

Can online courses improve my GPA? A case of Hospitality & Tourism students in Asia and United States

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Abstract

Since the advent of fully online delivery of college-level coursework, several issues have preoccupied administrators, educators, and researchers with regards to student learning outcomes or performance vis-à-vis face-to-face delivery. This study examined these issues in the context of hospitality and tourism majors at Midwestern USA Universities as compared to similar students attending Universities in Asia. The sample consisted of 274 undergraduate students majoring in Hospitality and Tourism; 163 respondents from the USA and 111 from Asia. Specifically, it focused on factors that influence students' expectation of improvement in Grade Point Average (GPA) in online learning environments compared to face-to-face environments. The data were analyzed using descriptive statistics and linear regression. Factors relating to students, the role of instructors, and modes of learning had significant effects on the dependent variable. Implications of the findings are also discussed.

Keywords:

e-learning; face-to-face; Grade Point Average (GPA); students; tourism; performance

1 Introduction

The rise of e-learning has helped to encourage students to take on more responsibility for their acquisition of knowledge (Ituma, 2011). In a traditional, teacher-centred model of teaching, the lecturer transmits knowledge to students, with little input from those students (Harden & Crosby, 2000). However, the shift to less traditional classes has coincided with a greater focus on more student-centred learning, with the lecturer facilitating or managing the students' learning, rather than simply transmitting information (Balluerka et al., 2008). Because of the more self-directed learning assumed to occur in online environments, online learning may have the potential to produce more in-depth discussions and to improve the quality of learning, as well as having the practical benefits of encouraging wider student participation and increasing the cost-effectiveness of education, compared to traditional face-to-face learning (Smith & Hardaker, 2000; Alexander, 2001). A timely example is that of flipped classrooms, whereby the students engage in active learning (often via vodcasts or in online discussions) and the instructor provides support and scaffolding (Strayer, 2012).

With changing student lifestyles, fast-developing technology, decreasing state funds for higher education and declining enrollment, universities are increasingly offering more "flexible" learning environments. Commensurate with the opportunities that technological advances afford, for over a decade (Imel, 2002), the provision of online, e-learning experiences has undergone rapid expansion in the higher education sector. Today, online learning is part of the student experience for a substantial proportion of university students in a variety of countries (Ituma, 2011; Otter et al., 2013; Tucker et al., 2013). Students desire flexible learning opportunities for many reasons, convenience, some may have full-time jobs or live at a distance from the institution, and online education has opened access to learning in new ways for these individuals. The current study aimed to compare students' experience and performance in both online and traditional face-to-face learning experiences and is unique because the sample comes from two very different regions of the world, Asia and the USA.

In their ten-year study of the nature and extent of online education in the United States, Allen and Seaman (2013) found that interest on the part of universities and colleges in online education shows no sign of abating. Online education continues to expand at a rate faster than traditional campus-based programs. The authors reported the number of students enrolled in at least one online course to be at an all-time high of 32% of all enrollments in participating institutions, representing an increase of 570,000 students from the previous year. Allen and Seaman also found that 77% of university leaders responding to the survey rated learning outcomes to be the same, if not better, with online education when compared with face-to-face learning. Their results support the no significant difference phenomenon that Russell (1999) found in his comparative study of student learning in the online and traditional classroom environments. Acknowledging that learning outcomes are equivalent, the question of how satisfied students are with their experiences with e-learning persists. A related

question is whether students expect to get a high Grade Point Average (GPA) in online environments. It is important for administrators and instructors to understand if the popularity of online courses is influenced by the perception that it is easier to get better grades in online classes. Online courses are meant to be equivalent in terms of academic rigour and other characteristics to face-to-face instruction.

During the last 20 years, Asian nations have also developed an affinity for the use of information and communications technologies (ICT) to serve education in a variety of ways. These technological tools have been employed to deliver education in various sectors and at various levels. Increasingly, eLearning, virtual campuses and online courses are also being delivered, especially in ICT-rich environments like South Korea and Japan. The availability of new technologies has also created opportunities in other Asian countries to embed digital resources in their courses delivered either online or offline. However, the use of digital resources for teaching or learning is not uniform across or within nations in this region. Several factors either enable or hinder such use. In a recent study conducted with the support of a grant from the International Development Research Centre of Canada, researchers found that; through a survey of some 580 academic staff from ten Asian countries (South Korea, Japan, China, Hong Kong, the Philippines, Indonesia, Vietnam, Malaysia and India) there has been significant growth and expansion of education as well as eLearning though there remain many challenges (Dhanarajan & Porter, 2013).

