process. Several directions for this task have been proposed. The following are the three main research directions of educational psychologists according to the activity-based approach.

#### 4.4.3.1. Enhancing the learning content in a reasonable way

This direction is proposed by L. V. Zankov based on L. X. Vygotsky's theory of teaching towards the "zone of proximal development". Accordingly, teaching should not go behind but go ahead and create the development. L. V. Zankov has conducted primary school teaching experiments in this direction and obtained certain results. The teaching has then been organized according to the following principles:

First, respect children's life knowledge when teaching as students' life knowledge-based teaching will increase learning needs and interest and stimulate children's curiosity and self-study. In the teaching process, the teacher makes children's knowledge and experiences systematic, correct and scientific and facilitates them in learning comfortably.

Second, teach at a high level of difficulty and fast learning pace. It requires children to maximize their intellectual ability in the learning process. Thereby, students' intelligence will be strongly developed – This serves as the basic principle of Zankov's experimental program. For a fast learning pace, the learning time is shortened. In this program:

- The difficulty level of learning is increased and the learning task is also enhanced. For example, consider the exercise:

$$3 + 6; 3 + 2; 3 + 5; 3 + 4; 3 + 1.$$

Apart from doing operations as in the traditional way, students also have other tasks.

- + Compare the sums of the operations and explain the reason
- + Arrange in order from smallest to largest and vice versa...
- Students' learning pace is faster, avoiding repetition and stoppage in teaching. For example, in the first grade, addition is tied to subtraction;
- For example,  $3 + 1$  Contributing to the formation of students' learning motivations, needs and positive attitudes towards learning;
- Making acquired knowledge deeper and more advanced, gaining more fundamental skills that meet the current requirements;
- Gaining extensive knowledge.

Yet, limitations of the traditional teaching style are still observed in the direction to enhance teaching, especially at the first stage. Teaching general and abstract knowledge at the primary school level still through conventional methods makes students "overloaded" and is thus still far from achieving the desired knowledge and development.

#### 4.4.3.2. *Fundamentally renovating primary school teaching content and methods*

This direction was initiated by V. V. Davydov based on theoretical views of L. X. Vygotsky, A. N. Leonchiev, I. Galperin, D. B. Enconin, V. V. Davydov, and others, considering psychological development as a process by which children acquire the cultural achievements of mankind. Through this process, children reproduce for themselves human capacities – the content and modes of human behavior that have formed in human history. It is carried out through the only way that children, by practical and cognitive activities, repeat the logic of activities by which mankind has discovered the subject matter – knowledge. This viewpoint also limits the teaching content in schools to the system of scientific knowledge and corresponding skills and techniques. Proponents of this viewpoint argue that traditional teaching mainly develops students' memory with little impact on their intellectual development. Thus, for teaching to hold and guide children's intellectual development, it is not a matter of improving the existing content and methods, but a comprehensive and complete innovation of the teaching content and methods in primary schools. Accordingly, a new teaching system must be developed on two bases:

- Figure out the action structure of specific knowledge or a specific skill (conceptual content) to be acquired by children;
- Based on the foregoing content and children's abilities, build a way to organize for children to repeat the logic of manipulations of knowledge or skills to be acquired.

Only in such way, teaching can firmly ensure the formation of scientific knowledge in students, thereby developing children's scientific intelligence. Starting from the said theory, teaching in this innovative direction must be built according to the following teaching principles:

First, the content of primary school teaching must go from the abstract and general to the concrete. This is reflected in the curriculum structure: the concepts at the beginning of the first grade such as the concept of “set” (Math) or “syllable” (Vietnamese language) are most abstract, followed by more specific concepts and finally the most specific concepts. It should be noted that the abstract and concrete are those of thinking, not of intuition and sentimentality.

Second, conceptualization starts from its material origin on the basis that children need to have this concept. For example, the concept of “syllable” is captured starting from the child's own voice.

Third, students must discover by themselves the relationship of origin and nature of the concept by practical, intuitive activities on learning materials. From that, they can grasp its logical structure. For example, putting shapes with the same sign together is to discover the logical structure of the manipulations of the concept of “set”.

Fourth, such relationship must be demonstrated with models and symbols so that children can grasp the pure form of the concept. Some examples are models, set notation, addition, model of the concept of “syllable”.

Fifth, children are supported to shift practical, external actions into mental and internal actions through the stages of speaking loudly, whispering and mentally speaking.

Sixth, the teaching process giving birth to scientific concepts and intellectual development is not based on comparison and generalization of external signs obtained through observation of things and phenomena but on the organization of children’s activities to act on objects containing the subject matter to discover its essential properties and regular relationships.

