Research Proposal

-Pranavsai Gandikota

In a time when technology is improving and there has been a shift from textbook based learning to e-learning, there have been several forms of e-learning that have come out with gamification of education being one form. This research aims at contributing to the fields of software development, educational technology and the gamification of education. With many apps existing at present such as "Duolingo", "Noun Town", "Quizlet Live" for language or vocab related learning, "Kahoot", "Blooket", "Gimkit", etc for trivia forms of learning, "Scratch", :"CodeCombat" for coding education, "Prodigy", "Math Blaster", "Dragonbox" for math related learning,  "GeoGuessr", "Mission US" for historical or geopraphy based learning and "BrainPOP Games", "Minecraft Education Edition", "Elevate" for general knowledge learning. The list goes on. Between all these games there are several linking elements which make them such popular choices for education purposes. Such elements include rewarding systems, a difficulty level and interact ability. What I seek to find is the connection between such games and what elements seem to be favored by students and teachers to find the most effective parts of a learning game. By understanding this, game designers, and companies that make learning apps would be able to incorporate such parts to help in student retention and output.

The method I have chosen for this research is a mix of surveys and interviews with archival research. The surveys serve to get primary data from students who have played such games before, and the archival research will serve to be the baseline for supporting my research given the prior in-depth research conducted by other official researchers. Since I will be studying the psychology behind educational games and game elements that are in games, my surveys and past paper research will also be aimed in that direction.

For surveys, I plan on using an online format to collect data from random students on campus. The surveys will have questions related to how games have affected them and what they found appealing in a game and how effective it was. If I am unable to get student responses, I will also back up my evidence with interviews with teachers who have used gamification methods in their classes. This includes several of my elementary school teachers who have given us games such as "Prodigy" for learning.

**The questions I plan to include in my survey are:**

- Have you played educational games before?

- Do you find it more engaging compared to traditional learning?

- What is your favorite game and what elements do you like about it? (such as points, story etc.)

- Do you still retain what you learned from the game played before?

- Do you prefer competitive games, collaborative games, or a simple story-based game?

- What features do you think make an educational game successful

- More yet to be added

    **Questions I might use for my interview include:**

    - How is your experience regarding educational games

    - Do you notice improvements in students?

    - What do you believe are the benefits or drawbacks of game-based learning

    - How do students respond to these games

    - More to be added

My secondary sources will be related to gamification in education for which I have found several articles of prior research which I can build upon.

I will make sense of the data I collect by connecting the dots between what I collect and presenting the trends that support my conclusion. For example, in a survey if there is a similar trend to most listed parts of a game which a student found useful, then with other evidence I find from other articles, I can draw a general idea as to a certain part being more preferred as to another.

Research Timeline:

Week 1 – Upon approval finalize the question and begin working with surveys and distribution

Week 2 – Work with archival research and connecting with surveys to find trends

Week 3 – Work on paper and presentation to present my paper

Week 4 – Finalize paper after revisions and polish my work