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*A II. Rákóczi Ferenc Kárpátaljai Magyar Főiskola
tudományos évkönyve*

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3MICT-TARTALOM-CONTENT

		
CSEHNÉ PAPP IMOLA-VINÁRNÉ BELLÁSZ ZSUZSANNA: <i>Új jelenségek a munkaerőpiacon: a munkaerőhiány</i>		11
R. FEDOR ANITA: <i>A kisgyermekes nők emberi tőkeberuházása a gyermekgondozási szabadság alatt</i>		23
		
ZHIGUTS, YURIJ-KUDLOTYÁK, CSABA-PALLAY, DEZSŐ: <i>Perspective Hardening Technologies Are Based on Laser Surface Hardening and Self-propagating High-temperature Synthesis</i>		37
VOLOSCSUK MIKLÓS: <i>Kárpáti Bioszféra Rezervátum. Története, nemzetközi elismerések, területi struktúrája, természeti és kulturális értékek, védelem</i>		41
		
AMBRUS JENŐ: <i>Hivatalos rendezvények protokollja</i>		47
		
SZUPERÁK ALEXANDRA: <i>A magyar nyelvű színjátszás fejlődésének lehetőségei Kárpátalján a rendszerváltás éveiben</i>		79
		
BÚS, IMRE: <i>Virtuality and Development: Philosophical, Aesthetic, Psychological and Pedagogical aspects</i>		87
КИШ, ЮЛІАННА: <i>Педагогічні аспекти діяльності дитячих інструментальних ансамблів</i>		97
NAGY BÉLA-KOHUT ERZSÉBET-MOLNÁR LÁSZLÓ-ABLONCI ANNAMÁRIA: <i>A természettudományi oktatás gyakorlatának és a diákok természettudományos érdeklődésének vizsgálata magyarországi és kárpátaljai tanárok és diákok körében</i>		105
SZERB GYÖRGY-SZERB BOGLÁRKA: <i>A szabadidősport-események helye a magyar felsőoktatásban és a Kaposvári Egyetemen. A sportesemények mint a vállalkozások, a közösségépítés és az egyetemi imázs építésének eszközei</i>		117
		
SZABÓ, NOÉMI: <i>The importance of cross-linguistic interaction in third language learning</i>		125
KACSUR, ANNAMÁRIA: <i>Motivation to learn English of learners of upper primary forms</i>		139



СЕМРАД, ОМЕЛЯН: *В.І.Вернадський – перший президент Української академії наук (до 100-річчя заснування НАН України).....* **151**



RÁCZ BÉLA: *Adalékok Beregszász mai területének legkorábbi történetéhez.....* **155**

DANCS GYÖRGY: *Közegészségügy és orvosi eljárások az 1831-es kolerajárvány idején Bereg vármegyében.....* **163**

SZAKÁL IMRE: *Az első világháborúban elesett beregszászi katonák emlékezete.....* **179**



II. Rákóczi Ferenc Kárpátaljai Magyar Főiskola ESEMÉNYNAPTÁRA a 2016/2017. tanév I–II. félévére..... **203**

II. Rákóczi Ferenc Kárpátaljai Magyar Főiskola ESEMÉNYNAPTÁRA a 2017/2018. tanév I–II. félévére..... **209**

VIRTUALITY AND DEVELOPMENT: PHILOSOPHICAL, AESTHETIC, PSYCHOLOGICAL AND PEDAGOGICAL ASPECTS

BÚS, IMRE

PhD, habilitation, College Professor, Vice-Dean
University of Pécs, Faculty of Cultural Sciences, Education and Regional Development

Computers and the applications of today's high technology can simulate reality so realistically that virtuality has become part of both children's and adults' lifestyles. However, it did not emerge with the computer applications, but with human thinking and part of that, the virtual conception of the world. This development can be observed on individuals, as well. Virtuality has an important role in the transition from babyhood into adult life, the elements of which can be described from different aspects. This study shows the development of virtuality through the examples of cultural, philosophical, aesthetic, then the psychological and pedagogical development of the individual with the help of some important studies.