Teaching in this direction will lead to positive results in students’ intellectual development:

- Concepts are formed in students not at the level of form but the level of content and nature;
- Form students’ intellectual and scientific manipulations;
- Form students’ ability to think independently.

According to V. V. Davydov, children’s intellectual ability is so great that it is difficult to be estimated. The extent and way of children’s intellectual development depend on the teaching content and methods in their dialectical unity. On the other hand, I. Galperin discovers another direction of students’ intellectual development path in the teaching process, which is from outside to inside and from matter to mind through the material, verbal and mental actions.

**Summing up**, teaching in this direction ensures both aspects of intellectual development. As a result, it is possible to turn students’ process of learning and acquiring a concept into a controllable one – the basis for technologizing the teaching process and the condition for the teaching process to guaranteed solid results.

#### 4.4.3.3. Problem-based teaching

Problem-based teaching (later also known as problem-solving teaching) is a teaching style concerned by many sects of pedagogy and teaching



psychology, including activity-based teaching psychology in the second half of the 20<sup>th</sup> century. This teaching style is based on a fundamental view that teaching must be directed at developing students' thinking. To do so, the teacher must put students into problematic situations and help them solve them on their own, thereby forming knowledge and thinking manipulations.

– Problematic situations:

+ Problem: It is a system of questions or requests for action that satisfy the following conditions: 1) the question has not been answered or there is no available method for action; 2) there is no algorithmic method to answer the question or perform the action request.

In teaching, the problem is done when: 1) students have not been able to answer the question or act based on the existing knowledge; 2) students have not yet learned the algorithmic rules for answering a question or performing an action that meets a given request. The problem is construed in a different way from the exercise – it is only a requirement to apply an algorithmic rule.

+ Problematic situation: It is a theoretical or practical situation that suggests to students conflicts between the known and the unknown. This conflict must be resolved, not through an existing algorithmic rule, but a process of active thinking and working to transform the subject matter or adjust the formed knowledge. This process gives students new things. To build a problematic situation, the following conditions must be satisfied:

– There exists a problem, that is, in the subject, there is a conflict between practical requirements and cognitive level, between the known and the unknown;

– Cognitive needs are aroused: When students are aware of the problem in the situation, it is also the time when the conflict appears and stimulates the need to address the conflict by the way of students' exploration and discovery;

– Confidence in problem-solving abilities is sown: In encountering a problematic situation, despite being interesting, children will feel daunting if the problem is beyond their own abilities. Therefore, it is necessary to make it clear to students that although they cannot immediately have the solution, they already have related clues and are completely able to solve it with due attention and active exploration. This is an important thing in terms of the subject's psyche that our teaching theory has not paid enough attention to for a long time;

– Problem-based teaching: It is a type of teaching in which the teacher provides students with a problematic situation, encourages them to discover the problem on their own, stimulates and organizes for students to spontaneously and actively work on it, through which students acquire knowledge, practice skills, and realize learning goals.

– Characteristics of problem-based teaching:

+ The teacher puts the student in a problematic situation.

+ Students act in an active and self-disciplined manner, making full use of their knowledge and problem-solving ability.

+ Learning results are not only the acquisition of knowledge but also the way to gain knowledge, developing students' cognition.

– Requirements of problem-based teaching:

+ The teacher must be clever, skillful and experienced in bringing new things into the situation in a "natural" way, without any coercion. Problematic situations in teaching result from an elaborate and delicate selection and design.

+ The relationship between the known and the unknown is established on the basis of mastery of knowledge and student's level.

+ By means of pedagogical tricks, the teacher makes students aware of the problem in the situation.

+ A system of problematic situations is built in the teaching process in a proper and prescribed way (the problems are the internal development of the teaching content and the former problem poses the later problem, forming a coherent, logical system).

– Problem-based teaching forms.

On the basis of students' independence in cognition and problem-solving, problem-based teaching is deployed into three forms (or levels) below:

+ Self-study: This is the highest form in which students' independence is highly promoted. The teacher only creates a problematic situation and it is the task of students to discover and solve the problem by themselves. The students independently investigate the problem and perform all the basic stages of this process.

+ Problem-based conversation: in problem-based conversation, students are not completely independent in acquiring and solving the problem, but have suggestions and guidance from the teacher. This form is conducted with the use of the teacher's questions and students' answers. There is interlacing and changing actions between the teacher and students in the form of conversation. This form is somewhat similar to the question and

answer method; yet, these are two fundamentally different types of teaching. In a problem-based conversation, a question is a means of creating a problematic situation. Hence, it is vital to distinguish between a question and a problematic question – A special type of question.

