

Creation of Developing Curricula Using the Board Games

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The article presents an approach to the creation of developing curricula for cognitive and personal development of preschool and early school age children utilizing the board games. The conditions under which these games promote development are described. The board games are described in detail, discussing the characteristics that distinguish them from other games, toys and game material. A certain sequence of work in the construction of developing curricula is developed: selection of basic skills needed to perform tasks at the preschool and early school age; construction of the logic for skills development — sequence of development of operations forming an ability; creation of game sequence, in which the operations constituting an ability will be developed.

Keywords: educational games, board games, developing curricula, metacognitive skills.

It is known that the game is just one of the forms of sharing the experiences of the society in the sphere of controlling children's development

[2;4;8]. According to D. B. Elkonin's periodization of child's mental development, this kind of social activities is aiming at developing individual psy-

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chic abilities of a child as well as his/her social and emotional (personal-motivational) and cognitive- intellectual (technical-operational) spheres [8]. It is the game which occupies the unique position in the whole system of child's personal qualities (e.g. motivations; regulations; social interactions within the age group) as well as his/her cognitive abilities (logical, space and imaginative thinking; memory; attention; etc.). It is the game which promotes solving the basic tasks typical of concrete age groups which tend to be specified and materialized for children of different ages through the use of corresponding kinds of toys and games [3, 5].

Games occupying the leading position in the developmental process of preschool children, still remain important for the further cognitive and personal development of primary school children and even later [3, 4]. Both children and grown-up people enjoy playing games in their spare time.

Games being the form of acquiring cultural and social knowledge of all kinds, tend to be widely included into different developmental programs aimed at solving certain concrete tasks of forming children's basic skills and abilities [4]. Special place in this process is occupied by developmental games. The above term being quite popular among psychologists and teachers both in pedagogical theory and practice, the concrete features of "developmental games" are to be explained and specified in this paper. Thus, we believe that developmental games are only those games which lead to the purposeful development of children's meta-cognitive abilities which includes acquiring cognitive (logical, symbolic, space, etc.) and personal (regulatory, communicative, etc.) abilities and skills. Those are the board games where the rules and successions are fixed with the help of peculiar semiotic (symbolic) means and which are aiming at developing children's cognitive abilities (those games which are to be played by a group of children) necessary for further development of personality formation (motivational component).

Board games are characterized by a number of peculiar features, the most important of them being:

- the ability of the game to develop children's cognitive skills necessary for solving various cognitive tasks on the basis of certain meta-cognitive skills (space, logical, semiotic-symbolic, etc.);

- the necessity for every playing child to build up his/her plan of actions as well as advancing concrete strategies which may then be modified in the course of games playing, thus leading to the child's acquiring significant meta-cognitive skills and abilities;

- the necessity for the child to acquire different communicative skills while interacting with other children including the abilities to work in a group (team), to take into account other players' positions in case the game is of a group (collective) character;

- the necessity for a child to develop the emotional self-regulation which is significant for gaining victory in some games including competitive components.

The above features of board games allow them to be used for children's cognitive and personal development, which make them different from all the rest of playing materials. Therefore, it seems to be quite important for people who elaborate that type of games to take into consideration their concrete developmental tasks depending on whether the game is to develop children's cognitive or personality related abilities.

The earlier analysis in the field of making-up and playing different kinds of games by preschool and primary school children has shown that they help to develop children's **cognitive abilities** in case the following factors are taken into account:

- games are to be interesting for children (raise their cognitive motivation, etc.);

- games are to be organized in such a way that the child can not only be interested in the very process of playing them, but also would like to learn how to solve concrete games' tasks;

- games are to give a child certain opportunities to choose an individual level of complexity:

- an easy level (beginners),

- a complicated level (advanced);

- games are to differ in accordance with those abilities of a child which they are to develop and the child is to be given a chance to change the type of the game;

- games are to be based upon using those ways of solving games' tasks which exclude stereotypes but develop children's creative activities.

