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Developing a Culturally Specific E-Learning Website

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Abstract

The development of culturally influenced websites for e-commerce has a great deal of research associated with it. Not a lot of work has been done on culturally specific websites for e-learning. This paper will explore the theories of Hofstede, Hall and others as well as the web prototype theory of St Amant in the development of such sites for Singapore, Malaysia, Indonesia and Dubai.

Sites for these countries have been developed for the Faculty of Informatics and student responses have been surveyed. It is felt that students would perform at a higher level if the e-learning interface was designed with their culture in mind.

Introduction

“We can recall undergraduate lecturers who for one hour would talk incessantly, without breaks, variation or interruptions. The lecturer appeared oblivious to the theatre the paper planes or the noise and student boredom”: (Hart and Waugh, 2000). The type of educational practice described by Hart and Waugh is, hopefully, a thing of the past. Although the desire for improved pedagogy has been the driving force behind much of the change in university and tertiary education, information technology (IT) has also played a significant role.

Technology has led to changes in the way Universities worldwide conduct their presentation of information to students as well as research. We have seen increasing numbers of students, new courses and subjects, plus new ways of teaching. The problems associated with the use of electronic delivery both on and offshore are many and varied. There are technical questions about bandwidth, and the availability of computer hardware in developing countries. More importantly, there is the question of whether the content/ style /interaction used for onshore course delivery at a distance is suitable for offshore course delivery. In particular, does this type of electronic course delivery suit the cultures of the people in partner countries?

Cultural has many definitions, among them the Samovar and Porter (1994) one which refers to the cumulative deposit of knowledge, experience, beliefs, values, attitudes, meanings, hierarchies, religion, notions of time, roles, spatial relations, concepts of the universe, and material objects and

possessions acquired by a group of people in the course of generations through individual and group striving. Gudykunst and Kim (1992) see culture as a large group of people sharing a system of knowledge. Bates and Plog (1990) define culture as the system of shared beliefs, values, customs, behaviours, and artefacts that the members of society use to cope with their world and with one another, and that are transmitted from generation to generation through learning. The definition that will be used in this paper is: the mental processes, beliefs, knowledge, and values that are shared with the members of society and are used to cope with their world and with one another and that are transmitted from generation to generation through learning.

Classroom Management Packages

In order for flexible delivery courses to be successful a means to support course content and allow for communication between students and staff required the development of software, which would support the subject. The goal of this software would be to create a unique learning environment allowing for communication and to not limit learning situations. Ultimately the goal is to provide a high-quality learning experience (Marjanovic, Orlowska, 2000). Other considerations would also have to include cost and functionality.

Course Management Packages (CMPs) have been designed to integrate e learning systems to support the educational delivery of a subject. Two of the largest CMPs are Blackboard and WebCT and are designed in the Western culture have now merged into one organisation

(<http://www.webct.com/service/ViewContent?contentID=29627862>). Both CMPs were designed in the United States, have been ‘built’ with a western design focus. Thus the presentation of the course content is based on Western notions of education with a distinctly Western Style, which may not be suitable to the Asian international student. An additional learning principle is that “every learning experience has a context or an environment in which the learner interacts” (Vygotsky, Lev S. 1962). To ignore this environment could potentially impair the student’s interaction with the subject material and hence hamper educational progress.

Basis for Culturally Based Site – Geert Hofstede

Developed in the 1960s, *Hofstede’s 5 Dimensional Model* [H5DM] was one of the earliest attempts to focus on identifying the inherent cultural differences that could affect business success and indeed every aspect of life. Hofstede postulated that understanding the differences in culture will help people of the world cope with the global situation and come together to work out solutions. The difficulty in achieving this goal is the difference in approach of an individual from one culture such as a Westerner from Australia in understanding a person from another culture, such as an Easterner from

Malaysia. This difference of approach affects the success of communication and hence the e-commerce activity Hofstede was examining. Hofstede's work regarding culture was supported by Trompenaar, Hall, Kluckhohn and Stodbeck, plus others.

Trompenaar's work recognises that there are definite cultural differences when people approach a particular situation. Hall believed that different cultures and hence their concept of space could lead to serious failures of communication across peoples. How space is used in an educational website could affect a person's reaction to that website's content (Kralisch, Eisend, Berendt, 2004).

Kluckhohn and Strodtbeck's Values Orientation Theory [KSVOT] theory focuses on the concept that all humans have a limited number of universal problems, but different cultures place those problems in a particular preference.

Hofstede's dimensions of culture are those which can be measured in relation to other cultures, and have four overall concepts defined as: power distance, collectivism versus individualism, femininity versus masculinity and the last is uncertainty avoidance (Hofstede, 1980, 80). Any given situation can be reacted in a variety of ways, and the manner in which a person responds is determined by his/her culture. This reaction is in every aspect of life, including education.

