

Children's Play in the Context of Digital Transformation: Cultural and Historical Perspective (Part 2)

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The article focuses on the problem of classification of digital play. Key approaches to classifying types of traditional play activity in foreign and in Russian psychology are studied. The authors argue that for the majority of foreign researchers the criteria for indicating a type of play is represented either by the level of its cognitive complexity (J. Piaget, K.H. Rubin, K. Stagnitti, S. Smilansky, N. Takata) or by the character of social interactions, in which the child is involved in the process of play (M.B. Parten, J. Mildred). Classifications of play, suggested by Russian scholars – E.E. Kravtsova, S.L. Novoselova, N.Ya. Mikhailenko and N.A. Korotkova, E.O. Smirnova – are discussed. The authors stress the need of differentiating between the concepts of “digital play” and “digital game”. They also discuss the possibility of applying classifications of video games and those of traditional play for the analysis of digital play. The article also focuses on the classification of digital play elaborated by J. Marsh on the basis of the taxonomy of play types by B. Hughes. Authors argue that for indicating types of digital play it might be more efficient to apply classifications of traditional play under condition of their adaptation.

Keywords: digital play, classification of play types, taxonomy of play, computer game, video game, play activity.

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Детская игра в условиях цифровой трансформации: культурно-исторический контекст (Часть 2)

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В статье обсуждается проблема типологизации цифровой игры. Рассматриваются основные подходы к классификации «традиционной» игровой деятельности в зарубежной и отечественной науке. Показано, что для большинства иностранных авторов критерием выделения типа игры является либо уровень ее когнитивной сложности (Ж. Пиаже, К.Н. Rubin, К. Stagnitti, S. Smilansky, N. Takata), либо характер социальных взаимодействий, в которые ребенок оказывается вовлеченным в процессе игры

(М.В. Parten, J. Mildred). В отечественной науке приводятся классификации игры, предложенные Е.Е. Кравцовой, С.Л. Новосёловой, Н.Я. Михайленко и Н.А. Коротковой, Е.О. Смирновой. Подчеркивается необходимость различения понятий «цифровая игра» как программный продукт и «цифровая игра» как специфический вид игровой деятельности. Обсуждается возможность применения классификаций компьютерных игр (видеоигр) и «традиционных» игр для анализа цифровой игры. Приводится классификация цифровой игры Дж. Марш, разработанная на основе типологии Б. Хьюза. Обосновывается идея о том, что для выделения типов цифровой игры наиболее перспективными являются классификации «традиционной» игры при условии их соответствующей адаптации.

Ключевые слова: цифровая игра, классификация игр, типологизация, компьютерная игра, видеоигра, игровая деятельность.

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Typologization of digital play: on the problem definition

As already mentioned [9], in the last few years the number of psychological and educational works based on the opposition of traditional and digital play is decreasing. Play activity, mediated by the use of technologies and various kinds of digital content, is regarded as a new form of play, where real and virtual objects coexist and interact in real time mode. In this kind of play digital means (smartphones, tablets etc.) are regarded as the same attributes of play as traditional toys.

An important step in studying digital play as a new socio-cultural phenomenon is connected with understanding its heterogeneity, which is, on the one hand, based on the diversity of the technologies applied, and, on the other hand, — on the variety of ways, how the digital media are introduced into the context of play. It can be assumed that exactly as traditional play activity, digital play evolves and develops depending on the child's age, the level of the development of their digital skills and the character of their interaction with gadgets (frequency of interaction, involvement of adults and age mates in the play process, etc.) Therefore, the challenge emerges of identifying types of digital play and elaborating its taxonomy.

Apparently, the approaches for resolving this task will depend on the conceptual consideration of traditional play activity, its types, and functions. In the framework of this article the authors attempt to briefly consider a few classifications, based on the well-known concepts of play (including Cultural-Historical Theory). The authors also attempt to discuss the perspectives of applying these taxonomies to play, mediated by the use of technologies.

