THE EFFECTIVENESS OF TRADITIONAL AND ONLINE COURSE DELIVERY TOWARDS STUDENTS' PERFORMANCE

NORAMALINA BINTI MOHD SIRAJ

MASTER OF SCIENCE MANAGEMENT

UNIVERSITI UTARA MALAYSIA

JAN 2015

THE EFFECTIVENESS OF TRADITIONAL AND ONLINE COURSE DELIVERY TOWARDS STUDENTS' PERFORMANCE

BY

NORAMALINA BINTI MOHD SIRAJ

Thesis Submitted to the Centre for
Graduate Studies,
Universiti Utara Malaysia,
In fulfilment of the Requirement for the
Master of Science Management

KEBERKESANAN PENYAMPAIAN KURSUS TRADISIONAL DAN DALAM TALIAN KE ARAH PENCAPAIAN PELAJAR

Abstrak

Teknologi-teknologi baru menawarkan kaedah alternatif untuk 'konseptualisasi' dan menyampaikan pendidikan dalam usaha menggalakkan pembelajaran. Pelbagai keputusan telah dicapai bagi kajian perbandingan pencapaian pelajar di dalam kelas dalam talian dan kelas tradisional. Satu tinjauan telah dilakukan di kalangan pelajar Ijazah Sarjana Muda Pentadbiran Perniagaan (kewangan) di UiTM Shah Alam untuk mengkaji kesan pencapaian pelajar terhadap hubungan antara penyampaian kursus tradisional dan dalam talian. Memberi panduan kepada kajian ini, tiga soalan ditanya dan tiga hipotesis yang telah disediakan dan diuji 0.05. Reka bentuk korelasi dan persampelan rawak mudah telah digunakan untuk memilih saiz sampel 304 responden. Keputusan menunjukkan bahawa kedua-dua kursus memerlukan perhatian kerana faktor-faktor yang telah menyumbang kepentingan yang sama kepada pencapaian pelajar.

Kata Kunci :

Pendidikan dalam talian, pembelajaran dalam talian, e-pembelajaran, pembelajaran jarak jauh, Face to Face (F2F), pendidikan tradisional.

THE EFFECTIVENESS OF TRADITIONAL AND ONLINE COURSE DELIVERY TOWARDS STUDENTS' PERFORMANCE

Abstract

Emerging technologies offer alternative ways to conceptualize and deliver education in pursuit of promoting learning. Numerous studies have compared students' performance in online classes and traditional classes, but with mixed results. A survey was conducted among Bachelor of Business Administration (Finance) students at UiTM Shah Alam to investigate the effect of students' performance on the relationship between traditional and online course delivery. To guide this study, three questions were asked and three hypotheses were formulated and tested 0.05 level of significance. The design is correlation and simple random sampling was used to select sample size of 304 respondents. The results suggest that both courses need attention because those factors have contributed equal significance to students' performance.

Keywords:

Online education, online learning, e-learning, distance learning, Face to Face (F2F), traditional education.

Acknowledgement

I wish to express my profound and sincere gratitude to my supervisor, Dr. Fais Bin Ahmad for supervising my project from the beginning to the end and imparting knowledge to me.

My warmest gratitude also goes to the research location and staff who worked diligently to provide the information I needed to conduct my research.

I will also like to express my sincere appreciation to my family for their support during my period of study and all persons who in diverse ways have contributed to the success of this project.

List of Tables

Table of Contents

CHAPTER 1

INTRODUCTION

Nowadays, information plays a meaningful and vital role in the economic development in the development of the community and the education process as well. The explosive development of information technology has brought to the birth of the information society and makes it essential for the society to follow and convenient to the development of recent technologies. The explosive growth of information and the total amount of students have brought some difficulties and this new technology has take part in the development of education process and quality applied in educational institutions has become necessary. This is supported by Keser, 1998.

Various forms of online education have been for approximately 100 years. Findings by Lemak, Shin, Reed and Montgomery, 2005; Madden, 2003 have noticed a range of correspondence course in the 1800 's in universities such as Pennsylvania State University, University of Chicago and Illinois Wesleyan University. While there is increased demand for online courses, but it is still less gratifying even with the changes in technology that is becoming increasingly sophisticated. Approximately 3.2 million students take slightly one online course from U. S. Institutions by the fall of 2005, about twice the number from 3 years back (Allen and Seaman, 2006). This increment has been expanded this year recently, to a new number of 6.7 million (Allen and Seaman, 2013).

The courses are separated into different categories according to the percentage of content that are taught online. The first category refers to traditional courses without technology (0%) with all content being taught in writing or orally. While the second category refers to the use of web-based technology (1% to 29%) such as Learning Management System (LMS) or a web page, to make it easy what is basically the face to face (F2F). The third category comprise of courses that mix online and F2F, with nearly all (30% to 70%) of the content is delivered online. The fourth category consists of online courses where almost (80% or more) or the entire content delivered online. This last category usually has no F2F meetings. While online learning practices are separated into diverse categories, prior studies agree that the methods provide numerous advantages to the effectiveness of teaching and learning. (Allen and Seaman, 2005)

How the students' performance in the traditional course delivery compared with the result in the courses in an online courses delivery? As online classes have become more general, this issue has gained attention from researchers. Even though there are numerous studies in this area, there is no definitive answers for which approach are the best. Nevertheless, as will show in the literature review later, online course appears to be slightly effective as traditional courses. Online learning environment is much different than the traditional classroom environment. There seems to be a number of reasons why students find the online courses rising. Some students might look for courses that meet with their way or style they learn or personality. Online courses may be an advantage for students who prefer written communications compared to oral, F2F interactions, or who want

more to prepare their involvement (Smith, 2001). Indeed, there is some evidence found that online students are more dynamic participants than students in traditional courses (Shea, et al., 2002; Hiltz and Shea, 2005).

The online learning environment is the setting where many traditional and non-traditional students take courses without having to physically attend classes on campus. In an online classroom, instructions mostly accessible whenever the student is convenient for class. The instructions take place using various technologies, such as chat rooms, discussion boards, wiki, blogs, podcasts and Vodcasts. Online students are frequently responsible for being self directed, independent learners and depend heavily on communications in the chat rooms and discussion boards to build a sense of community, which is often achieved in a traditional classroom environments more easily.

Alternatively, traditional learning environment involves learning happens in a physical location with the instructor present. Traditional learning environments have real time F2F learning and instruction from the instructor to the student. They usually meet in the scheduled time regularly and students are able to ask about the instruction and receive prompt response and clearness.

