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# THE AGE OF IMAGINATION: IMAGINING PLAY AND INVENTION: IMPLICATIONS FOR CREATIVE DEVELOPMENT

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## Abstract

This paper presents findings from The Irish Neighbourhood Play Study; a national, cross-border research project which recorded children's play patterns in Ireland during 2012. The study incorporated 1688 families across 240 communities. Data was established on the play choices of children aged from birth to 14 years. Multiple differentials were explored including socio-economic and geographical environments.

This paper focuses on the findings within imaginary play patterns for the full cohort. As such, it presents the play patterns for imaginary play in children aged birth-14 years. The findings are discussed in the context of developmental patterns with particular emphasis on the relationship between imaginary play and the development of creativity.

Creativity is a key concept within contemporary education. Its central nexus is problem solving in the face of uncertainty. Within a rapidly changing world, it is a key skill requirement for today's children as they grow towards efficacy within instability. The relationship between the development of creativity and children's engagement with imaginary play practices are explored in this paper.

Keywords: The Irish Neighbourhood Play Study, Play, Early Childhood Education, Imaginary Play, Pretend Play, Creativity, Creative Development.

## 1 THE PROJECT

### 1.1 The Irish Neighbourhood Play Study

The Irish Neighbourhood Play Research Project was a large scale research study which included almost 1700 participant families and 240 communities throughout Ireland. The research study was initiated, shaped and resourced by IT Sligo and Early Childhood Ireland to investigate the play choices made by children aged 0-15 years of age. Parental surveys and naturalistic observation were used to secure data on how children in modern Ireland aged 0-15 are spending their free time. An all-island approach was taken incorporating cities, towns and rural areas across a variety of socio-economic groupings.

Of the 1700 participant families, responses from 1688 families were gathered and collated. There was a wide spread of respondents from 18 geographic areas. There was also an even representation from the three socio economic (SE) indicators; affluent (30.5%), middle (35.4%) and disadvantaged (33.9%). 60% of respondents were from suburban houses surrounding large cities, medium sized towns and villages, 21% were from rural houses, 18% were from urban houses and 1% were from urban apartments. Despite the socio-economic spread of communities incorporated, the majority of respondents (61%) identified themselves as middle income earners, while 13% of respondents were unemployed. Just under half of all respondents (49%) had achieved a third level qualification above level 7 (Bachelor's Degree).

Of the responses gathered, the gender distribution comprised of 906 boys and 782 girls, all between the age of birth and 15 years. Over two thirds of parents who took part in this study were aged between 35 and 49 years. A further quarter of participants were aged between 25 and 34 years.

### 1.2 Methodology

The aim of the research was centred on the research question: What is happening in children's neighbourhood play in Ireland today?

Focusing on the best methods with which to answer this question, a blended approach was adopted that incorporated detailed parental questionnaires (phase one) and the construction of a tailored observational tool (phase two). Naturalistic observation (Geller, Russ & Altomari, 1986; Loucopoulos & Karakostas, 1995) was chosen as the most effective approach of capturing a snapshot view of neighbourhood play. The project's sequential design allowed for the collection of data from multiple sources to facilitate triangulation which enriched the project, as there are often differences between what people report and actual behaviour (Punch, 2001).

This was a descriptive study designed to uncover children's play patterns in modern Ireland. A large scale quantitative study was carried out, incorporating personal survey research (phase one) and structured observation (phase two). The study sought to uncover the extent to which children play outside, the types of play they are predominantly engaged in, the places children play, the impact of homework on play and the impact of the physical environment has on play. Participant families numbered 1688, across 240 communities. The 240 communities were spread across 18 geographical regions which incorporated 6 cities, six medium size towns and 6 rural areas. Socio economic difference, rural/urban differences, cross-border jurisdiction differences, age, gender and type of dwelling differences were all part of the analysis. Data collection comprised two phases; phase one, a large personal scale survey, was undertaken with 1688 parents. Phase two, a structured observation, was taken of 240 children at play. Data was collected during the months of June and July 2012.