Foreign approaches to classifications of “traditional” play

The challenge of identifying types of play activity has attracted the attention of many foreign psychologists and educators. Most classifications may be grouped around two key approaches to understanding play: the cognitive approach and the social approach. The authors, working in the framework of the first direction, define types of play depending on the level of their *cognitive complexity* (J. Piaget, K.H. Rubin, K. Stagnitti, S. Smilansky, N. Takata). In the framework of the second approach the criteria for identifying types of play is the character of *social interactions*, in which the child is involved in the process of play (M.B. Parten, J. Mildred). In some classifications the regarded types of play are considered as stages, connected with the general line of cognitive and/or social development, while some of them presuppose parallel development and intersection of different types of play. There are also a few classifications based on the criterion of toys, with which the child interacts in the process of play [19].

Cognitive taxonomies are based on the ideas of J. Piaget. According to his concept of stage development, the content of children's play develops from subjective constructions to adequate reflection of reality [29]. Children do not acquire new skills while playing, but rather practice and consolidate skills that were acquired recently. J. Piaget identified three types of children's play [26]:

- practice play (listening, visual, and tactile experimentation with objects, sounds, words,
- expressions),

- symbolic play (symbolic use of objects as they were something else; use of absent objects),
- play with rules (games with a specific code and rules accepted and followed by the players).

Later other scholars extended the taxonomy of J. Piaget and included more types of play, making it possible to trace, how the complexity of play actions increases with the cognitive development of the child. For example, N. Takata, on the basis of the classification by J. Piaget, suggested an age taxonomy of play, identifying the following types [28]:

- sensorimotor play (0–2 years),
- symbolic and simple constructive play (2–4 years),
- dramatic and complex constructive play (4–7 years),
- games with rules (7–12 years),
- recreational and competitive play (12–16 years).

Social classifications underlie the ideas of M.B. Parten, who identified types of play depending on the character of children's interactions in the process of play [25]. M.B. Parten described the following types of play:

- solitary play (the child plays alone and independently even if surrounded by other children),
- parallel play (the child plays independently at the same activity, at the same time, and at the same place),
- associative play (the child is still focused on a separate activity, but there is a considerable amount of sharing, lending, taking turns, and attending to the activities of one's peers),
- cooperative play (children can organize their play and/or activity cooperatively with a common goal and are able to differentiate and assign roles).

M.B. Parten's ideas became basis for The International Classification of Functioning Disability and Health Children and Youth, adopted by The World Health Organization in 2007.

Another group of classifications relates to the type of toys, which are used by children in the process of play. The classifications of this group may not be regarded as strictly scientific, since they often rely on the characteristics of toys, declared by manufacturers, while in reality the functions of toys in the process of play are often identified by the child differently. B.M. Kudrowitz and B. Goodson suggested to classify play depending on the toys, which are needed for different kinds of play, and identified the following types [20]:

- active play (push and pull, ride-on toys; outdoor and gym, sports equipment),
- manipulative play (construction toys, pattern making, dressing, lacing, stringing),
- sand and water play toys),

- make-believe play (dolls, puppets, stuffed toys, place scenes, transportation toys),
- creative play (musical instruments, art and craft materials, audio-visual equipment),
- learning play (games, books, specific skill-development toys).

It is also important to highlight that researchers are not unanimous in the analysis of the existing classifications of play and their belonging either to cognitive or to social direction. E. Mellou [24] and K. Stagnitti [27] e.g. consider both J. Piaget and L.S. Vygotsky as scholars of the cognitive direction. In his turn, F.P. Hughes opposes cognitive theories and the so-called contextual approach to play. According to F.P. Hughes, the contextual approach is based on the idea that the development of the child can only be considered in the framework of the socio-cultural and historical context, in which it takes place [22]. As an example of the contextual approach to play F.P. Hughes points to L.S. Vygotsky's Cultural-Historical Theory.

B. Hughes is the author of one of the most well-known classifications of play activity [21]. According to E.O. Smirnova, in the framework of his taxonomy, types of play are indicated "intuitively rather than theoretically" [12, p. 6]. Typology of play by B. Hughes was at first elaborated as a practical instrument for the analysis of child's play, meant for specialists working with preschoolers. The author indicated 16 types of play, with some of them lacking analogues in the Russian psychological tradition (see table 1).