Nevertheless, the main advantage of online courses for students seems to be beneficial (Bocchi, Eastman and Swift, 2004; Dutton, Dutton and Perry, 2002; McEwen, 2001; Hiltz and Shea, 2005; Moskal and Dziuban, 2001; Hiltz and Shea, 2005). The inconvenience is a major issue that it is essentially a limitation for some students. It might be a constraint for a number of students to attend traditional courses due to the work or the

itinerary, or lived far from the campus. Even though it might be easier to take courses in a traditional classroom for others, but it is more comfortable taking online courses because of uncertainty or work schedule tight. For others, however, convenience may have been the reason for a wish for an easier or less challenging course. We are worried that this might happen when students say that they need an online course due to their busy or challenging work schedule, school, or other activities, and not because of particular scheduling conflicts. Of course some students who decide to take traditional course formats looking for a less challenging course.

Several administrators and employers are not confident very well towards the online courses although it was desirable to some students. (Madden, 2003; Bocchi, and Eastman Swift, 2004). A part of the negative point of view of online courses might be to some extent because historically, these programs likely to run by the University for profit that is not as extremely valued as a traditional universities.

Therefore, the learning experience of students in an online environment is fundamentally different compared to the learning experience of students in the traditional classroom environment. Keegan (1996) point out that instructor student separation, educational placement, and technology used for instruction and communication as the main challenges for online courses.

1.0 Background of Study

Generally, students of all ages think their classes are 'boring'. Frustrated with their studies, students often ask questions like, 'Why do I need to know this?' Boredom and questions about relevant matter seems to suggest that there may be lack of motivation in the classroom.

Some students look naturally excited to learn, but many need or expect them to motivate, challenge, and stimulate them: “The instructors are being responsibility to sustain the interest of the students that brings them into the courses in the first place in order to build effective learning in the class”. (Ericksen, 1978). The problems for instructors are to ensure the students are on track with them. Bored lecturing, silent environment or interference from other students may affect student concentration. Lectures should not be longer than twenty to thirty minutes (Bligh, 1971). After all, the students will doing other things; message their friends, online Facebook, talking to each other’s and so on.

The assumption that traditional F2F class is the best support learning is being questioned (Harasim et al., 1998). There is some facts to show that the accomplishment of students and other aspects can be greater via online teaching (Hacker and Sova, 1998; Shneiderman et al., 1998). This is also supported by some research previously published studies as the instructions online group have higher achievement than traditional classes (Zhang, 2005).

A good quality of online course need more drive and desire from the student to be successful. Rather than just sitting in class absorb what was

taught and then repeating them on paper or tests, online courses require students to explore and understand what was expected without copying exactly the words that came out from the mouth of the instructor. The students then have to prove knowledge by solving the tasks needed.

Education institutions are dealing with the responsibility to make sure the development of online courses is as effective as the prior delivery method due to the increase in online enrollment (Petrides and Nodine, 2005; Tallent-Runnels et al., 2006). In today's society, the Internet has impacted every aspect of life of the individual. The Internet influences the ways individuals interact with friends and family, it influence business processes, and it influences how individuals learn. The Internet is an effective medium for students to use consistent access to information and enhance learning. DeLoughry (1995) think that online learning should not replace traditional methods of education, but the online learning environment should be a viable alternative to traditional classroom environment for course delivery (Lawrence, 2003).

Malaysia is striving to build its reputation as a regional hub for higher education to students from across Asia and around the world. At the Transforming Education Summit that held recently in Abu Dhabi, Malaysian Deputy Prime Minister Tan Sri Muhyiddin Yassin announced that education is a priority for this country to move forward:

> *The goal is to have Malaysia become the world's sixth biggest education exporting country by 2020 with a target of 200,000 international students.*

Online learning has rising significantly and becoming a popular method of education for many universities and colleges around the world with the explosive growth of technology. Most of the online learning today is interactive because of computers and the internet, and sometimes more interactive compared to traditional classroom. Students can communicate on the same level, no matter of their race, gender, and personality. It is now probable for rapid communication to occur among the instructor and the students via a range of technological tools to increase learning, for example internet mailing lists, newsgroups, electronic mail, and conferencing tools without F2F teaching.

As one of Malaysia's major provider of educational courses, UiTM (Universiti Teknologi MARA, or previously known as Institut Teknologi MARA) strives to meet the needs of adult learners of Bumiputera at all levels relating to their learning in a wide range of interests. The institution plays an important role in educating adult learners dated back from 1973 when UiTM (formerly known as ITM) began to explore the educational programmes outside the campus in all its 13 branch campuses.

In 1990, external education centre has been established to provide opportunities for those who work to pursue and obtain quality higher education. In line with the current needs for global education, the Center has been rebranded with the name NEO Institute of education (InED) Universiti Teknologi MARA, where concentration is given to provide innovative education approach to adult workers.

Electronic distance learning program (e-PJJ) is an innovative program in terms of learning and teaching in UiTM. Student would decide the time, place and teaching mode in accordance with their needs and their lifestyle through e-PJJ. E-PJJ program provide a variety of facilities and services to serve you in order for you to reach your dreams and ambition. In addition, you will get the necessary skills in using IT in your routine activities. This innovative program is an amalgamation of diversity learning methods which comprise of additional reference materials, study materials, forum interaction, instructor support, and discussion between students and also F2F seminars.

E-PJJ learning method using effective learning educational technology and it is one of the best and most appropriate to promote effective learning. The objective of this Centre is to provide programmes via distance learning to improve knowledge and career development among the Bumiputera. It is also to help develop human capital in order to achieve higher productivity and thus contribute to national development.

For the first, students study on their own with the help of modules or textbooks. The second involves the F2F class known as seminar. However, students are required to attend only a few seminars every semester (Sunday) from 8.30am - 6.15pm. The third requires students to participate actively in the discussion forum online (iClass) to get a better understanding of the courses they take. iClass is for you to interact with instructor and other students, submit assignments, and answer questions instructors.

Online education gives students fully responsibility for their own learning. But, there are a lot of issues that affect the people who effectively finish the online course and this includes workload, lack of technological skills, and feelings of disconnection. Additionally, the course design for an effective online learning should be changed to customize the online format. Course requirements and outcomes should be specified clearly as there is no available contact between instructor and student directly and timely feedback should be provided. Experienced online instructors always encourage critical thinking, problem solving, and the discussion of alternative viewpoints throughout a range of existing technologies.

Today, distance educations, particularly online education, have grown to be extremely popular. Many university courses are taught online and several who just taught online. The students are advised to take online courses as a first class method of education not as a second class alternative. Approximately most of the college students have the alternative to take online courses. According to Schrum and Hong (2002), "online learning is hence rapidly becoming a popular method of education for traditional and non-traditional students". One of the features that are vital in online learning is that students are capable to manage the pace of their own learning.

Recent studies also have reported both positive and negative reactions to web based instruction. Studies were done to determine whether the student can learn online as well as they did in the traditional classroom. This research was primarily conducted by instructors in various curriculum areas who have already started online instruction of their courses. Biology,

statistics, nursing, and education courses are a number of areas found that compared performance of final test scores and final grades between a traditional class and an online learning group. Findings in these areas perform similar or better performance with the online group (McCollum, 1997; Ryan, 1999; Tucker, 2000). Methods varied, however, between this research on the selection process of participants and the delivery for both the traditional and online sections. The results practically not convincing due to different levels of experimental validity and most researchers suggest further research to support or compare selected methods of instruction.

