WRET3180 : MULTIMEDIA UNDERGRADUATE RESEARCH PROJECT

Adventurous Game for Education: Role-Playing Game Based

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ABSTRACT

This paper presents the outcome of the first stage of an ongoing research that deals with games integration in education. The main goal of my research is to see how games and gaming is in Malaysia’s education system. At the end of the research, a proposed game is developed. This game application is going to help reach the state goal with attractive interface, interactive environment and functional capabilities. Educators of lower-secondary level (Geography) can use this game as an interactive designed unit of instruction to supplement the traditional education teaching method for a more fun and sophisticated teaching style.

This research also explores the domain of which games benefiting the player and the student in acquisition of skill, knowledge and in medium as practical platform for learn knowledge.

The three main subjects that this research study are [1] how games affect learning concentration, [2] the integration between games and learning environment and [3] can games enhance the knowledge learn by student.

KEY WORDS:

Geography
Learning
Games, Educational Games, Role-playing games
1 CHAPTER 1: INTRODUCTION

1.1 Project/Thesis Title

Adventurous Game for Education (RPG-Based)

1.2 Introduction

Today teaching and learning has becoming more challenging for both student and educators. Exposure to the array of exciting entertainment every second making the young student easily bored when they are in classroom. Educators have been facing problems in gaining attention and interest of students. With the so many choices of entertaining thing to do enable by the advance of technology; online television, online multi-player gaming and all sort of thing over the net, student has become accustomed to the interactivity and fun application of doing things.

The conventional method of teaching and learning is no longer effective in order to impart the vital facts and skills foundation the student need for their future life. Due to this, educators realize that they need to employ technology more into their classroom without losing the real objective and goal of education system. With the development of the educational game application, new perspectives become available to help educators enhance the student learning experience and to be more competitive with what the entertainment industry offer; fun.
Games deployment in education is still new but proving to be much in demand as games provides the needed features of interactivity, fun, communication, critical thinking and also practice drill.

1.3 Problem Statement

Malaysia’s education system has used educational software as teaching aids since 2002. However, using game as educational software is yet to be done. With the declining interest and more exam oriented student produce year by year, it is becoming crucial to ensure that learning is embed in the student routine. These help the student in becoming a real knowledge community to the society and further help the advancing of nation in the future of challenging world.

With the help of today gaming and internet technology, there still hope to bring back the joy of learning into the classroom. To develop role-playing games, the research on the practicality of using games in classroom is fundamental. The acceptances of both students and educators need to be asses. There are also needs for finding out how gaming effect toward usual learning and teaching strategies. Educators that will use the games also need to have certain degree of knowledge in gaming. There is also need to monitors the students’ behaviors towards gaming. Due to this is it important that the games developed followed the required standard of teaching pedagogy.
1.4 Project Objective

This research is on how the gaming especially role-playing based enhance and affected the learning progress of secondary student. The outcome of research will provide information on better games integration into classes’ environment.

- To study games effect and how the used of gaming affect learning environment of teenage students.
- To develop an interesting and engaging games to be used as teaching aids in Geography subject of lower-secondary level.
- To assess the effectiveness of gaming in providing an in-depth understanding of related subject; using advancement in games level.
- To aid the educators during teaching and learning process whereby, the games offer a helpful tool as skills driller and medium of fact delivering.

1.5 Project Scope

In order to bring back the excitement of learning in the classroom, educational game software will be introduce as teaching aids. This game is based on the role-playing gaming. The game will incorporate the required skills student need to master and the facts and theory that need to be understand and comprehend into an interesting storyline. Where the storyline will bring the student; who will choose the character provided, and the teacher; the mentor or clue giver, in solving the problem and challenge arise as they play the game.
The student will be assessed upon completion of the challenge either within a time limit or by fulfilling the limitation placed upon the challenge. Usual method of teaching can also be used where the teachers remark and give advice on the correct way to evaluate and applying the needed skills and fact during the game play. Student may form a group, for teamwork, or play individually for personal assessment.

1.5.1 Target User

The users of this game are the student and educators of the subject Geography. Students are mainly around 13-17 years old. Students and educators must follow the current syllabus provided by the Ministry of Education Malaysia as stated in the KBSM documentation. The games will focus on the Malaysia’s maps, climates and general information as stated in the syllabus.

1.5.2 Technology

The final product of this research project is a game. The game is to be developed using the following platform:

- Adobe Flash Creative Suite 3 – this version of Flash development platform is able to integrate the newest version of ActionScript 3.0. This particular version are also most updated but not up to the standard of Creative Suite 4 package.
ActionScript 1.0 & 2.0 – this is due to my knowledge encompasses ActionScript 1.0 and 2.0 only. The newest version of ActionScript 3.0 more capable however, need more time to explore and getting to know the code structures.

Windows XP Professional SP3— the platform that Adobe Flash been installed, my personal laptop current platform.

It is then able to be play as .swf application stand-alone or in web browser such as Mozilla, IE, Opera or Chrome.

