

Development games Used in Training of Children with Development Problems

Introduction (Theoretical Premises)

Nowadays development training designed in psychology and pedagogy promotes educational reforms. Its main idea is to correlate education and training with development. While there are various opinions on how to interpret this issue, there is one common view on a number of important matters. (L. S. Vygotski, A. R. Luriya, A. N. Leontyev, A. V. Zaporozhets, D. B. Elkonin, P. Ya. Galperin, L. V. Zankov, V. V. Davydov, N. A. Mechinskaya, M. N. Skatkin, I. S. Yakimanskaya, etc.)

The modern society is becoming more aware of the problems in education and harmonious individual development, especially in people with handicaps. Many solutions have been suggested and implemented, but there has been practically no improvement. Development of education is often seen in the light of pedagogical innovations. It is true to some extent. There has been no true use of the ethnic pedagogy in psychology. That was the main reason why we consider it necessary to prove feasibility of the development games as part of ethnic pedagogy as well as ethnic psychological and pedagogical ways to use games in education and training. Use of such games to diagnose and correct personal handicaps became a starting point in our research work in 1992.

The mental development of a pre-schooler may be considered as gradual accumulation of knowledge, mental characteristics, and abilities necessary for any adult individual. Each age is characterized by the distinctive quality of a child's organism and psyche, which in its turn forms as a result of complex interoperability of growing and development and his exposure to various activities.

It is important to discern mental capabilities which are developed better with age and which determine child's behavior and attitude as well as those that begin to appear within age margins showing future mentality and are expressed in new mental formations by the end of an age period. In the past psychology used to solve these problems from the viewpoint of central direction. The development problem has a certain significance in pedagogical psychology, where essential issues of training and education should correlate with age and personal peculiarities of children. In case of pre-schoolers these problems are solved with the help of the corresponding activities, such as object and game activities as well as verbal communication, etc.

Psychologists in Kazakhstan base their studies on training, education and development mainly on L. S. Vygotski's and his followers' concept (A. N. Leontyev, D. B. Elkonin, P. Ya. Galperin, V. V. Davydov). This concept aims at studying psychological peculiarities of development of cognitive processes.

Education and training are addressed in different ways. Support and qualities peculiar to a certain age are significant here since surrounding unique conditions will never occur once again, and those things that lack now will be difficult (if not impossible at all) to acquire.

There is no doubt that any game develops to some extent personal cognitive and emotional processes. For example, cognitive development is seen in sensory games (perception, sensation, memory, thinking), and development of speech and imagination is seen in drama and fun games. Classification of development games allows to specify a number of educational objectives in different games.

In our study games are divided into three groups, according to mental abilities of the child.

Classification of development games in training and education of preschoolers

	Group	Types
I	Games aimed at interaction within the same-age group	Active games (round dance games, fun games), roleplay, task games, competitions
II	Games aimed at moral development	Active games with rules, competition games
III	Games aimed at intellectual development	Sensory games Games to develop cognitive mental processes

Each game group can be divided into sub-groups. A more diverse example of this is the third group. It can be divided into the following sub-groups: sensory games, cognitive mental development games (thinking, memory, imagination), as well as attention and speech games. The character of games varies in accordance with their objectives, thus the first and the second groups include active games, round dance games, and fun games; the third group is comprised of didactic games (word puzzles, table games, games with toys and objects).

According to L. S. Vygotski's development concept, training should be concentrated on two development stages: first, current development, i. e. whatever a child can achieve independently; and second, immediate development, i. e. whatever a child can achieve in joint activity.

The phenomenon of the immediate development, substantiated by L. S. Vygotski, implies "outdistancing" training, when training goes "in front" of development. A bright example of this concept would be our use of development games, since they may become the transition point from stage 1 to stage 2. Requirements for development games imply the very correlation of education and training with child's development.

Development of personality is possible whenever reasonable approaches are applied to the selection and use of development games. It is possible because they imply interoperability between adults and children; they promote development; they fill gaps and remove all lacks in development.

Methods and Data

We consider development games as **purposeful activities of adults aimed at the effective training of children.**

The methodological and theoretical basis for our study are concepts of personality and role of activities in its development as well as application of this approach in pre-school training; use of systematic comprehensive study of development games in cognitive and volitional areas of child's activities.

1. So far, we have looked at the term "development game" and its structural components, and have shown their place through educational functions of the game. In our study, the term "development game" has been shown as the purposeful activity of an adult, which is expressed in game. The very definition of the word should contain its functional purpose, because such a game meets child's developmental objectives.

