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Cognitive and Play Space of Educational Institutions of the Future: Trends, Models, Cases

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Abstract: The play is a spontaneous, creative, and purposeful activity oriented towards child's learning and personality development. To make the play effective, the educational institution organizes adequate cognitive and play space. The aim of the article is to analyze the main trends, models and cases of cognition and play space organization as well as the outlining of the most efficient methods that can be applied within the educational institutions of the future. In the article one used a number of theoretical methods including the analysis of scientific and pedagogical literature, the synthesis of research results and the main trends of play space organization in modern educational institutions. The following empirical methods of research were also applied: focus group interviewing, pedagogical observation, and closed questionnaire survey. To process the data obtained during the pedagogical experiment the methods of statistical analysis were used. The research results showed three main models of cognitive and play space organization at the modern educational institutions: nature-based or outdoor, indoor, and virtual ones. Each of them has its own advantages and disadvantages. The choice depends on the learning objectives, institutional resources, teacher's pedagogical readiness, technical possibilities of educational process, and external condition. The survey proves that it is necessary to

combine the elements of different models to make the learning positive. In such conditions hybrid or mixed cognitive and play space is applied. Such space is focused on learning activity stimulation and child's personality development in different conditions: outdoors, indoors, and virtually. The research demonstrates that well-designed hybrid cognitive and play space is essential for comprehensive and harmonious development of child's personality within the educational process. The research showed that hybrid cognitive play space is an appropriate model for the education institutions of the future as it is characterized by dynamism and multifunctionality.

Keywords: cognitive and play space, nature-based model, indoor model, virtual mode, hybrid model.

Introduction

The orientation of national educational system towards common values and democratic principles makes for individualization and socialization of child's personality has become a leading concept for pedagogues of new formation. From this perspective, in the context of paradigm-based search for improvement and modernization of today's educational process, existing education appeals to philosophical ideas of person-centered approach according to which a child and his/her needs are the biggest priority for the educational policy in general and institution in particular.

At present, a child is not seen as a passive object being influenced by a teacher or surrounding environment, but as an active creative subject contributing to the learning process. Therefore, this fact requires the construction of a developing space for child's self-actualization and self-affirmation. It is necessary to create all the conditions to meet children's needs, to provide their full and harmonious development while they study at the educational institution as this period is the most important for formation of cognitive sphere. And, obviously, play activity is a main method to study the environment, form social behaviour and cultivate communication skills. Also, plays intensify the process of upbringing and education considerably.

Naturally, it is necessary to provide the favourable conditions within the educational institution for implementation of play-based approach and to encourage every child to sharpen life skills including independent activity, decision-making, and interaction with other people. In order to achieve this, it is necessary to create an adequate cognitive and play space that considers the peculiarities of educational process and children's psychological characteristics as well.

Research Problem

According to Clark et al. (2020) and Shoari et al. (2021) the physical environment experienced by children and teenagers has a significant impact on their health and wellbeing. Typically, young learners spend up to 45 hours per week in schools (Shoari et al., 2021). As a result of this, educational institutions should initiate the building of special physical space to provide pupils with assets to play, to develop, and to promote health.

Thus, the problem of creation of cognitive and play space at the educational institution is particularly urgent and summarizing the advanced pedagogical experience in this sphere is necessary to implement the most efficient trends and models.

Research Focus

The educational environment of any institution is a complex phenomenon existing on various levels like global, national, regional, local/municipal, and institutional (Frelin et al., 2021). It is a zone of interaction of educational systems, their elements, educational materials, and participants of the educational process. Play space is an essential part of educational environment as it is an integrated system where material resources for child's development are used.

Simultaneously, Alharbi and Alzahrani (2020) consider play to have universal benefits for children's learning and development. Well-designed play can provide rich, fun, interactive experiences that can foster young children's learning and cognitive development, build their necessary skills, contributes to social interactions, physical activity, and healthy behaviors.

Playing does not mean children waste their time. At the young age, all the children predominately learn through play (Danniels & Pyle, 2018). This requires to organize an appropriate space that is able to use a play within the educational process. There are many approaches to build effective cognitive and play space applicable for the educational institution of the future.