1.5.3 Environment

Game application will be used within the classroom of any school that deploys the Malaysian’s Education Syllabus of Geography. During games usage, it is advisable that an instructor of the subject or an educator with minimal experience of gaming be available. Language to be used through out this game is English as it provides wider audience than Bahasa Malaysia.
### 1.6 Project schedule

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1.1 Table 1.0: Milestone schedule for Games
1.7 Expected outcome / Benefits of the project

This project will bring upon the Geography subject as well as other subject aside from Sciences and Mathematics its due attention. Moreover, the research will also bring to light the advantages and how appealing games and interactive tool as educational aids.

The end on my FYP, it is expected of me to produces the said example of game as to be used as teaching aids. The game produce must qualified the said objective and be able to also performed the basic game characteristic.

1.8 Research Background

This research was done in order to find out how the role-playing gaming can be integrated into classroom environment of learning. The development of the games will focus on students at secondary level education and to be use in Malaysia as the subject and syllabus will followed the Ko-kurikulum Bersepadu Sekolah Menengah. Target user of this game is mainly around 13-17 years old. This age group is mainly students between Form 1 to Form 5. Games will specifically focusing on the Malaysian topography and local climate.

Educational game is game that is developed with intention of educating the user of a specific subject or area of interest. The common types of games include the board games, card games and video games. Role-playing games can be categorized as video
games. From Wikipedia, an educational computer games can be defined as an electronic medium, equip with all the gaming features and intended for educational outcome for a specific target of learners. Games aid the development of the skill and proficiency where users are allowed to interact and manipulate objects.

Role-playing gaming is game where the participants assume the role of fictional characters. They will decide upon the action and behavior of the character they play. The success and failures are determined by a formal system set of rules and guidelines. Role playing games is differ from video games or other games in that they stress more on social interaction and collaboration while the other more emphasize on competition. Action on the participant’s part will shape the outcomes and direction of the games.

Learning is one of the most important mental functions of human while in social perspective, learning is the goal of teaching and education. Learning is usually goal-oriented and requires motivation from students. Pedagogy of learning is the activities of educating, instructing or teaching. This refer to the whole context of instruction, learning and actual process involved in it. In correlation with the activity, the educators or instructor own philosophical beliefs of teaching are governed by the student background knowledge and experiences, current situation and environment as well as the learning goals set by both teacher and student.
Research is also about the effectiveness of game as teaching aids. Usage of this game will be under supervision of the teachers or educators involved with subject or with the targeted student. An effective teaching aids will enhanced the capability of the educators as the main person in relaying the knowledge not overwhelmed them (educators). The games developed must be able to let interaction between educators and student for a practical and efficiency of teaching strategies; no static or one-way classroom.

Game that is developed also must have the capabilities to induce critical thinking and impart the important key point of the subject without losing its fun environment. As it is a role-play game based, an interesting storyline must be used to deliver the objective of learning, the facts and the skills students required to know, understand, develop and mastered. The pace of the game can also be used as an assessment of student comprehension and understanding.

1.8.1 Literature Review

Games where people pretending or assuming the role of a fictional character. They then have the ability to determine the actions of their character based on their characterization\(^3\). RPG usually has highly developed story and setting. Key features of games in this genre are the character (play by a person) will develop as they advance in the game in their ability and power.
1.8.2 Related Research

Games and learning become more in demand especially in United Kingdom and United States. This increase of interest is due to several successful deployments of games into classroom in which result in a good response and result both from the student standpoint and the instructors. For example the Oregon Trails, a game develop for educating the historical event proved to be relevant despite been built on the 1980\textsuperscript{(12)}.

One of many hurdles in implementing the games in classroom is the adaptation of technology and entertainment specific product into being more educational. There are still a road not thread in breaching the gap between the educator expert and the game developer. Even though researchers like Steinkuehler\textsuperscript{(13)}, research shows effort in narrowing the bridge.

Educational games developed must fulfilled the right teaching pedagogy so to not forgotten the main goal of such technology being implement into classroom. The goal is to bridge the differences of education and the fast-paced technology world without sacrificing the main purpose: teaching, educating and learning process, imparting the necessary facts and info of the upcoming world to the young mind.\textsuperscript{(14)}
1.9 Conclusion

The research of games and gaming in Malaysia education system shows that despite the rising trend in educational games, Malaysia is still falling behind others. Our education system by far only use intended software application, which mainly focused on Sciences and Mathematics subject. A lot of research has been done in educational field outside Malaysia shows a big potential in games as an educating tools.

The interactivity and problem solving in gaming can be utilized for a better and successful learner production. As learning and teaching goes in both directions, gaming provides an excellent field for students and educators to share their knowledge. However the gaming industry are still not equip with the right teaching pedagogy as the educators about games designing. Educational games, especially in Malaysia are still lacking and pure gaming itself may pose a threat towards foundation of valuable learning if implemented without proper guidance.