The unique benefits of personal survey research, such as high response rates and control over the sample (Cohen *et al.*, 2011, p. 262), ensured that data was collected in a comprehensive and methodical manner. Data was captured in the respondent's home through the use of a structured questionnaire. It was felt that collecting data in this location would help the respondent feel at ease and facilitate a longer questionnaire instrument (Robson, 2011, p. 245). The questionnaire comprised 22 questions in total, the majority of which were closed ended and finishing with a small number of open-ended questions. The questionnaire instrument was refined and tested for validity and reliability during the pre-test and questions that were somewhat duplicated or ambiguous were revised (Robson, 2011, p. 265). The final questionnaire took approximately 20 minutes to complete. The population of interest were all parents of children aged between 0 and 15 who resided on the island of Ireland in June- July 2012. The sampling technique utilised was non-probability sampling, which is appropriate when access to a comprehensive sampling frame does not exist. The sampling technique employed was purposive sampling (Robson, 2011, p. 75); 18 regions across the island of Ireland were selected to maximise representation across geographical regions and socio economic regions. For Southern Ireland, the Haase-Pratschke Index of Relative Affluence and Deprivation (revised from Central Statistics Office, 2012) was employed, alongside the Northern Ireland Multiple Deprivation Measure (Northern Ireland Statistics and Research Agency, 2010) to inform selection of target locations. The final sample size achieved was 1688. The Statistical Package for Social Scientists (SPSS) Data was used to analyse data. Analysis was uni-variate and bi-variate in nature, counting patterns and frequencies, and exploring relationships between variables (Pallant, 2010).

The second quantitative data collection method employed was naturalistic observation (Geller, Russ & Altomari, 1986; Loucopoulos & Karakostas, 1995), which is commonly used to capture data on the behaviours of children. Observation was overt and non-participant in nature, and occurred in playgrounds and communal play spaces. While participant observation has its merits when researching children, children may feel uncomfortable communicating with unfamiliar adults (Punch, 2002), therefore it was decided to employ non-participant observation, as adults are unable to truly participate in children's social worlds (Hill, 1997; Fine & Sandstrom, 1988). Data collection was guided by 'The Children First: National Guidance for the Protection and Welfare of Children' policy (Department of Social Protection, 2011), The Convention on Rights of the Child (United Nations, 2010) and the Data Protection Act (Government of Ireland, 2003). Observations were short term in nature, approximately three minutes, which facilitated a focused data collection of children's play in the context of behaviours and the surrounding environment.

Data was collected utilising a simple coding system (Robson, 2012, pp. 337) which captured data on variables including age, gender, extent of peer interaction, type of play environment, play objects used, instances of interaction with nature and/or electronics and the type of play children were engaged in. The population of interest was all children aged between 0 and 15 who resided on the island of Ireland in June- July 2012. Corresponding with the survey research, the sampling technique employed was purposive sampling, external play areas within the previously determined geographical

and socio economic locations were observed. The final sample size achieved was 240. Data was analysed quantitatively; frequencies and cross tabulations were performed.

## **2 THE FINDINGS**

### **2.1 Levels of imagination-based play**

Within the study, fantasy or imagination based play made up 17% of all play observed. Of this 47% was solely based on imagination. Symbolic representation was observed in 9% of observations, 10% was cognitive emotional processing of an intense nature, 9% was the recreation of TV storylines. 5% was social experimentation with kinship groupings, power dynamics and hierarchies and 21% was construction for the purposes of imaginary play.

In the parental survey, imaginary play did not feature within the list of activities parents cited. However, games that children invent themselves was responded to by 44% of parents surveyed. This does not place inventive games among the top five play choices but it does affirm imaginary play as a common play activity. The researchers confirm that their interpretation of games children invented themselves included imagination based play. The data also shows that after the age of 8 there is a marked decrease in the instances of children playing games they invent themselves. This is developmentally in line with the age of decline within imagination based play. Findings illustrated that, most commonly, imagination based play naturally occurs within children's play when they are freely playing at home and within their neighbourhood.

### **2.2 Categorising the types of imagination-based play recorded**

The play choices made by children within the sphere of imagination based play, fit relatively neatly into six of Hughes (2002) categorised sixteen types of play. These are as follows:

Firstly, the 9% of play observations where symbolism featured is significant. Hughes identifies symbolic play as a distinctive type of play. Symbolic play is where a child engages in symbolic representation (Vygotskii & Cole, 1978) whereby they represent a crucial element of their play with an available object. An example, symbolic play may involve using a stick to represent a horse or using a rolled up blanket as a baby. This type of play allows the child to be in control. In symbolic play children experience a concept and gain increased understanding without feeling out of their depth as they may do if caring for a real baby or riding a real horse. Symbolic representation is a powerful function of the developing brain. It increases the brain's elasticity, develops a child's problem solving skills and supports their brain to develop greater flexibility. Symbolic play contributes to the development of the child's higher level thinking skills and reduces rigid thinking patterns while increasing flexible and responsive thinking patterns (Robinson, Treasure, O'Connor, Neylon, Harrison & Wynne, forthcoming 2018).