One of the most successful models deals with the combination of social and natural elements (Alme & Reime, 2021). It is known as nature-based or outdoor cognitive and play space and it includes architectural and landscape installations, art studios, outdoor play and sports grounds, sports equipment, construction kits, toys, collection of books or audio and visual information storage devices (Kuo et al., 2019). The main feature of nature-based model is that the whole day or a part of the day is organized outside. Such nature-based model has different names like "nature school", "forest kindergarten" or "udeskole" (Boileau & Dabaja, 2020).

Outdoor cognitive and play space provides a learner with a number of benefits (Alme & Reime, 2021; Frelin et al., 2021; Kuo et al., 2019). It is claimed that a child learns better when he/she is attentive, less stressed, more interested, more physically active, highly motivated, and less stresses. Nature-based cognitive and play space establishes these appropriate conditions for young learners and they are likely to demonstrate better outcomes (Boileau & Dabaja, 2020; Kuo et al., 2019). In addition, they improve physical and psychological health (Alme & Reime, 2021) and acquire strong soft skills (Kuo et al., 2019; Storli & Sandseter, 2019).

There children receive skills needed in the XXIst century such as environmentally friendly attitudes and learn more pro-environmental behaviour (Kuo et al., 2019). Moreover, outdoor cognitive and play space encourages to use unsupervised activities, free play and, as a result, stimulate creativity and imagination (Alme & Reime, 2021; Hyndman & Mahony, 2018). According to Alme and Reime (2021) the use of the natural environment for educational purposes has become increasingly popular in the Nordic countries, the United Kingdom, Australia and the United States. Another model concerns indoor cognitive and play space and ensures organization of cognitive activity within interior institution facility (López-Chao et al., 2020).

Classroom or indoor cognitive and play space means the area where teachers can easily actively create the conditions for learning and development of children (Khudayberganova, 2022). According to Khudayberganova (2022) the inside learning is a place where all the equipment and devices, teaching aids, posters are available. Also, this space can be decorated and equipped with the prescribed rules

including daylight or artificial light, temperature, acoustic comfort, size, ventilation, and considering requirements to furniture orientation, electromagnetic waves, and vibrations (Kapoor et al., 2021).

The classroom environment allows children to interact face-to-face with their peers and teachers. This is an additional social benefit and educational assistance. Because learners see the same peers in each session, they will have the opportunity to build strong friendship (Khudayberganova, 2022).

Norwegian scholars Sandseter et al. (2022) paid their attention to comparison outdoor and indoor cognitive and play space and came to the conclusion that effective indoor facility requires sophisticated planning, furnishing, and application of deep knowledge of children's innate playfulness to predict and evaluate their play behaviour. But such model has lots of benefits as provides access to play materials and serves as a secure environment for young learners.

Besides, applying the indoor model teachers do not waste time for explanation the rules as the space itself is predicted and well known for children (Khudayberganova, 2022). Classroom activities provide a sense of discipline because children have no choice but to focus on learning (Berkling & Franken, 2019).

Indoor cognitive and play space is commonly used in many European countries like Spain (López-Chao et al., 2020), Denmark (Brink et al., 2020), Finland, Ireland, Poland, in some educational institutions of the USA namely Let's Move Active Schools (McMullen et al., 2022), and in Asia including Uzbekistan (Khudayberganova, 2022), India (Kapoor et al., 2021), South Korea (Lee & Kwon, 2021), Indonesia (Yuniastuti & Hasibuan, 2019), and Japan (Qin et al., 2019).

In modern conditions teachers and learners must adapt to the changing educational environment and implement innovative model of cognitive and play space. According to a number of scientists (Akour & Alenezi, 2022; Chou et al., 2021; Tatli, 2018), educational institutions of the future must be prepared to incorporate virtual cognitive and play space in order to develop children's readiness for learning from virtual reality games. The COVID-19 pandemic has quickly proved that the educational system would engage such digital transformation (Akour & Alenezi, 2022; García-Morales, 2021). And today no one is surprised that cognitive and play space gets virtual.