ABSTRACT

A technológiai fejlődés mai fokán a számítógépek, illetve azok programjai már annyira élethűen szimulálják a valóságot, hogy a virtualitás a gyermekek és a felnőttek életmódjának is a része lett. Ez azonban nem a számítógépes alkalmazásokkal jött létre, hanem az emberi gondolkodással, és annak részeként a világ virtuális felfogásával. Ennek egyénekre vonatkozó fejlődési vonala is kimutatható. A csecsemőtől felnőtt emberré történő átalakulásában jelentős szerepe van a virtualitásnak, amelynek elemei jól leírhatók különböző nézőpontokból. A tanulmány a társadalmi fejlődés jellemző kulturális, filozófiai, esztétikai, majd az egyéni fejlődés pszichológiai és pedagógiai példáin keresztül mutatja be a virtualitás fejlődését néhány fontos munka segítségével.

ABOUT THE DEVELOPMENT OF VIRTUALITY

Virtuality and virtual reality are commonly used concepts, the interpretations of which have significantly changed. According to the former approach, virtuality means daydreaming and cloud-world, which is part of the childhood, whereas in case of adults, it is not regarded as serious but rather childish. Many people still believe that virtuality and reality are in contrast to each other, though different interpretations have already appeared.

Computers and the applications of today's high technology can simulate reality so realistically that virtuality has become part of both children's and adults' live styles. However, it

did not emerge with the computer applications, but with human thinking and part of that, the virtual conception of the world.

Although it appeared in a primitive form with some highly developed animal species, regarding its importance, it really started with human evolution. The ancient magic, cave drawings, second and third degree and language representation, and later on the development of societies, their cultural elements like writing, reading, arts, sciences, education have always represented the development of virtuality in people's life. Typography, radio, television, then the world of computer and internet has created higher and higher level of virtuality. This development can be observed on individuals, as well. Virtuality has an

important role in the transition from babyhood into adult life, the elements of which can be described from different aspects.

This study shows the development of virtuality through the examples of cultural, philosophical, aesthetic, then the psychological and pedagogical development of the individual with the help of some important studies.

CHARACTERISTICS OF DIGITAL VIRTUALITY

The meaning of virtuality in today's digital world is slightly different from that in earlier times.

Tales, stories, books, the radio, films, music, fine arts, religion, culture in general and even science, all of them constitute part of reality in its traditional meaning, or complement it.

Listeners and readers of stories, film viewers, participants of cultural events, religious awe, or those absorbed in scientific research and studies empathize with the actual experiences and activities. It is especially significant as the new technology facilitates the engrossment in virtuality and makes it very similar to physical reality. Thus, with the powerful effects on senses it provides absolute empathy in the virtual world. Illusion creating devices such as 3D glasses, helmet and clothing also help with the perception of reality. They can even provide interactivity with the possibility of actions, especially with the help of computer. Individuals can be the creators and participants of this world, where they can experience exciting adventures.

Novelty, the magical world and the opportunity to have contests stimulate them, especially children and teenagers with thirst for stimuli and adults who are more susceptible to that. Not incidentally, they have good fun and are not bored. It is very attractive for them to be

in a world where they can achieve much more with very little effort and can reach a higher level, in other words, they can be much more than in the real world with a lot of work.

Digital virtuality does not only foster games. There are several applications and their range keeps widening. The initial military applications are followed by civil usage. Virtual facilities penetrate the industrial, agricultural, commercial, medical, educational, touristic and apart from games, other entertaining activities. They cannot replace physical reality, but the simulation of certain situations and proceedings can provide help in several jobs. Users can learn, practise some work techniques and running machines with the help of life-like models. The usage of augmented reality technology proves that it is not the replacement of reality to be looked for in virtuality, but its complement. Its negative effects are also studied by several researchers, and filtering them out, virtuality can indeed make today's reality consummate. (Woodford, 2018)

ONTOLOGICAL, ETHICAL AND AESTHETIC ASPECTS OF THE CHANGES IN THE MEANING OF VIRTUALITY AND PLAY

In the archaic and partly in modern societies the things were real in their physical appearance and could be experienced, which are getting transferred into the virtual world today.

From the actual point of view, the real things can be considered anachronistic and the virtual things are modern. However, both of them are present in our life, complementing and consummating each other.

