Psychological Factors Affecting The Quality Of Online Learning

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Abstract: Encompassing some of its unique features, online education has given a new perception of learning processes.This reality prompted research into the features of online learning environments that affect students' learning experiences, and many features were discovered as a result of this initiative. However, most studies only look at one or a few of these variables, and the findings may be conflicting. In this review, the authors include most of the aspects found in the literature in an integrated model in order to decide which aspects have the greatest effect on students' satisfaction and understanding. This research study is aimed to identifythe psychological factors affecting online learningand discuss those factors in a compressive way. Identifying the aspects of online learning requires a number of fundamental concerns that are extremely relevant to educators today. "What are the factors that lead to the glory of online learning?" is the main issue. Two main variables must be defined on priority basis for addressing research questions. Such as, 1) assessing the final outcome and 2) determining the way used by students to learn by utilizing suitable educational resources.The dimensions we investigated in this study were students' mood, affect, motivation, and experience of using an Online Learning Tool. To help us assess these variables, we performed a survey using validated items from previous related research work. Our study was focused on an exploratory factor analysis (EFA).

Keywords: Dimensions, Affect, Perceptions, Motivation, Learning, Attitudes

1. Introduction

The study of how students perceive their educational experience has long been a subject of educational science. This interest became apparent in the 1920s, as colleges began asking students to review their courses as a standard practice (Wachtel, 1998). Remmers (1930) comes to mind in this sense as he was the most well-known investigator on exploring the factors that affected students' academic success.The conventional design of educational processes changed with the emergence of digital technology a few decades ago (Ahern &Repman, 1994). One of the consequences was the advent of online education, described by Harasim (2000) thatprovides an advanced framework of educationin the contemporary period.

Five distinct characteristics of online educationhas been proposed by Harasim (2000). They are:

(1) Group Communication

(2) Location Independence

(3) Asynchronicity, time independence

(4) Text enhanced by media

(5) Digital Communication

The notion describing the digital learning platform as a brand new educational framework is considered to be a myth.

2. Review of Literature:

Online learning is a distinct field that can be integrated into both physical classroomsalong with facilitating distance learning and sole mediumof instructionto provide learning about a distinct course (Harasim, 2000). In accordance with Howland and Moore (2002), digital mode of education contributes to change the overall system of conventional learning among contemporary students(p. 183).It is evident that there is a significant difference of online education system with the traditional one in respect of learning conditions. We have some rational theories about the main factors depicting student's feeling regarding the traditional learning environment; however, we don't yet know about the significant factors involved with the digital educational framework.

An adequate research has been performed by the researcher to address the above mentioned questions. Main aim of this study is to identify several factors of digital education system for providing a comfortable learning environment to students by addressing their learning expectations. A variety of aspects of an online course are found significant in the literature. The subject of student participation is one of them. Some authors discovered that engagement has an effect on the self-learning attitude of students and facilitating them to gain satisfaction

through learning (Swan, 2001; Picciano, 2002). On the other hand, Jiang and Ting (2000) discovered that there isa gap between learning expectations of students and their way of interaction. In a similar vein, Eom et al (2006) found no correlation among the above mentioned parameters;howevera link of student's involvement with their level of satisfaction is estimated in this study.On the other hand, Sun et al (2008) found no such connection.

Since online learning covers a broad variety of technology, it's difficult to provide a precise definition. Online learning isn't necessarily synonymous with asynchronous learning; it may also provide synchronous functionality including real-time video conferencing or chat rooms. Jolliffe, Ritter, and Stevens (2001) proposed that asynchronous learning network elements such as computer forums are often used in online learning to help learners organise and process their learning materials. On the other hand, whether or not true learning occurs is linked to online interaction. Many studies use quantitative measurement units like complete logins or postings. Vonderwell&Sachariah (2005) stated that participation results in engaging the students in an interactive dialogue to gain knowledge from active digital learning environment of graduate courses (p.214). It is also described as a common platform for a huge number of students to have potential learning in a successful manner (p.214).

It is found that there are four main benefits of conventionalface-to-face (FTF) over the online process. For example, the online learning environment offers "open-at-any-time instructional work areas" (Berge, Collins, & Dougherty, 2000, p. 35). It is also true that students can learn from outside sources than the conventional education provided inside the classroom.Furthermore, online learning broadens the reach of conventional learning. Open learning environments, according to Hannafin, Land, and Oliver, have pointed out the necessity of self-learning processes for resolving difficult and genuine problematic issues (1999).It is also possible to manipulate data and enquire about resources by means of synchronous along with asynchronous tools.