Presently there is a wide range of digital games. And they are available on large screens, handheld tablet, electronic learning systems, and electronic toys (Healey et al., 2019).

The application of virtual cognitive and play space promotes the enthusiasm of children and improves the efficiency of knowledge output. Digital games can build multiple different types of virtual environments in a limited space, adapt to the needs of young learners in various scenes and generate interesting interactions. In addition, virtual cognitive and play space is not limited by equipment or furniture. This interactive display enriches children's horizons and increases their imagination (Tang et al., 2019).

Modern technologies give the possibility to analyze the playing process and to respond properly. For example, software can record the time spent for playing, show game challenges and errors made. Also, electronic devices help to analyze the amount of educational content in the game, child's emotional responses, and their playing behaviour (Zhang et al., 2020).

We found that successful examples of application of virtual cognitive and play space were described for many countries worldwide like China, UK, New Zealand (Sun & Peng, 2020; Zhang et al., 2020), Taiwan (Chou et al., 2021; Sun & Peng, 2020), France (Guegan et al., 2021), Germany (Haferkamp & Dengel, 2021) and Israel (Shoshani, 2023).

Research Aim and Research Questions

The purpose of the article is to characterize trends, models, and cases of organization cognitive and play space in modern educational institutions and outline the most effective ones.

The article objectives are the following:

- to conduct a closed survey among teachers and to highlight the main trends and models applied in modern educational institutions;
- to describe the positive and negative features of common models of organization of cognitive and play space;
- to present the most efficient model of organization of cognitive and play space that can be applied at the educational institution of the future.

Research Methodology

General Background

In the article we used theoretical methods (analysis of scientific and pedagogical literature, synthesis of research results and the main trends of organization of cognitive and play space in modern educational institutions). Also, we applied the empirical methods of research like interviewing of focus group, pedagogical observation, and closed questionnaire survey. To process the data obtained during the pedagogical experiment the methods of statistical analysis were used.

Sample / Participants / Group

The pedagogical experiment involves 112 teachers of different educational institutions. The questionnaire was carried out in the Internet through Google forms. All the respondents agreed to participate in the survey voluntarily and they were informed about the research objectives and experiment procedures.

Instrument and Procedures

All 112 participants of the experiment (teachers from different educational institutions) are responsible for organization of cognitive and play space at work and actively implement play-based approach in the educational process. The questionnaire was carried out in the Internet through Google forms.

The respondents were interviewed to obtain quantitative and qualitative information on the problem. The questions were related the main trends for play-based approach at the educational institutions, the models of organization of cognitive and play space. Also, the teachers were asked to describe advantages and disadvantages for each of the models. The questionnaire contained the following questions:

- ✓ What educational institution do you work?
- ✓ What is your work experience?
- ✓ What category of children do you work with?
- ✓ How often do you use play-based approach?
- ✓ How is cognitive and play space organized at your educational institution?
- ✓ What model of organization of cognitive and play space is applied?
- ✓ Do you think this model is effective enough?
- ✓ What advantages for this model do you find?
- ✓ What disadvantages can you enumerate?
- ✓ What do you do to improve the situation in the future?
- ✓ Do you find the learners are motivated to play in this cognitive and play space? If not, why?

Data Analysis

Having collected the data we read them thoroughly, got a general sense of the information obtained and reflected on their meaning. The quantitative and qualitative data were analyzed for to select the most effective model of organization of cognitive and play space at the educational institution, based on the study of positive features we have outlined the type of cognitive and play space which can be applicable for the educational institution of the future. The results obtained during the pedagogical experiment are presented in the sections “Research Results” and “Discussion”.