The Internet is the main tool in implementing e-learning (Davoud, 2006). Online learning has roots in the tradition of distance education, which goes back at least 100 years to the early correspondence courses. With the advent of the Internet and the World Wide Web, the Webification of instruction offers greater flexibility and applicability to students of hospitality and tourism programs worldwide (McDowall & Lin, 2007; Sigala, 2002). Terms such as computer-based education, computer-based instruction, computer-supported learning, distance education, ICT based learning, online learning and web-based learning seem to be used interchangeably by different authors; all are claimed to describe e-Learning (McFarlane et al., 2003). For this research, we will focus on online learning. A wholly online course can be defined as a course that has no face-to-face interaction; all communication and interactions between instructors and students, educational content, learning activities, assessments and support services are integrated and delivered online. This is important from the standpoint of student retention, which is, of course, relevant to enrollment and maintaining institutional revenue streams.

The purpose of this study is to examine factors that potentially influence the perception of getting a higher GPA in an online environment compared to a face-to-face environment. Three sets of factors were examined as independent variables: student, instructor, and mode of learning. A model was developed and tested. Differences between students from Asia and the USA are discussed in the context of this model.

2 Literature Review

Several studies have examined the effectiveness of different learning environments. DiRienzo and Lilly (2014) in their research study, tried to answer the question as to how different delivery methods can affect student learning. Specifically, their study compared the student learning outcomes on both a “basic” and “complex” assignment given in the same course, but using two different delivery methods of traditional face-to-face and online, across five undergraduate business courses taught at Elon University. The study included data from over 120 students and, after controlling for other factors known to affect student performance, the results indicated that the delivery method has no significant difference in student learning. Brown and Liedholm (2002) in their study of students taking a Microeconomics course, found that; online students, when compared to the face-to-face students, have higher ACT scores, yet slightly lower GPAs. Given the relationship between standardised test scores and grades, the combination of high ACTs and low grades can signify lower academic motivation. They concluded that their “results strongly suggest that the virtual course represents an inferior technology to the live sections” because “doing as well in an online course as in the live alternative seems to require extra work or discipline beyond that demonstrated by our students, especially when it comes to learning the more difficult concepts.” Most of the students viewed online and face-to-face courses as equally difficult and there appears to be no difference in student motivation levels between the two delivery methods and the students in the online courses do as well on complex assignments as the face-to-face students.

The Allen and Seaman (2013) report looked at online education, including the growing presence of massive open online courses (MOOCs), from the institutional perspective, not from the students. In their report, the authors noted that the remaining barriers to widespread acceptance of online education were lack of faculty and employer acceptance, lack of student discipline and low retention rates. Of these, student retention in online programs is particularly relevant to the discussion of student satisfaction, preference, and academic performance with their online experience. The majority of studies find that there is no difference in grade based student learning outcomes between modes of instruction. For example, Ashby et al. (2011), found no statistical differences in student grades in a developmental math course when taught face-to-face compared to online or blended teaching methods.

Similarly, Larson (2009) indicated no statistical difference in grades of students taking an introductory management course. Earlier work by McLaren (2004) also indicated grades of online students in a business statistics course were not significantly different between students completing an online course compared to face-to-face course offerings. Our paper aims to explore if students have a different expectation of performance in online and face-to-face environments. In terms of reinforcing the instructor’s role in designing satisfying online curricula, Kransow (2013) posited that; if students were satisfied with their online experiences, they would be more likely to

remain in the program. Kransow (2013) posed a critical question for instructors working in the online environment. How can online courses be designed to maximise student satisfaction as well as student motivation, performance and persistence?