Thus, the problem of indicating types of child's play regularly appears in research, attracting attention both of psychologists and educators, who are interested in practical instruments for analysis and assessment of contemporary children's play.

Russian typologies of play

Interpretation of play activity in Russian psychology is rooted in the ideas of L.S. Vygotsky, for whom the key characteristics of children's play was the imaginary situation. The imaginary situation allows the child to make up the play setting, use play substitutes, create play rules and accept a particular role [3]. Developing Vygotsky's ideas about the phenomenon of child's play, D. Elkonin rearranged the key points and emphasized rules rather than imaginary situation, arguing that in the process of role playing the child's actions are transformed and the child's relation to reality changes [15]. In further research A. Zaporozhec drew attention to the importance of the child's initiative in play activity. The author

suggested the term «initiative play» (samodeyatel'naya igra) pointing to the determining role of children's initiative in constructing role play [16].

It is important to highlight that it was “suzhetno-rolievaya igra” (role play or plot-role-playing,) that was in the focus of Russian researchers for a long time. It was treated as the higher, most developed form of play, which needs to be developed in preschool childhood. Probably for this reason the problem of play taxonomy and indication of other types of play did not attract particular attention of Russian scholars.

Interestingly the term “suzhetno-rolievaya igra” does not have absolute synonyms in English language. Usually, the concept of *role play*, *pretend play* and *make-believe play* are used as its synonyms. Sometimes such terms as *fantasy play*, *dramatic play*, *plot-role-playing* and *social-dramatic play* are also applied. All these concepts are not interchangeable and emphasize certain aspects of “suzhetno-rolievaya igra”.

The most well-known typologies of play in Russian psychology were suggested by E.E. Kravtsova, S.L. Novoselova, N.Ya. Mikhailenko and N.A. Korotkova, E.O. Smirnova.

According to E.E. Kravtsova there is a tense connection between the development of imagination and play in preschoolers. The author traces their development the following way: from imagination as prerequisite of play – directed play (rezhissyorskaya igra) – to imagination as the result of play – image role play (obrazno-rolievaya igra) – then to developed imagination in role play (suzhetno-rolievaya igra) and finally back to imagination as prerequisite of play activity – play with rules, late form of directed play (rezhissyorskaya igra) [4]. She, thus, indicates four types of children's play, which match certain age (fig. 1):

Developing the ideas of D. Elkonin, N.Ya. Mikhailenko and N.A. Korotkova regard play as an element of society's culture, including education and labor. The authors distinguish between the following types of play:

1) Play with rules (igry s pravilami) – rules underlie play activity:

- outdoor play (podvizhnye igry);
 - board games (nastol'nye igry);
 - word games (slovesnye igry).
- 2) Role (creative) play (syuzhetnye/tvorcheskie igry) – transformation and animation of things underlie play activity:
- role play (rolievye igry) – the child himself turns into someone;
 - make-believe play, directed play (rezhisserskie igry) – involve animation and control of objects;
 - dramatization play (igry-dramatizatsii) – presupposes roles, based on a literary plot.

N.Ya. Mikhailenko and N.A. Korotkova also emphasize that usually there are elements of plot in play with rules and elements of rules in creative play [7].

Developing the ideas of A.V. Zaporozhec, S.L. Novoselova [8] suggests a taxonomy of play based on the criterion of initiative (fig. 2). The author distinguishes between play that constitutes the preschoolers' leading activity and contributes to preschoolers' development, and play as an educational technology, or play as something that helps the child or introduces the child to certain cultural patterns [16].

