CPU6001 Major Project - Terms of Reference

Student Name: Student AAA

Supervisor Name: Supervisor BBB

Student number: 9999999

Email: aaa@bolton.ac.uk

Project Title: An investigation into pedagogical theories in the development of web based learning aids to help improve key stage two children's learning output.

Date of production: DD/ MM / YY

Version: 3.0

Background

From September 2014, all primary schools within the United Kingdom are obligated to teach a foreign language (DFE, 2013). With this latest implementation, many primary schools across the country will not have adequate teaching material to educate a foreign language. The web based learning aids that will be produced at the end of this project should have long-term affects on the future teaching techniques and methods.

It is well renowned that children of all ages like to play computer games in their own time as well as during school hours. The majority of primary schools within the United Kingdom do not utilize games as a learning technique however a high percentage of children believe incorporating games within any subject will make it more interesting and enjoyable. One of the many reasons games are not being implemented within an educational environment is because of the lack of knowledge and use of games from teachers themselves (Sanford, 2006). This may be true, as the majority of primary school teachers have not been brought up within a gaming atmosphere. However another reason for primary schools not implementing educational games within their teaching resources is simply that the learning aids are simple boring and unexciting.

Games today are widely recognized as being on multiple platforms and devices educating individuals in a range of topics but mainly providing enjoyment. Capturing this market and mentality towards games has provided great sustenance in recent findings involving technology for education. Recent studies outlined by (Pitchford, 2014), found that learning performance increased dramatically over an eight-week period. Children using a mobile application on an Apple IPad teaching mathematics increased their learning performance considerably compared to results from traditional teaching methods. These results may stem from the excitement and interest in the new device as well as the design of the mobile application. Nevertheless the results may have been developed from the psychology and specific development of the games to meet the certain individual's needs.

To work and retain information at an optimum level learning styles and models have been produced that recognise different individuals learning preferences and strategies. These areas of study have found that certain parties retain and learn information far easier when the information presented is in the form of pictures, group discussions and even independent study. Recent studies from (Fleming, 2001) highlight that an individual falls into one of four different categories that underline techniques that help this type of person learn successfully. There are other models that follow this particular pattern by labelling a persons learning ability from four different groups (Mobbs, 2003). However other psychological areas of study such as the Kolb's model have found that everybody learns within a cycle of four independent stages. (McLeod, 2010).

Grabbing the children's attention early can be beneficial within a teaching situation. If this interest and desire to learn is not apparent at the beginning the individuals learning ability will be affected long term. A recent study from (Rosas, 2003) found that a child's attention increased and the overall class disruption decreased when an educational tool was introduced. However when the class was not introduced with the educational tool it had the complete disruption increased.

It is often perceived that games hamper an individuals learning ability however from recent studies it suggests it actually improves it. Nevertheless many educational games fail, as they are boring and do not grab the attention of its target audience. Furthermore many institutes simply do not implement educational games into their teaching programmes, as they have no experience with playing any type of game. As technology develops rapidly the younger individual is becoming naturally aquatinted with the gaming environment.

This study will develop a collection of web based learning aids to fulfil a potential gap within the educational resources market however it should make new developments in new teaching practices and change the pervious perceived view of using games for teaching purposes. In addition this study would like to identify if a link exist with adapting and developing the web based learning aids to meet the requirements of the different learning styles and models.

Overview

With the collaboration of Cyber Coach Limited, this project aims to produce a series of web based learning aids for each topic within the subject area French. Furthermore this project aims to make in roads in discovering the impact games have on academic learning. Also this project may highlight the association of the web based learning aids and the learning styles of the individuals using them. If the games have been tailored to meet all known learning styles it would be hoped that the learning performance of the key stage two children would increase. To obtain results three primary schools within the Greater Manchester area will be used to conduct several examinations. Three classes within each school will be split up into two separate groups. One group will be taught using conventional teaching methods whilst the second group will be taught using the newly developed web based learning aids. From this the results should highlight that an individual using the web based learning aids actually improved their overall learning performance.

Objectives

1. Investigate the different learning styles, testing methods and pedagogical theories used within an educational environment.
2. Research and evaluate current French games readily available within the educational environment.
3. Conduct a requirements analysis of the proposed web based learning aids by establishing meetings with primary school teachers with the aid of a built prototype.
4. Design, implement and test the web based learning aids.
5. Research and evaluate the testing strategies used to measure different learning styles and learning output performance.
6. Design, develop and conduct examinations of the use of the web-based learning aids compared to the use of traditional teaching methods within three different schools.
7. Review and evaluate the results gained from the examinations.
8. Finalise and conclude project findings.

Constraints

- The end product must be a web-based game using JavaScript as the main programming language in conjunction with the use of a software package called Hippo Animator.
- The web-based games must be compatible for all operating systems and Internet Browsers.
- French must be the basis of the web-based games.
- A unique game must be produced for each topic within the French subject.

Resources

As Cyber Coach Limited is sponsoring this project, many of the resources that will be required for the implementation and development of the web based learning aids will be provided by this establishment. Furthermore the implementation of the web based learning aids have to be constructed using a in house software package called 'Hippo Animator' with the use of the programming language JavaScript.

Furthermore as the research will be involving primary schools the necessary background checks will have to be conducted which may cost in excess of £52.

Reporting

Regular meetings will be conducted with the project supervisor XXXXXXX every second week to report progress on the project.

A supervisor-meeting log will be created which will record information about the meetings that will be conducted.

Project Sponsor – AAAA
Project Supervisor – Supervisor BBB
Tutor – Tutor CCC

Bibliography

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