As virtuality is spreading in a wider scope penetrating deeper and deeper in the economy, society and lifestyle, play is going through changes in people's life as well. Picking out the play from virtuality, two kinds of aspects

can be seen: the duality of games played for our pleasure and professional games. In the ontological - anthropological relation of the experience of art, the following characteristics of the play can be underlined: Lack of commitments to goals, free movements, playing together, involvement of participants, i.e. the experienced game and the intergrowth of the playing person and the game activity. Furthermore, the use of symbols, the feast, the magic, i.e. the activities which mean some extra to the existence of man, who is always in need of complement are in the focus of the appearance of beauty. Thus the game can be connected to symbols, their digitalization and the feasts rooted in everyday life. (Bohár, 2001)

As Friedrich Schiller explains in his theory of play, man can live on two existence levels. One of them is his everyday life with the physical being, materials and needs. The other one is the thinking, freedom seeking man's aesthetic world, which is beyond physical existence in the transcendent being. The interaction of the two levels creates the world of play. The play relieves man of his duties and barriers of physical being, thinking and delivers freedom.

Man must endeavour to get into the higher level of existence from everyday life – without leaving his physical being, as it is his aesthetic life, which can ennoble his life. He also needs the excess of the material world, or rather the excess of power so that he does not have to struggle with subsistence and can get to the height of the aesthetic world and can play with advanced level, aesthetic games. Man can only have a fulfilled, high quality life if he plays. (Schiller, 1971)

In his play theory of cultural history, Johan Huizinga attributes culture-creating function to the play. In his view, it as one of the most important features of man's social and

advanced level play that it is not going on in the ordinary or real life, but in a different world of game.

This world has its own rules, which maintains its order and regulates the activities. It is separated from real life in both time and space and surrounds itself with mystery. (Huizinga, 1949)

The game is going on more and more professionally, where it is not man's non-substitutability and uniqueness that can be seen, but the substitutable and replaceable man functioning more and more perfectly as part of a more and more impeccable system. What is more, the game itself is only part of the system, for example, joy and social competences are fading in professional sport. From the aspect of cultural critique, the society has neglected the features of joy sources in games since the 19th century that is why professional behaviour lacks the carefree and voluntary nature of the game. According to Huizinga, the play can only create and improve culture if it remains fair. It means, on the one hand, establishing clear, transparent and public rules, on the other hand, considering the features of human existence (such as finality). Based on this, an alternative cultural approach can be formulated, in which people take responsibility for every living being, let them exist or support their existence. Apart from the works of mass culture, simulated games and their increasing aggressivity, we can conceive the play with its mentioned values that belongs to the part of the real world. (Bohár, 2001)

We can also interpret the issue from another side: the world of game is separated from reality, therefore it protects its participants from the dangers of the outside, strange world. This strange world, i.e. reality is awesome and the game means safety for us. (Moltnamm, 1972; Hankiss, 2006) We identify ourselves with the protecting world of game and love living inside

it. It is no wonder that we love it, as there is no pain, poverty and hopelessness, but carefree happiness. There are also rules and roles but we undertake them with pleasure because we create and keep them, behave and live accordingly, or we can even change any of them. In other words, we are the creators, shapers and almighty rulers of the world of game. It means a finer, more beautiful and better world than even the highest-level utopia. It is our own decision to cooperate with other people and agree on the order of the world of game. If we do not like it, we can build (imagine) another one. We cannot find any other freedom like this in the real world. We can make mistakes here without real punishment. What is more, we can start over with a clean slate any time. We can also combat death as we can start our life as many times as we like it. It can be seen in the interactive games as well, if we lose one, it is no problem, we can try it again. We can also involve some uncertainty in the security of the game, but it does not cause distress because we can create confidence and safety again with the help of our creative force. The game can always have a happy ending like folk tales. Building up or destroying and rebuilding, changing our world happen at our leisure. It seems that is the reason that we prefer games.

