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## The Challenge of a Research Network on Play for Children with Disabilities

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### Abstract

LUDI network aims at the creation of a novel and autonomous field of research and intervention on play for children with disabilities.

Play for disabilities is the object of a fragmented set of studies and it has given rise, in different countries and at different times, to niche projects (i.e. social robotics for autistic children, adapted toys for children with cognitive and motor disabilities, accessible playground areas).

This theme is not yet a recognized area of research because of two main factors: a) disability represents a set of heterogeneous functioning frames; b) play is not leading the educational and rehabilitation contexts.

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### 1. Play: as a means of growth and a right for every child

Play is an instinctive need for both humans and other species. It is not possible to force play, but neither can one grow healthily without playing.

Play development and play types – use of objects, symbolic, rule play – are determined by the incremental necessity of children to satisfy their evolving needs. Pedagogy and psychology recognized, since their initial

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studies, play as the privileged way of learning and models have been proposed to describe the relationship between play and child development.

Piaget [1] focused on the importance of play for cognitive development: human beings know reality through experience, that is, acting on reality. Play promotes both mental and symbolic activity and has two basic functions: to strengthen the subject's skills and abilities and to reinforce his/her ability to act effectively on reality.

Vygotskij [2] a socio cultural theorist highlighted the social nature of children's play and its role in enabling the social development of the child. Play activates the zone of proximal development (ZPD) becoming crucial for the growth of an individual. Even if the growth occurs in a social context, the child's progress is felt far beyond this context. Play is also used, in formal and non-formal educational settings, to build appropriate situations for adequate experiences. To be effective, these activities, called structured play-like activities, must lose their educational intent, or the child involved will not be interested.

### *1.1. Play as a fundamental right for every child*

Article 31 of the Convention on the Rights of the Child (ratification and accession by the General Assembly resolution 44/25 of 20 November 1989, United Nations) [3] grants the right of the child to rest and leisure, to be able to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts.

Play is the main cultural right of the child, a means of freedom, of expression, of exploration, transgression and relaxation. Caillois [4] categorizes these concepts in: agon (competition), alea (risk), mimicry, and ilinx (the thrill). Huizinga, [5] who was not the first to discover the value of play in explaining human behavior, believed that play precedes chronologically human society and culture.

In those terms play is also the main means of contact with other people, it allows the sharing of proposals, making experimentation and learning: play itself is communication and inclusion.

The same Convention also pursues the right to social inclusion, intended as a general framework for democratic societies and as a model of intervention that promotes everyone's participation, respecting possibilities and constraints, cultural stories and differences. Every nation is currently involved in the efforts towards general inclusion in societies, particularly with regards to education and training institutions and to legislative systems.

Play, as a major and irreplaceable activity in childhood, becomes necessarily the main vehicle for inclusion. IPA – International Play Association – is actively engaged in supporting the General Comment of the article 31: recommendations will include the lack of awareness of adults of play importance, inadequate provision of space, pressure for educational achievement, increase in structured and programmed leisure time, negative effects of technology, and the fact that children are rarely involved in planning for play (UNCRC article 12).

Even the World Health Organisation (WHO), with its most recent definition of health and disability – the International Classification of Functioning, Disability and Health ICF (2001) [6] – provides a reference model and a standard language for professionals and does not neglect the areas dedicated to fun and recreation (code d9200).

ICF-CY (2007) [7], the version of the Classification for children and adolescents, dedicates special attention to play, which is placed amongst the child's major life areas (d880) and is a fundamental component of well-being and development of his/her health.

## **2. Play and disability**

In children with disabilities, depending on the type of functional limitation, the spontaneity of play is lost and the activity becomes problematic.

- Children with cognitive and intellectual impairment, especially those moderate to severe, have difficulties in communication, social interaction, and the development of imagination. They hardly interact through play with their peers, preferring younger children, tend to propose repetitive tasks and rarely transfer the

acquired skills to other contexts. For many of them, the symbolic and rule phases of play remain inaccessible because too complicated.