Power Distance Index focuses on the degree of equality, or inequality, between people in the country's society. A High Power Distance ranking indicates that inequalities of power and wealth have been allowed to grow within the society (Hofstede, 1980, 83). Collectivism versus Individualism focuses on the degree the society reinforces individual or collective achievement and interpersonal relationships. A High Individualism ranking indicates that individuality and individual rights are paramount within the society. A Low Individualism ranking typifies societies of a more collectivist nature with close ties between individuals (Hofstede, 1980, 83). Masculinity and Femininity focuses on the masculine culture has clearly distinct gender roles. For example, men in a masculine culture, are supposed to be aggressive or assertive, focused on success and women are to be modest, tender and concerned with nurturing. A feminine culture has overlapping gender roles where for example, both men and women can be modest, tender and concerned with nurturing (Hofstede, 1980, 83). Uncertainty avoidance [UAI] refers to how people cope with the uncertainty about the future. Uncertainty creates anxiety and how a culture copes with that anxiety or accepts them is what is being measured in this scale. Technology and religion are two ways in which a culture strives to reduce the amount of the uncontrollable in life. In effect, UAI is the extent to which the members of a culture feel threatened by uncertain or unknown situations (Hofstede, 1980, 113).

Web Design - St Amant's Prototype Theory

The St Amant Prototype Theory (St Amant, 2005, 73) allows the web designer the opportunity to analyse and design a web site that will be 'in tune' with the cultural expectation of the user. As explained earlier, it is the purpose of this paper to test whether students who are studying a degree supported by computer and internet based technology; will be more comfortable and hence perform better if their web site is culturally appropriate.

The Prototype Theory investigates how humans identify certain visual elements, and then use those elements to serve as a foundation for designing a culturally based web site (St Amant, 2005, 74). In conjunction with the systems described earlier, this prototype grid will be able to provide a guideline for an international design that can be applied to websites, in this case, educational websites. Past cultural based research focusing on design has many documented instances where miscommunication has resulted from poor or mismatched visual displays (St Amant, 2005, 76). The diagram below illustrated the procedure involved in researching the effectiveness of a culturally designed e-learning website.

Diagram 1: E-learning Website Prototype Based on St Amant and Hofstede's Theory

Prototype Theory involves a categorisation process where new objects/images are compared to different designs in a user's memory (St Amant.2005, 79). The greater the similarity between the stored memory objects to that of the new, the individual will classify the new object as belonging

with the stored ones. The amount of similarity between the new object and the stored ones, allows for a scale of acceptability, the higher the similarity, the greater the acceptability. In conjunction with the theories described earlier, this prototype grid will be able to provide a guideline for an international design that can be applied to websites, in this case, educational websites. Past cultural based research focusing on design has many documented instances where miscommunication has resulted from poor or mismatched visual displays ((St Amant, 2005, 76).

In order to determine this scale of acceptability, the designer must find websites targeted at the general or average user within that culture. The best sites for the prototype are those which would target the general public (St Amant, 2005, 82). Once one site has been nominated as the primary site and analysed, five other sites should be determined to serve as secondary sites for further analysis. This should provide an overall guide for the educational website designer to construct a site that will be familiar to the international student of that culture. The primary site should have: the menu bar, buttons, colour, hyperlinks, body text, search engine and images identified to best ascertain what the user would expect on a web site (St Amant, 2005, 83). The secondary sites serve to micro-analyse the website to better construct the prototype.

The Prototype Web Site - Malaysia

Malaysia was selected as one of the first countries to have a prototype website developed following the aforementioned and using the St Amant Prototype Web Site theory. The primary site was government and secondary sites were: university, education, health, tourism, and eBay (for ecommerce). These sites had many similarities which should assist in designing a prototype web site.

If the site used buttons, they were of similar appearance, oval, and used a bright colour such as yellow to assist in the button standing out. The buttons were also labelled either with text or an image or both which would help the user in selecting the correct button for their specific purpose. None of the sites had a pattern, diagram or used distinctive colour. Use of hyperlinks dominated the Malaysia sites. They were found to be in the menu bar and in sentence format, one link per sentence, which actually served as a description for the hyperlink destination. It was interesting to note, that only one of the Malaysian sites made some use of paragraphs. The use of search engines does not appear to be popular in use in the Malaysian website, as only two, the Ministry of Tourism and eBay Malaysia made use of them. The use of images varied greatly between the websites. In using this information it was possible to design an educational website for Malaysia.

Survey – Malaysian e-Learning Prototype Web Site

As illustrated in Diagram 1 once the prototype website was designed, students were then surveyed to determine their reaction to this culturally based e-learning website. The survey was based on eTAM research techniques with a few additional questions from the author. The survey results were encouraging. The scale used was 1 for lowest level and 7 the highest level.

Students returned a favourable response towards the e-learning website as indicated by the graph and chart below.

Question	1	2	3	4	5	6	7	8	9	10	11	12	13
Ave	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	6.0
Stan Dev	5.3	4.3	5.9	4.8	4.7	3.9	3.5	3.8	4.6	3.5	4.7	4.8	4.5
Median	6	6	4	6	6	7	7	5	6	7	5	4	7

Diagram 2 - Statistical Results for Online Survey re Prototype Website

Diagram 3 – Chart of Survey Results for Prototype WebSite

To better illustrate what these results mean, the previous e-learning website from UOW compared to the St Amant Prototype website is shown below.

The layout is quite different between the two sites. One is following the University's set template, while the Prototype site is following the dictates as established by Hofstede and others, using the St Amant prototype theory.

Diagram 4 UoW WebCt Entry Site

Diagram 5 - St Amant's Prototype Website – Malaysia

Conclusion

This is one example of the culturally specific e-learning websites that have been developed for research and further testing. Preliminary results have been encouraging and it is hoped that future e-learning websites will be following a template that is appropriate for their particular culture.

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