Drawing on the literature, Kransow emphasized the importance of building a sense of community in the online environment. Building an online community that fosters student satisfaction involves strategies that go beyond facilitating interaction with course components. Building community also requires, among other elements, interaction with each other, that is, between student and instructor and among students in the course. Sher (2009), in his study of the role such interactions play in student learning in a Web-based environment, has found that the interaction between student and instructor and among students to be significant factors in student satisfaction and learning. Interaction between the student and the instructor, among students, and with course content and technology was the focus of Strachota's (2003) study of student satisfaction with distance education. In her study, learner-content interaction ranked first as a determinant of student satisfaction, followed by learner-instructor and learner-technology interaction. Interaction between and among students was not found to be significantly correlated with satisfaction. Bollinger (2004) found three constructs to be important in measuring student satisfaction with online courses: interactivity, instructor variables and issues with technology.

Palmer and Holt (2009) found that a student's comfort level with technology was critical to satisfaction with online courses. Secondary factors included clarity of expectations and the student's self-assessment of how well they were doing in the online environment. Drennan et al. (2005) also found positive perceptions of technology to be one of the two key attributes of student satisfaction. The second was autonomous and innovative learning styles. Richardson and Swan (2003) focused on the relationship of social presence in online learning to satisfaction with the instructor. They found a positive correlation between students' perceptions of social presence and their perceptions of learning and satisfaction. For Sahin (2007), the strongest predictor of student satisfaction was personal relevance (linkage of course content with personal experience), followed by instructor support, active learning and, lastly, authentic learning, i.e. real-life problem-solving. Researchers also attempt to identify the link between online interaction and student performance. For example, Davies and Graff (2005) found that greater online interaction was not significantly associated with higher performance for students achieving passing grades; however, students who failed in their online classes tended to interact less frequently.

2.1 Student factors

Previous studies on learning in online environments have shown that there was no difference in learning in online and face-to-face environments (DiRienzo & Lilly, 2014). Students who have a higher GPA have demonstrated better academic performance. Their good performance has largely been in face-to-face environments. They may be less sure about the online environment where it may be harder to have in-depth

discussions. An early study (Brown & Liedholm, 2002) has suggested that online environments may be more challenging. James et al. (2017) analysed a ten-year panel of data for five university finance courses offered in both a traditional classroom setting and in an online format. Controlling for student characteristics that existing research has shown to affect student learning where they found that students who took online courses scored the same or lower, on average than those who did traditional courses. We hypothesised that students with higher GPA are likely to assess the difficulty of online learning environments better and not expect a higher GPA when compared to face-to-face environments. On the other hand, students with a lower GPA may perceive online courses to be easier and expect higher GPA in these courses.

In the same vein, students who perceive the traditional format to be a better way of learning are unlikely to believe they would raise their GPA in online classes. These students may find the online learning environment more challenging. Therefore, we expect a negative relationship between students who perceive traditional format to be a better way of learning and expectation that they would have a higher GPA in online courses. On the other hand, students who prefer online classes are likely to see these classes as more convenient and perhaps less challenging. These students would expect higher GPA in online courses. Therefore, we hypothesised the following:

- H₁: Higher GPA will be negatively associated with student perception of improving GPA in online classes compared to face-to-face classes.
- H₂: Perception that face-to-face instruction would be a better way to learn course materials will be negatively associated with improving GPA in online classes compared to face-to-face classes.
- H₃: Preference for online learning will be positively associated with improving GPA in online classes compared to face-to-face classes.

2.2 Instructor factors

Ni (2013) stated that an important component of classroom learning is the social and communicative interactions between student and teacher, and student and student. A student's ability to ask a question, to share an opinion, or to disagree with a point of view is fundamental learning activities. It is often through conversation, discourse, discussion, and debate among students and between instructors and students that a new concept is clarified, an old assumption is challenged, a skill is practised, an original idea is formed and encouraged, and ultimately, a learning objective is achieved.

Student-to-instructor and student-to-student interactions are important elements in the design of a Web-based course (Fulford & Zhang, 1993; Kumari, 2001; Sherry, 1996) because learners can experience a "sense of community," enjoy mutual interdependence, build a "sense of trust," and have shared goals and values (Davies &

Graff, 2005; Rovai, 2002). Online learning requires adjustments by instructors as well as students for successful interactions to occur. Online courses often substitute classroom interaction with discussion boards, synchronous chat, electronic bulletin boards, and e-mails. Therefore, it is vital that students believe that instructors in online environments know how to teach well in online classes. These perceptions would, in turn, lead to better academic performance or higher GPA in an online course. Therefore, we hypothesised the following:

- H₄: Perceptions that the instructors understand the online environment and make it easy to learn would be positively associated with improving GPA in online classes compared to face-to-face classes.