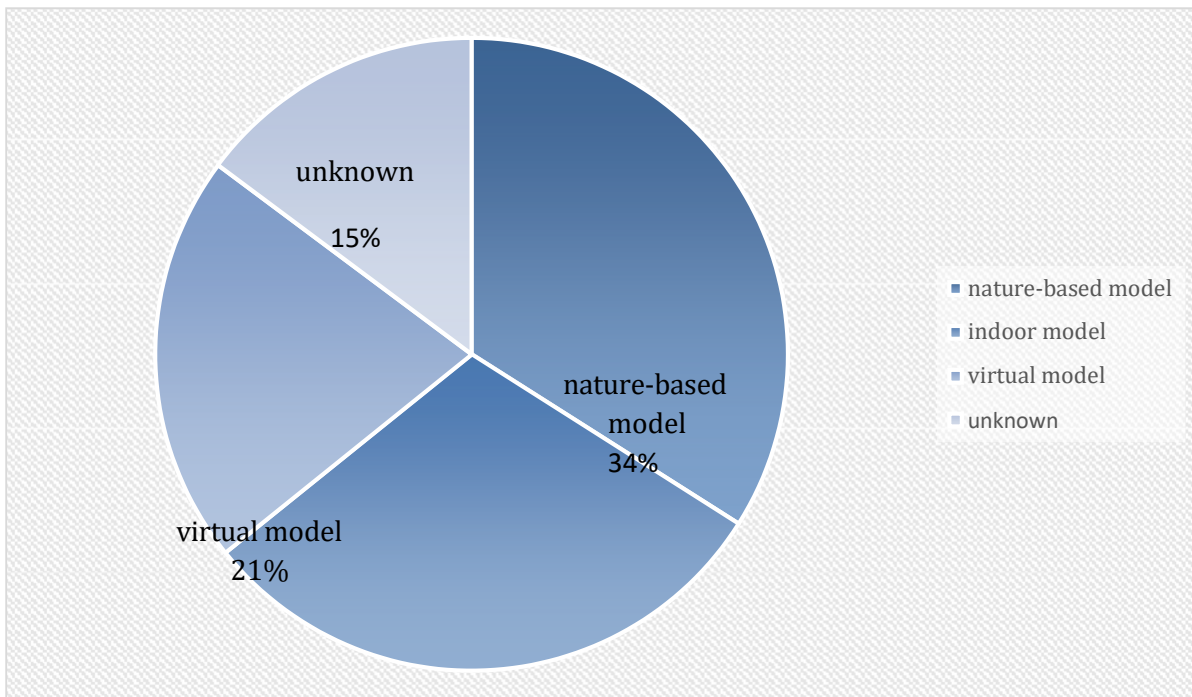
Research Results

The findings show that educators use three different models of cognitive and based or outdoor, indoor, and virtual.

Figure 1 shows the percentage of teachers of various educational institutions who prefer certain model of organization of cognitive and play space. These results suggest that the largest number (34%) of educational institutions use nature-based or outdoor play space to organize learning activities for children, almost the same amount (30,2%) of educational institutions prefer indoor cognitive and play space. 21% of schools apply virtual cognitive and play space fully or partially. 14,8% of educational institutions search for improvements of existing cognitive and play space. This number means that no model is ideal and it needs improvements for the future.

Figure 1

Application of Models of Organization of Cognitive and Play Space in the Educational Institutions



Source: author own development.

Each of the models described has its own advantages and disadvantages. Firstly, we will present positive (Table 1) and negative features (Table 2) of nature-based or outdoor play space. The respondents confirm that stimulation of creativity, development of imagination, encouragement to learning and teamwork are the most common positive characteristics of nature-based or outdoor cognitive and play space. At the same time, teachers claim that this model is risky for young learners especially in rural settings or in wild and untamed landscape, needs adult educators' control, depends on weather conditions, provides unusual and unpredicted conditions for learning and requires safety measures explanation to avowing dangerous situation.

Table 1

Positive Characteristics of Nature-based or Outdoor Cognitive and Play Space (Based on the Closed Survey)

Positive characteristics	% of the total number of teachers
Stimulation of creativity	89,2% of teachers
Development of imagination	87,1% of teachers
Encouragement to learning	82,5% of teachers
Encouragement of teamwork	80,9% of teachers
Increasing of problem-solving skills	75,2% of teachers
Improvement of physical health	68% of teachers
Development of independence	64,1% of teachers
Assistance to learn topography, vegetation, and other living organisms	58,3% of teachers
Formation of environmentally friendly behaviour	57% of teachers
Increasing of knowledge and understanding of the natural environment	56,8% of teachers
Development of cognitive sphere	56,2% of teachers
Formation of leadership skills	55,8% of teachers

Formation of resilience	54,7% of teachers
Improvement of young learner's attention	52% of teachers
Possibility to use animal-assisted learning	34,5% of teachers
Adventures and nature walks	34,2% of teachers
Formation of special skills like survival skills, etc.	33,9% of teachers
Enjoinment	33% of teachers
Appreciation for nature	31,8% of teachers

Source: author's own development.