+ **Problem-based presentation:** In this form, students' independence is at a lower degree than that in the foregoing two forms. The teacher creates a problematic situation, then poses the problem and presents the problem-solving process in the presentation.

In practice, problem-based teaching requires a lot of effort from the teacher in processing materials and a lot of time for a unit of knowledge. Therefore, despite its multiple advantages, it is still rarely used. In primary school, the most used form of teaching is a problem-based presentation followed by problem-based conversation. Self-study is seldom used because it is not really formed in students.

– **Deployment of problem-based teaching: The core of problem-based teaching is to control students' problem solving and identification. This process is carried out into steps including those done by students independently or with the teacher's suggestion or only listening to the teacher's presentation, depending on the choice of a level appropriate to students' independence extent. The main steps of problem-based teaching are:**

**Step 1: Recognize the problem including the following actions:**

- Create a problematic situation that satisfies its conditions;
- Make the situation correct to get it right;
- State the problem and set the goal of solving the problem;

**Step 2: Solve the problem including the following actions:**

– Analyze the problem, clarify the relationship between the known and the unknown;

– Propose a solution based on problem analysis. In this step, it is possible to reject, redirect, repeat the action until the right direction is found;

– Solve the problem in the defined direction to come to the solution (in case the solution cannot be found, go back to the above action).

**Step 3: Check and study the solution including the following actions:**

- Check the correctness and practicality of the solution;
- Check the optimality of the solution;
- Learn the applicability of the solution;
- Propose new problems related to the solution;

In step 3, checking is minimal. If it is not successful, then go back to step (2) or even step (1).

### **Summary of Chapter 4.**

Learning activity is the dominant activity of primary school students that determines children's new psychological structures to be formed at this age. They are a system of scientific knowledge with corresponding skills and techniques, the formation and development of specific manipulative intelligence and the learning activity itself. For best developing these new psychological structures, the teacher must, by organizing his teaching activity, instruct students to learn in an active and self-disciplined way to master the system of authentic scientific concepts in disciplines, thereby creating a system of other psychological structures at the same time.

## **Chapter 5.**

# **PSYCHOLOGICAL BASIS OF MORAL EDUCATION FOR PRIMARY SCHOOL STUDENTS ACCORDING TO ACTIVITY-BASED APPROACH**

Morality represents a social phenomenon that binds people in society in addition to law. It is one of the bases of the existence of human society. Morality is a popular research topic in many sciences such as philosophy, ethics, sociology, education, and psychology.

Morality does not exist right at the birth of a child. It is an external component of the social culture. To get it, the child must acquire and turn social moral values into his or her own personality qualities. Schooling plays an important role in the formation of the morality of primary school students. Research on the psychological basis of moral education for primary school students is a significant task of primary educational psychology. This involves issues about the psychological structure of morality, moral qualities, mechanism of moral behavior and the laws of their formation in primary school students. As with many other issues, apart from agreements, different sects of psychology still have important different perspectives of morality and moral education for primary school students. The following are the basic points of primary educational psychology according to the activity-based approach on moral education for primary school students.

### **5.1. Morality and moral behavior**

#### **5.1.1. Morality**

- Morality is a form of social consciousness, with a historical nature, determined by social existence. Morality is not completely stable and each historical era has its own moral standards and values;

- In social life, each individual always has his own needs and interests, which are different and sometimes contradictory to those of others and the community. Accompanying the existence and development of a social

community, each individual in it must be bound and restrained in the social relations in which he or she is involved. Morality inherently represents constraints from the society that individuals voluntarily comply with and ask themselves to follow. These social requirements become the requirements of each individual for himself or herself;

- Moral requirements stated in propositions or terms are called moral standards. Moral standards are requirements set by humans for themselves in relation to others and society.

Thus, morality is a system of standards that humans voluntarily make and follow in performing social relations. It demonstrates an attitude to evaluate the relationship between personal interests and those of others and the community. Personal morality governs human behavior and activities in social phenomena expressed by the conception of kindness and cruelty and the good and the evil.

### **5.1.2. Moral behavior**

#### *5.1.2.1. Concept of moral behavior*

Moral behavior is a type of human behavior driven by moral motivations. It is the means of expression of morality.

- Moral behavior is neutral and mixable. Moral behavior can be driven by many different, even opposing moral motivations. A lie can be derived from good or bad or completely opposing intentions.

- In each individual, moral behavior becomes a system of behavior-habits that make up his/her lifestyle. Unlike morality which is in the spiritual and abstract domain, for its concrete and intuitive nature, lifestyle behavior can be actively formed and controlled. Therefore, a moral lifestyle can be definitely taught among primary school students.