- Children with pervasive developmental disorders have difficulty in participating in leisure activities; they are wary of interpersonal relationships and show little interest in what surrounds them or in the proposals of others, except for some objects that attract them continuously and intensely. Approaching, interacting and sharing an object of interest with these children becomes difficult and hinders the building a playful situation.
- A visual impairment causes a decrease in the quantity and quality of games. This results in convergence to activities that depend on preformed materials or on computer use since, for young visually impaired children, movement is not a spontaneous pleasure and sensorimotor play is of little interest. The visual component is crucial in many play activities and it requires appropriate materials to support measures for their participation.
- How children with motor disabilities see their play abilities affected depends on the severity of their functional motor limitations and from their association and interaction with other impairments. If the range of possible actions on the world and objects is very small the play activities proposed to them imply a strong component of passivity and rarely do these children have the opportunity to reach the more advanced stages of play [8], [9], [10].

Since play is also a window for children's cognitive development, children may be perceived as more developmentally delayed than they actually are, leading to reduced expectations on the part of adults. This often leads to providing them fewer opportunities to develop and demonstrate their cognitive skills, thus entering a vicious cycle that prevents children from developing to their full potential.

These difficulties often become more severe as the child's needs increase. Often the more accessible toys allow only basic game modes whereas those offering higher cognitive challenges are not accessible. The most complex phases of play, which pave the way to the hypothetical or strategic thinking, are often unreachable. This is not only due to the cognitive limitations but also to the functional impairments and the lack of adequate solutions.

Play does not yet have a central role in the professionals' daily practices in clinical and educational services. Rehabilitation activities and clinical objectives often become dominant and the importance of devoting time, space, and opportunities to promote typical childhood activities such as play, when it does not develop naturally, is largely underestimated. The commitment of families, professionals and educators appears focused on functional recovery and the systematic acquisition of loss-making skills. The timing and rhythms of rehabilitation leads to the adoption of a practice aimed at functional recovery of "what is missing" rather than listening and responding to the spontaneous proposals of the child with disabilities.

Furthermore, because of obstacles set by the functional limitations, the child's families are unable to decode and interpret disabled children's proposals. Educational contexts are not fully inclusive in every country, and even when they are, educational methodologies and practices that encourage play in a group of children with high differences of functioning are not frequent.

This may result in further deprivation given the importance of social sharing in peer play: in this sense, the inclusion of children with disabilities remains an unreach goal.

But these children have the right to play and without it they could have limited chances for development. The Convention of the rights of persons with disabilities signed at UN in 2006 [11], recognize this risk and dedicates the article 7 to the expression and protection of the rights of children with disabilities, emphasizing the need to guarantee them proper educational process in an inclusive and lifelong educational system (art. 24), as well as the right to participate in recreational activities, sports and entertainment, including those that take place in schools (art. 30).

This right may be threatened by many factors. The described functional difficulties are associated with the lack of adequate materials and suitable environments, the difficulty in identifying the right socio-educational contexts, the lack of specific expertise in the training of professionals and the lack of direction of parents and peers. This situation results in partial, or even total, deprivation of play and outlines how the interventions must be on many levels, ranging from the individual to the instruments and contexts.

The risk is that children with disabilities lose interest in the world around them and the will to demand their right to play, thus losing the opportunity to express themselves and explore the world despite the best efforts made by adults in family, rehabilitation, clinical and educational contexts.

### **3. Play for children with disabilities as scientific theme**

Play for the child with disabilities raises today a considerable scientific interest by different actors, but it remains the object of fragmented and not fully interdisciplinary research initiatives. The theme has interesting reflections in product development (toys and technologies) and in experimental research, for example in the Framework Programmes of the European Union.

Despite having given rise to a large collection of studies of excellence in different countries and periods, individual research projects and the results they obtained were confined to some specific niches. Just as an example, it is worth mentioning:

- studies related to the implementation of adapted toys or dedicated to specific disabilities, or accessible playgrounds;
- theoretical researches, related to the identification of methods to support the development of play or to evaluate the skills of children with disabilities - above all, the Test of Playfulness, introduced by Bundy in 1997 [12] - ;
- experimental research in advanced technology, as in the case of social robotics, to facilitate the skills of play and the emotional involvement of the child in inclusive settings.

The theme lies at the crossroads of three major areas of scientific interest, each with its own autonomy, studies and products: disability (impairments types, functioning characteristics), play (development, evaluation, rights), environmental factors (tools, contexts, play situations and scenarios).

These three areas reflect the main domains on which the ICF-CY model is built for the functioning of child and adolescent within their life contexts. If the different types of disability with their operational characteristics can be described within “body functions and structures”, play is placed in the domain “activities and participation”, while tools (e.g., toys, technology) and play contexts are described within the “environmental factors”.