The relationship between tales and virtuality – for its significance – should be discussed in an independent study, now we are confined only to some observations. Tales are going on the level of thoughts, whereas games are going on the level of thoughts and actions at the same time. Children love tales, especially those made up by ourselves. It is no wonder that children love these stories as they can live through the events of their own lives again and shape them to the desired form. We preserve the tales as we read, heard as we know and like them. When we are given pictures and films, we can experience that the fantasy world of tales becomes rather poorish. We can

also use this experience for reading the stories before watching the films.

After the economic, social and the associated philosophical, aesthetic approaches, we will examine virtuality and especially its development in playing activities from the psychological and pedagogical aspect of the individual development.

PLAY, REALITY AND POTENTIAL SPACE

Cognition in psychology generally has two types. One of them is the objective recognition of reality with its objects and environment, the other one is based on personal experiences derived from subjective impressions, conclusions and generalizations. The first one involves the cognition of the objective reality and the second one features subjective theory streams.

Winnicott was the first to suggest that there was a third, a transitional interval between the subjective and objective world. In his view, there is a third world between the individual's inner (psyche) and the outside world. For the infant, the “non self” sphere, i.e. a transitional state develops at the separation from the mother with the help of a mother - substituting, transitional object. It is a psychological space between the infant and mother, where the infant brings outside objects in and endows them with his/her imagination. Later on, transitional phenomena take over the role and function between the inner psychical reality and the outside world, in an intermediary field, in a potential space. It is the field of getting experience, which will find shape in games, later on in deliration, arts, religion, science and cultural experiences. Playing has a specially favoured role for children. Playing is not part of the inner, psychical or the outside world either, it is realised in the potential field. It features a creative experience, and - with the mixture of subjective and objective

elements - the uncertainty, trust, and the movements with using the body and manipulation.

Playing in this transitional or potential space is going on in the following way. The play has a subject independent extension; on the other hand, it cannot be connected to only one element of the objective world. The play has a story, which unfolds in the fantasy world. For example, playing with dolls does not only happen in the corner with the toys, but on the level of imagination and in the chronological order of the events. It is not only playing children that we can see but all of them have the same playing activity in mind, and even an outside viewer can live through the play the same way. (Winnicott, 1971)

Therefore, the transitional object and the transitional space support the infant's individual development in the course of separating from the mother and in the first experiences of the independent being.

ONTOGENY AND FANTASY DEVELOPMENT

After the first separation, symbolic games facilitate the children's following developmental phase, which is described hereinafter.

The infant gains knowledge of the world through sensorimotor cognition. This stage is characterized by baby- and infancy syncretism and joint function of emotions and thinking. Then, there is a turning point in the development of thinking and playing: symbolic substitution. According to Piaget, intelligence works in two ways: accommodation and assimilation. With the help of accommodation, infants adjust to the surrounding environment; with assimilation, they integrate their experiences about the outside world into their own thinking. Assimilation prevails over accommodation in the symbolic play. When displaying inner representation, the child sub-

stitutes the inner image with symbols. Creative substitution always happens in fantasy and role-plays. The more poorish but down-to-earth idea is attached to the inner image, which is embodied in the object of the play.

In the first of the three stages of Piaget's play development theory, the activity appears in representation, the child attaches an object similar to the one in the original activity and can play the action with that. In the second stage, at the age of 3 - 5, symbolic combinations appear.

Children visualise not only one movement or object symbolically, but longer or shorter actions.

In the third stage, pre-schoolers use collective symbols and visualization becomes more accurate, and more children create the fantasy game together. They develop their common symbols from the individual symbol combinations as their common language and game traditions. They use and agree on these common symbols, with the help of which they can think collectively. They use their experiences and apply them to resolve new situations. They practise cooperation and continuously contrast fantasy with reality. *Dual mind*, or play mind separates reality from fantasy characteristically with *as if* and similar phrases. Rationality in plays emerges, i.e. reality elements are integrated in the imaginary world, like chronological order, sequence and continuity of events, details of happenings, indicating and picturing unimportant things - while keeping the storyline. In addition, social control is observed in fantasy plays. The feeling that *everything is possible and I can do everything* is confined by the others' fantasy desires, real experiences and the logic and objects of the game. Thus, fantasy and social control work together as well. Children of 5-6 years old play something that is impossible in reality but they are aware of that. Symbol crea-

tion initiates rule construction with children. Applying rules help them carry out activities that are impossible in real life. (Piaget, 1951, Gerő, 2015)

Creating and using symbols is a big step in child development and makes it evident that the play does not derive from fantasy but from the events of reality and the children's own experiences. They get from the reactions to the world's phenomena through adaptation to the shaping of the world. They assimilate their experience, fantasy, more and more advanced thinking, where elements of reality and fantasy are still mixing, but are also separated with the help of the *dual mind*, the *as if*.