#### *5.1.2.2. Criteria for assessment of moral behavior*

Behavior is relied on for assessing the morality and moral value of each person. Nonetheless, on the account of moral behavior's neutral nature, its assessment must be based on a combination of different criteria, mainly:

- Self-discipline of moral behavior: The subject must be aware of the purpose and significance of the behavior which must be driven by a moral motivation; The subject must be aware of the results and have the attitude and ability to control and govern the behavior. A behavior performed unconsciously or forcibly is not considered moral behavior;

- Usefulness of moral behavior: Moral behavior must bring about material or spiritual benefits to others and society. For example, a primary school student works so hard to live up to his or her parents' expectations;
- Disinterestedness of moral behavior: The subject must not perform the behavior for his own interests, but the interests of others and society.

These are the three main criteria by which moral behavior is assessed. The same behaviors can be evaluated completely differently if they are different in nature and vice versa.

### *5.1.2.3. Relationship between moral needs and moral behavior*

– Needs are the active source of personal behavior and represent an aspect of the motivations for human activities. Moral needs are the active source of moral behavior. The combination of ethical needs and subject matter will create a moral motivation that directs and promotes moral behavior. In other words, moral needs convey an inevitable aspect of moral motivations. Hence, moral behavior and moral needs are closely interrelated;

– There is a dialectical interaction between moral behavior and moral needs. The content of the needs determines the nature of the behavior and on its part, a repeated behavior becomes a habit, promoting the formation of moral needs. The formation of moral needs and habits is illustrated by a diagram: a repeated action forms a need, which in turn stimulates behavior, and performed behavior supports the need. Therefore, it is extremely important to provide primary school students with training to form a system of moral behavior which will then become a habit and a need. It should be noted, however, that ethical behavior is a two-sided matter, one being able to satisfy different moral needs and vice versa. Hence, attention should be paid to forming the right moral needs during training children's behavior.

## **5.2. Psychological structure of morality**

Morality is one of the most complex problems of individual psychological life. It is an integral whole that is made up of many different, but closely interlinked psychological factors expressed and determined by moral behavior. The main constituents of human morality are:

### ***5.2.1. Moral knowledge and belief***

5.2.1.1. Moral knowledge is an individual's understanding of moral standards and the content and form of corresponding moral behavior.

+ Moral knowledge is the product of individuals' acquisition of social and moral standards in both their content and form;

+ Moral knowledge is a condition for humans to have self-disciplined moral behavior and directs humans' moral behavior. The right knowledge will lead to individuals' right moral behavior.

However, moral knowledge is only a necessary condition for moral behavior. An individual may know a necessary moral behavior in a given situation but may not perform such behavior.

5.2.1.2. Moral belief (Faith): It is an individual's deep and strong belief in the rightness and nobility of moral standards and the necessity to act according to such standards. Moral belief is the core of the motivations and regulates individuals' moral behavior. Thanks to faith, humans have healthy spiritual lives. With faith, people are always willing to engage in moral behavior despite the danger, difficulties, or damage to themselves and will feel peaceful after performing moral behavior which is beneficial to others, but at the expense of themselves. Belief also makes people restless and remorseful when they cannot perform the necessary moral behavior in certain situations.

Yet, cognition and moral belief sometimes do not agree or even contradict each other since belief is often unreasonable. There has been currently little scientific attention to moral belief and its formation. It is just known that belief was born very early when people did not have enough reason to resist the imposition of a belief. Therefore, it is very difficult to teach the faith to students. It remains the main task of schooling to equip students with the correct understanding of moral standards and provide them through training with a system of moral behavior that becomes a habit (lifestyle).

### **5.2.2. Moral motivations and sensations**

Moral motivation is a key constituent of morality that guides and internally motivates moral behavior. Moral motivation results from the meeting of the ultimate goal (subject matter) of moral behavior and the subject's moral needs. Thanks to moral motivations, individuals can make every effort to overcome objective and subjective difficulties and obstacles to perform moral behavior under the requirements of the situation.

Moral motivations determine the nature of moral behavior since a behaviour can be driven by different motivations which in turn create different moral values of the behavior. Thus, it is the top task of moral education



to form moral motivations for students. In the composition of moral motivations, moral sensation is the core and most important element. It is an individual's attitude towards reality, in social relations and that towards his or her own moral behavior and that of others. There are both opposing positive and negative characteristics in moral sentiment. Making students have pure and good moral sensations is really important in educating primary school students.

### **5.2.3. Goodwill and moral habits**

Goodwill is an element that manifests the involvement of the will in personal morality. Goodwill directs human actions to create moral values and plays a decisive role in turning moral knowledge and beliefs into moral behavior. Goodwill facilitates determining the purpose of moral behavior.