For the games to be able to participate in children's **personality development** the following

requirements are to be met by people engaged in making them up:

certain conditions necessary for developing the abilities to work in a group (team), to interact with other children (not only to order, command but also to develop the team spirit) are to be formed;

certain competitive situations (win /lose) necessary to developing children's emotional self-regulation (an adequate reaction in case of one's own victory and defeat as well as victory / defeat of a partner) are to be arranged for the children of upper preschool and primary school age groups;

group (team) variants of games necessary for developing children's abilities of social interactions, empathy, anticipation of game development are to be elaborated and arranged;

the following procedure of making-up developmental games' programs has been elaborated by the experts in the field with respect to board games specific features and functions as well as to their significance for child's development:

1. Singling out meta-cognitive abilities which are believed to be basic for solving developmental tasks typical of preschool and primary school age groups, and which can be either very simple or more complex and even complicated. The primary task here is to develop the underlying ability which is to be developed while playing the game. As opposed to developing quite concrete academic and regulatory skills, those abilities which are being developed while playing board belong rather to the class of meta-cognitive ones, i.e. basic symbolic, space, logical, etc. Singling out that kind of board games has led to their use in elaborating different developmental programs for children.

2. A further logical development of those abilities which have already been acquired (on the basis of functional structures and psychological regularities typical of the age group in question).

3. Detailed analysis of games' psychological tasks as compared with developmental tasks typical of every concrete age group with regard of peculiar laws of child's psychic development.

4. Detailed analysis of the content plane of board game from the structural side of activities involved as well as concrete operations they include for the child to be able to gain a success while playing.

5. Setting up a certain succession of games aiming at learning concrete facts about some operations involved into a highly organized ability acquired on the basis of a complex structural activity realization. The succession of skills and abilities is further formatted into the succession of games playing acquisitions which presupposes child's gradual transition from accomplishing most primitive operations up to highly complicated ones.

6. Singling out and defining typical problematic situations of either cognitive or communicative and regulatory character in which a child can find him/herself while playing the game as well as explaining how to find the ways out of them.

Let us now consider a concrete example of arranging a succession of games leading to child's acquiring complex highly organized skills and abilities. Some of them play a really important role in the cognitive development process of primary school children. Thus, the ability of creating space images and operating them forms the basis for further development of child's space thinking. The development of the above mentioned ability includes a number of perceptive activities which would support the selection of certain space relations which is accomplished both successively and simultaneously. Space orientation is connected with continuous and complex transformation of an obviously problematic situation which includes placing certain restrictions on the sector of the search and bringing some separate space relations, into an organized system [9. P. 73].

Just another example presents the ability of choosing the right strategy of acting in the changing situation which includes planning the activities in advance (step by step) and taking the partner's possible activities into the account.

To elaborate a developmental program one has to single out a number of concrete operations necessary for developing a certain ability, then think over a logical development of those operations in the right time succession, then select corresponding board games.

Let us consider the process of developing the ability of creating space images and operating them by means of singling out a space structure of the sector of differently oriented bands (paths). In order to build a corridor in such a labyrinth a child has to change a given space structure,

which implies his/her ability to visualize in advance that certain possible changes of the whole structure are to be the results of his/her playing activities.

The above basic ability is to be supported by accomplishing the following number of orientations:

1) space orientation (finding a proper movement of bands, the simplest variant being that in one direction, the more complicated one being the movements of several bands in different directions simultaneously);

2) building-up a continuous succession of bands with regard of possible directions of movements (interrupted/uninterrupted linear sequence), the simplest variant being just one band, the complicated variant being several bands in different directions;

3) arranging a structural whole using differently oriented bands (paths) to form a certain image (picture) by means of transforming the given one, the simplest variant being building-up a concrete given image, the complicated variant being finding new images and building them up.

After all necessary operations involved in development of certain abilities have already been singled out, the logical procedure of their accomplishments by the child is to be presented. Then the corresponding succession of games aimed at different age groups is to be found.

In this case the first and the second operations i.e. choice of movements' directions and paving continuous bands (passage), are started to be learned simultaneously but with just one band (passage) presented (e.g. any games where the task is to pave a continuous path in different directions: up-and-down, left-and-right). When they are just 3 years old, children can already solve a simple task of "paving a path leading from a rabbit to a hedgehog". The path is usually to be paved for some characters whom children know and love, for this is a significant motivating factor for a child of this age group to start playing board games. It appears to be important to introduce the above characters in case the game is lacking them. Different variants of tasks are used in the games. A child is first to move the character along the path paved by an adult and they together are to determine the directions. Then the child starts paving the path independently, the direction having been

determined by the adult in advance. The games called "An Unusual Domino", "The Path in the Forest" are good examples of such a game. The most important task here is that the path should remain continuous all the time. All digressions from the initial directions are fixed (e.g. "the path goes down, the rabbit leaves the hedgehog alone").