Secondly, socio-dramatic play is where children emotionally process real life events (MacCabe 2017). The social experimentation play and the cognitive emotional processing play could both potentially be categorised here. Socio-dramatic play is an intensely personal type of play and each player brings their own emotional agenda to the play (Hewes, 2014). In this way, a collaborative narrative is constructed by the players. The contents of this narrative can be socially based for some players with their agenda focusing on tasks such as parenting and friendship. For other players, more emotional experiences can be played out in this space; content such as rowing, fighting, family separation, bereavement, birth, moving house or going to hospital are common themes within socio-dramatic play. It is a very valuable type of play as it supports children to understand their world and process their experiences and emotions. Children also use socio-dramatic play to role play possible responses and measure how potential actions may be received. In addition, as a collaborative type of play, the narrative is co-constructed by the children, and therefore also encompasses a creative process. This creativity involves deep thinking and social skills including communication, negotiation and the merging of multiple content into a cohesive narrative (Robinson, Treasure, O'Connor, Neylon, Harrison & Wynne, forthcoming 2018). As such, it is often a collaborative as well as creative process and highly cognitively as well as emotionally stimulating.

Thirdly, the re-creation of external storylines (traditional or from books/television) fits well into the category of dramatic play. Dramatic play is play where the children play out something they have heard about or seen but haven't been directly involved in. If the dramatic play was themed on something deeply personal, it would be socio-dramatic play. Dramatic play, however, is where the

child noticed or was introduced to a concept which they wish to further explore. Activities or concepts which have been seen on television or heard on the radio are explored in this space. Seeing things within one's own community can also trigger dramatic play. For example, a child who sees a funeral procession will want to play with the idea of death in order to explore their feelings around this occasion and to understand it as a concept. A bereaved child will do this through socio-dramatic play where the experience is more intensely personal and incorporates deep emotional processing as well as the cognitive integration of new concepts (Lindqvist, 2003, Vygotskii & Cole, 1978)

Finally, the 47% of observations categorised as imaginary or pretend play could easily fit into one of the three remaining types of imagination play within Hughes' taxonomy (2002). These are; Pretend Play, Role Play and Imaginative Play. Within Pretend Play, everything the child longs to experience is played out. In Pretend Play, the child creates a world of make believe. Within this type of play, children become cats and dogs, superheros and fire fighters, wizards, witches, pilots and dancers. They can fly, they can drive. They are masters of their own limitless ability. It is a space where possibility and wonder are explored, where freedom is engaged. A space where confidence grows and the child experiences being in total control. It is a very fulfilling emotional space. It brings joy and pleasure to the child and the developing brain learns these emotions like a habit. It supports self-esteem and self-regulation as well as incorporating social skills in the collaboration and communication required to develop the play into a narrative with other children (Robinson, Treasure, O'Connor, Neylon, Harrison & Wynne, forthcoming 2018).

Role play is a form of imagination based play where the children explore aspects of life that are related to processing the rules and roles within social structures (Lillard, Lerner, Hopkins, Dore, Smith, & Palmquist 2013). Examples of this type of play include playing house by making food or sweeping up. This is different to playing house with a deep interpersonal narrative emerging, which would connect more theory on socio-dramatic play. Other examples of role play include answering the phone, driving a bus, doing the dishes and engaging in interesting tasks that are an everyday part of life. This is the first type of imagination based play and occurs before dramatic, socio-dramatic, fantasy or imaginary play. Role play is developmentally aligned with the advent of symbolic play. A very small child will pick up an object, put it to his or her ear and say 'hello', representing the object as a phone.

Imaginative Play is a distinct form of play which can be any of the imagination based play types but incorporates symbolic representation within a clear and cohesive original narrative (Ahn & Filipenko, 2007). Within imaginative play, symbolic play is therefore also present and integrated into the narrative of the play. The rules of life, however, do not apply within imaginative play. A player can be a car, a rock can be a baby, a horse that isn't there can be ridden, a dog that doesn't exist can be patted. This is one of the most powerful types of play for developing higher level thinking skills within children (Nicolopoulou, Barbosa de Sá, Ilgaz, & Brockmeyer, 2009; 2010). The symbolic representation builds mental flexibility and problem solving ability. At the same time, this type of play is founded on the construction of a narrative. This is a highly creative process involving clear and deep thinking skills (Vygotskii & Cole, 1978, Piaget 1999; 2013).