In addition to goodwill, other qualities of the will including willpower are present in morality. Willpower makes up the strength of goodwill, through which the goal of moral behavior is realized. As, in moral situations, people are always forced to make a difficult choice, goodwill and willpower determine their choice and struggle to decide and complete appropriate moral behavior. Therefore, forming moral goodwill and willpower for students is vital in moral education for primary school students.

In most cases, moral behaviors do not exist on their own, but are combined into moral habits – one's behavioral needs in certain situations. Moral habits – permanent ethical behaviors that become needs – combine to form one's moral lifestyle. In moral education for primary school students, it is most significant to proceed to form in children a system of civilized behavior-lifestyle since this can be actively formed and firmly controlled by the school.

### **5.2.4. Relationship between psychological constituents of the moral structure**

The psychological constituents of personal morality always exist in a unified whole, with close interaction and association so that the subject orients and implements appropriate moral behaviors in certain situations. In such relationship:

- Moral knowledge enlightens and guides moral behavior. It is the right knowledge system that can lead to an individual's right moral behavior in complex situations of life;

- Moral motivations, beliefs and sentiments are the drivers of moral behavior. Thanks to them, human moral behavior always follows the right direction;
- Goodwill and moral willpower determine the strength of morality;
- Moral habits represent the agreement between knowledge, sentiments and goodwill and moral behavior. They play a decisive role in realizing personal sense of morality;
- In short, the psychological constituents of morality are closely related.

### **5.3. Personality is the subject of moral behavior**

Every moral behavior, regardless of its extent, is the result of the entire human personality. All elements of personality are involved in creating moral behavior. Thus, moral education is really the education of the whole personality with the following main elements:

#### ***5.3.1. Willingness to act morally:***

It is the extent that an individual is willing to act following moral standards in certain situations. Willingness to act morally is a combination of many personality qualities and attributes:

- Moral tendency: It is the first basis and premise of the willingness to act morally. Personal moral tendency is expressed through moral needs, worldview, moral ideals and moral beliefs. Moral tendency, especially moral beliefs, functions as a system of motivations guiding and driving moral behavior. Moral tendency is the first basic element of the willingness to act morally.
- Qualities of will: They constitute a source of strength, helping individuals to overcome internal and external obstacles to perform moral behavior. The basic qualities of will that make up moral strength are: purposefulness, resilience, independence, courage, and self-control;
- Mode of behavior: It is the way to perform moral behavior prescribed by society. The subject can only rightly perform moral behavior when he or she know the appropriate modes of behavior. Without it, behavior often produces results that are contrary to the subject's own wishes;
- Habit of moral behavior: It is a sufficient condition for humans to always be willing to perform moral behavior when necessary because, only in form of a habit, such behavior becomes a permanent one that a person will perform in a certain type of situation.

Thus, the willingness to act morally results from a combination of many moral qualities and capabilities, knowledge, and skills.

### **5.3.2. Self-consciousness:**

Self-consciousness also participates in deciding an individual's moral behavior. An individual's moral self-consciousness is demonstrated in the form of the need for self-affirmation, conscience, self-esteem, and personal honor.

– Needs for recognition and self-affirmation: They are high-level human needs, expressed in the inevitable requirement to affirm one's role and position in the community and social relationships and to be recognized by the social community for his role and position at the same time. They are the desire to contribute to society and the community and the desire to be respected, noticed, and praised by others. These needs arise when people participate in social relationships and change along with the change of personhood in the community.

An important manifestation of the need for self-affirmation is one's self-assessment in which one assesses his own qualities, abilities, actions and activities. Self-assessment in primary school students is mainly at the level of behavior and psychological processes such as thoughts and feelings and depends heavily on the assessment of adults such as parents, teachers, etc. on them. Adults' objective and impartial assessment of children enables them to properly evaluate themselves and develop psychologically and morally in a favorable way. Overassessment or underassessment can make children's self-assessment wrong and will lead to deviations in their behavior and psychological development.

– Conscience is the pinnacle of moral self-consciousness. It is one's ability to compare his or her own moral behavior with social moral standards, self-assess, and express his or her own attitude toward such behavior. Conscience is often expressed by satisfaction and peace of mind after acting in accordance with moral standards and dissatisfaction, self-torment, guilt, and even pain when acting unethically. Conscience includes cognition, sentiments, needs, and moral beliefs and is sometimes idealized. Conscience is the apex of moral education.

Moral self-consciousness also contains self-esteem and personal honor which are involved in determining the conduct of humans' moral behavior.