At the following stage the same operations are repeated but the number of the bands (paths) is more than one and the directions are also different. The child first learns to analyze the directions of several paths which have already been paved by the adults. Then he/she starts paving several other paths simultaneously in different directions. The beloved characters and situations are involved again (e.g. games like "Find the Right Way" or "Colobocus the Explorer" for children older than 5). In general, the above tasks can well be solved by four years old children and older.

At the 3-d stage it is quite possible to help children in building up space structures. The child is first to single out the structure in the model presented by the adults. Then the child is to make up a certain image without any assistance using available elements and models. Such games as "River Labyrinth" and "Mosaic" are rather good for the above purpose. A child of 6 is quite capable of solving those tasks.

The second example concerns **the strategy forming** which is just another basic ability. The analysis of which has led us to singling out the following two directions of its development: *regulation and intellectual planning*.

Regulation includes the following set of abilities:

- the initiative (the ability to perceive the task, consider the task, actively behave to fulfill the task);
- the ability to cope with strong negative as well as positive emotions in order to go on playing and continue controlling the situation;
- the ability to act according to the plan and evaluate every concrete step leading to the success;
- the ability to act observing the rules and norms of the game and avoid impulsive behavior;

Planning includes the following abilities:

- to arrange actions in a continuous succession necessary to solve the task;

- to anticipate, i. e. to understand that the following actions depend on what you are doing at the moment and foresee further possible changes;

- to make up a plan of activities (strategy) in an unchangeable situation;

- to correct the plan of actions in case the situation changes as well as to consider those factors or circumstances which could influence the realization of the initial plan, to take into account the position of the partner who can have his/her own plan of actions aiming at winning in the game;

- to plan the activities in different directions simultaneously (multilateral strategy).

Regulation and planning developments are to be accomplished while first learning the principles of simple operations and then turning to much more complicated ones.

At the first stage the attention is paid to accepting the task of the game and observing the simplest rules of the game. Children of 3 or 4 years old can easily do that. The ability to act continuously in order to solve the task of the game is to be developed from the very outset as well. The successive actions are first to appear in the very process of playing the game rather than in the child's mind. The child goes step-by-step and, as a result, comes to understanding the necessity of making more than one step in order to fulfill the task (e.g. the "the rabbit can't approach the hedgehog at once, you need to pave the path for him"). As the competition requires the ability to cope with emotions, control them, foresee the further possible activities of other players, no one could speak of winning/loosing at this stage of games playing. Games are to be organized for one child as well as for many children. In the latter games the general task should be formulated for all children engaged (to lead the characters of the game so that they can visit each other) and children are to act one-by-one (e.g. pave the path step-by-step, one-by-one). Interesting examples of board games at this stage are shown by Russian games made by "The Clever Paper": "The Path in the Forest", "The Unusual Domino" and the German game made by "Goki" which is called "Find the Right Way".

In case two or more children are involved in playing the game, the additional rule appears – to stop and wait for one's turn – which every playing

child is to follow. So, playing child/children are to be able to follow 1–2 rules and to act according to a certain procedure (succession of actions) in order to solve the task of the game. All games are to be based on a certain "plot" and involve some attractive characters for a child to be really interested in playing and solving the tasks. On "The path in the Forest" the plot is to be elaborated by those adults who teach the child how to play this game, the characters are to be introduced by adults and the child together.

At the second stage (for children from 4 to 5) it is quite possible to start developing the child's abilities of controlling emotions and avoiding impulsive behavior even in the situations of expected excitement or agitation. Thus, the games of a competitive character may appear at this stage, which, however, do not require planning, taking partners' actions into account, etc. Thus, children can play the games by throwing bones where winning depends just on chance. The games of that stage may also include some situations in which the child's result can become poorer, or certain restrictions which can cause negative emotions on the part of the child. The latter is to learn how to control those emotions. The games of the type "wandering-and-walking" are very good for that stage. The main task of the players is to reach the final point (destination). On his/her way the child could be faced with such situations where the player should miss his/her turn or even return to the previous position. The game called "Transport. The Road-game" made by "The New Generation" Company in Russia could be a good example of that kind of games. The same can be said about the German game "Attack" produced by "Selecta" company. The child here is to be the first who takes a card with a picture from the table. The picture he takes should be the same as that on the upper turn of the bone (cube). Two cubes (bones) could be thrown at once. Then the child is to find and take the two corresponding pictures from the table. The sign "Don't take!" can also be drawn on one of the sides of the bone (cube). In this case the child should say: "Stop!" to him/herself and take no card from the table. The child doesn't need to think about the plans of the other players, but they still become important for the child as those people who could take the card faster than he/she. So, the tasks of games

like those above are rather simple. The purpose of the games is to teach the child how to control his/her emotions.