Although the comparison of performance scores from online learning in these subject field shows no significant difference from classroom scores, the involvement of students with a wide range of learning and their evaluation of the learning process did vary between different online instructional models. Research will and should continue to determine the most effective design, preparation, and delivery methods for online courses. Although from different areas, the sharing of positive results with how these were achieved can assist educators with the use of technology in their own content area.

1.1 Problem Statement

The era of globalization has put all the countries in the world facing with many challenges, especially in developing countries like Malaysia. To address the challenges of globalization, Malaysia should set the strategy and take proactive steps in order to pursue her competitive and continue to progress through the quality of human capital attainment, highly skilled and knowledgeable. Lifelong learning has become one of the hot topics of conversation in education today. It is an ongoing and voluntary pursuit of knowledge, skills and competence based on the personal or professional reasons. The government's main agent for promoting lifelong learning is at the tertiary level. The Malaysian context of lifelong learning connected very closely with employment and productivity. Thus, its main objective is to provide and meet the Nations needs with knowledgeable, skilled and competent human capital. (Ministry of education, 2011)

Lifelong learning implemented by the IPT approach distance education, flexible education, acknowledgment of work experience (acknowledgment of previous learning) and proposes short courses to improve their knowledge and skills. Each citizen has to be given the right to education whether formal or informal without taking into account either employed or unemployed. The process of learning should not merely end with school, or tertiary education. Instead, it should be a continuous, lifelong process, for as long as one can think and utilise one's mind, acquiring knowledge should come naturally and without any doubt. (Sharmini, 2014)

For those who are already working, the aptitude to continuously gain new knowledge and apply it to their work is a valuable asset as it will allow them to work and perform better. According to Jamaluddin Bakrisaid, Director of Group Human Resource RHB Bank Bhd, their aims are to further equip the staff with world class professional qualifications in banking and finance to make sure that they meet the growing market demands and requirements. Employers want better and more competent workers, and with more skilled graduates and workers entering the job market, there is a need for employees to remain ahead of the competition and ensure that they keep update of current trends in their area of expertise.

This is where adult education or continuing education for adults, plays an important role. This area of education meet the needs of those who do not have the opportunity to continue their studies at the higher level for a variety of reasons such as cost or time constraints such as family or, as well as those who now want to acquire additional knowledge to moving up to another stage.

People have the options to further their studies on a part time or online basis. This trend is increasing in line with the request of the employer to have more efficient, well educated workers to meet the increasing demands for higher productivity and skills requirements.

Students need to be capable in using the Internet. Anyone with internet access can use the learning system with ease. Online and part time program provide students with different options to suit the lifestyle and their needs while allowing them to continue to follow the career and in terms of

ability, a lot of university provides a variety of financial assistance plans to make it easier for more people to learn while they earn.

More students are realizing that their education will no longer be bound by the constraints of geography or with the older models of distance learning, where students receive the bundle course materials in the mail with the spreading of internet connectivity. As stated by Mr. Wong Tat Meng, who is the Vice Chancellor of Wawasan Open University in Malaysia, the number of institutions that offer distance or online education has grown rapidly in recent years, especially in China and India. South Korea, Mr Wong said, are the most advanced Asian countries in terms of e-learning, with several universities delivering courses entirely online.

Students increasingly enrol in online courses and not in traditional courses, in which they are necessary seating together for few hours in class every week. Web-based course gives students more choices compared to traditional classroom. The students in this class are given an option to choose what discussions to continue, what resources should be sought, and what topics to look into deeper (Mehrotra et al., 2001). Therefore, learning online has become one of the important components in modern higher education. Colleges and universities have added the number of courses taught online because it is a popular way to get credit.

Online education has become an acknowledge course delivery model for students of all ages. The effectiveness of online education has been much debated over the past five years in a variety of research, books, and articles and from the students, faculty, instructional design, and

organizational perspective (Conrad, 2002; Draves, 2000; Palloff Pratt, 2003; Weigel, 2002). Advocates of online learning has proved resoundingly there is no significant difference between F2F and online learning and online learning environment can be better than F2F learning environment (Phipps and Merisotis, 1999; Russell, 1999).

Most of the study provides a lot of "no-significant difference" outcomes towards a comparison of online learning. Although a wide variety of distributed learning has been around for many years, distance learning has become increasingly popular dramatically in recent times. With the increase in demand for this method, comparison between traditional or online education has become the focus of much research. Even though learning outcomes has been compared, the methods used are limited. Despite a long history of research shows no significant difference among traditional and online courses, types of courses are different dramatically and as a result especially addressed the general outcomes rather than outcomes related to critical thinking. Since "no significant difference" arising from almost research, researchers tend to analyze this study in Malaysia.

1.2 Objective Study

This main objective is to investigate the relationship between traditional and online course delivery towards students' performance.

The specific objectives are:

i) To investigate if there is a relationship between traditional course delivery and students' performance

ii) To examine if there is a relationship between online course delivery and students' performance

iii) To determine if there is a significant difference in the students' performance, considering gender factor

1.3 Research Question

i) Is there any relationship between traditional course delivery and students' performance?

ii) Is there any relationship between online course delivery and students' performance?

iii) Is there any significant difference in the students' performance, considering gender factor?

1.4 Scope of Study

The study is conducted at UiTM Shah Alam, Malaysia which offers online and traditional courses as well. Students from e-PJJ and on campus programs were chosen to survey the effects on the learning towards their performance.

1.5 Significance of the Study

This study is important because online learning has been integrated into every segment of the educational system to higher education to organizational training. More directly, higher education has been charged to provide accessible, efficient, and cost-effective educational opportunities (Twigg, 2003).

Significance for research. This report directly benefits the research community as it helps to address the gap in research pertaining to online education and adolescents, particularly in areas of education effectiveness as a whole. High school students learn different from students of higher education. Anthropologists and developmental psychologists have shown no significant difference in psychological and social behavioural patterns among adolescents and adult learners (Viner and Christie, 2005). Adolescents usually take more risks, spend more time with friends, and very susceptible to peer pressure (Viner and Christie). This study provides insights into how adolescents learn. Adolescent behaviour factors such as the desire to interact with friends can be utilized in the online environment.

In addition, the tendency toward risk-taking behaviour may be included in an online learning environment safe and secure.

This report also offers benefits such as how to use online tools matched to instructional methods (Means et al., 2009). This research provides insight into the teaching role and course design that works best for students. In addition, research regarding how online tools are used at the high school level, provides help in motivating students to learn and in structuring content in order to support higher order thinking.