## **5.4. Moral education involves the organization of real life for primary school students**

### ***5.4.1. While moral education for students remain on top of the necessary tasks of every school, it often does not work effectively as expected***

This situation results from various causes, mainly: 1/ uncertainty of when and how elements of the moral structure are primarily formed as well as how they have been combined into a whole – personal morality. In other words, the school has not yet determined its true ability in educating students' morality. Thus, educating the same moral content for different levels, grades and classes has become a common trend. On the other hand, the school's content of moral education tends to be conservative and behind inevitable changes of moral standards and values amid a new fast developed civilization.

In primary schools, students have access to moral education mainly through unrealistic moral lessons, tests and exams. As a result, it is fairly common that students can memorize and answer very well about morality, but do not do, cannot do, even do the opposite of what they have learned.

It must be asserted that the morality of primary school students is forming and is reflected in their attitudes and behaviors in daily life. Thus, teachers and other adults can observe, assess, and influence this process to move it in the desired direction. However, it does not mean that education equally affects the elements of morality. Concentration should not be attached to elements favorably formed before primary school age such as faith or after this age such as abstract and general moral sentiments. Primary education should consider forming a system of moral knowledge and a civilized lifestyle that can be certainly established and controlled as the core of moral education for students. It should be carried out organizing a real life for students in school instead of dogma or imposition.

### ***5.4.2. Real life of primary school students***

5.4.2.1. A primary school student's life is characterized by its innocence, abundance and diversity and is always forward-looking in a more civilized and better direction. It is life at the level of school civilization and school culture. It is a self-consciously organized life with quality towards future civilization, rather than a spontaneous and chaotic one like the pres-

ent life in society. Such life is, of course, not opposed to current social life, but is the pinnacle and crystallization of the best and most advanced of it. In this life, students have many activities, dominantly learning which represents a high level of a new civilization – a knowledge-based civilization. Through learning, primary school students not only acquire a system of knowledge, skills and mental work capacity, but also basic qualities of civilized people. Thus, teaching functions as the basic method of moral education for primary school students.

#### *5.4.2.2. Living environments of primary school students*

The real life of primary school students always takes place in a certain space and time, in specific socio-economic conditions. Put it another way, children live and develop in specific living environments. The living environment affects a child with all that it has been had. The living environment of primary school students is made up of 3 main parts:

- The natural environment includes factors like soil, water, mountains, rivers, climate, etc. They have a certain influence on children's physical and psychological development. Hence, it is necessary to diversify forms of education, making them suitable for children's natural living environment. Education must promote the advantages and overcome the limitations of the natural environment's impact on children's development;

- The family and social environment including economic, cultural and social conditions of the place where students live and study, has a decisive influence on the moral development of primary school students. However, this environment has a less direct impact on children, but mainly indirect through the family and school environment. Schools and families act as filters of the multidimensional effects of the social environment on children. Yet, the direct impact of the social environment on primary school students become huger amid an open society with the widespread development of mass media. This poses new challenges for families and schools in moral education for students;

- Family environment includes such factors as material and spiritual life, culture, occupation and lifestyle of parents and family members, close relationships and family traditions. A majority of primary school students spend most of their lifetime in the family environment which have irreplaceable effects on their moral development. Therefore, family culture and family education strongly influence children's moral formation. Yet, it often has conservative, spontaneous, poorly directed and inconsistent

influences in both content and method and form of organization. As a result, close coordination between schools and families in moral education for primary school students is very necessary to ensure that this process is always oriented, democratic and diversified;

– The school environment is a specialized living environment for primary school students where their development process is organized specifically by schooling method. It is aligned to the school's cultural and civilized level to ensure that children can adapt to the new life in the future society. As a result, the school can promote the positive effects and limit the negative and undesirable effects of other environments. The school environment plays, therefore, a key role in the development of primary school students. To fulfill such role, modernization and democratization are required for the school to create a healthy development environment for healthy children – innocent growing natural entities.

