Modelling the player and avatar attachment based on student's engagement and attention in educational games

ABSTRACT

The Player and Avatar attachment help to motivate a student to strengthen their engagement in gameplay. The different types of avatar designs deployed in a game have an impact on students' engagements. The avatars are designed with different roles, wherein each role offers varying motivational effects on students' engagement. Several research in human and computer interaction have assessed user engagement and user attention in a computer or system application as well as in gameplay. Among the usual approaches to assess user engagement are using questionnaire and eye-tracking. Investigating the possible use of these approaches in determining the player and avatar attachment, particularly the attachment that associated with the various avatar designs and their effect on students' engagement are inconclusive and remains untapped. Essentially, studying students' engagement and attention perception while learning enriches one's comprehension about engagement in the education segment. As such, this study proposes a new model of player and avatar attachment based on the students' engagement and focus attention on the gameplay of digital educational games (DEGs). The model is developed follows a stepwise approach consisting component identification, relationship of the components, model development, and model validation. Several components were scrutinized, summarized, and developed into the model proposed in this study. A significant attachment can determine the avatar design that may influence a student's engagement in gameplay. Hence, this study offers several constructive recommendations for future avatars in game design for education purpose, which may validate the user's engagement based on his or her focus attention.