Significance for policy. The costs of education are ongoing political issues that affect policy. Studies have shown that the cost of educating online students is usually less than that for traditional students (Anderson, Augenblick, DeCescre and Conrad, 2006; Picciano and Seaman, 2009; U.S. Census Bureau, 2008). Economic pressure may encourage more schools to offer online courses. Also, the Massachusetts Department of Elementary and Secondary Education (1995) currently require 990 hours of supervised instruction time per student each year. If online instruction is shown to be effective, this could change the hourly requirement impacting schools across the Commonwealth.

If online courses are shown to be as effective as small group F2F instruction, school systems could work collectively and combine courses to run them in an economic fashion even though it is very expensive to run courses for small groups of students. This could potentially lead to regionalization of school systems as instructors and administrators share responsibilities for cooperative online ventures.

Schools traditionally have only allowed classes taught F2F to meet graduation requirements. Evaluation of the effectiveness of online courses at the high school level may cause the policy to be re-examined. This will give a great impact on what a high school education looks like in the future.

Online learning has been considered as a solution for place, time bound, or unmotivated students. Although online education has actually provided an opportunity for students who would otherwise be exempted from further their studies due to time or place constraints, the shift from the traditional classroom to cyberspace has not been clearly describe for organizations, faculty, or students. Quite the contrary has happened from a motivational point of view. Students' studying online requires a high level of self-discipline and self-motivation (Conrad, 2000; Distance Learning NET, 2004; Draves 2002; Palloff and Pratt 2003). The reality is that an online class is, or should be, equal in rigor and quality to the traditional classroom experience. As the community has embraced the online learning as a practicable instructional delivery model, determining the effectiveness of the online delivery model is important.

1.6 Limitations

Even though this study is adopted with questionnaire survey, it is still not known whether the respondent be able to considerably comprehend the meaning of original context of questionnaires to illustrate with true reflection result. This research was conducted at UiTM only because lack of time and cost. Besides that, the population is limited only to undergraduate students of Business Administration (Finance) because we want to know the best learning deliveries that suit the students at the end of the study.

1.7 Term Definitions

For the purpose of clarity and cohesiveness in this document, the following terms have been defined as indicated below:

1.7.1 Student performance

A successful outcome of education can be described as an instance in which a teacher has facilitated his or her students' achievement of the educational goals for that course or year (Walker and Fraser, 2005).

1.7.2 Traditional Course Delivery

The lecture and textbook method of instructional delivery where the instructor and a group of learners are physically present in the same classroom. According to Allen and Seaman (2008), traditional course define as "with no online technology used – content is delivered in writing or orally".

1.7.3 Online Course Delivery

Online learning is the newest form of distance learning primarily based on asynchronous text-based communication over the Web. For the purposes of this study, the terms online learning, e-learning, and distance learning are used interchangeably.

Process in which the students and instructor are not in the same place, and may involve communication through the use of video, audio, or computer technologies, or by correspondence (including written correspondence and the use of technology such as CD-ROM),"

According to Keegan (1995), in his discussion of distance learning and educational technology:

Distance education and training result from the technological separation of teacher and learner which frees the student from the necessity of travelling to fixed place (school, college, university) at a fixed time (school timetable, training schedule, lecture programme), to meet a fixed person (teacher, instructor, professor) in order to be trained or educated.

Online course as defined by Allen and Seaman (2008) were those courses "in which at least 80 percent of the course content is delivered online". For the purpose of this research, online course were defined as those courses designated in the target university's student records system with an online building designation.

1.8 Organization of Remaining Chapters

This research is divided into five chapters. Chapter 1 briefly discusses the overall theme of the research and also the research problem in general. This chapter also introduces the problem of the study, objectives, scope, significance and definition of variables.

Chapter 2 provides a brief description of the literature review and scientific papers that are relevant to students' performance. This chapter begins with a brief introduction to students' performance and other variables. The relationship between independent variables and dependent variable are also introduced in the same chapter. Furthermore, research framework also discusses in Chapter 2 and hypotheses will also be included.

Chapter 3 focuses on research methodology and research design for the project. The data collection procedures in UiTM will be presented in this chapter. This chapter also provides explanations about population and sampling design. The measurement of the instrument and data analysis techniques will also be included in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter elaborates the relation of previous research study with the objectives in this research. The important parameters, guidelines, quotes or findings from earlier researches are mentioned.

2.1 Review of Previous Research Studies

2.1.1 Students' performance

According to the United States Department of education, student performance is defined as academic achievement of a student, such as coursework, instructor evaluations, student involvement and time spending directly working on the task, and similar information. A student performance is a specific statement about what the student are capable of doing as the result of instruction. In most cases student would or should be able to complete the task correctly within a short period of instruction. Whatever the task is, it must be something that can be evaluated by examining the student or having the student feedback on writing paper or test question.

The researcher used four dimensions of the Learning Criteria to Support 21st Century Learning™, to help best define better student performance, which have been developed by the International Centre based

on the findings in successful and is growing rapidly. The Core Academic Learning is an indicator of the school's fundamental academic strengths as measured by other assessment results, graduation requirements, state tests, and others.

- Stretch Learning - the extent to which all students are challenged to tryout stringent coursework, pushing themselves to take specific courses, and engage in multidisciplinary projects, for example.

- Learner Engagement - critical aspects of the learning process resulting from the relatedness, seeing value in learning, feel secure and cared about, and being active and deliberately part of the school community. One way to start surveying this dimension by examining students as to their sense of satisfaction, acceptance, security, and performance.

- Personal Skill Development - includes the positive attributes of character, good work habits, and social, service, and leadership skills that will not only intensify learning, but also broaden to the world outside the school.

Study by Parsons-Pollard, Diehl Lacks, and Hylton Grant (2008) stated that even though interest in online teaching and research into effective teaching methods online shows an increase, there is also anxiety for those who learn online compared with those who attend a F2F class pertaining to the quality of students' performance and learning. Students' performance is a multifaceted concept; grades, skill building, added knowledge, course

withdrawals and successfully finished the course are between some of the facet. However, researchers were concerned towards divergence in performance between online and traditional classes. The results of various studies (Harrington, 1999; Cooper, 2001; Miller et al., 2001; Thirunarayanan and Perez-Prad, 2001; Bearden et al., 2002; John, Marilyn and Jo, 2002; Kleinman and Entin, 2002; McLaren, 2004; Parsons-Pollard, Diehl Lacks, and Hylton Grant, 2008; Sussman and Dutter, 2010) show that there is no significant difference in students' performance between the two modes of instruction.

John, Marilyn and Jo (2002) found that online students of a course in computer programming made the grade examination, much higher than the traditional students. However, this result is not indicative. Completion of homework has a positive effect towards grades and course completion for both online and traditional students. Of these, working and computer experience extensively have an effect on performances. Working will reduce performance grades, whereas the students' grade performance increases with computer experience. The importance of online status decreases with the addition of two variables in affect grades. Online students learned as good as their traditional friends, as shown by examination and course grade value significantly. Nevertheless, even though the average course grades were slightly good, the online students were probably unable to finish the course. In addition, work status, undergraduate status, and computer experience had bigger impact on lecture compared to online students. Nevertheless, the dissimilarity in these impacts was not statistically significant.