Table 2

Negative Characteristics of Nature-based or Outdoor Cognitive and Play Space (Based on the Closed Survey)

Negative characteristics	% of the total number of teachers
Risky especially in rural settings or in wild and untamed landscape	67,4% of teachers
Needs adult educators' control	54,3% of teachers
Depends on weather conditions	54,1% of teachers
Provides unusual and unpredicted conditions for learning	53,7% of teachers
Requires safety measures explanation	50,6% of teachers
Challenging for children for the first time	43% of teachers
Requires more staff	37,5% of teachers
Possible absence of toys or special equipment	36,1% of teachers
Cannot be applied for big groups	35,7% of teachers
Requires joint responsibility between children and staff	34% of teachers
All activities demand preconditions for participation (like campfire or building a shelter)	32,9% of teachers
Some activities depend on physical development of children	24,5% of teachers
Can be tiring for some children	10,4% of teachers

Source: author's own development.

According to the results of the survey conducted among teachers of various educational institutions we have found that indoor cognitive and play space has a number of positive and negative characteristics. Tables 3 and 4 show the description of indoor cognitive and play space. The most common positive characteristics of indoor cognitive and play space are the following: adaptation to many subjects, possibility to use predictable and planned activities, application of special equipment. Besides this type of cognitive and play space allows children to interact face-to-face with their peers and teachers. The negative characteristics include necessity to use lots of equipment and facilities, application of flexible architecture decision and furnishing, lighting correction.

Table 3

Positive Characteristics of Indoor Cognitive and Play Space (Based on the Closed Survey)

Positive characteristics	% of the total number of teachers
Adaptive to many subjects	89,8% of teachers
Provides predictable and planned activities	88% of teachers
Applicable for urban and densely populated areas	87,5% of teachers

Allows to use special equipment	85,1% of teachers
Allows kids to interact face-to-face with their peers and teachers	78,8% of teachers
Develops cognitive potential of young learners	77% of teachers
Formations of communication skills	76,4% of teachers
Increasing of time management skills	73,6% of teachers
Improves self-discipline	73,2% of teachers
Teaches to apply self- and mutual control	72,5% of teachers
Formation of deep knowledge on different subjects	70% of teachers
Provides better interaction with teacher	69,3% of teachers
Social engagement of kids	68,9% of teachers
Improves information retention	61% of teachers
Possibility to organize QA sessions	55,8% of teachers
Possibility to use audio-and video materials widely	53,7% of teachers
Better surrounding to form self-esteem	41,4% of teachers
Possibility to use traditional textbooks	30,1% of teachers

Source: author own development.

Table 4

Negative Characteristics of Indoor Cognitive and Play Space (Based on the Closed Survey)

Negative characteristics	% of the total number of teachers
Requires lots of equipment and facilities	51% of teachers
Demands flexible architecture decision	50,5% of teachers
Lighting correction	50,1% of teachers
Similar surrounding every day	41% of teachers
Lack of physical activity	40,3% of teachers
Lots of stress for small kids	30,2% of teachers
Ventilation	29% of teachers
Boring	14%

Source: author own development.

Virtual cognitive and play space is also characterized by positive (Table 5) and negative features (Table 6). We found that positive characteristics include possibility to teach many subjects, formation of high motivation and interest among young learners, increasing of creativity. Negative characteristics of virtual cognitive and play space concern necessity to have special high-technology equipment and stable Internet access that makes it difficult for developing countries, formation of e- readiness among children, and preparation of special tasks and pre-tasks materials by a teacher.