Second, a digital framework of learning facilitates the students to gain knowledge by their own level of interest based on previous experiences, skills and perspectives (Jollife et al., 2001). According to Sanders and Morrison-Shetlar, digital education platform is significant in respect of enhancing creative problem solving skills along with increasing ability of thinking (2001). More time to deepen concepts and convert divergent conversionsis provided by the asynchronous digital learning modeas compared to the synchronous one.In replacement to the traditional classroom programs asynchronous mode of text basedinteraction has been proposed for the digital education platform. This feature facilitates to enhance the though processby posting revisions which could be aided by the assumption that posts last longer than spoken words (Jaeger, 1995).

Petrides (2002) stated based on the qualitative outcome of educational experiences that by means of distance learning thinking ability of students can be increased in amore better way (p. 72). Asynchronous mode of digital learning is identified to have more score than that of the synchronous one in respect of students' level of satisfaction towards the courses delivered to them (Wright et al. 2000). One of the virtues of instructional immediacyitis beneficial to enhance the quality of education along with providing quantitative learning to pupils by means ofengagement and learning interactions while assessing whether instructor immediacy is adequate.

3. Methodology:

The case study approach was applied on the basis of two major segments involved with the digital education systems for the graduate students. It facilitates students to learn the technological advancements for obtaining an in depth knowledge regarding key issues impacting attendance. There is one part (Group A). Thirteen in-service teachers were in the first section (Group A), and thirteen in-service teachers were in the second section (Group B). 12 pupils in a class were involved with this research. Two of the students were not serving as professors in the B group. The one worked in higher education, and the other was employed by a non-profit educational organization. Three of Group B's students got a K–12 education. The device was also used in the district's technology planning. (It's worth noting the above mentioned pupils belong to the B group had been identified in planning toquite some time, since they had brought a lot of their insights into their districts for technology to the enlightening conversations in class.) Group B had two facilitators;both of them are found with adequate experiences regardingonline communication facilitation. On the other hand students belong the A group have been identified with no work experience as a facilitator before. Three students acted as facilitators in each group.

The course addressed topics such as technology preparation, staff creation, facilities and infrastructure, grant writing, technology assessment, and technology integration. Both of the graded and ungraded discussions were performed thrice.Each week, three students volunteered for one of the following roles: facilitator, important reflector, or summarizer for each graded discussion.Three (different) students volunteered to do one of those tasks with each debate. The students were told of their roles and responsibilities for each role at the start of class. Then, for each position, students volunteered.Students stated that they chose the position in which they felt most at ease.

The various roles are as follows:

Facilitator:plays a significant role in initiating the dialogue; keep an eye on the mechanism and data. As a vital reflector, analyze and critique the posts, generate concerns, and encourage the rest of the group to think critically about the issues surrounding the topic.

Summarizer: It includes in making both concise and explained overview to the mentor that involves an explanation documented up to three pages and would be posted for the pupils. An assessment criterion is provided by the mentor and some leading questions for each week's debate. The students were encouraged to pose and answer questions as well as address problems and concerns related to the topic of discussion. For each debate, a minimum one page of reflective assessment was required to complete by individual studentapart from their assignments.

4. Data Analysis:

One question is provided at the beginning and one at the end, transcripts for asynchronous dialogue, e-mail transcripts involving the dialogue between student and instructor, and reflective dialogueswere used to collect, analyze, and triangulate the results. Students were asked demographic questions as well as questions using a five-point Likert scale to assess their technological expertise along with attitudes towardsdigital framework of education in the first questionnaire.

The asynchronous conversation papers, electronic mails of individual faculty, concludingreflective articles involved with the three gradedconversations,along with the set of questions at the end of the course were all analysed using thematic data review. A method for encoding qualitative data is thematic processing (Boyatzis, 1998, p. vi). Patterns were identified in each group and data source's data, which were then coded and sorted to expose emerging patterns. Inductive approach has been included to code the data "Raw data is utilizedto construct data-driven codes inductively." Suitable themes are configured in a categorized manner based on the collected data from authentic resources.Final selection of the research topic is conducted by critical review of each segment of data in a comparative way for exploring student interest in online learning and the influences that may affect it.

Interaction among the students has been examined by means of this discourse. Through this discussion several parameters such as order of dialogues along with identifying the pattern of interaction are focused in both classes. This research was conducted to learn more about the factors that affect online discussion participation. It also provided for data triangulation, double-checking results, and analyzing convergent relationships (Miles &Huberman, 1994).