2.3 Learning mode factors

The learning environment in itself has perceived characteristics that can influence student choices and expectations. Kleinman (2005) looked at improving instructional design to maximise active learning and interaction in online courses. Over ten years, Kleinman studied online communities of learning, concluding that an online environment which fosters active, engaged learning and which provides the interactive support necessary to help students understand what is expected, leads to a satisfied learning community. Swan (2001), too, found that interactivity was essential in designing online courses that positively affect student satisfaction. Wang (2003) argued that to truly measure student satisfaction, researchers must first assess the effectiveness of online education. Online education represents a major shift in how people learn and in turn, how learners are taught. The argument is made that, therefore, there is an increasing need to understand what contributes to student satisfaction with online learning (Sinclair, 2011). Student satisfaction is one of several variables influencing the success of online learning programs, along with the institutional factors that Abel (2005) listed in his article on best practices; leadership, faculty commitment, student support, and technology. Sener and Humbert (2003) maintained that satisfaction is a vital element in creating a successful online program.

Since the present research focuses on hospitality and tourism students, it is necessary to discuss this group of students' learning styles. It has been assumed that hospitality, tourism and travel management majors tend to have different learning styles from students of other programs as the subject matters are more vocational (Barron & Arcodia, 2002; Dale & McCarthy, 2006; Hsu, 1999; Loo, 2002). Although e-learning is still growing, the knowledge acquired by teachers who use online and face-to-face methods can be of great use in improving both types of teaching, which is the reason why researchers nowadays study issues related to these teaching methods, as per Urtel (2008) and Georgouli et al. (2008). It is not simply a question of retaining traditional teaching methods such as the master class and applying the tools of e-

learning techniques to gain access to more information. Nor does it mean involving the students in the same learning methodology using a different medium.

Considerable progress must still be made to enable today's society to take full advantage of the potential of online teaching. Several researchers (Cabero, 2006; García Aretio et al., 2006; Kearsley, 2005; Mason, 2003; Rovai, 2004; Salmon, 2004; Wilcox & Wojnar, 2000) have reported on the peculiarities in design, contents, activities, interaction, tools and evaluation processes in face-to-face and online modes of teaching. In comparing the two methodologies, people may mistakenly regard the two processes as similar when, in fact, they should be different from the outset. However, it is useful to carry out comparative research, which might lead to improvements in each type of learning model. Coates et al. (2004) have pointed out that it is negative to explain only the differences between face-to-face and online methods and not the basic attitudes which form the starting point for each model.

Overall, results from Bernard et al. (2004) and other reviews of the distance education literature (Cavanaugh, 2001; Moore, 1994) indicated no significant differences in effectiveness between distance education and face-to-face education, suggesting that distance education, when it is the only option available, can successfully replace face-to-face instruction. Findings of a meta-analysis of job-related courses comparing Web-based and classroom-based learning (Sitzmann et al., 2006) were even more positive. They found online learning to be superior to classroom-based instruction in terms of declarative knowledge outcomes, with the two being equivalent in terms of procedural learning. However, a general conclusion that distance and face-to-face instruction result in essentially similar learning ignores differences in findings across various studies. Based on the research performed over the last several years, it has become a foregone conclusion that there is no significant difference in student learning outcomes between face-to-face versus online delivery modes Newlin et al. (2005).

However, student perceptions of differences in face-to-face and online learning environments have not been studied. If students perceive online classes to be easier, then they would expect to show better academic performance, even though actual results may not reflect these expectations. Similarly, the use of emails, interactive bulletin boards, online chats, and other tools for interactions may lead to perceptions that online learning environments make it easier for students to communicate with instructors. This in turn would result in expectations of better academic performance. Better interactions and active learning tools would also positively influence perceptions of better academic performance in these environments. These hypothesized relationships are shown in Figure 1.