Online sections of the undergraduate social science course had a significant higher mean enrolment than traditional sections (Sussman and Dutter, 2010). The studies make a comparison between two variables (statistical evaluation score for an issue paper assignment and a final GPA) towards students' performance for online in contrast with traditional course delivery. Basically, there is no significance difference was found for this two variables in both delivery methods. In the meantime, the patterns appeared when these variables were split together. Pertaining to student achievement or performance in one course, these studies are not required to indicate or to determine which method of delivery is "better" or "greater" to another. Instead, by the assessment of various variables with real-time comparative data, it has seeks to emphasize the dissimilarity and resemblance in student outcomes among both delivery methods together with the consistency and dissimilarity with prior empirical analysis based on the students outcome.

Harrington (1999) make a comparison between traditional classroom and online instruction for master's level social work students and recommended that students who had formerly succeeded in academic can do just likewise with a distance learning approach as students in a traditional classroom course. A study by Thirunarayanan and Perez-Prad (2001) found that the online students of education programs scored were somewhat better if compared to those campus students on the class post-test. However, this result is not indicative.

Bearden et al. (2002) found that there was a significant difference when take GPA into consideration. Historical results shows that online students with low GPA accomplish lower compared to on campus students. Older students who take online courses have a final value of significantly better than younger students in both courses (online and traditional) (Miller et al., 2001). However, McLaren (2004) states that there are no significant differences were found when GPA was examined although there are differences in perseverance between both teaching methods.

Data were collected from limited participants (37 online students and 94 traditional students) enrolled in computer literacy course. Cooper (2001) used course grades and students view in order to measure the students' performance. Results indicate that there were no differences in grade distributions between the two settings; however find out that recently enrolment for online courses with minimum requirements (GPA of 2.5) might due to a lower reduction rate in the online course than that enrollment in prior semesters. Cooper further reported that students do not see online courses as substitute for traditional classes.

Most of the relevant research have purported to show that performance is identical, no matter whether the courses taken in traditional or online. Kleinman and Entin (2002) studied students in introductory Visual Basic programming course at a community college and found that although the perceptions of the online students are positive regarding the value of the course, there is no difference in performance can be traced involving the two settings.

Generally, most of the researchers have make a conclusion that there was no significant difference in student accomplishment between both delivery methods, but online methods can brings to better learning outcomes (Koory, 2003; Weber and Lennon, 2007; Warren and Holloman 2005; Bernard et al., 2004; Fortune, Shifflett, and Sibley, 2006; Herman and Banister, 2007; Tallent-Runnels, Lan, Cooper, Ahern, Shaw, and Liu, 2006; Means et al., 2009).

2.1.2 Traditional Course Delivery

Kim and Kellough, (1987) found that although the traditional lecture method is often preferred as the most efficient approach, easily controlled by the instructor and conducive to forecast and manageable student learning, it is often criticized for stifling creative thinking, occasioning the involvement of some students in decision making, and lacking intrinsic sources for student motivation. Traditional pedagogical models are primarily teacher-centred, and knowledge will probably complicated and inconsistent. Particularly in large enrolment classes, students unable to get an opportunity to gain from cooperative learning (constructing knowledge together). Those outstanding students will likely to govern, and indirectly will disappoint students with those loner personality in classroom learning. According to Rovai and Jordan (2004), the discussions might be shallow, unplanned, and restricted, and traditional lecture-based courses may fail to promote deep learning (Campbell, 1998).

Traditional courses take place in a class consists of an instructor and students. F2F education is a synonym for this kind of medium. “Face to face” is defined as “of two people close together and facing each other" (Oxford Dictionary). This quote indicate when an instructor and students are together in one place provided for lessons, and where the teaching and learning takes place at the same time. In this arrangement all performances and displays of a work that is permitted, provided that all the materials obtained legally.

Basically, instructor gives lecture or student listening and take notes are the main approach of traditional classroom setting. Communication among instructors and students is seen as one of the key elements in this learning setting which O’Malley and McCraw, (1999), regularly associate to “sage on the stage.” This phrase or quote means oftentimes instructors will lecture about subjects from notes they've prepared in the past. Sometimes these notes don't change much over the years. Students sitting quietly in class and everyone pretty much copy the same lecture that has been done year after year.

Some students prefer to choose F2F environments which they can communicate directly with instructors and considering the course of the content in choosing course on campus. They felt that this kind of environment will assist them to learn deeply, develop more understanding, and give them satisfaction towards the course. In addition, they extensively choose F2F environment as they consider it will increase their capability to learn and it is more appropriate way to understand the course materials.

F2F students found that the technology meddle with their capability to complete coursework and significantly felt that working in groups encouraged them to learn the course materials, but this does not rise to the level that matters. In addition, F2F students also declared that they take courses “on campus” because they thought it would be manageable compared to online, but they also feel that they will benefit more from the course if they were taken it in the online environment.

41.7% of the online students did not feel convenient learning from the internet. They desired instructor to give more response or comment and auditory stimulation; they wanted to listen to, not just reading the course materials (Faux and Black-Hughes, 2000). Although the participants was limited (with only 33 students), the findings expressed anxiety about (a) course design subject to instructor comfort rather than student desired, and (b) students' readiness to take accountability for their own learning.

Students feel a great relationship with instructors and those who register on traditional class, possibly here again because they can see and hear the class lecture and see the interaction between the instructor and students, hence making them feel that they definitely are part of the group. On the other hand, Beare (1989) found that students have hard feelings towards distance learning and envy against traditional class students, probably because of their relationship and interaction with the instructor.

Students choose the method because they perceive it will assisted them much to master the material. Additionally, they are more tending to say that they learn better from a instructor in a traditional classroom,

practically doing things in practical workshop, figure out to solve on a problem with other members in a group, and studying at pictures or description which help clarify more on concepts and processes. Besides, they able to complete the tasks to deadlines, finding adequate time to study, and follow the instructions for practical sessions.

In class, students have peers, Learning Center in the campus, the time to meet with the instructor, and assistant instructors to help them with a variety of learning needs. These resources give them guidance, explain and strengthen the material, and enable them to succeed in their studies. Teachers understand the value of these resources and forms of support. Arleen (2008); as increasing demand of online courses, instructors are attempting to figure out new methods to combine these resources and forms of support into their class. Some instructors are now applying the web-based in producing tasks into their existing traditionally classes (Quible, 1997). The problem is that student drop out is higher in online courses and these resources and forms of support need to be more practical in preventing failure student.

