Gamification to Enhance Learning Using Gagne's Learning Model

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Abstract : Technology enhanced learning has brought drastic changes in the field of education in the modern world. In this study we explore a novel way to improve how high school students learn by building a serious game that uses a pedagogical model developed by Robert Gagne. By integrating serious game with principles of Gagne's learning model can provide engaging and meaningful instructions to students. The game developed in this study is a waste sorting game that can easily and succinctly demonstrate the principles of this learning model. All the tasks in the game that the player has to accomplish correspond to Gagne's "Nine Events of Learning". A quiz is incorporated in order to get data on the progress made by the player in understanding the concept and as well as to assess them. Additionally, an experimental study was conducted which demonstrates that game based learning using Gagne's event is more effective than a traditional classroom setup.