2. Having classified types of development games, we have shown different types within the three groups. The key for such classification were developmental functions. Transformation of game into a purposeful educational means has become crucial for pedagogy. Developmental possibilities of game have been studied mainly from the point of supervision over child's involvement in games and effectiveness of mental development. When analyzing real conditions (e. g. actual implementation of potential of development games), we can see that current studies of the issue are important at the moment.

3. The pre-school age is characterized by rapid development of all cognitive mental processes. The leading means in acquiring of the learning material throughout the entire pre-school age is game.

4. We single out development games as means of education, training, and development of children. It is the traditional foundation for pre-school education and development. We devoted the research part of our work to the modern situation and practical use of development games for pre-schoolers. Study of mental peculiarities in pre-schoolers shows that at each age period certain mental characteristics are formed. It is very important for the subsequent development of a child.

We analyzed program documents on use of developmental education for pre-schoolers, taking into consideration works of L. A. Wenger, Z. M. Boguslavskaya, O. M. Dyachenko, and Ye. O. Smirnova. In this connection, we have done some research work in a number of pre-schools in Almaty (##100, 172, 195, 151, and 246) in order to prove that development games may be used as means to identify and correct pre-school developmental problems.

Results

In our work we addressed diagnostics of the most important directions in mental development of pre-schoolers, which effectively influence the entire development of the child. Taking into account the fact that cognitive activities start developing at the pre-school age, we can see that children of this age period display an increased interest in imaginative activities and plot games; and that pre-schoolers intensively develop will: they become aware of the goals and reasons of their behavior, they learn how to control it, how to subject to universal rules and requirements. Therefore, we have chosen this age period for our study.

In this connection, we have chosen the following methods of diagnostics of mental pre-schooler's development:

- 1) Cognitive activity diagnostics;
- 2) Volitional acts diagnostics; and
- 3) Imagination diagnostics.

In order to address these issues, we used certain **principles**, which emphasize diagnostic peculiarities in pre-schoolers. These are the principles of humanism and pedagogical optimism, objectivity and scientific approach, determinism, development of consciousness through activity, and of individual and personal approach.

The common goal in using psychological diagnostics in children’s psychology is to determine development level for cognitive and volitional activities; and to apply differentiated diagnostics of developmental gaps within capabilities of mental methods. In this regard, it is important to choose the best optimum method to identify and correct developmental problems. This is one of the main psychological and pedagogical aspects in cognitive activities, and it has convinced us to apply the method of development games. Not only does this method identifies the problem, but also effectively corrects it. As an example of this would be their use and research work done by Z. M. Boguslavskaya, Ye. O. Smirnova, L. A. Wenger, O. Ya. Dyachenko and others. These methods are aimed at studying of cognitive and volitional areas in pre-schoolers. It allows to get a comprehensive picture of child’s development.

On the basis of individual observation, team observation cards were filled out. It allowed us to characterize the development levels of acquiring sensory models by children of various ages. It also showed development of a number of cognitive processes, which we conventionally called as development levels of voluntary and involuntary forms of attention, memory, and types of thinking. We observed all children of the above mentioned kindergarten schools. Groups were divided according to age, and results will be presented in the following age groups: 3-4, 4-5, and 6-7. In the kindergarten system such principle corresponds to the following groups: junior, medium/secondary, senior, and preparatory groups. In five kindergartens the total number of observed children comprised about 350. Results of the study represent percentages.

Results of the observation of cognitive development in four age groups are shown in Charts 1-5 and Diagram 1.

First lines of Charts 1 and 2 show development stages of mental processes in children of four age groups. The highest numbers show sensory development. However, these numbers increase even without training. There’s no doubt that training has positive results, and the numbers increase by 2-3 times in all age groups. (See second line)

Children were given 8 problems to solve. Four of those were designed to determine sensory qualities (color, shape, size); one for memory, one for thinking, one for attention, and one to study relationship between children and adults. Because of that, we were able to see three groups of children with different development levels. Those children who were able to solve 5-8 problems were classified as the high level group; those children who managed to solve only 2-3 problems out of 8 were ascribed to the low level. These data are given below in Chart 3.