Instructors enjoyed communicating with students whenever there are. It has been purported that regular in touch with instructor, inside and outside of the class, is essential in order to motivate and to get students involve (Nellen, 2003; Chickering and Ehrmann, 1994; Symanzik and Yukasinovic, 2003). Those traditional students are convenient to see their instructors and to get to know them well because they can see their instructors anytime during the office hours. In addition, students were on

campus and able to chat and to see the instructors when they are around. Online courses do not provide the physical distance that allowed these types of communications. Even though online instructors are available during consultation hours, students still need to go out of their way to meet the instructors in the office. This situation reduces the opportunity for students to meet with their instructor. Online students are able to contact with their instructors in actual time or through email, but yet the way is restricted in its ability to recreate the many nuances (expression, feeling, tone) related with F2F interactions. (Arleen, 2008)

A lot of information is achievable as formulated through body language, tone, volume and voice modulation through F2F communication. F2F communications provide a greater richness of information as a whole. Through distance learning, non verbal body language and additional information that they contribute are absolutely lost. In such a way it is mostly not possible that an instructor will rise on unplanned questions or an expression of confusion. For students, the way that course content is delivered can likely indifferent and ineffective. Besides, the students are unable to get their personalised learning through distance learning. F2F delivery enables students to share personal experiences, thoughts and their challenges relating to the content. This can be a rich source of learning and one that a lot of students failure to achieve in distance learning.

Classroom learning usually provide multi sensory appeal (Neil Kokemuller, 2013). You can receive handouts, visual signal through PowerPoint picture, listen to the instructor, and take part aggressively in

class activities, group presentations and case studies. You also have direct access to the instructor in the classroom. The interaction is immediately and usually you have the opportunity to ask questions and take part in the discussions directly. This also allows you to benefit from the firsthand accounts of the experience of other students. If you want to build and maintain personal relationships and professional in your education, classrooms also offer larger personal relationships with other students.

On the contrary to online learning, classroom learning is often quite ordered. You meet at the scheduled time on a regular basis on the same day each week. Your work and other activities will be limited. You usually need to be in class to gain the experience of learning itself in order to compete with the requirements. Lessons that have been thought in the class are not accessible after the end of the class session unless your instructors record the lectures. Students who are having trouble to pay attention could find classrooms and other colleagues to discuss similar issues, and will be eager to brainstorm and share ideas of their learning experience.

2.1.3 Online Course Delivery

Online learning is the newest form of distance learning primarily based on asynchronous activities in web-based courses. For the purposes of this study, the terms online learning, distance learning, and e-learning, are used correspondently. Definition of "online" varies widely and we can find

no generally accepted definition. In the body of reviewed research, Daniel and Diane (2006) define an "online" course can alliteratively mean:

1) A course in which learning materials delivered online in the same physical location at the same time (Watkins-Miller, 1996), possibly in a live discussion, conducted by the instructor;

2) A course in which learning materials delivered online that never meets in the same physical location and the student learns independently of a live instructor;

3) A course which delivered by video conferencing, where a live instructor is lecturing in certain location and students are viewing the lecture in a different location (mainly referred to as "distance learning").

According to Naidu (1997), text books are usually more comprehensive and are definitely more convenient compared to existing resources on the Internet though advances in mobile computing may amend this. Nevertheless, Naidu commented, Internet resources are:

> *.....range, up to date, comprehensive and straightly accessible when I am working on a project in the middle of the night instead of having to go to the library (Naidu, 1997).*

On certain issues the student might be easily be better informed than the instructor and more advanced compared to the textbook (Petre and Harrington, 1996).

On the other hand, e-learning provides flexibility in time and space as well as increased communication and interaction capabilities (Anderson, 2004). As a result of its increased access to the growing body of online content, e-learning also supports the constructivist instructional design theory that emphasizes the importance of individual discovery and construction of knowledge (Jonassen, 1991). The reliance on collaborative

written communication lends itself to concurrent critical reflection and discourse, and it eventually leads to the higher-order (or deep) learning outcomes (Kinsel, Cleveland-Innes, and Garrison, 2004).

The explosive developments in the Information and Communications Technology (ICT) provide the tools needed to engage in a rapidly changing, knowledge economy and information society. ICT tools enable us to create, raise, keep, and using any knowledge and information. This rapid growth of ICT has made it a well known platform to provide extensive variety of electronic services in education. The widespread use of the Internet also has lead to a recent, dynamic aspect in collaborative and cooperative learning anytime and anywhere.

The phenomenon of social media is in violation of the concept of what is communication in numerous ways. It is growing very fast, it is used daily by all ages, and its acceptance among our students (and university faculty) cannot be denied. No matter we needed or not, social media has come to the class. The problem is that the instructors are not equally prepared to face the challenge of using these tools in their teaching practice. Many instructors are refusing to new technologies, whereas others are more likely to make different in their practice and start using these tools but they don't know how to get started.

Regardless the explosion of literature, performance evaluation for online courses is relatively complicated and usually challenging. Brown and Wack (1999) reveal the difficulties to apply a clinical experimental design to research in education and recommend an attempt to contrast distance and traditional courses are problematic, mainly because of the distance and

campus programs and populations are highly integrated. Within the restricted number of original research, three broad measures the effectiveness of online education are usually evaluated: (a) student achievements, such as grades and test scores; (b) student attitudes about learning through distance education; and (c) overall student satisfaction toward distance learning. Those research studies have repeatedly indicates poor designs, especially in managing the populations under comparison, the treatment being given, and the statistical techniques being applied (Moore and Thompson, 1990).

According to Mahani, et. al (2006), the success of online learning execution is affected by three major factors like technology, students and instructors' attribute. Technology that need to be applied in online learning should also friendly user and easy to use by students and instructor. Students have the chance to search and review their course materials at anytime and from anywhere. Students can download lecture notes, tutorial questions, online discussion, online quizzes and other materials. Instructors should not make a copy of the materials for the students any longer. By integrate the system with multimedia application for example animation, audio, video and graphics, the teaching and learning method in online learning become more attractive and effective.

Online classroom provides a platform for students to take part effectively by sending their suggestion through online forum and sending question or tasks to the instructor. Students will be involved in e-learning if it is part of their grading evaluation. Thus, instructors play an important role in equipping themselves with sufficient skill and knowledge to implement e-

learning. The support from instructors' toward the usage of e-learning would encourage students to use e-learning effectively. Additionally, proper design and technical support of e-learning system is essential to avoid disappointment between students in using e-learning system (Mahani, et al., 2006).

Like other forms of distance education, online classes can potentially make the university more reachable to older students back to school to update their recent skills or obtain the new ones (Bengiamin et al., 1998). Additionally, these classes offer greater flexibility to students who gain benefit from being able to control the time during which they study the course materials (Wallace and Mutooni, 1997). If online classes do meet the requirements, we would expect the online courses to have additional older and non traditional students. We also want those students to have bigger commitments outside than their colleague in the traditional class.

On the other hand, obviously that older, non traditional student chooses the online class. The standard age of the online students was more than five years greater than that of the traditional students. Students who prefer the online class are probably concerned for two main reasons:

- To prevent conflicts between class meetings and other responsibilities
- To prevent travel when the student's residence is away from campus

Normally, this leads us to expect that, students taking the online courses due to other bigger commitments outside of class and that they live a greater distance from campus. The two larger commitments that students are probably to have outside of class are occupation and childcare. Not only

were online students more tend to work, those who work are expected to be at work more hours a week from lecture students that work.