We would like to consider particularly the types of play, indicated by E.O. Smirnova. The author argues that at the age of two process play (protsessual'naya igra) or, according to L.S. Vygotsky, quasi-play (kvazi-igra) emerges, which represents the transfer of action from one object to another (from the “real” to the “playful”). The sense and the goal of this play consists in the very process of the activity. Process play cannot be considered play in the strict sense of the word, since there is neither role, nor plot, nor imaginary situation in it. However, it represents an important step for the formation of creative play. Process play gives way to role play (syuzhetno-rolievaya igra), in which central new formations of preschool age develop. Apart from role play (syuzhetno-rolievaya igra) E.O. Smirnova also distinguishes between directed/make-believe play (rezhisserskaya igra), dramatic play (igra-dramatizatsiya), play based on rules – outdoor

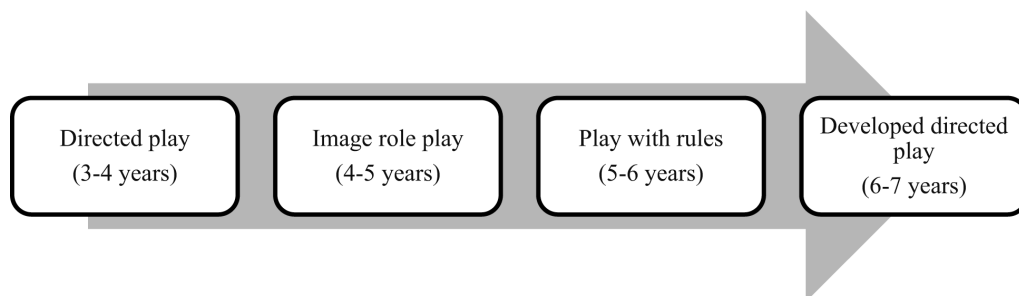


Fig. 1. Stages of play development by E.E. Kravtsova

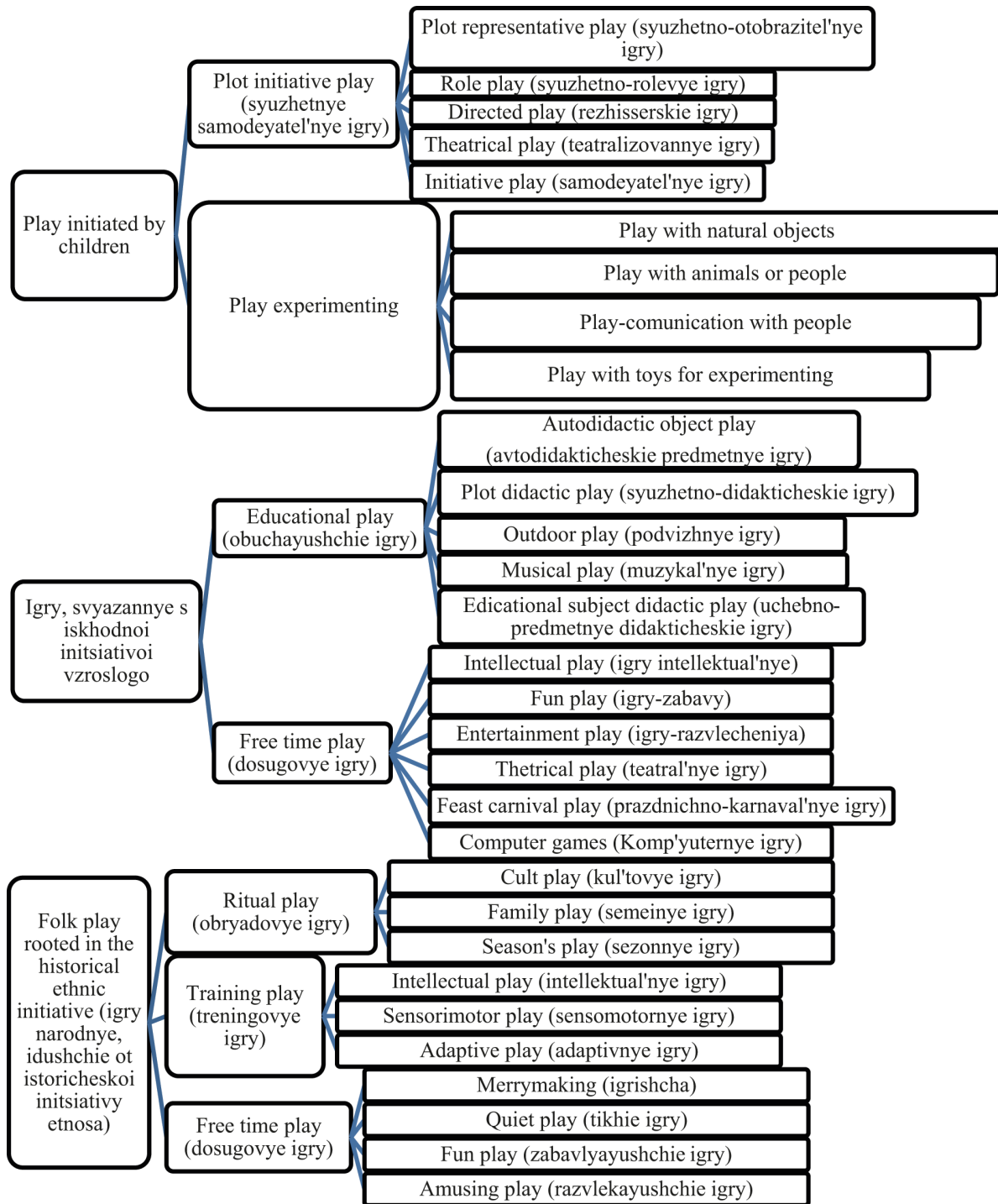


Fig. 2. Taxonomy of play by S.L. Novoselova

play and board play (podvizhnaya i nastol'naya) – and didactic play (didakticheskaya igra). Directed play (make-believe play, rezhisserskaya igra) is similar to role play (syuzhetno-rolevaya igra), however in the process of it the child interacts with people rather than with toys. The child distributes roles among toys, animates them and performs a certain plot. In dramatic play (igra-dramatizatsiya) children perform rules themselves, and usually the plot of the play is taken from fairy tales and cartoons. In play based on rules

(igra po pravilam) the actions of the participants are regulated by rules rather than by roles. In this kind of play there are winners and losers necessarily [10]. Importantly, E.O. Smirnova opposes play as independent activity of children, and play as a learning instrument. Using play methods for education (didactic play) presupposes not just the adult's initiative, but the adult's guidance of play, which, according to E.O. Smirnova, does not contribute to the development of the child's initiative and independence [11].

Generally, the analysis of the most well-known classifications of children's play reflects the differences in conceptual understanding of this phenomenon in foreign and in Russian psychology. Apparently, these differences would be also reflected in the interpretation and taxonomy of the phenomenon of digital play.