Chart 1

**Development of cognitive processes in pre-schoolers
(before and after training, per cent)**

Results	Mental Processes									
	Sensory Development			Attention		Memory		Thinking		
	color	shape	size	voluntary	involunt.	voluntary	involunt	visual & active	visual & imag.	logic forms
Before Training	26.3	15.2	14.5	30.4	17.2	35.0	15.8	36	27.2	7.6
After Training	54.7	53.3	49.5	57.3	57	64	48.2	61.7	74	33.2

**Development of cognitive mental processes
in pre-schoolers before and after training
(average data, per cent)**

Age Group	Before and After	Mental Processes									
		Sensory Development			Attention		Attention		Thinking		
		color	shape	size	volunt.	involunt	volunt.	involunt	visual & active	visual & imag.	logic forms
3-4	Before	53.5	38	9.2	46.0	7.6	30.7	9.2	53.5	15.3	0
	After	69	67	30.7	70	55	64	49	66	35	23.1
4-5	Before	69	40	15.4	30.7	15.5	23.8	15.3	46	19.8	76
	After	76	49.8	31.7	61.5	38.5	69.2	53.8	53.8	30.8	23.1
5-6	Before	77	54	16.8	32.8	30.7	37.3	30.7	53.5	15.3	9.2
	After	76	56.35	53.8	61	53.8	76.9	53.2	69	84	39
6-7	Before	70.2	67	30.6	30.0	53	39.0	46.4	53.5	23.1	23.4
	After	92	84	61.5	62.4	61.5	74.3	56.1	30.8	92	46

As seen from Chart 3, results after training show high level of cognitive mental processes. Practically all figures approximate high level. The diagnostic study after 3 or 4 sessions reveals growth of mental processes. A more systematic and planned work might show better results.

Thus, the psychological and pedagogical experiment has brought to light an important direction for pre-school training psychology, viz. the fact that **effectiveness of development of cognitive mental abilities in pre-schoolers would depend on teacher's use of specific development games.**

As seen from Chart 4 and Diagram 1, development of volitional acts in pre-schoolers increases by 2 or 3 times; provided that they had been observed through attention requirement and obedience to an adult. Also, criteria such as askance look, ignoring of instructions disappear; attention becomes concentrated and fixed. It testifies to the high development level and is obvious from children's words.

The study of development of volitional behavior in the same children also supports development games as a diagnostic method.

**Level of development of cognitive mental processes
in pre-schoolers before and after training
(average data, per cent)**

Develop- ment Levels	Before and After	Mental Processes									
		Sensory Development			Attention		Attention		Thinking		
		color	shape	size	volunt.	involunt	volunt.	involunt	visual & active	visual & imag.	logic forms
Low	Before	26.3	15.2	14.5		17.2		15.8		27.2	7.6
	After										
Average	Before				30.4		35		36		
	After	54.7	53.3	49.5	57.3	57.7		48.2			33.2
High	Before										
	After						63		62.7	74.0	

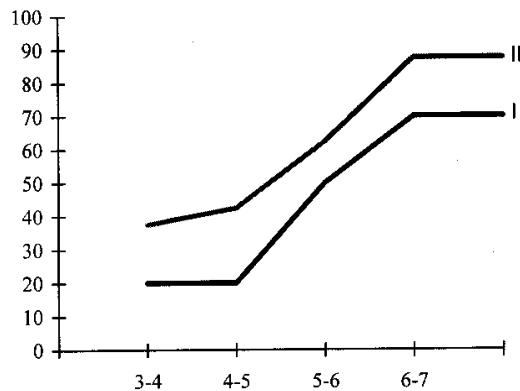
Chart 4

**Development of volitional processes
in pre-schoolers before and after training
(initial and final figures, per cent)**

Age	Average Figures for Volitional Acts	Average Figures for Distractions
3-4	20	80
	37.5	62.5
4-5	20	80
	42.5	57.5
5-6	50	50
	62.5	37.5
6-7	70	30
	87.5	22.5

Diagram 1

Development of volitional processes in pre-schoolers before and after training



It is known that imagination is the highest cognitive mental process. It is the highest form of reflection which creates new images through processing existing concepts and notions. New images are possible with developed memory and well-formed concept thinking. At the same time, role games and symbol function of consciousness play an important role in development of imagination. Through learning how to substitute actual objects and situations with those of imagination, a child develops imagination forms. It is believed that most children acquire good imagination by 4-5 years of age. E. E. Kravtsova and her followers (A. A. Nurakhunova, V. V. Stepanova) developed diagnostic methods to study imagination in pre-schoolers. These authors believe that there are two groups of children which they call "autistic" and "affective". "Autistic" children are those who do not cause adults to worry for them; their behavior is taken for individual peculiarities. Parents are usually proud of such children for their individual peculiarities. It is easy to see such children by observation. "Affective" children have fear, and often times cause trouble.