Main constraint include with this study is the time limitations of five-week summer discourse regarding the online graduate program.However there may be a concern about the interchangeability of learning materials among the pupils. Lincoln and Guba (1985) described transferability as "the degree of implication of certain key outcomes in another contexts along with applied for other participant",that can be facilitated by means of a comprehensive explanation of the topic.To be able to make transferability decisions, the meaning and overall situation of the given case must be considered in a significant manner.

5. Results:

A 65 percent answer rate was obtained on the questionnaire distributed at the start of the course. It was identified that every one of three students belong to the A group use computer in an intermediary way. On the other hand,the remaining two-thirdswere found use computers in a superior manner. Students belong to the A group have also learnt about "Planning for Technology"duringthe digital education system.It is also identified that these students are less experienced as compared to the students belong to B group.Moreover, those pupils are also fresher to the online graduate course. It was only their second "Planning for Technology" lesson. Despite the fact that their previous class was conducted entirely online, online discussions were not usual. In contrast to Group A, the majority of Group B students were well ahead of schedule. Even thougha little number of students belong to the B group had experiences regarding the online courses as they performed only conventional face to face interaction with the teachers. Thecourse management frameworkof the college was WebCT, and studentsbelong to B group were found to have experiences regarding the board of discourse systemarchitecture.

Table 1: Criterion for assessing the Asynchronous discourse

This discourse is substantial and pertains to important issues. (1)

The conversation is stimulating, informative, based on self-reflection along with demanding. (1)

Dialogue regarding the interest of pique's people and encourages them to learn more about the topic. (1)

The discussion is aimed at community knowledge construction along with self-education. (2) Shares papers, instances, and other resources from the learning environment. (2)

Utilizes instances from individual and professional fields to illustrate how major problems are implemented. (1) Addresses place and perspective by referring to readings, literature reviews, hypotheses, and studies. (4)

Evaluates and focuses on the topics explored by others (2).

Refers to other people's conversations and responds to previous threads (1).

Provides solutions and ideas to the problems that have been posed. (2)

Starts a conversation by bringing up a subject, a concern, or a suggestion. (1)

Provides a knowledge regarding the interest in the subject. (1)

Participants from the selected class receive positive, particular, and encouraging feedback. (1)

Illustrates an up-to-date and useful online presence. (No. 5)

Patterns of Participation:

In the three discussions, there were no major quantitative variations in the number of postings between the two parties (Table 3). Group A sent 49, 123, and 96 messages, resulting in the form of four, nine, and seven, respectively, in each debate. In the discussions, Group B produced 44, 90, and 79 postings, resulting in means of four, eight, and seven, respectively.

Ten of the thirteen students belong to the A group had been present in the online platform and regularly took participation in the conference; three students were found to be detached from the discussion. Most of the students belong to this group referred to the key query practice as compared to the interaction happened during the earlier conference with associated group of peers. Despite that an emergence of immersive experiences has been evolved during the successive discourses.

Eight students in Group B were active participants during the discourse and maintained presense on the digital platform. The participation patterns of four students did not reflect online presence or clear participation. Three students responded to the facilitator's original query thread with two to three messages on the same day during the first debate. Two students sent messages in the same hour, and one student sent messages a few hours later. However, one of these students said that he was still getting used to the online discussion style. Everyone who did post was on track for the types of information they included, according to a facilitator in this group. People took part in the conversation and returned to thoughtfully respond to others' messages. There was a lot of follow-up from the participants. Many outside tools were given to help advance the dialogue and contribute to the learning that was taking place.

On the other hand a specific segment of students belong to the B group stressed that the essence of the class facilitated participation: "This course is very different from any other online course I've ever taken." Most of the time students are found to left their personal devices and do not hear anything from one another or the teacher unless they are in desperate need of assistance. The way you [the instructor] facilitate this course needs the students to stay on task while also maintaining the "culture" that facilitates a skill development among pupils during the education programme.

Interface Features and Technologies

It is also identified that pupil's level of expertise regarding programming languages and the infrastructure of the discourse have significant impact on the level of their participation in the education program. Group B students wrote conversation messages that reflected a more reflective and problem-solving approach to school technology planning and execution. Most of the students submitted written reports about the complexities faced in respect of technical problems during the course. Pupils belong to the B group presented a reflective statement that they tried to post information that would help their peers understand. Compared to Group A, this group made

further comparisons to the readings and their peers' postings. Students are found to start conducting reflective assessment after reading the forum postings regarding unfair events(Charles: '...Faculties are unable to anticipate the suitability if technology in the curriculum activities') and victories (Jim: '...a PDA in place of pay')," they said.

