The Effect of the Interaction between Enrichment Activities (Expansive, Deep) in Digital Content in Adaptive Mobile Learning Environments and Learning Preferences on Improving Executive Functions and Decreasing Attention Deficit Hyperactivity in People with Conduct Disorder

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In light of the crisis of the Corona virus encountered by the whole world, and in a trail to solve this problem, adaptive learning has become the best option for offering learning opportunities for all people. So, the current research aimed to investigate the effect of the style of enrichment activities (expansive-deep), in an adaptive mobile learning environment according to learning preferences, on executive functions and reducing hyperactivity in a group of children with conduct disorder. Group of the study consisted of 90 children (aged between 6 and 8). They were divided into 4 experimental groups according to the results of the learning preferences scale. The researchers depended on the technological development method including the experimental and descriptive methods. Procedures of the study included the design and development of the adaptive mobile learning environment, and the effect of the style of enrichment activities (expansive-deep) was investigated on the dependent variables (enhancing the executive functions, and lowering the ADHD for the study group). The measurement instruments included the executive functions scale (designed by the researchers), the ADHD scale (designed by Abdel Raqib Ahmed Al-Buhairi and Mustafa Abdel Mohsen Al-Hudaibi, 2022), conduct symptoms scale (designd by Magdi Mohammad Al-Dosuoky, 2013), and the socio-economic level scale (designed by Mohammad Mohammad Bayomy, 2000). The experimental treatment instruments included the adaptive mobile learning environment based on the enrichment activities (expansive-deep). The results of the research indicated the effectiveness of the adaptive mobile learning environment in improving Executive Functions and Reducing Attention Deficit Hyperactivity Disorder (ADHD) in a Sample of Students with conduct disorder. The results also showed that there were no significant

differences between the means of the four groups regarding the effect of educational preferences, and the interaction between them, on improving executive functions and decreasing Attention Deficit Hyperactivity Disorder, that can be attributed to the designed learning environment.

In addition, results showed that there were significant differences between the experimental groups in the executive functions and the ADHD that can be attributed to the style of the enrichment activities (expansive-deep) in favor of the deep style. Results showed that the first experimental group, exposed to the deep enrichment activities were more affected than the second experimental one. Based on these results, a group of recommendations and suggestions for further research were given.

Keywords: *expansive enrichment activities- deep enrichment activities-e-content-adaptive mobile learning environments- executive functions- lowering inattention disorder-hyperactivity- children with conduct disorder*