#### *5.4.2.3. Real-life organization for primary school students*

Due to different effects of life on primary school students, teachers and parents must create for children an organized life with educational oriented effects of environments on them. Real-life organization for primary school students covers a diverse system of tasks, essentially:

– It is required to well organize various types of activities to satisfy children's legitimate needs in all living environments. Children's spontaneous activities must be transformed into organized ones for moral education. Organizing diverse life activities for students is the shared duty of all educational forces including the school with the leading, guiding and coordinating role;

– The school holds and guides various types of activities such as learning, playing, young pioneer organization's activities, sightseeing and simple activities including eating, sleeping, cleaning in students' environment in a modern direction and cultural level in terms of content, methodology and organization. Providing a diversity of activities for primary school students in the school is intended to meet their life and development needs, and form and develop their human capacities, attitudes and manners in accordance with the standards of civilized and modern society;

– The top important task in organizing life activities for primary school students is to well organize the learning activity – the dominant activity of children. Knowledge and models of civilized moral behavior for primary school students must mainly be created through the learning activity, be-

sides others with a supporting role. It is necessary to avoid the mismatch between moral theory and students' learning activity as well as the tendency to separate moral education from organizing learning activity for them;

– Civilized lifestyle targeted life activities can be effectively held by the school. The lifestyle of primary school students is expressed and formed through the system of daily activities, attitudes and manners in teacher-student and student-student relationships in learning and other types of activities (with nature and school facilities, for instance). In primary school students, especially first graders, those behaviors, attitudes, manners as well as relationships are still poor, but they will get richer and more complicated when children grow.

Regular practice and respect should be addressed to real-life organization for lifestyle education for primary school students, right from the first grade.

#### ***5.4.3. Some main tasks to educate a civilized lifestyle for primary school students***

Lifestyle is a combination of all relatively stable behaviors that have become one's habits, creating the characteristics of his own life. Lifestyle is an expression of personal morality. Lifestyle education makes up the basic content of moral education for primary school students. It is a long process with a system of specific daily actions, including the following main tasks:

5.4.3.1. Identify the content of activities at both the level of education and grades. The content of lifestyle to be formed in primary school students is determined based on lifestyle requirements for citizens in a civilized society. It should be analyzed and spread out linearly over time, throughout students' real lives in environments the fundamental and dominant of which is school life.

Parallel with determining the content of lifestyle education, it is necessary to define the corresponding conditions and means to deploy the identified content according to the actual capacity of the society and the school to ensure the highest effectiveness.

5.4.3.2. Determine the standards of a modern and civilized lifestyle as a criterion for reviewing and evaluating children's behavior in specific situations and relationships.

5.4.3.3. Define a process of implementing the identified educational content to achieve the results according to the standards. The teacher should design this process as the basis for organizing students' activities throughout their daily lives.

For example, in the first grade, the main contents of lifestyle education for children may be:

- Ways of communication and relationship with the teacher and peers such as greetings, addressing and manners;
- Student style: complying with school and learning disciplines, protecting school supplies, furniture, classrooms, public property, and trees, maintaining personal hygiene, school, and classrooms;
- How to have fun at school and join star activities;
- How to join the festivals, visit, etc.

The content is selected in accordance with students' specific circumstances such as rural, urban, and learning conditions (1 or 2 sessions). Each content must be concretized into a detailed plan to be deployed at a specific time. As an instance, Student style education should be detailed into specific contents in the following order:

- 1) Taking up learning assignments, students must understand the purpose, plan, and what to be done.
- 2) Students follow the teacher's instructions and model actions, thereby getting a symbol of the behavior to be performed.
- 3) Students perform the behavior according to the model under the teacher's supervision and guidance.
- 4) Specific manifestations of student style: how to behave when asked by the teacher, when students want to speak or go out; how to use, store and keep school supplies and books, etc.

These are common to the contents of lifestyle education. For the education of each specific behavior, the teacher should do the following steps:

- 1) The teacher assigns tasks to students and makes them clearly and precisely understand each movement to be done. The teacher's guidance must be brief but clear and easy to understand so that the students can understand, fully visualize and remember the task to be performed.
- 2) The teacher does the sample behavior so that children could get a symbol of it. It should be noted the sample behavior must be performed in a slow, steady, accurate and standard way for all students to clearly see it to each movement.
- 3) The teacher organizes for students to perform the behavior according to the sample behavior. The teacher needs to look carefully to encourage those who do well and promptly make corrections for those who do not do well to make sure they all do it right.



4) The teacher puts students in specific cases which can be real or hypothetical.

Forming each behavior or habit, gradually creating a civilized lifestyle is the initial but very fundamental basis of the formation of moral qualities in primary school students.

#### **5.4.4. Stages of formation of lifestyle in primary school students**

It is a long process to form a lifestyle in primary school students with the following specific stages:

5.4.4.1. Stage 1: In this stage, students have right but rough behaviors formed through learning and daily activities. As a result, children acquire a behavior of the lifestyle to be formed – that is the social meaning that students achieve in their activities.

At this level, children also focus their attention on the task performance to get the right behavior corresponding to the specific task. This stage creates the behavioral meaning and children grasp both the behavior and its social meaning.