- H₅: Perceptions that online courses are easier would be positively associated with improving GPA in online classes compared to face-to-face classes.
- H₆: Perceptions that the online environment makes it easier to communicate with instructors would be positively associated with improving GPA in online classes compared to face-to-face classes.

H₇: Perceptions that online learning environment helps students understand the course materials would be positively associated with improving GPA in online classes compared to face-to-face classes.

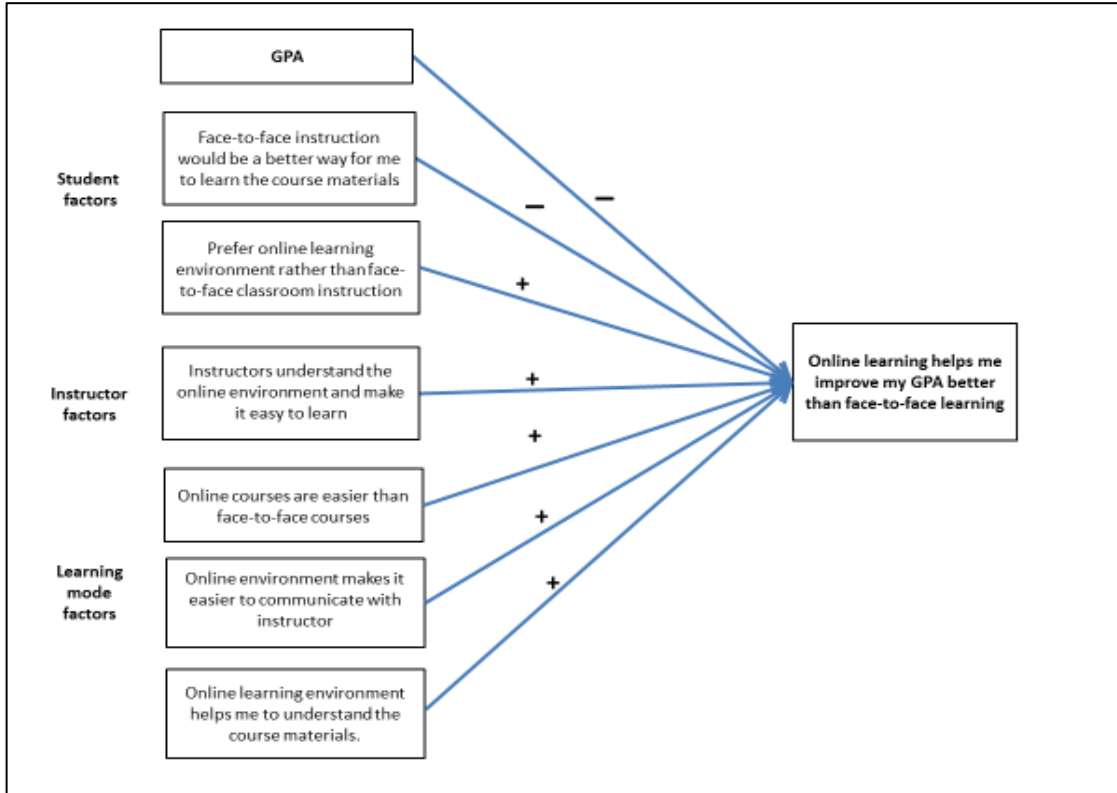


Figure 1: Proposed model

3 Methodology

The purpose of this study is to measure USA and Asian students' learning perceptions related to hospitality and tourism majors who would have experience taking courses using the traditional face-to-face mode of instruction and the online mode of instruction and assess how these perceptions shaped expectations of getting a better Grade Point Average (GPA) in online learning environments. The approach for this study was to replicate prior research procedures and use the survey instrument developed by Fortune, Shifflett, and Sibley (2006) that measured learning perceptions of students enrolled in business communication courses in the two different learning environments; online and face-to-face. The data for this study was the undergraduate student survey responses from hospitality and tourism programs which were conducted in fall 2014 through fall 2015. In the USA, a request for student's participation was made via a packet with twenty-five questionnaires sent out via regular mail to twenty-one

Midwestern Universities with hospitality and tourism programs. To request Asian students' participation, an email containing a SurveyMonkey link was sent out to over fifty faculty from hospitality and tourism programs in Asia; Japan, Malaysia, Philippines, Thailand, Singapore, China and South Korea.