PROCESSING OF EXPERIENCES IN GAMES, DRAWING AND PLAYING WITH PUPPETS

There are both similar and different ways of children's procession of their experiences in play and drawing. Fantasy works in play and drawing as well. The syncretic imagination flow of elements of emotions, moods and thinking results in a creative item of drawing or play. It involves the experience, fantasy and the excitement of creation. In the play, the *as if* is fulfilled continuously with the activity and the children live through the happenings. A drawing is a still image, where the child picks up a moment, a situation from the events. We can conclude the prequels and further happenings from the way of depiction, facial expression, scales, colours, i.e. the child displays a momentum of an experience. While drawing, they can also live through the course, and accompany it with different sounds, speaking and gestures. The play is going in three dimensions, where children manipulate with objects. Events appear in two dimensions in a drawing and manipulation is restricted to drawing movements. The theme of the play can be followed by drawings; their feelings, thoughts can be expressed in symbols, but rather as an illustration and

addition to the playing activity. A drawing can truly express experiences if the given emotion and thought require a different form from the play, i.e. it cannot be expressed by play. Children compress the events different in time and space in their drawings. Play becomes more and more interactive and social at kindergarten age, while drawing is an individual activity. (Gerő, 2015)

Besides tactile sensation, visual perception is the most important source of exploration for infants. They submerge to observe their environment. Visual experiences and visual memory are significant and a puppet show can provide the first big aesthetic experience. Puppets are different from the other spectacular toys and picture books because they come to life in the show. If an adult perform a puppet show for kids, it is an animated tale itself. If the kids play with the puppets, they display their fantasy *as if* they were the characters. It differs from the role-play because kids assign the activity to the puppet, and give a frame to their imagination. The style of play is influenced by the way of changing the original story. As the puppet moves and it is moveable, it is suitable for playing the actions. The puppet imitates a moving person and provides the experience of reality for the children. The unity of reality and imagination is created by the children with moving the puppets and talk in the role of puppets. Until they take the role of the puppet, they play with it like a doll. In the play with a doll, the kid is one of the people, either the mother or father, and the doll is another person, the baby. Children sometimes take the role of the baby too, they eat, cry etcetera, and change the roles, as they do not identify themselves completely with the doll. When they play with puppets, they invest themselves in the character, which requires more mindfulness to play the role than playing with a doll. It is possible as they can completely separate the role and the self. They often play their own life with the doll,

while reproduce a tale or make up adventures with the puppets. The development of children is shown when they take roles consciously, thus identify themselves completely with the puppet. It facilitates child development. (Gerő, 2015)

PEDAGOGICAL AS IF

It is virtuality that can mean learning in a broad sense in pedagogy, which is studied more specifically and applied in practice. The support of the virtual world has been involved in the pedagogical arsenal for a long time. The organized educational system has been applying it in the teaching-learning process and methodology. Drama pedagogy, theatre pedagogy and in addition to them, gamification provide new possibilities in modern pedagogy.

Pedagogical *as if* include two worlds, i.e. reality. The primary reality is the concrete, tangible living and non-living world, where humans are present with their physical being. The secondary reality is built on the primary one by creating a new world but only with the primary reality together, at the same time. The primary reality stimulates the secondary reality, which retroacts to the primary reality and forms it. This interaction provides the possibility of pedagogical application of *as if*.