Approaches to the classification of digital play

The problem of classifying play, mediated by technologies, inevitably brings us back to the necessity of overcoming terminological confusion and, particularly, distinguishing between the concepts of digital play and digital game, to which N.N. Veresov and N.E. Veraksa draw attention [30]. As we have already mentioned [9], the English term "digital game" refers mostly to software. Its synonyms in Russian language are "komp'yuternaya igra" (computer game) or "videoigra" (videogame)¹. The term "digital play", which is also translated into Russian as "tsifrovaya igra", refers to play activity as a process, which presupposes interaction of players between each other and with digital media. In this sense, the Russian term "tsifrovaya igra" is used for indicating a specific type of play activity.

Quite often the concepts of "digital game" and "digital play" are used as interchangeable. Moreover, there are a few attempts of applying classifications, originally elaborated for digital games, (videogames) to digital play. These classifications are either based on the characteristics of video games as products, or build the connection between video games and psychological and personal characteristics of play.

The most elaborated classifications of video games are based on the criterion of genre. They form big clusters of video games: action, simulator, strategy, role play, adventure, puzzle etc. The criterion for indicating a game genre is based on such characteristics as role, tasks, plot, game setting etc. [5]. The advantages of genre classifications of video games are their universal character and accessibility for players, IT specialists, researchers, and users. Genre classifications also give the possibility of enriching and developing the existing classifications by indicating new types in different genres. At the same time in contemporary games the elements of different genres are often mixed, which makes indication of genres rather challenging [2].

Apart from genre classifications there are also psychological classifications of video games. E.g taxonomy by A.G. Shmelev is based on the qualities/skills of player, the development of which may be achieved by different types of game. The author indicates seven types of video games: logical, gambling, sports, military, persecution-avoiding games, adventure, international, simulators [17].