The survey instrument was developed by slightly modifying one used by Fortune, Shifflett, and Sibley (2006), which measured learning perceptions of online vs face-to-face instruction. The survey was anonymous, and the instrument consisted of two sections. Section I had nine demographic questions, section II with 29 statements with a five-point Likert-scale measurement that ranged from 1 (strongly disagree) to 5 (strongly agree). Linear regression was used to test the model shown in Figure 1. The independent variables were student factors, instructor factors, and online learning factors. The dependent variable was the perception that online learning would help improve a student's GPA better than a face-to-face learning environment. Three sets of regressions were run. The first regression included all respondents. The second regression was run only with students from the USA, and the third regression used students only from Asia. In all cases of significance testing, an alpha level of 0.05 was employed. The primary statistical software tools used for analysis were Microsoft Excel 2013 and SPSS (PASW) 23.

4 Findings

The final sample consisted of 274 undergraduate students majoring in Hospitality and Tourism. There were 163 respondents from the USA and 111 from Asia. Sample characteristics are summarised in Table 1. The students were overwhelmingly between 18 and 23 years, and 68%% were upperclassmen. Their Facebook usage was high. The sample from Asia skewed more males, while the US sample skewed more females. Other characteristics, such as age, class, GPA, and Facebook usage, were similar in both groups (Table 1.).

Table 1: Characteristics of the respondents

	USA (n = 163)	Asia (n = 111)	Total sample (n = 274)
Gender			
Female	81%	28%	60%
Male	19%	72%	40%
Age			
18 – 23 years	89%	98%	93%
24 – 34 years	10%	2%	6%
>35 years	1%	0%	1%
Class			
Freshman	9%	14%	11%
Sophomore	15%	29%	21%

Junior	32%	12%	24%
Senior	44%	45%	44%
GPA			
A	21%	25%	23%
B	37%	33%	35%
C	32%	25%	29%
D	10%	17%	13%
Facebook usage			
“Few times daily”	72%	74%	73%
Once a day	28%	26%	27%

N=274

4.1 Model testing

Linear regression with the independent variables was run. The model was significant ($F_{7,255} = 27.108$, $p < .001$) with a r-squared value of 0.427. The effects of each independent variable were then examined. There was a significant negative effect of GPA on perceptions of improving GPA in online classes ($\beta = -.25$; $p < .05$). This result supports H₁. The perception that face-to-face instruction would be a better way to learn course materials was negatively associated with the expectation of improving GPA in online classes ($\beta = -.112$; $p < .05$). This finding supports H₂. Preference for online learning was positively associated with expectations of improving GPA in online classes ($\beta = .372$; $p < .001$). This supports H₃.

Perceptions that instructors understand the online environment and make it easy to learn were positively associated with the dependent variable ($\beta = .242$; $p < .001$). This supports H₄. The effect of perception that online classes are easier was not significant. H₅ was not supported. On the other hand, perception that the online environment makes it easier to communicate with instructors was positively associated with expectations of improving GPA in online classes ($\beta = .163$; $p < .05$). This supports H₆. The perception that the online environment helps students understand the course materials was not significantly associated with improving their GPA in online classes. Therefore, H₇ was not supported. Results of regression with the standardised beta coefficients are shown in Figure 2.