While maximum number of pupils belongs to B group ever taken an online course before, they had previously used the course management system's asynchronous discussion board. Two student-facilitators with prior facilitation experience led the discussions with excellent leadership. No students belong to the A group possessed any previous experience with discussion facilitationas compared to the pupils of B group. Around a third of Group A said they couldn't figure out how to use the discussion interface or understand what was going on. "I'm feeling like I'm going to die," Helen said.

6. Conclusion:

Students' involvement and behaviour are affected by group growth processes and group dynamics, according to the results of this report. The amount of work in the course had a different effect on each party. The effort by Group A to discuss the workload with the teacher demonstratesabout a noticeable team dynamics present among members belong to this group.Leadership positions allow students to have an effect on team dynamics and level of their communication. In Group A, expert influence aided in the development of an engaging pattern of participation. It is significant to obtain an in depth knowledgeregardinggroup dynamics and how groups evolve in order to build a successful learning community. Instructors should formulate course structuring techniques as well as timely and strategic solutions to any issues that might arise.

The aim of this study was aimed at identifying key parameters associated with student participation in two parts in the digital education system of graduationat Midwestern University. The following variables, according to the findings, affect online learner involvement and patterns: technological featuresand device parameters, experience regarding content-area, student roles and allocated tasks, and knowledge overload. In an online learning course, technology, the course interface, group actions, and student personas can all affect participation and learning outcomes.

It's important to carefully build online roles and assignments, as well as obtain knowledge about the interaction among several members participate in the discourse. Further research into group processes, how groups form and roles emerge—such as leadership in an online group—and how these factors influence successful participation can aid instructors in better understanding group dynamics in online courses and designing courses accordingly.

There is a need to create online course interfaces and management structures that are pedagogically user-friendly. Research into interface design, learner participation patterns, and cognitive load in online learning will help instructional designers and educators create more successful online courses. Cognitive load theory may help "provide instructions for presenting knowledge in a way that promotes learner practises that maximise intellectual performance" (Kirschner, 2002, p. 1). To understand how the cognitive load hypothesis operates in online learning, it needs to be updated.

Students must be equipped for online learning in terms of technology, learning management, pedagogical practise, and social roles. In order to achieve a common understanding of learning goals in a learning environment, effective online learning necessitates interdependence. Instructors can recognise student needs and scaffold learning by closely evaluating pupilengagement along with pattern of participation

References

1. Anderson, T. (2004). Teaching in an online learning context. In T. Anderson & F. Bloumi (Eds.), Theory and practice of online learning (pp. 273–294), Canada: Athabasca University.
2. Bloom, B. S. (1984). The 2-sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. Educational Researcher, 13(6),4–16.
3. Boyatzis, R. E. (1998). Transforming qualitative information: Thematic analysisand code development. Thousand Oaks, CA: Sage Publications.
4. Bullen, M. (1998). Participation and critical thinking in online university distanceeducation. Journal of Distance Education, 9(1), 1–32.
5. Chickering, A., &Gamson, Z. (1987). Seven principles for good practice inundergraduate education. AAHE Bulletin, 39, 3–7.
6. Fleming, M. (1987). Displays and communication. In R. M. Gagne (Ed.),Instructional technology foundations (pp. 233–260). Hillsdale, NJ: Erlbaum.
7. Hewitt, J. (2001). Beyond threaded discourse. International Journal of EducationalTelecommunications, 7(3), 207–221.
8. Hewitt, J. (2003). How habitual online practices affect the development of asynchronous discussion threads. Journal of Educational Computing Research,28(1), 31–45.

9. Hillman, D., Willis, D., &Gunawardena, C. (1994). Learner-interface interaction in distance education: An extension of contemporary models and strategiesfor practitioners. American Journal of Distance Education, 8(2), 30–42.

10. Jiang, M., & Ting, E. (2000). A study of factors influencing students' perceived learning in a web-based course environment. International Journal ofEducational Telecommunications, 6(4), 317–338.

11. Kirschner, P. A. (2002). Cognitive load theory: Implications of cognitive loadtheory on the design of learning. Learning and Instruction, 12, 1–10.

12. Lee, J. M., &Tedder, M. C. (2004). Introducing expanding hypertext based on working memory capacity and the feeling of disorientation: tailored communication through effective hypertext design. Journal of Educational ComputingResearch, 30(3), 171–195.

13. Lincoln, Y. S., &Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.Liang, X.,