### **3 IMAGINARY PLAY AND CREATIVITY: WHY IMAGINARY PLAY IS IMPORTANT**

Imaginary play is an essential part of the process of developing creativity during early childhood. These highly important types of play have their roots in earlier playful interactions between parents and baby. As a play type, it evolves increasingly towards ever more creative play as the child becomes more adept at manipulating their environment as well as increasingly skilled at processing their emotions and recognising emotions in others (Garvey, 1977). Emotional processing is a key component of developing competency within creativity (Gardner 1990, Eglington 2003). Emotional processing is also a central element of many types of imagination based play (Singer, Singer & Ebrary, 2009)

Arnold (2003) and Bruce (2004) state that it is engagement with creative play that promotes children's developing abilities to think of new ideas, express them, identify issues and problem solve. Imagination based play is naturally a creative process. Bamford (2005) and Burke (2005) both write that the pleasure factor in play is a key component in children's learning and in the nurturing of their innate creative abilities with their desire to engage more and more with creativity and thus become more and more creative.

The element of 'pretend' within imaginary play is central to early creativity development (Wood & Attfield, 2005). Children weave easily between real and pretend worlds, real and pretend situations and real and pretend actions with real and pretend items that have real and pretend consequences (Wood & Attfield, 2005). They make symbolic transformations easily and freely; children will call a sheet a cape, and thus make it so. This process involves image making and image transformation, both being inherently creative skills (Wood, 2009). These creative skills are also naturally and inherently present in young children and utilised by them daily in their urge towards play that enhances their learning. Learning how to engage with one's creativity gives satisfaction and a measure of how deep a play session has been from a creativity point of view, is how satisfied the child is by the play experience. This personal motivation gained through original play is both stimulating and exciting for the child as they learn and grow within their creativity.

Imaginary play where children create original storylines is a practice whereby they develop their creative abilities. Children use this space to play with evolving ideas and inner fantasies (Garvey 1990). This is crucial to their ability to think originally and to communicate and express their originality (Bruce, 2004). The process that children go through while developing their play along imaginative lines is a very important one. As they become more socially aware and engage more and more in group orientated imaginative play this allows them to externalise their imagination by communicating with play mates on their evolving ideas on storyline development (Epstein, 2009). This process helps their ideas to grow and evolve along creative lines as they use each other's input to build a collective collaborative creative experience (Broadhead, 2004;2006).

Diachenko (2011) explains that there are sequential development stages of imagination in childhood. He further clarifies that the first stage appears around two and a half to three years old when imagination divides into *affective* and *cognitive*. Affective is when children reproduce their feelings while cognitive is when children reproduce actions. The second stage happens during the ages of four to five years when children start to apply step-by-step planning and verbalisation occurs. The third stage happens between the ages of six and seven when they start to use forward planning and articulate before action. Hence, an understanding of the development and progression of children's imagination is vital to appropriately facilitate their imaginative play as this can help children to, in their own personal way, understand and make sense of the world in which they live (Diachenko, 2011; Kudryavtsev, 2011).

Craft, McConnon and Paige-Smith's (2012) research on 'possibility thinking' further provides insight and understanding into the delicate balance and blend of collaborative input among children which combine to affect the imaginative play of a group. Such collaborative and experimental play brings confidence to the child as they see the evolution of their creativity through the expression of their needs and ideas. This confidence contributes to a growing willingness to engage socially with other children, and as such is important for reasons of social and emotional development as well as for reasons of creative development (Broadhead, 2004; 2006). This process of collective co-construction of an imaginary play narrative increases children's activeness within their creative development (Rogoff, 1990). As they practice their creativity within a landscape of imaginary play, they build on their experiences and therefore their evolving knowledge base (Pellegrini, 1985). Piaget, the eminent educationalist placed imaginary play at the centre of the emergence of mature thought due to the complexity of the creative processing that it involves (Piaget, 1999;2013)