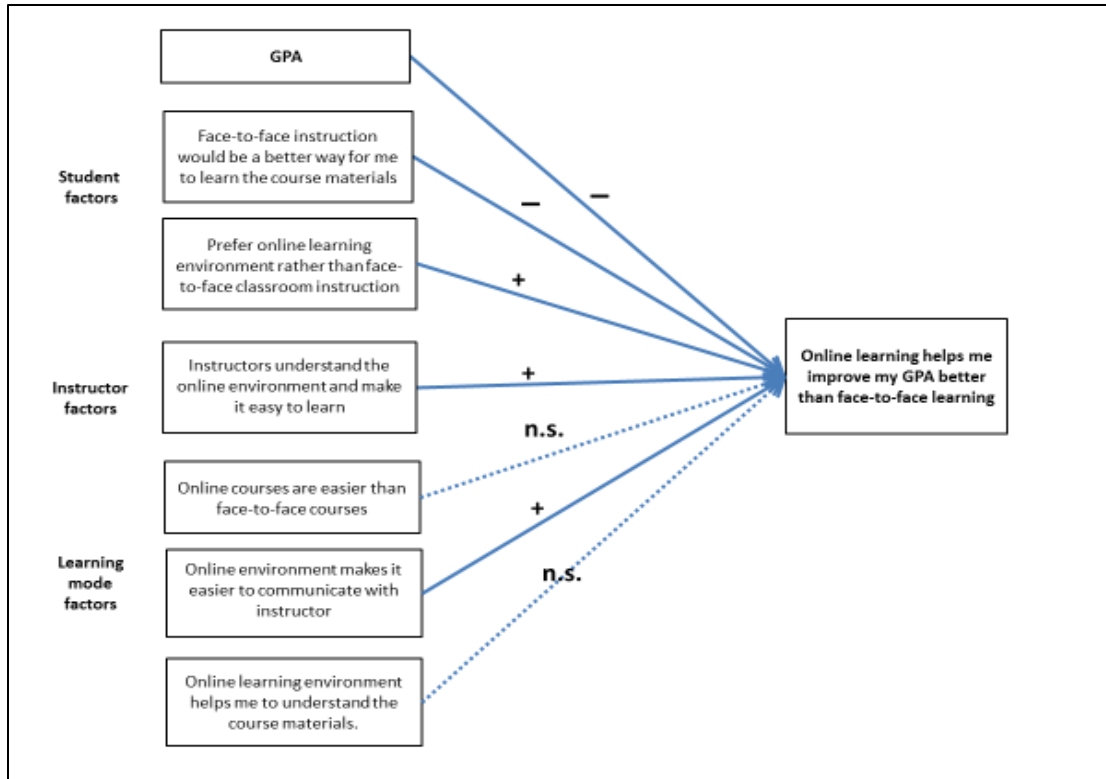


Figure 2: Results with all students

(Note: n.s = not supported)

4.2 Differences in Asian and US students

The model was tested separately with students from USA and Asia via the multiple regression analysis. Both the regression models were significant. The results for the significant relationships are shown in Table 2.

Table 2: Multiple Regression Analysis

	USA	Asia
Regression model R-square (R ²)	.454	.333
GPA (H1)	Standardised β -.257*	Standardised β <i>Not supported</i>
Face-to-face instruction would be a better way to learn course materials (H2)	<i>Not supported</i>	<i>Not supported</i>
Preference for online learning (H3)	.401**	.398**
Instructors understand the online environment and make it easy to learn (H4)	.222**	.268*
Online courses are easier (H5)	<i>Not supported</i>	<i>Not supported</i>

The online environment makes it easier to communicate with instructors (H6)	.222*	<i>Not supported</i>
Online learning environment helps students understand the course materials (H7)	.204*	<i>Not supported</i>

Note: *significant at $p < .05$; ** significant at $p < .001$

Most Asian students have different learning styles and cultural backgrounds compared to their American peers. It has been long established that Asian students are more comfortable with lecture-based learning than with online learning because the concept of online learning was still new in many Asian countries in the early 2000s. However, in recent years, there have been increasing numbers of Asian students enrolling in online courses. Rapid developments in information and communication technology (ICT) have provided access to education and greater flexibility to engage in educational experiences irrespective of physical location. Students are no longer constrained by the four walls of a classroom, and can now engage in networked learning experiences with peers and academics from around the world. Several research findings have indicated that cultural differences should be taken into account when dealing with multicultural learners in an online learning environment.

Differences in learning patterns were observed by the undergraduates of eight different countries using the same inventory (Vermunt et al., 2014). Their results showed the most differences in student learning patterns between Asian and European students. However, many differences were identified between students from the two Asian countries as well. The Asian learner turned out to be a myth. Moreover, Sri Lankan students made the least use of memorizing strategies of all groups. The notion that Asian learners would have a propensity for rote learning turned out to be a myth as well. Some patterns of learning turned out to be universal and occurred in all groups; other patterns were found only among the Asian or the European students.