Topology of video games suggested by I.M. Kyshtymova and S.B. Timofeev is based on the principle of system and the ideas of the psycho-semiotic approach about the mediation of the processes of development [6]. According to the fundamentals of the theory, game represents a multi-level structure. The model of game is represented by seven levels with two of them – the level of game play and the level of setting – are indicated as basic, found in all types of video games, and five – as variable. The indicated levels consist of 34 components, which are assessed in scores according to certain scales. Based on the assessment of these scales, the play can be referred to one of the types. The psychological topology of video games, consistent with this structure model, may become the basis for testing hypotheses about the influence of computer games on the psychological peculiarities of players.

As an example of taxonomy connecting video games with different psychological and personal characteristics of players, we could also refer to the classification of players based on the criterion of motivation, suggested by R. Bartle. The author indicates four main motives of play: orientation on players or world, acting or interacting. According to the combination of these motives 4 types of players are distinguished: achievers, who are proud of their formal status in the game's built-in level hierarchy, and of how short a time they took to reach it; explorers, who are proud of their knowledge of the game's finer points, especially if new players treat them as founts of all knowledge; socializers, who are proud of their friendships, their contacts and their influence; killers, who are proud of their reputation and of their oft-practiced fighting skills [18].

All of the described taxonomies refer to adult players. Taxonomies which refer to child players are extremely rare, though under digital transformation most children get acquainted with video games in early childhood. As we have mentioned [9], one of the few classifications of video games for children was suggested by E.O. Smirno-

¹ Videogra (videogame) usually refers to a game with images "based on the interaction of human and gadget (computer, notebook, TV, tablet, smartphone etc.). Earlier videogames presupposed exclusively games on a special portable device – e.g. game console. Since contemporary videogames are multiplatform, the terms "computer game" and "videogame" are often used as synonyms" [14, c. 25].

va and E.R. Radaeva. Based on the genre taxonomy of video games, they suggested to use the player's role in the game as the main criterion for indicating game types. On the basis of the player's position they indicated three groups of games: above the situation (strategy, etc.), out of the situation (narrative, etc.), and in the situation (simulators, etc.) [13].

From our point of view, application of taxonomies that were originally elaborated for computer games (video games) to digital play is not always efficient, since children very often interact with the software in different ways, that were not designed by the manufacturers. The attempts to reduce the interaction with digital content exclusively to the ways, suggested by concrete software or gadget, fundamentally impoverish the variety of types of play activity, mediated by technologies. Therefore, we agree with J. Marsh, who argues that a different approach is needed for indicating types of digital play.

J. Marsh attempted to adapt classifications of the so-called "traditional play" to the play, mediated by technologies [23]. In the framework of a research project on digital play, J. Marsh with colleagues analyzed a few classifications of play activity and concluded that the most perspective for the description of digital play is the taxonomy of B. Hughes (table 1).

According to the author, *communication play* may refer to digital play with words, songs, rhymes, poems, as well as textual, audio- and video messages.

Creative play may be associated with creation and exploration of new objects in digital environments.

Imaginative play presupposes that children ascribe imaginary qualities to objects in digital contexts.

Deep play is connected with the child facing risky experiences or feeling as though they have to fight for survival in digital play.

Digital play in which children can take on roles of fantastic creatures (e.g. Spiderman, superhero etc.) or use an off-screen character in on-screen activities, can be attributed to *fantasy play*.

Dramatic play can be understood as digital play that dramatizes events, which children have witnessed in society, but in which they have not directly participated (e.g. TV shows). This could take place through play with avatars, or in chat rooms, etc.

Exploratory play involves exploring digital objects, spaces, etc. Children search for new information, or explore possibilities of virtual objects.

Digital *lokomotor play* involves movement (jumping, running, swimming etc.) in a digital context.

Mastery play suggests gaining control over digital environments or virtual worlds.

Digital play in which children explore virtual objects through vision and touch through the screen or mouse can be categorized as *object play*.

Recapitulative play suggests playing in digital contexts in ways that resonate with the activities of our human ancestors.