Imaginary play is where the child is central to the evolving playline. The child is in control and confident in their mastery of their world (Sayeed & Guerin 2000). This is an empowering experience for the child, it is a space where they can problem solve creatively and a space where they are safe to take risks and watch alternative realities unfold. During the phase of childhood when imaginary play is strongest in the years 3-6 years of age, working with multi-dimensional materials is much more empowering than working with the one dimensional toys that branded companies often promote. Using objects such as sticks, stones, boxes, bags, wheels and pipes provides richer and more creative learning experiences than a toy that only performs a single function. The power of a young child's imagination allows for the illusory realisation of desires that would be unrealisable by a less imaginative being. In this way, Vygotsky's theory of play as a space where wishes come true can be seen in practice (Stetsenko & Ho, 2015, Vygotskii & Cole, 1978). Where a child picks up a stick and calls it a horse and puts a pillowcase around their shoulders and calls it a cape is a classic example of empowering imaginary play where the child's creativity is in full flow. Imaginary play promotes the use of materials that are open ended in nature. A good toy is 90% child and 10% toy as it allows the child to use it in countless ways and to be truly creative within their learning.

## 4 CONCLUSION

The right of children to play is enshrined in Article 44 of the United Nations Convention on the Rights of the Child. It is recognised as a learning vehicle for children; a space where they are empowered to work through the problems in their life and creatively solve those problems. Piaget highlighted the centrality of emotional processing within children's play (Piaget 1999; 2013) Studies by Gardner (1990) and Eglinton (2003) reiterate how important this is in creative development. Vygotsky (Karpov, 2014, Vygotskii & Cole, 1978) laid emphasis on the importance of the child's imagination in early symbolic play where they possess the ability to make a sheet a cape or a stick a doll simply by saying it is so. This intrinsic and important capacity to imagine is a central platform of creative development.

Play is central to creativity development. Imaginary play where the children engage in socially based inherently creative pretend and dramatic play is very important for creativity development. It is an empowering play experience where the child's creativity has free rein to unfold in an unplanned way that supports the child's emotional processing of feelings, experiences and on-going learning. It is fundamental to childhood and every imaginary play experience is wholly original, creative and unique. As such, its recorded presence within children's neighbourhood play choices, as was evident in the findings from this investigation, is heartening.

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## REFERENCES

- [1] Arnold, C. (2003) *Observing harry*. Berkshire, McGraw-Hill Education.
- [2] Ahn, J. & Filipenko, M. (2007) Narrative, Imaginary Play, Art, and Self: Intersecting Worlds in Early Childhood Education Journal 34: 279. doi:10.1007/s10643-006-0137-4
- [3] Bamford, A. (2005) Evaluating the impact of arts education: the key issues. UNESCO.
- [4] Bruce, T. (2004) *Cultivating creativity in babies, toddlers and young children*. London, Hodder Arnold.
- [5] Burke, C. (2005) *Creativity action research awards: a critical evaluation*. Leeds University
- [6] Broadhead, P. (2004) *Early years play and developing social skills and cooperation*. Oxon: RoutledgeFalmer.
- [7] Broadhead, P. (2006) Developing an understanding of young children's play: The place of observation, interaction and reflection. *British Educational Research Journal*. Vol.32, No.2, April 2006, 191-207.
- [8] Central Statistics Office (2012). The Haase-Pratschke Index of relative affluence and deprivation [online], available: <http://www.cso.ie/en/media/csoie/surveysandmethodologies/documents/pdfdocs/Haase,Pratschke,Report,on,Optimising,the,Sampling,Methodology,for,CSO,Household,Surveys.pdf>
- [9] Cohen, L., Manion, L. and Morrison, K. (2011), *Research Methods in Education*. Oxon: Routledge.
- [10] Craft, A; McConnon, L. and Paige-Smith, A (2012). Child-initiated play and professional creativity: enabling four-year-olds' possibility thinking. *Thinking Skills and Creativity*, 7(1), pp. 48–61..
- [11] Department of social protection (2011). The Children First: National Guidance for the Protection and Welfare of Children' policy [online], available: <http://www.welfare.ie/en/Pages/Children-First.aspx>

