Interim Report

Paper 1: Gamification to Enhance Learning Using Gagne’s Learning Model

Authors: R Sreelakshmi, ML McLain, Abhishek Rajeshwaran, Bhavani Rao, R Jayakrishnan, Kamal Bijlani

Methodology Used:

Quantitative was used to evaluate an analysis on the students distributed to proceed with the testing. The testing was divided between enrolled students and successful students testing out the different learning methods. These learning methods consisted of Game-based Learning and the Traditional Learning.

Objectives for the Paper:

The objective regarding this paper was to study the difference between teaching a subject with the traditional learning method or a Learning-based game with the Gagne’s Model implemented The subject that would be taught would be in referenced to recycling, and the students results would then dictate whether the implementation of a game with the Gagne’s Model procedure holds a difference in how much criteria was learnt in comparison with the traditional learning method.

Implications:

This process was handled by first creating the game implementing the Gagne’s Model and securing the learning criteria. The researcher than recruited some volunteers and got the total finalized number of 20. These were then split into 10 each group to be tested for both learning methods.

Findings:

The results produced indicated that game-based learning always came up on top and proved that many of the students that used game-based learning performed better than the ones that used the traditional learning method. The paper shows a graph analyzing the difference.

Conclusions:

The researchers concluded that gamification of a subject does enhance learning and keeps the students interested while engaging them more into the learning criteria.

Paper 2: Analysis of Gamification Elements in the Virtual Learning Environment Context

Authors: Claudia de Armas de Armas, Isaac Guillermo Gonzales Vizcarra, Douglas Lima Dantas, Sergio Takeo Kofuji, Antonio Carlos Seabra

Methodology Used:

This research used the quantitative data gathering method. This was used to extract the information from a survey found after finishing the game which was then transformed into graphs depending on the figures.

Objectives for the Paper:

The objectives of the paper were to identify which of the gamification elements motivated the most people and to identify the ones that barely impacted the gameplay.

Implications:

The gamification elements were identified and then implemented into a game hosted on moodle. The survey was then handed out and the user would need to fill in the questions after playing the game in order to receive the needed results.

Findings:

The findings identified that the most effective elements were the progress bar and the ranking system showing the top-ranking players. While, the least effective element was the surprise elements.

Conclusions:

The researcher concluded that the implementation of many gamification elements can distract the student.

Paper 3: Gamification of a Software Engineering Course

Authors: Kay Berkling, Christoph Thomas

Methodology Used:

This research used quantitative data gathering techniques to receive results and have them transformed into graphs for analysis. The data within the graphs are dictated by opinionated factors given by students. Qualitative was also used to determine between positive and negative opinions.

Objectives for the Paper:

The objectives of this paper were to study the effects of different game elements ranging from Game Dynamics, Game Mechanics and Processes while taking in consideration the types of students taking part within this experimentation.

Implications:

The prototype consisted of a game built to commune with other students. The game would create a sense of competition in a working environment to motivate other students to keep working to keep up. In addition, multiple gamification elements were added to be used and given opinion on by the participants.

Findings:

Firstly, results were obtained identifying the types of personas the students had. These concluded of a graph built to understand reasons for playing and how much the students would player per day. The research then continues to highlight the motivational factor that effected the students most being relevancy to the learning criteria. According to the students the game played lacked task overview as well. The final finding was the qualitative measurement taken from the positive or negative comments left by the participants.

Conclusions:

The researcher concludes that grades were required and was described as an important measurement of the course’s success.

Paper 4: An Empirical Study of Gamification Impact on E-Learning Environment

Authors: Afifa Amriani, Alham F. Aji, Andika Y. Utomo, Kasiyah M. Junus

Methodology Used:

Quantitative data gathering was used to keep record of the class’s activity during their participation.

Objectives for the Paper:

The objectives of the paper were to identify the effect gamification and e-learning proceed to have on different examples of studies and examine their participation.

Implications:

In this case, the study was split into two classes where both groups would need to learn the material, do the task and the quiz related afterwards and then discuss it on the forum to understand their progress. This study would take around two weeks where both classes would get the chance to attempt the study with the game-based learning method while the other with the traditional method and on the second week they would swap.

Findings:

The researcher found out that applying gamification on the first week and then removing it would cause a significant decrement in the participation of the course.

Conclusions:

The researcher concluded that adding gamification on a non-gamified environment does not add participants while in the meantime removing gamification from an already gamified subject would decrease participation.

Paper 5: Design and Implementation of Fire Safety Education System on Campus based on Virtual Reality Technology

Authors: Kun Zhang, Jintao Suo, Jingying Chen, Xiaodi Liu, Lei Gao

Methodology Used:

Quantitative data gathering was used to understand the efficiency at which the students learnt how to operate a fire extinguisher on Virtual Reality and the quiz developed by the fire safety knowledge manual.

Objectives for the Paper:

The objective of the paper was to teach the participants how to survive a fire by giving them information provided by the fire safety knowledge manual provided from their government and teach the students how to operate a fire extinguisher with the aid of a Virtual Reality Simulation.

Implications:

This test consisted of three groups, one using HTC Vive another a VR system based on the traditional desktop and the last one on a textbook written to learn the safety procedures. At the start each of the groups would be using their own method to learn fire safety in sixty minutes and three rounds of learning process. After that the groups are tested in two sections being the virtual reality simulation to take care of the fire extinguisher and the quiz for the knowledge.

Findings:

Taking a look at the graph, the HTC Vive group tended to always be one step ahead of the rest while the group using the traditional textbook always came last. However, the results aren’t too far away from each other.

Conclusions:

The researcher concluded that a system such as this would help save lives in the future and improve each and every students fire safety skills.