Experiencing *as if* spontaneously works as follows. People have a dual relationship with the surrounding natural and social environment. On one hand, they adapt to the environment, on the other hand, they form it. The ratio of this is always changing according to the environmental morphosis and the individual's characteristics. If the ratio diverges significantly and exceeds the human tolerance range, it poses danger for the individual and triggers an automatic defence mechanism. This is the spontaneously experienced *as if*, which can ensure to swing adaptation and

formation back into the ideal trail. It appears genetically automatically with mammals, but in case of humans, it is the most complicated process. The *as if* a spontaneous memory process, where the personality – with a beneficial change – can be competent in reality to live in the ideal trail of adaptation and formation. The spontaneous *as if* supporting the healthy personality can be brought about intentionally. With well-designed application of primary reality elements the drama pedagogists can encourage their students to experience *as if* individually and in social forms as well, and can drive the process in the right direction.

In the course of the change in the interaction between the individual and natural - social environment our environment reflects who we are and what we are like. It shows our potentials, which are not always favourable. Unfavourable effects can be compensated with a drama play, which, in fact, is to establish relationships with the individual's environment.

The knowledge gained in the play or *as if* gets internalized in the personality. You can step out and back in *as if*. The drama pedagogist stimulates stepping out and back with objects, buzzwords and situations. The pedagogist's aim remains hidden and the child experiences the world indirectly. The pedagogist can take different roles in the process: dictator, democrat, an equal partner, an observer or provocateur. (Móka, 1993)

Gamification, the latest trend in the application of play in pedagogy belongs to the streamline that supports non-play activities with features of the play in several fields, among others, in pedagogical practice. It can be used in the shorter form of the learning process, in school lessons and individual learning as well. In a broader sense, the virtuality of the play itself can be the learning. Children – as well as adults – basically like learning and explor-

ing the world. If we do not implement it with compulsory, cut and dried, uniformly defined steps for everyone, but with the help of play, and children can learn according to their own needs, pace and interests, it will not be a constraint and suffering for them, but a pleasant activity. I believe that it is the best way of changing learning, which could help social advancement to a great extent.

TO THE COMPLETENESS OF REALITY

On the bases of the contexture, reality cannot be contrasted with imagination, not even with virtuality. The function and result of human intelligence is the apprehension of reality. For this, we need perception, observation, imagination, memory and complex thinking. Our apprehension of the world cannot be complete without them. We perceive, observe the objects and events in the world and imagine the responds to them. For help we recall similar situations from our memory and with thinking operations work out different possibilities to solve problems. Advanced level thinking – with the above mentioned advanced level functions together – is virtuality itself, which we use for life in the physical reality. Therefore, virtuality is not the opposite but - enhancing it to a higher level - part of reality.

It is especially known in researchers' circle where real and fictional worlds meet. One of such activities is the play, where the apparent contradiction of virtuality and reality does not cause problems since the players are present in both, thus they live in reality in its entirety with the help of the *dual mind*. After a while, children become aware that

they are present in both worlds and it does not disturb them. Distinguishing is clearer, therefore the mechanism of dual empathy is easier, which can be seen in adults' play as well. However, due to the old mindset, adults' play is often called a hobby, passion or leisure time activity because they are afraid to say the word 'play' or 'playing' to avoid appearing childish.

The fact that virtual reality in certain computer games is associated with addiction does not contradict this as addiction may develop in case of several activities if they are done in an unhealthy excessive way. The mixture of reality and virtuality is accepted in case of developing babies and infants in their care and education, saying that they are little kids. With their further development, they can distinguish the two worlds, which gives the possibility for the complex, conscious and fulfilling life in the two kinds of reality.

Virtuality has already an important role in the technological and economic sphere and its impact on social innovations, individual and social life can be felt as well. Virtuality research, its application and improvement contribute to experience a more complete reality and to the improvement of human life quality.

We outlined the function of virtuality in society and the development of the virtual and real world as a play in developing children. The study suggested some philosophical, aesthetic, psychological and pedagogical aspects, with the help of which the higher complexity of life might be better understood.

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ТЕХНІЧНЕ РЕДАГУВАННЯ: Олександр Добош

ВЕРСТКА: Вікторія Товтін, Олександр Добош

КОРЕКТУРА: Ільдико Гріца-Варцаба, Томаш Врabelь, Олександр Кордонець

ОБКЛАДИНКА: Ласло Веждед

УДК: Бібліотечно-інформаційний центр «Опацої Черє Янош» при ЗУІ ім. Ф. Ракоці II

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