Thus, diagnostics of imagination in pre-school children has drawn us to development of its methods as well as of methods for correction of behavior. It is important for adults in dealing with children of this age period (3-7) to show more patience, not to insist on strict requirements, and try not to "remold" the child; it can "break" the child. **It is necessary to find the cause of such behavior**, if a child shows disobedience, aggressiveness, capriciousness and stubbornness at other times than within critical age margins. Each specialist who works with children can name a number of negative elements in their behavior. But the objective is not to find and remove the cause, since behavior is the obvious result. It is not the result (behavior) that should be corrected, but the cause (violation or disorder). This is the principle that should be used in dealings with children. If it is not kept in mind, then mistakes are unavoidable, and that can lead to something worse.

Chart 5

Distinctive features that characterize lack of imagination development

in games and drawing activities in behavior of senior pre-schoolers

In Drawing Activities:

Affective Children	Autistic Children
1) erase - shows conflict nature; 2) erase too often; 3) vague strokes; 4) firm pressure; 5) strong emotional response displayed by erasing and spoiling of the drawing	1) huge drawing - sign of arrogance; 2) meticulousness; 3) small objects - constraint; 4) drawing takes entire page - pronouncing; 5) dubbing details

In Games:

Affective Children	Autistic Children
1) refuse to get involved; 2) problem children; 3) always feel insignificant; 4) outcast and causing conflict; 5) aggressive; 6) capricious and stubborn; 7) tense; 8) try to overcome fear	1) hard to get into and out of the situation; 2) hard to comprehend the subject; 3) hard to get explanation; 4) see game situation as if for the first time; 5) not able to quickly respond to changes; 6) speech is well-developed, but cannot describe events; 7) poor coordination, awkwardness; 8) formal approach to task; 9) embarrassed, not confident; 10) not active enough; 11) "far" from the real world; 12) cannot participate in group games

Diagnostics of development of any mental process implies **correction mechanisms**. Such a mechanism in identifying volitional acts and sensory development was development games. We also used such games in our experiments for both "affective" and "autistic" children. We made up the following system for development games:

Chart 6

Main objectives of development of imagination in children in role games

Affective Children	Autistic Children
1. To keep the position of a "director": game	1. To create an object environment, which

through a role, where children express their ego (situations, overcoming of fear, find the cause through conversation);	would facilitate active object activities (learn the sense of activities with objects);
2. Change of game situations, which unites real activities with imagination. A topic is offered, which enables a child to “catch” and overcome the object of fear (absurd stories)	2. Movements/motion along with activities in object environment (activities with imaginary objects)

The reform of school allowed for innovations that emphasize the **object-subject** relations between teachers and their students (in kindergartens, secondary schools and colleges). This was in contrast to the formerly predominant subject-object relations where a student was considered to be the object of the teacher's influence, but not the subject of his or her own development. The personal approach is reflected in “cooperation pedagogy” promoted by Sh. A. Amonashvili. (Amonashvili, 1983.)

Theoretical analysis of books on philosophy, pedagogy and psychology convinces us that it is not necessary to narrow the concept of the development game. This very definition is different from that in pedagogy in that game functions are differentiated (there are educational, diagnostic, development and socializing games). We tried to include both **social** and **mental development** in the definition of the phrase. We were guided by the global understanding of **personality development**.

Aimed at the personality development, pedagogy implies to address psychological ages from the point of psychological age **new formations**. It means that it is necessary to both identify game patterns and new formations in development stages, and find connection and dependence between them. Study of psychological mechanisms of development helps build an **integrated system of pre-school education**, where conditions for comprehensive development can be created. The problem of pre-school training is related to the leading types of activities. **The two types**, i. e. **game** and **learning**, unite at this point of training. The issue of conditions and sources of ability to learn (“learnability”) led us to the study of **use of development games** in the light of the problem child.

We came to the conclusion that different types of games are related to cognitive and volitional aspects in different ways. When we used development games to make sure that mental processes were indeed developing, we saw that good conditions for new formations are associated with consecutive construction of stages of the **immediate development area**. We would like to emphasize the fact that the development games were used mainly as a **diagnostic means** which allowed us to see the **level of children's development**. But certainly there are more functions of development games. This function is more significant in an experiment aimed at the development of these processes in children. Because of this fact it becomes possible not only to predict tomorrow of the child, but also “build” it and enhance the “immediate development area.”

Our experimental research proved that it is important not just to use elements of the game in education and training. The very use of development games is a **diagnostic means** and **development correction**, which, at the same time, can be **pre-school propedeutics**. Ways of use of development games combine stability and flexible variation, since such use is determined by their advisability and adequacy. It should be taken into account in curriculum plans in kindergartens and other types of pre-schools.