Chapter 7

Attention as the Base of the Development of Learning Supported by UXD Technologies

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ABSTRACT

This chapter was intended to emphasize the need of user-centered technology for the current generation of learners: “Multipotentielites.” The scenario suggests that fostering attention in Multipotentialites is required for effective learning being empathy and emotions the key to achieve it. Important concepts such as user experience design (UXD) and learning experience design (LXD) where analyzed here as pivotal aspects to envision both new educational/learning processes and the environments/technologies that support them. Under this context, the chapter summarized several perceptions from experts by highlighting those Multipotentialites' qualities and skills that should be strengthen and exploited during learning processes where attention appears to be the new IQ.

INTRODUCTION

The advances of the new technologies nowadays work like anthropological prostheses in the human beings, these amplify for good or for bad what already exists in each one of us. We are facing a paradigm change in terms of education and knowledge. We are in the process of abandoning the models based on the Gaussian’s bell and Intellectual coefficient and we are reaching the new challenges of personalized education that opens up a new vision towards the detection of what would be called the personal taste of each one, something like their individual brand, route by which it is arrived to detect the significant and non-anecdotal capacities that each one of us possesses (Zgurovsky & Zaychenko, 2016).

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Since this is a new factor in the challenges brought by the paradigm change, there is an essential ability to be able to develop these capacities, this ability is called Attention. Attention is a mechanism that is achieved when we direct our attention resources towards a specific focus at a specific moment (Nobre & Van Ede, 2018). This activity involves that the brain can only perceive what is in the focus of attention. It is also a limited resource and there are different processes at the time of the implementation of this ability and it requires particular and complex brain mechanisms developed especially in the frontal and parietal lobe, through which different ways in which our brain develops the various moments of attention activity as appropriate, for example there are different types of attention depending on the situation such as selective attention, sustained attention, divided Attention (Abdelrahman et al., 2019).

- **Selective Attention:** This is the one that is able to filter irrelevant stimuli to be able to perform the focus for example, when we want to hear someone speaking in a noisy environment.
- **Sustained Attention:** This one appears when we’re studying or playing an instrument.
- **Divided Attention:** In this type of attention, the brain is able to focus on more than one task at a time, for example when we’re studying and listening to radio.

This ability becomes the new frontier of knowledge and science, with the brain since the evolutionary era. Without attention there is no memory and without memory there is no learning. It is impossible to remember what we do not pay attention to. This tool is totally indispensable to perceive the world around us, if we go back to the primitive era, the attention was developed as a method of survival from the body brain mind unit, therefore, the one who pays first attention and evaluates survives and learns, being able to detect threats and rewards starting from the instinctive areas of the human being adapting it and developing this ability as a method of recognition evolution and adaptation to the environment.

According to (Posner, Rothbart & Ghassemzadeh, 2019), one of the most outstanding researchers in the area of attention, he argues, the human being has the ability to regulate thoughts, emotions and actions through “executive attention” in other words as thinking and rational beings, human beings have the ability to decide where we put the focus, through this, perform a self-regulation that leads to the choice of assertive thoughts and in turn, it leads us to the generation of emotions that involve us towards the focus of attention through the achievement of specific objectives and selected goals to obtain measurable and sustainable results over time through the regulations and variations that we are able to develop for the generation of knowledge. That’s why, it is important to highlight that the concept of intelligence is changing, which it conveys to replace the definition of the idea of the pedagogical system.

There are many definitions of intelligence. The American Psychological Association (APA) report on intelligence acknowledges that “individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought” (Neisser, et al., 1996). In this context, could be inferred that intelligence consists in the ability through which individuals are able to understand complex things and face certain complications through reasoning. According to the capacity of each person it is said that he/she is more or less intelligent than another.

With these new concepts, it should be noted that there are currently huge changes in the educational field and this change is leveraged by a proposed gear from a theory that has come to revolutionize the way in which learning and education are conceived and as a result, it involves enormously, the skill of attention (Abdelrahman, et al., 2019). This theory is the called **multiple-intelligences** and leads us to a change in the look towards the ways in which we learn and how we do it individually (Gardner, 2018;