Experiential Design – Rethinking relations between people, objects and environments

• Paper / Proposal Title:
Promoting neuroplasticity throughout childhood by design

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• Abstract (300 words):
The brain is constantly being shaped, wittingly and unwittingly, by many environmental factors. Early childhood is considered as a period in which skills are easily acquired and brain development is very rapid. The human brain has an amazing ability, called neuroplasticity to reorganize itself by forming new connections between brain cells (neurons). Neuroplasticity refers to structural and functional changes in the brain in response to both intrinsic and extrinsic challenges. Neuroplasticity enables the brain to adapt to changes in our environment and to improve learning and memory functions.

Interaction with the environment plays a key role in establishing the neural network necessary for normal brain functions throughout life. Human beings develop their genetic properties by interacting with the environment they live in. During the earliest years of life, while critical brain structures are being formed, experiences of a child can have a long-lasting impact on his/her brain development. Therefore, the physical environment in the
early childhood and the materials that a child uses and interacts with, may have enormous impact on a healthy development.

Although there are many environmental stimuli around children nowadays, their contribution to the healthy development of a child is limited or unknown. Children are seen as a potential consumer in the modernist system and companies' efforts to survive promote populistic instead of realistic and supportive approaches. Individual differences and needs should also be considered while designing places and products for children to boost neuroplasticity, such as to promote creativity, meet their sensory needs, increase the capacity, by design. This paper and presentation aims to highlight proper design strategies for children and discuss being a child in today’s digital world. On the other hand this paper also aims to reveal the significant impact of the environment on us, especially in the childhood. By this way it is aimed to, draw the attention of designers who design the environment and products we use.

• Author(s) Biography (200 words each):

Gözaydinoğlu is a lecturer in Occupational Therapy Department at Bezmialem Vakif University in Istanbul, Turkey. She has BSc and MSc degrees in Physiotherapy and Rehabilitation. Now she studies Molecular Neuroscience for the fulfillment of PhD degree. She is also interested in orthotics and prosthetics, rehabilitation technology, learning strategies, neuroplasticity, stress management, ergonomics and strategies to promote healthy living. From Occupational Therapy perspective, her projects and studies are influenced by relations between person-environment-occupation (PEO Model). Besides her academic studies, she is interested in yoga and mindfulness trainings.

Tuğçe Anılcan is a 3rd year student in Occupational Therapy Department at Bezmialem Vakif University. After graduation, she is planning to pursue a master's degree in occupational therapy. She is interested in mental health, coping strategies, return to life, social participation, occupational justice. She researches the meaningful connections between cognitive behavioral therapy and occupational therapy. She is currently preparing for a project on life satisfaction in a refugee association. In addition, she likes to examine neurodevelopmental processes and study with neurodevelopmental disorders.

Kürüm is a 3rd year student in Occupational Therapy Department at Bezmialem Vakif University. She is interested in return to life, vocational rehabilitation, social participation, ergonomic environment, personalized adaptive device and rehabilitation technology. She especially like to do research on current technologies that can be used in the hand and upper extremities. For her graduation thesis, she is researching the necessity of occupational rehabilitation in patients with rheumatoid arthritis. In her researches, she
emphasizes concepts such as facilitating the return of people to daily life activities after injury, improving quality of life and improving activity performance.

Ümit UĞURLU, OT, PT, MSc (PT), MSc (BME), PhD (BME) is an Associate Professor and Directors of Bachelor of Science and Master of Science Programs in Occupational Therapy at Bezmialem Vakif University, İstanbul, Turkey. He also serves as a senior lecturer at Bezmialem Vakif University. His research interests include rheumatologic rehabilitation, ergonomics, hand therapy, orthotics, assistive technologies and kinesiology.