Digital *role play* presupposes that children can take real-life roles (doctor, driver, teacher etc.) in digital contexts. In this type of play virtual characters might be used or children can participate in play on-line.

Digital *rough and tumble play* takes place when avatars that represent users in a digital environment touch each other playfully, e.g. bumping each other.

Type of digital play in which social rules are developed and used, belongs to the category of *social play*.

Social-dramatic play involves the enactment of real-life scenarios that are based on personal experiences in a digital environment. This could take place through play with avatars, or by imagining that an on-screen virtual character is involved in such play off-screen.

Symbolic play occurs when children use a virtual object to stand for another object.

According to J. Marsh, all but two of Hughes' 16 play types were identified in the research on children's play with apps across the school and homes [23]. The two types of play not observed were recapitulative play and rough and tumble play. Rough and tumble play relates to physical contact, and whilst there are virtual replications of this in online play, such play episodes were not observed in the research by J. Marsh. Recapitulative play is a category of play that is difficult to discern as it often overlaps with other play types. B. Hughes argued that this type of play occurs primarily when children have access to nature, since it presupposes actions, typical of animals or ancient people (play with fire, knives, gathering plants, wearing masks, making tattoos etc.) J. Marsh assumes that recapitulative play did occur in her research when children were using the Minecraft app, as they built dens and created civilizations [23].

Adaptation of the taxonomy of play by B. Hughes to digital play by J. Marsh is presented in more detail in Table 1.

J. Marsh argues that the taxonomy by B. Hughes does not allow to embrace all types of digital play. The author identifies one more type of digital play – *transgressive play*, which she defines as "play in which children contest, resist and/or transgress expected norms, rules and perceived restrictions in both digital and non-digital contexts" [23, p. 9]. As an example of this type of digital play, Marsh refers to an episode where a child uses an app. This app suggests lining the alphabet blocks. In her research the child didn't follow the rules of this play, he

Adaptation of the taxonomy of play by B. Hughes to digital play by J. Marsh [12; 21; 23]

№	Type of play by B. Hughes	Analogue in Russian psychology (by E.O. Smirnova)	Description of the type of play by B. Hughes	Adaptation to digital play by J. Marsh
1	Communication play	Emotional-practical interaction of children	Play that enables children to explore, develop ideas and make things. Includes various language resources: making up rhymes, songs, new words etc.	Play that enables children to explore, develop ideas and make things in a digital context. Includes various language resources: making up rhymes, songs, new words etc. May include text messages and other ways of digital communication.
2	Creative play	Productive play activity	Play, in which children explore the surrounding world, learn about qualities of materials, textures, colors etc., discover new objects.	Play in which children explore and create new objects in digital environments.
3	Deep play	No analogue	Play in which children encounter risky experiences or feel as though they have to fight for survival.	Play in digital contexts in which children encounter risky experiences, or feel as though they have to fight for survival in digital contexts.
4	Fantasy play	Similar to role play	Play in which children can take on roles that would not occur in real life (e.g. Spiderman, superhero etc.)	Play in which children can take on roles that would not occur in real life (e.g. Spiderman, superhero etc.) This could be through the use of an avatar, but may also include taking on a character off-screen whilst they engage in on-screen activities in the fantasy scenario.
5	Imaginative play	Similar to role play	Play in which children pretend that things are otherwise (ascribe different qualities – e.g. a dog swims under water like fish etc.).	Play in digital contexts, in which children pretend that things are otherwise (ascribe different qualities – e.g. a dog swims under water like fish etc.).
6	Dramatic play	Play-dramatization	Play that dramatizes events, which children have witnessed in society, but in which have not directly participated (e.g. TV shows).	Play that dramatizes events, which children have witnessed in society, but in which have not directly participated (e.g. TV shows). This could take place through play with avatars, or in chat rooms, etc.
7	Exploratory play	Similar to experimenting	Play in which children explore objects, spaces, etc. through the senses in order to find out information, or explore possibilities.	Play in a digital context in which children explore objects, spaces, etc. through the senses in order to find out information, or explore possibilities.
8	Lokomotor play	Brings together elements of physical and outdoor play	Play which involves active movement (chase, hide-and-see, etc.), there are rules that might be introduced.	Virtual locomotor play involves movement in a digital context, e.g. a child may play hide-and-see with others in a virtual world.
9	Mastery play	No analogue	Play in which children attempt to gain control of environments (forest, mountains, rivers, fields), overcoming various obstacles (e.g. building dens).	Play in digital contexts in which children attempt to gain control of environments, e.g. over a virtual world.
10	Object play	Manipulating	Play in which children explore objects through touch and vision.	Play in which children explore virtual objects through vision and touch through the screen or mouse. They may play with the virtual objects.
11	Recapitulative play	No analogue	Play in which children might explore history, rituals and myths, and play in ways that resonate with the activities of our human ancestors (lighting fires, building shelters etc.)	Play in a digital context in which children might explore history, rituals and myths, and play in ways that resonate with the activities of our human ancestors (playing with fire or knives, gathering plants, wearing masks, making tattoos etc.)