Table 5

Positive Characteristics of Virtual Cognitive and Play Space (Based on the Closed Survey)

Positive characteristics	% of the total number of teachers
Applicable for many subjects	87% of teachers
High motivation	84,8% of teachers
creativity	83,4% of teachers
Problem solving	80,7% of teachers

Self-control	80,2% of teachers
Enhances learning capacity	80% of teachers
Interest to learning	80% of teachers
Readiness to real life where all services are digitalized	79,5% of teachers
Easy evaluation	78,7% of teachers
Feedback	75,3% of teachers
Safety during pandemic or in war zone	70,9% of teachers
Applicable for solitary play	65,2% of teachers
Training of survival skills like road safety skills, etc.	49,3% of teachers
Oriented towards technological development and innovations implementation	48,4% of teachers

Source: author's own development.

Table 6

Negative Characteristics of Virtual Cognitive and Play Space (Based on the Closed Survey)

Negative characteristics	% of the total number of teachers
Requires special equipment and stable Internet access	90,1% of teachers
Requires e-readiness among young learners	86,5% of teachers
Difficult for developing countries	84,2% of teachers
Needs special preparation of tasks by a teacher	75,3% of teachers
Needs administrator	65% of teachers
Information literacy	57,2% of teachers
Lack of psychological and social competencies	55,8% of teachers
Needs flexibility and blended forms	53,1% of teachers
Can be applied during short period	32% of teachers
difficult to distinguish the real from the fake	30,8% of teachers

Source: author own development.

Discussion

The analysis of scientific literature and the results of closed survey among teachers of various educational institutions prove that neither of the models of organizational of cognitive and play space is fully effective. In such circumstances we can talk about the hybrid or mixed model that will include the features of nature-based, indoor, and virtuals cognitive and play spaces. The hybrid cognitive and play space enables to use playing as an instrument to learn and to develop child's personality. And it is oriented towards their socialization and adaptation to real life as well.

Hybrid cognitive and play space consists of the physical and digital setting in which young learners play using all the toys and equipment, books and other things to be found in that facility. Besides the physical and digital setting, it includes the socio-cultural setting for such activities.

Playing and learning organized within indoor model is based on formal, intentionally planned activities. Playing organized outdoors is mostly informal in nature. Playing organized virtually is semiformal and applied through simulation and role games to train life competencies.

Hybrid cognitive and play space is a result of work of many construction experts (architects, artists, designers, builders, decorators), IT specialists, educational staff and parents who know what

their children like and what they need (Ernst et al., 2021). Sometimes children may be involved to arrange their space to make it comfortable. All components of hybrid cognitive and play space must be focused on stimulation of learning activity and personality development of a child in different conditions: outdoors, indoors, and virtually.

Effective hybrid cognitive and play space is a part of educational environment that is organized in specially designated area or virtually and equipped with materials or devices used for children development according to their age, mental or physical health.

The findings (Balari & Lorenzo, 2018; Deoni et al., 2021; Ernst et al., 2021) show that there is a number of requirements to organize hybrid cognitive and play space. These requirements must be considered while planning cognitive and play space at the educational institution of the future. They are the following:

1) The most important component of cognitive and play space is set of toys or various equipment, including present-day devices, that are necessary for formation of children's main competencies and contributing to their upbringing. Toys and equipment are arranged according to their functional features and type of play activity. Most toys and equipment must be multifunctional so they can be used in different ways.

2) Cognitive and play space must contain familiar things and new equipment which make children's cognitive development. A teacher may increase the number of toys and equipment gradually, given the children's knowledge and skills. Every new thing must be presented for the group with a surprise.

3) A teacher must calculate the amount of equipment, pieces of furniture like chairs and materials (sheets of paper, pencils, pens, toys, or books) for all the children.

4) The space must be of average size because small rooms are not enough for free play and children do not get the possibility to develop efficiently. And large facilities obviously lead to weakening of discipline and distract children's attention.

5) To use the space efficiently, it is required to remove all unnecessary things (for example, backpacks, outerwear, etc.).

6) Cognitive and play space must be attractive to children to draw their attention.

7) Cognitive and play space must be used regularly for the educational process. It will help to increase its efficiency and adaptation of young learners.

8) While playing all children must be involved in the activity.