On top of flexibility, online classes provide better accessibility as the class can exactly be taken wherever there is access to a computer. We would looking forward to this element to be quite more attractive to students who find inconvenience getting to campus, due to other commitments or because they live farther from the campus.

Several people state that the online classroom can be equivalent or greater method for education due to its flexibility and student-centered learning (Logan et al. 2002; Russell 1999; Summers et al. 2005; York 2008). While in contrast, others states that online classrooms have not confirmed yet as an effective teaching method and that there is significant basis for doubt due to online education "McDonaldized" (Ritzer 2004) nature and the distance that it impose among students and their instructors with students and their friends (Parkhurst et al. 2008; Urtel 2008).

Online education does offer different opportunity for flexible, student-centered approach. Students are required to take responsibility for their own education and had to be practical in the learning process of online courses (Logan et al. 2002). Students must themselves standardize their work and take responsibility for the learning process itself if the instructors fail to present to provide instructions, pace and focus. In addition, the lack of a instructor who is promptly available to answer questions regarding the materials able to motivate students finding the answers on their own, a process that regularly strengthens knowledge more strongly (Atkinson and Hunt 2008).

Basically, students must take part directly in the dynamic, active process in which students always attempt to make sense of new information and cannot rely on passive, "instructivist" pedagogy (Summers et al. 2005:236). Though such student-centered, active learning is definitely achievable and does take place in well designed F2F courses, the remote nature of online education create a structural impetus for this style of learning that is not automatically present in F2F classrooms.

The online environment can also give a more relaxing place for students' involvement who are introvert or lack of self-confidence and who may be a bit frightened by the range of society of an F2F classroom (Clark-Ibanez and Scott 2008). In addition, online courses provide great flexibility and access to some of the teaching methods that may not be available in the traditional classroom (Sitzmann et al. 2006). In the online environment, mostly within courses made within concurrent design, students have the capability to learn at their own self, revise or review back which part of lectures they found difficult, get enough rest, and working in the most conducive to their own learning (York 2008).

Many of these doubts center on concerns that online classrooms unable to imitate the communication that occur inside the F2F classroom entirely, which is very important to the learning process (Rovai and Barnum 2003). Students learn deep in courses compared to direct content, and in an online environment they do not have the same opportunities for spontaneous, live discussion with their instructors and friends (Bok 2003:89). Even though online courses use a mass of electronic methods of communication (announcements, discussion boards, email, etc.), a number

of scholars argue that these are not similar to a real time, in person discussion (Summers et al. 2005:246).

2.1.4 Student demographics – Gender

Gender variable is generally considered in most literature as student characteristic that may have relation to student performance. Cheung and Kan (2002), Sullivan's (2001) and Young and McSporran (2001) were doubtful why female cohort was better than that of the male counterparts in online courses, but postulated that it could have been because female are generally more motivated, better at scheduling their time and female with family responsibilities place greater positive value and indirectly will put more effort to the course then the male did. Additionally, the female normally performed significantly better than male in certain courses for example art related subject and male students usually domain in these types of courses like IT (Craig et al., 2005), mathematics and science courses. (Beller and Gafni, 2000; Korporshoek, Kuyper, van der Werf, and Bosker, 2011; Neuschmidt, Barth, and Hastedt, 2008). Alstete and Beutell (2004) research findings conflicted with those reported by Brown and Liedholm (2002). Alstete and Beutell found that female generally outperformed men in the online courses whereas Brown and Liedholm argue that females under-performed compared to men in the online environment. Both researchers though, there was no significance between gender and student performance. Hartman and his associates (2000) found that men in traditional classes outperformed men in online classes.

2.2 Theories

2.2.1 Equivalency Theory

Equivalency theory was proposed by Simonson, Schlosser and Hanson (1999) state that every course must give learning experiences counterpart for all students, despite of the mode of delivery (traditional, blended or online).

Simonson and colleagues (1999) developed equivalency theory as one way to mix prior theories of distance education into an exclusively American viewpoint in light of latest advancements in information technology. The theory is proposed to ensure that distance education does not become a lower form of education, and indeed may not even be different areas of education. This is supported by Shale (1988). Equivalency theory argue that the more equivalent the learning experiences of distance learners to that of local learners, the more equivalent the educational outcomes for all learners. This approach proposes that course designers make learning experiences of equivalent value for learners despite of the course delivery mode, allowing that the experiences themselves may be different.

Recent discussions of equivalency theory have focused on how one establishes "equivalence." Watkins and Schlosser (2000) argued that equivalence must be determined based on demonstrated student accomplishment rather than instructional time based criteria. Such an approach suggests the need to evaluate learner performance on similar types of assessments using a variety of assessments than final exam scores, which tends to be the measure of choice in many "online vs. classroom" studies

(Weber and Lennon, 2007). Although latest comparison studies in business education have begun to evaluate other outcomes for example participation patterns, classroom projects, and overall course grade (Arbaugh, 2000; Friday et al., 2006; Weber and Lennon, 2007), the variety of activities considered in the study so far is still relatively limited. Therefore, it is the purpose of this study to examine the question whether it is a lack of online teaching or traditional classroom teaching are more effective across a range of evaluation methods.

Dr. Saba states that, good learning theories must be built based on, "a strong fundamental basis; should be based on the available knowledge of the area, should have proved the concepts and principals, and must make the instruction design more effective for the student". Equivalency theory says that distance education is not similar to traditional education, but it is equivalent. Dr. Saba stated, "a theory that regardless of how unknown it might be and how popular it is, does not make the instruction design more practical to the student, why even bother to evaluate it, thus apply it? (Laureatte Education Inc., n.d.).

2.2.2 Theory of Experiential Learning Styles

Education experts have identified students learning styles as the key to the acquisition of new knowledge and skills. The theory of experiential learning styles (Kolb's, 1976) has become one of the central theories used by educators to understand the influence of the environment education; course delivery formats (online and face to face) on students' learning

(Wierstra DeJong, 2002). This theory focuses on the interaction between the students and the learning environment (Kolb Kolb, 2005). The perspective of the Kolb's theory reasonably corresponding to our curiosity as to whether students' learning styles affect their choices, performance, or course delivery methods.

In view of the increasing use of IT in the academic field, it is important for us to determine the related human factors that could affect student courses performance. Kolb insisting that people tend towards the dominant learning styles where they combine new knowledge and skills. As mentioned above, Kolb has shown that in the context of traditional learning, students' choices for how they experience process materials and thus learn the most effective. However, the study shows that students do not have the option whether courses delivery format based on their learning style. Furthermore, it indicates that their academic performance in either course delivery format was not dependent upon their learning style.