Kim and Bonk (2002) examined cross-cultural differences among students from Finland, the United States, and Korea in web-based conferences. They found that U.S. students were more action-oriented and pragmatic in completing a task; Finnish students were more theory-driven, a group focused and more reflective; and Korean students were more socially interactive, sharing personal feelings and concerns. Several studies (Ardichvili et al., 2006; Husted & Michailova, 2002) had examined cross-cultural differences between learners in China and Russia when employees shared knowledge through online communities of practice. They found that Chinese learners were shy about contributing to online discussions and asking questions in a “public” manner; they were concerned about “losing face” (i.e., the so-called Asian modesty attribute, Ardichvili et al., 2006).

Similarly, Yang et al. (2010) found that Asian-based students were more conservative and less self-expressive when addressing discussion topics and responding to their peers’ posting than their European-based counterparts. Differences exist

between different cultures in the way that students learn as well as their preferences and approaches to learning. Conlan (1996) suggested that the approach to learning that is adopted by students of Asian cultures generally involves memorising study materials and content to reproduce them when required. Conversely, many Australian students and those of Western culture have 'been encouraged to learn through the questioning of facts and understanding of concepts' (Conlan, 1996).

5 Discussion

Overall, results from Bernard et al. (2004) and other reviews of the distance education literature (Cavanaugh 2001; Moore 1994) indicated no significant differences in effectiveness between distance education and face-to-face education, suggesting that distance education, when it is the only option available, can successfully replace face-to-face instruction, our results support these findings. The results of this study showed a change that can be viewed as students from all over the world have become familiar with the use of technology for learning. Chin et al. (2000) reported that in their study, students from a Western culture seems more confident in using web-based materials, while Asian students recorded fewer accesses to the web-based materials. This study also found that Western students showed fewer difficulties in navigating through online materials than Asian students. These findings corroborated Hofstede's views (as cited in Chin et al., 2000) that Western students are more accustomed to student-centred situations whereas Asian students preferred a teacher-centred approach while our results showed no difference between the USA and Asian students.

Many studies have documented that online courses can be just as or more successful than traditional face-to-face courses (Aragon, Johnson, and Shaik 2002; Ashby, Sadera, and McNary 2011; Cao and Sakchutchawan 2011; Jones 2015; Means et al. 2010; Rogerson-Revell 2015). Success in online learning requires interaction between the learner, instructor, learners and technology (Fabry 2009). In one of the first experimental studies on the effects of traditional instruction versus online learning where students were randomly assigned to live lectures versus watching the same lectures online while supplemental materials and instructions were the same, Figlio et al. (2010) found modest evidence that the traditional format has a positive effect compared to the online format. This difference was more pronounced for Hispanic students, male students, and lower-achieving students. Perhaps the most mixed finding of all the research thus far is the most recent meta-analysis by Lack (2013), examining more than 30 studies, the researcher found that most of the studies had mixed results. In some studies, students in the online or hybrid format performed better, but in others, they performed worse, and for some, there were no significant differences between the two groups. She concluded that these studies did not provide enough evidence for assessing whether online learning is significantly more or less effective than the traditional face-to-face format.

6 Conclusion

Fully online degree programs are emerging at a fast rate due to the increased demand. More and more students are turning to online learning, as it represents convenience in a busy and demanding society. Technology is also changing at a rapid rate; new ways of obtaining and sharing information are being developed and applied to the higher education setting. With all of these changes, it becomes even more important for colleges and universities to find ways to improve the quality of online learning to maximise learning, including effectively aligning technology with course content and instruction (. Ultimately, future employers will expect that students with a degree, no matter if completed online or in person, will have obtained the necessary skills and knowledge to perform the job requirements. In addition, students with no other choice but to complete degrees online will expect to receive the same standard of education as students in traditional degree programs; decreased satisfaction with internal factors including instructional design, course organization, online teaching skills and use of technology, are predictors of attrition, which can lead to loss of money and time/investment for both students and universities/colleges. This review has demonstrated that many factors play a role in satisfaction with and success in online learning. The challenge remains for institutions to design courses to meet students' needs/expectations, for instructors to effectively integrate technology into content to facilitate engagement and deeper learning, and for students to be self-disciplined and use technology to engage with other students and the instructor no matter which region of the world they live.

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