In this way, it is possible to describe the interrelationships between the three domains, and highlight how the interactions could redefine the whole system: these changes should be aimed at an improvement of the overall health and well-being of the child. Children’s capacity of action and social participation in their life contexts should be extended, as well as the surrounding environment should become more adequate, thanks to a greater availability of effective materials, tools and contexts and also to an increase in the competence of adults interacting with them.

Each of the three fields of study gives rise, in a joint perspective, to novel in-depth research orientations that can be summarized as follows.

1. Children’s play in relation to the types of disabilities: it is a combination of traditional epistemological and methodological topics, within legal and psycho-pedagogical fields, concerning the child’s play with data from clinical and rehabilitation practices.

2. Tools and technologies for the infant play of children with disabilities: this field provides a comparison and discusses issues related to assessing the usability and effectiveness of tools and technologies.

3. Contexts for the play of children with disabilities: it will study in-depth all the aspects of context that may affect the quality, effectiveness and inclusiveness of the child with disabilities’ play, including natural and artificial environments, formal, non formal and informal educational contexts, interpersonal relationships among peers and play support by adults. Accessing the children’s voice will be a strong point of attention for this part of the research.

4. Methods, tools and frameworks for the development of the child with disabilities play: this area of research aims at developing all the partial studies conducted previously, with the goal of an exhaustive overview and a further dissemination of intervention models, training and policies addressed. This research is directed at professionals in health, education, industry fields, policy makers, and last but not least at the members of the child with disabilities' family.

#### **4. Why LUDI: the thematic network objectives**

The purpose of the LUDI network is to create general awareness on the quality of life of children with disabilities, starting from a crucial aspect, i.e. play activities, and initiating a process of cultural and social change that will break down the barriers that hinder the full exercise of their right to play and the realization of a true social inclusion.

The UN are alerted on the theme: the demand for a General Comment to article 31 of the Convention is specially addressed to groups of children requiring particular attention in order to realize their rights under this article: children

with disabilities, young girls, children in institutions, working children and children in deep poverty are some examples of these.

The General Comment will go beyond a formal analysis and will provide a detailed elaboration of the specific actions that governments need to take to ensure that all the provisions of Article 31 are fully implemented.

To achieve its purpose, so authoritatively supported, LUDI will establish a highly interdisciplinary scientific network, involving from the outline researchers from non-European countries. The participants will be coming from the following professional sectors:

- Clinical (paediatricians, physiatrists, child neuropsychiatrists), rehabilitation professionals (physiotherapists, speech and occupational therapists), developmental and educational psychologists;
- Educational: teachers, pedagogists, educators, operators of recreational and educational centers for children;
- Engineering and design;
- Industrial;
- Legal and policy making.

Alongside the breadth and variety of the areas involved, the LUDI network also has a further constitutive feature: the confluence between theoretical studies – aimed at the creation of models, methodologies, data collection and analysis, standard rules – and studies related to intervention practices in the fields involved, from clinical to the industrial one.

Consequently, the Action LUDI will produce materials aimed at a concrete impact at and on society, valuing and supporting initiatives for the widening of social inclusion.

Play for the child with disabilities, in fact, cannot be identified as a vehicle of social inclusion until this subject cannot be considered as an autonomous research area and not merely a speculative niche research field.

#### **5. Conclusions**

Granting this subject the status of a scientific and social theme of full visibility that collects, organizes and distributes all existing studies and support the development of novel researches, is the main challenge that the Action LUDI aims to address; this will be achieved through the following macro-objectives:

a) to collect, to systematize and to disseminate the best practices emerging from the joint effort of researchers and practitioners active in the field of inclusive play (competence and skills produced by educational researches and

clinical initiatives, know-how of resources centres and users' associations, development of theoretical models, design, implementation and evaluation of technologies);

b) to develop new knowledge through a collaborative approach related to all the aspects associated with the play of children with disabilities: methodologies, instruments and contexts for the play of children with disabilities, effective intervention models, recommendations, rule systems and guidelines for developing and evaluating the usability of products;

c) to develop training methodologies for intervention and interdisciplinary action based on matrix of competences to support the child with disabilities' inclusive play in each of the areas involved.

On a general level, the goals that the Action pursues are:

- establishing play as a milestone of research and intervention initiatives regarding the child with disabilities;
- spreading awareness about the importance of the theme and improve the quality of life and the inclusion of children with disabilities;
- ensuring equity in the exercise of the right to play for all children.

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