The same stage can be used for starting to develop the child's ability to understand how the results of the following activities could depend upon the results of one's previous actions. To do this you will need the games where the child is to think just one step forward (tactics) not many steps (strategy). In other words, the child is to think what to do, how to act now in order to avoid the following loss or danger and get something good. The French game "The Three Pigs" produced by "Dieco" is a good example of those games. The child in this game should go step-by-step, every time avoiding the danger of meeting the wolf. The child (playing for the pig) is, therefore, to think over the next step taking into account the present and the following possible positions of the wolf. All participants in that game are to play against the wolf. That's why they can think together. This activates verbalization while thinking about the following action (step) which is to be verbally fixed, so that the players could avoid meeting the wolf (e.g. "don't stop in front of the wolf! Next step and he will catch you!"). Children of 4 can easily play that game.

It's important to remember that the smaller the child is, the more interesting should the "plot" of the game be. We could recommend the German game "Vivat, Mice!" for the above purpose. In case the game is to be played by just one child, we could recommend those games in which every following step depends on the previous ones. Those are different kinds of labyrinths from which the child or the character of the game is to escape. The child here is to avoid coming to deadlocks because of the rules which either restrict his/her further actions or stop the game at once.

When the child comes to the age of 5 or 6, it is possible to teach him/her how to plan the following steps in advancing an unchangeable situation. These games exclude any unpredictable situations. Everything depends upon the player's actions. These are the games which are played by the child alone. That is why he/she is to learn how to arrange the proper succession of operations. The child first acts and makes mis-

takes, then tries again, having made up no plan in advance. But then, when the child has already had quite a number of successful actions and achieved good results, he/she starts planning in advance, thinking about the procedure (succession) of operations. Chinese games "The Fighting Frogs" or "The Rush Hour" produced by "Thinkfan" company, are good examples of such games. Alongside with learning how to estimate his/her own actions accomplished according to the plan elaborated in advance.

At this stage you can start teaching the child to arrange strategic activities in changeable situations as well. The child now is to learn how to make necessary corrections of original strategy taking into consideration all possible changes. In those games players start really thoughtfully compete with each other, each of them trying to destroy the strategy of the other (the others). Games where activities of one player can be blocked by the other one/ones require the development of the child's abilities to take into account the positions and possible activities of the others while making-up his/her plan. French game "The Corridor for Children" produced by "Gigamic", Chechish game "The Junior Labyrinth" produced by "Ravensburger" together with Germany can be good examples of that kind of games. In the latter one needs not only to plan further activities strategically but also arrange these operations on the basis of space transforming activities. In case a child does not have any developed space abilities, the game can appear to be a difficult thing.

Quite a number of board games are aimed at simultaneously teaching the child different skills and abilities.

Thus, the game can be based upon developing the ability of singling out some space structure as well as thinking over strategic combining activities, etc. If we want to teach the child how to plan his/her actions, it is important that other abilities which can also be developed while playing are to be not very complicated for a child and, therefore, not to detract the child's attention from strategy forming. It is absolutely true of competitive games where the task of planning in advance appears to be much more complicated because of possible activities on the part of the others.

When a child is 6 or 7 it is possible to develop a still more complicated ability – that of planning in advance in different directions and in a changing situation. The game like “XO” is good for that. If the child starts acting in one direction only, the other player can easily destroy his/her strategy. Therefore, activities are to go in different directions. Russian game “Who is the First One” produced by “Desiatoye Korolevstvo”, Chinese games “Castella” produced by “HAPE” and “Pentago” produced by “MINDTWISTER”, German game

“Hickory-Dickory” produced by “GOKI” can be recommended for the above purposes.

While building up the developing chains the child can develop several abilities at ones: e.g. singling out and transforming space structures and planning actions. The chain of the games is then to be arranged where the space intellect can be developed as well as the chain of games where the components of strategic activities are being developed. Some games could combine both of the above tasks.

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