9) Play must be free and spontaneous; indoor, outdoor or virtual.

10) Cognitive and play space is to support children's interests, to meet their needs and aptitudes.

11) Cognitive and play space must ensure free movement of a child within the designated area. They are allowed to move themselves, to move things and furniture.

12) A teacher must change the types of cognitive and play space regularly depending on learning objectives, children's mood, technical resources, and external situation.

13) Teachers are responsible for planning and facilitation of children's play and learning activity.

14) Before playing, a teacher must define objectives and rules to children to provide them safety and enhance the learning outcomes.

According to Bouw et al. (2021), Niemi et al. (2022), and Sun and Peng (2020) cognitive and play space at the educational institution must be organized in several stages. The first stage (preliminary) concerns specification of objectives and analysis of psychological, pedagogical, methodical, organizational, material and mechanical maintenance of the educational process. At the second stage (organizational) the project of cognitive and play space is designed. The third stage (analysis of situation) deals with identification of problems related to educational institution and children's objectives at the social and individual levels. The fourth stage outlines the methods to organize cognitive and play space for children. At the fifth stage (conceptualization) the concept of cognitive and play space is developed and educators outline the main activities will be used. The sixth stage (programming) is responsible for creation of programme of main events and activities oriented towards child's development and stimulation of cognitive sphere. The seventh stage (planning) means planning the organization of cognitive and play space and transition from monomodel to integrated mixed model. At the eighth stage (implementation) the plan is implemented with the educational process. The ninth stage (reflection) concerns the analysis and discussion of the space implementation.

Based on the analysis of the literature (Danniels & Pyle, 2018; Storli & Sandseter, 2019; Yuniastuti & Hasibuan, 2019), effective hybrid cognitive and play space suggests the realization of the following conditions that every teacher must consider: formation of positive contacts and friendly relations between children; recognition of child's success, correct activity, and creativity; realization of child's needs in positive and meaningful communication; organizational of various types of activities that contributes to child's self-affirmation, self-actualization and build self-confidence.

Thus, well-designed and properly organized hybrid cognitive and play space is a requirement for comprehensive, harmonious, and correct development of child's personality within the educational process. This fact must be considered for education institutions of the future.

Conclusions and Implications

A general analysis of the problem showed that organizational of cognitive and play space is very important for modernization of schools and building educational institutions of the future. However, the findings showed that the educational institutions currently apply three major models of organization of cognitive and play space: nature-based or outdoor, indoor, and virtual. The latter one is getting more important due to the experience of pandemic of COVID-19 or risk to appear in war zone.

The survey results showed that stimulation of creativity, development of imagination, encouragement to learning and teamwork are the most common positive characteristics of nature-based or outdoor cognitive and play space. At the same time, teachers claim that this model is risky for young learners especially in rural settings or in wild and untamed landscape, needs adult educators'

control, depends on weather conditions, provides unusual and unpredicted conditions for learning and requires safety measures explanation to avowing dangerous situation.

The most common positive characteristics of indoor cognitive and play space are the following: adaptation to many subjects, possibility to use predictable and planned activities, application of special equipment. The negative characteristics include necessity to use lots of equipment and facilities, application of flexible architecture decision and furnishing, lighting correction.

Virtual cognitive and play space is also characterized by positive and negative features. The findings showed that positive characteristics concern possibility to teach many subjects, formation of high motivation and interest among young learners, increasing of creativity. Negative characteristics of virtual cognitive and play space concern necessity to have special high-technology equipment and stable Internet access that makes it difficult for developing countries, formation of e-readiness among children, and preparation of special tasks and pre-tasks materials by a teacher.

We have come to the conclusion that in modern circumstances the hybrid or mixed model is the most effective. The main requirement to hybrid cognitive and play space is that all its components must be focused on stimulation of learning activity and personality development of a child in different conditions: outdoors, indoors, and virtually.

The results demonstrate that well-designed and properly organized hybrid cognitive and play space is essential for comprehensive, harmonious, and correct development of child's personality within the educational process. The research showed that hybrid cognitive and play space is the most effective model for the education institutions of the future as it is characterized by dynamism and multifunctionality.

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