5.4.4.2. Stage 2: In this stage, the formed behaviors are redone in similar situations but at a more subtle, flexible level, turning the meaning of the behavior into the ideas in students' minds. This stage forms children's own ideas of the behavior with the involvement of emotions. Children's ideas may be wrong and mismatch social meanings; therefore, the teacher needs to guide children to reach unity between meaning and ideas of each behavior.

5.4.4.3. Stage 3: In this stage, meanings and ideas combine to become attitudes and manners as the basic premise of modern, educated human qualities. It is the lifestyle that schools need and can certainly provide for children. At this level, schooling has succeeded in moral education for students.

This stage forms a lifestyle for students. In moral education for primary school students, attention needs to be paid to small, rudimentary and simple acts such as learning to eat, learning to speak, learning to stand, learning to sit since they are also completely serious and typical educational contents of the school.

Take an example: Forming a “thank you and sorry” lifestyle:

– For forming the meaning of the verbal behavior “thank you and sorry” for students, the teacher creates situations for students to use verbal behaviors with the correct meaning. One behavior can be used in many different situations but all with the same meaning and students must use the correct meaning;

– For forming the ideas of the verbal behavior “thank you and sorry”, the teacher directs and guides students to use spoken language to describe the verbal behavior that has been performed. This is the inward transition of behavior in which students create the concept of the verbal behavior used in life. It means the formation of an attitude corresponding to the behavior that takes place, that is: thanking with sincerity, apologizing with a sense of negligence and faults;

– When students know the meaning and know how to use the behavior “thank you and sorry” in the right place, at the right time, and have the corresponding attitude, the meaning and ideas are harmonious, creating a habit of beautiful behavior in life. Children then acquire the correspondence between behavior and attitude. It is vital for the teacher to regularly check and monitor whether such behavior becomes a permanent and indispensable habit in children’s lives.

It should be noted that: 1) To ensure the formation of a civilized lifestyle for students, the teacher must first have such lifestyle and avoid mere words; 2) The content and methods of lifestyle education must be richer, more sophisticated and diverse through the above three steps for higher graders who have grasped a certain amount of experience and knowledge.

#### ***5.4.5. Some basic contents of lifestyle education for primary school students in the learning process***

Those are the core elements of a modern student’s qualities in modern society, featuring the minimum premise for establishing the qualities of citizens and workers in a civilized society:

5.4.5.1. Innocence and benevolence: These are the first basic content of lifestyle education for primary school students. In this regard, children are educated about the love for kindness, goodness and beauty; the hatred for cruelty and evil; and how to well treat others in society and nature.

5.4.5.2. Studiousness: This is a particularly important quality and habit that needs to be formed early in primary school students. Studiousness both determines the learning quality of students in primary school and later levels and is the significant basis of attitudes and habits of modern workers. Yet, studiousness does not mean improper learning addiction but requires a regular, diligent, moderate amount of study with the highest efficiency.

5.4.5.3. Discipline and thriftiness: These represent two very characteristic virtues of civilized people. Students must be aware of and habitually comply with the academic discipline and discipline of school life such as

doing tasks according to schedule, distinguishing between studying and playing, fully complying with the school's and class' rules and regulations; and following school code of conduct. However, it should be noted that training school discipline must go hand in hand with the democratization of the school, and the education of democratic consciousness and living habits for students. Thus, on the one hand, it is necessary to make students get familiar with a disciplined lifestyle, on the other hand, to arouse children's independence and creativity and to respect for their own characters. Right from the first grade, students should practice a thrifty lifestyle with the saving of material wealth, time and effort of their own, their parents, teachers, others, families, school and society.

The real-life of primary school students takes place all day round. Students spend 4 to 8 hours for school life and remaining in other environments, primarily the families. In other words, the primary school can not cover the entire life of a student. Therefore, the school must closely coordinate with the families and society in educating students to have a civilized lifestyle through a comprehensive cooperative-assignment mechanism. Especially, it is vital to unify the educational purposes, contents and methods among the said three elements to educate students in the most effective way. The repeated effects of the other two environments should be prevented to conserve the educational effect of the school.

Summing up, primary school age is a very important stage in the development of each person in a civilized society. At such age, the entire psychological life of a person, especially intellectual capacity and a moral lifestyle is strongly formed. For primary school children, learning takes up a lot of their time; thus, education should be carried out mainly through effective organization of the teaching activity.

### **Summary of Chapter 5.**

Moral education for students is the hardest part of primary education because their morality is formed very early and is influenced by different factors outside the school environment. Further, given a complex composition of morality with the unclear formation of some elements, primary schools mainly provide students with a system of knowledge about key moral values and a civilized lifestyle through creating a modern school environment.

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