№	Type of play by B. Hughes	Analogue in Russian psychology (by E.O. Smirnova)	Description of the type of play by B. Hughes	Adaptation to digital play by J. Marsh
12	Role play	Very similar to role play (“rolevaya igra”)	Play in which children might take on a role (doctor, driver, teacher etc.)	Play in a digital context in which children might take on a role. In this type of play virtual characters might be used or children can participate in play online.
13	Rough and tumble play	No analogue	Interaction when children are in physical contact, but there is no violence or aggression.	Virtual rough and tumble play occurs when avatars that represent users in a digital environment touch each other playfully, e.g. bumping each other.
14	Social play	Almost the same as social communication with age mates	Play during which rules for social interaction are constructed and employed (children learn how to manage, compete, help, assist etc.)	Play in a digital context during which rules for social interaction are constructed and employed.
15	Social-dramatic play	A kind of role play	The enactment of real-life scenarios that are based on personal experiences, e.g. playing house, going shopping etc.	The enactment of real-life scenarios in a digital environment that are based on personal experiences, e.g. playing house, going shopping etc. This could take place through play with avatars, or by imagining that an on-screen virtual character is involved in such play off-screen.
16	Symbolic play	Is used in role play	Occurs when children use an object to stand for another object (e.g. a stick becomes a horse).	Occurs when children use a virtual object to stand for another object (e.g. an avatar’s shoe becomes a wand).

raised the block up to the top of the screen and made it disappear, then released the block to bounce back on the screen and said, ‘Peek-a-boo!’. Transgressive play may thus be identified in cases, when in the process of play children try to use functions that were not originally established by the software developers.

Thus, the research by J. Marsh et al. demonstrates that “traditional” play classifications – particularly, B. Hughes’ framework – may be applied to digital play with certain revisions. From our view, application of “traditional” play taxonomies provides more opportunities in comparison with the application of video games’ classifications. At the same time, it is important to highlight that these frameworks require adaptation and revision if applied to digital play.

Some concluding remarks

Identifying types of digital play is one of the challenges for contemporary psychological and educational science. Facing this challenge is connected, on the one hand, with the further elaboration of the concept of digital play as a specific type of play activity, and, on the other hand, it presupposes reconsideration

of the existing approaches to the classification of play and their adaptation to play interaction in mixed reality.

Now it seems that classification of digital play in the framework of the Cultural-Historical scientific school is not yet regarded as a particular research task. In our opinion, the perspectives of identifying types of digital play based on the ideas of L.S. Vygotsky and his followers relate to the analysis of the peculiarities of the imaginary situation, which emerges when the child is interacting with virtual objects in the play process. We can also assume that, as any kind of play activity, digital play possesses structure and dynamics, which depend on the child’s age, the level of their digital competences and general play skills. Without studying digital play, one can neither speak about the peculiarities of the social situation of development in contemporary children, nor analyze the peculiarities of the development of their higher mental functions.

Identification of types of digital play, based on the ideas of the Cultural Historical Concept, would have principal significance for constructing developing child-adult communities and organization of children’s interactions with different types of digital content in different periods of childhood.

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