- [12] Diachenko, O, M. (2011) 'On major developments in preschoolers' imagination. *International Journal of Early Years Education*, Volume 19, Number 1, 1 March 2011 , pp. 19-25(7).
- [13] Epstein, A.S. (2009) *Me, you, us. social-emotional learning in preschool*. Ypsilanti, HighScope Press.
- [14] Eglinton, K.A. (2003) *Art in the early years*. London. Routledge Falmer.
- [15] Fine, G. & Sandstrom K. (1988). *Knowing Children: Participant Observation with Minors*, Qualitative Research Methods: Volume 15, London: Sage.
- [16] Gardner, H. (1990) *Art education and human development*. California, Getty Publications.
- [17] Garvey, C. (1977). *Play*. Cambridge, MA: Harvard University Press
- [18] Geller, E., Russ N. & Altomari, M. (1986), Naturalistic observations of beer drinking among college students, *Journal of Applied Behaviour Analysis*, 19 (4) 391-396.
- [19] Government of Ireland (2003) Data Protection Act [online], available: <http://www.irishstatutebook.ie/2003/en/act/pub/0006/sec0001.html>
- [20] Hewes, J. (2014). Seeking Balance in Motion: The Role of Spontaneous Free Play in Promoting Social and Emotional Health in Early Childhood Care and Education. *Children*, 1(3), 280–301. <http://doi.org/10.3390/children1030280>
- [21] Hill, M. (1997) Participatory Research with Children, Research Review, *Child and Family Social Work* (2), 171–83
- [22] Karpov, Y. V. (2014). *Vygotsky for educators*. New York, NY: Cambridge University Press.
- [23] Kudryavtsev, V. T. (2011) *The Phenomenon of Child Creativity*. International journal of early years education. Vol 19. Issue 1. P.45.
- [24] Lindqvist, G. (2003). The dramatic and narrative patterns of play. *European Early Childhood Education Research Journal*, 11(1), 69-78. doi:10.1080/13502930385209071
- [25] Lillard, A., Lerner, M., Hopkins, E., Dore, R., Smith, E., & Palmquist, C. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1-34. doi:10.1037/a0029321
- [26] Loucopoulos, P. & Karakostas, V. (1995) *System Requirements Engineering*, McGraw Hill International
- [27] Mac cobe, U. (2017). The drama in sociodramatic play: implications for curriculum and pedagogy. In Drama Australia <http://dx.doi.org/10.1080/14452294.2017.1329689>
- [28] Northern Ireland Statistics and Research Agency (2010) The Northern Ireland Multiple Deprivation Measure [online], available: <http://www.ninis2.nisra.gov.uk/public/Theme.aspx?themeNumber=137&themeName=Deprivation>
- [29] Pallant, J. (2011) *SPSS Survival Manual: A step by step guide to data analysis using SPSS*, Australia: Allen and Unwin
- [30] Piaget, J. (1999;2013;). *Play, dreams, and imitation in childhood*. London: Routledge.
- [31] Pellegrini, A.D. (1985). Relations between preschool children's symbolic play and literate behavior. In L. Galda and A. D. Pellegrini (Eds.). *Play, language and stories: The development of children's literate behaviour*. Norwood, N.J.
- [32] Punch, S. (2001) Multiple Methods and Research Relations with Children in Rural Bolivia, in M. Limb and C. Dwyer (eds) *Qualitative Methodologies for Geographers*. London: Arnold.
- [33] Punch, S. (2002) Research with Children: The Same or Different from Research with Adults? *Childhood*, 9 (3) 321-341
- [34] Robson, C. (2011) *Real World Research*, 3<sup>rd</sup> Edn, West Sussex: Wiley.
- [35] Rogoff, B. (1990) *Apprenticeship in Thinking. Cognitive Development in Social Context*. Oxford University Press, New York

- [36] Sayeed, Z., & Guerin, E. (2000) *Early Years Play: a happy medium for assessment and intervention*, David Fulton Publishers, London
- [37] Singer, D. G., Singer, J. L., & Ebrary, I. (2009). *The house of make-believe: Children's play and the developing imagination*. Cambridge, MA: Harvard University Press.
- [38] Stetsenko, A., & Ho, P. G. (2015). The serious joy and the joyful work of play: Children becoming agentive actors in co-authoring themselves and their world through play. *International Journal of Early Childhood*, 47(2), 221-234. doi:10.1007/s13158-015-0141-1
- [39] United Nations (2010) The UN Convention on the Rights of the Child [online], available: <http://www.childrensrights.ie/sites/default/files/UNCRCEnglish.pdf>
- [40] Vygotskii L. S., & Cole, M. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press
- [41] Wood, E. and Attfield, J. (2005) *Play, learning and the early curriculum*. 2<sup>nd</sup> Edition. London: Sage.
- [42] Wood, E. (2009) Play and playfulness in the early years foundation stage. In Wilson, A. (2009) *Creativity in primary education*. 2<sup>nd</sup> Edition. Exeter: Learning Matters.