2.2.3 Teacher-Centered vs. Student-Centered Model

The traditional pedagogical model is concerned with teacher-centered instruction, where the teachers organize the information that is sent to the student, typically in the form of lectures, presentations, or demonstrations. New views on learning, though, stress action, creativity, and social interaction in the learning process. The transformation of facts and information into knowledge is now considered a multi-step process, and

educators argue that courses should be designed to promote this transformation process by balancing receiving knowledge and creatively using knowledge (Zull, 2002).

The online environment offers more opportunities for cooperation compared to traditional classes. Online class instructors seem to be more deliberately building an active learning experience, such as asking a question or participate in the discussion. Well-built courses have to take the student throughout the entire learning cycle and engage some parts of the brain (Zull, 2002). Online learning is more consistent with Knowles' (1975) andragogical model of learning that emphasizes the significance of student-centered, self-directed, problem-solving-based learning (Neville and Heavin, 2004). In online education, students can relate directly with content (that they find in several formats) or can have their learning in order, focussed and evaluate with the help from a teacher (Woods and Baker, 2004).

2.2.4 Engagement Theory

Engagement theory (Kearsley and Shneiderman, 1999) is a model for learning in technology-based environments. The main premise is that students should be involved in their course work so that effective learning occurs. This theory considers three major ways to achieve involvement: (1) an emphasis on collaborative efforts (2) project-based assignments, and (3) focus on non-academic. It is proposed that these three methods producing

creative, meaningful, and authentic learning. The role of technology is to simplify all aspects of engagement.

2.2.5 Transactional Theory

Moore's (1993) transactional distance theory is one of the basic theories in distance learning. The major principle of Moore's (1993) theory is that distance is a pedagogical phenomenon, rather than a function of geographical separation, and it exists in traditional and distance classes as well. Transactional distance is the psychological and communication space between students and instructors and it is a purpose of dialogue, structure, and learner autonomy. In line with the dialogue increasing, the structure is decrease, which minimizes a transaction among instructors and students. The aim for the course is to find the optimal balance of structure and dialog (Saba and Shearer, 1994).

2.3 Relationship between traditional course delivery and students' performance

Bennett, Padgham, McCarty, and Carter (2007) found no significant difference in the traditional class's performance as a whole than learning outcomes of 406 traditional and 92 online students in principles of macroeconomics and microeconomics at Jacksonville State University in 2005. On average, the final results of traditional students were 69.5 compared to 69.3 for online students. But, the researchers did find a

significant difference at the 10 percent level in microeconomics where the traditional students had a final average of 67.1 compared to 60.2 for online students.

Several researches showed multiple results. Data analysis in the study conducted by Ury, G (2005) describes a significant difference between online and traditional student grades in Management Information Systems course. The mean grades of traditional students were significantly higher than the mean grade of online students. The same goes to beginning programming course: the average grades of online student were 78 percent while the traditional students were 84 percent. These results support the dispute that online students are missing something that the traditional students have.

Another, more comprehensive study, involved seven courses in Computer Science and Information Systems showed mixed results: In several courses, online students has not done well as traditional students (Ury, McDonald, McDonald and Dorn (2006). The authors found that no significant differences in performance were found in four upper level courses (Computer Organization II, Programming Languages, Theory and Implementation of Programming Languages, and Survey of Algorithms) taken by computer science majors. Nevertheless, three courses (Management Information Systems, Database Systems, and Introduction to Programming Visual Basic) taken by students from many majors and minors showed significant differences in students' performance.

The results of a study that involved business students indicated that students perceived online courses as having a significant relative advantage over traditional methodologies. These advantages include a better fit with course schedules, time saving and enabling students to take additional courses. The students indicated that they seems can't believe they learned more in online course and they had problems associated to being able to participate in class discussions. Nevertheless, the students' attitudes tended to be contradictory when make a comparison between online to traditional methods. Ironically, they reported that they preferred traditional courses compared to online courses, even though they preferred more online courses (O'Malley, John and Harrison McCraw, 1999).

In the study of Drennan, Kennedy and Pisarski, (2005), they found that research subjects believed it is vital in achieving a balance between the use of traditional F2F lectures and emerging technologies. In another study involving Bachelor Accounting students, researchers found that the hybrid or blended approach to online learning was better to course content delivered fully online. In particular, the researchers determined that using technology as an exclusive course delivery method was deliberately inadequate. According to the authors, "group learning and F2F tutorials were vital to both student self-confidence and the learning practice" (Flynn, A., Concannon, F., and Bheachain, C. N., 2005).

Garson (1998) carry out a research study on online and traditional section of a history survey course during summer of 1997 and found that 50% of the online students would have chosen a traditional format. Majority of the academic leaders said that the online learning outcomes are equal

with those of F2F instruction (The 2003 Sloan Survey of Online Learning). Most of them responded that online learning is significant to their long term strategy (Roach 2003 p1). Thus, the first hypothesis of this study will identify. This finding formed the basis of hypothesis:

H1: There is a relationship between traditional courses delivery and students' performance.

2.4 Relationship between online course delivery and students' performance

Most of the literature shows varied results on comparisons of performance between traditional and online students. Several researchers found that online students do better than traditional students. For example, Gubernick and Ebeling (1997) observed that students who completed their online studies achieved 5-10 percent higher scores on standardised achievement tests compared to traditional students. Sooner (1999) states that because they have to work alone without assistance from others, online students are capable to recognize the main issues on their own and apply innovative solutions to the problems they come across. She argued that the absence of classroom distractions enables online students to keep more the course material and gain more knowledge from the course than traditional students. According to Pool (1996) online students are stimulated enough to overcome problems related with online learning and to perform well

regardless of the lack of classroom interactions where the course material is reviewed and rehearsed and additional insights provided.

Generally, most of the researchers found that there are no significant differences between online and F2F students' performance or some online methods might produce to stronger student learning outcomes. (Koory, 2003; Bernard et al., 2004; Warren and Holloman 2005; Fortune, Shifflett, and Sibley, 2006; Tallent-Runnels, Lan, Cooper, Ahern, Shaw, and Liu, 2006; Herman and Banister, 2007; Weber and Lennon, 2007; Means et al., 2009). Online methods (either taught fully online or blended) on average, contribute stronger learning outcomes than solely F2F instruction.

While some studies pertaining to courses in CIS (Computer and Information Systems) show that performance is identical, no matter whether the courses have taken in traditional or online. Kleinman and Entin, 2002 compared in class and online teaching from both students and instructors view based on two sections of an introductory Visual Basic programming course at a community college. Although the online students were more positive on the value of the course, there is no difference in performance can be traced between the online and traditional groups.

Some courses could expand accomplishment gaps among students in different area even such courses with low cost might agree to an additional various group of students to seek for college. The study by Di Xu and Shanna, (2013) have reviewed 500,000 courses taken by over than 40,000 communities and technical college students in Washington State found that usual student have some problem to familiarize themselves to online

courses, but some students get use quite well whereas others adapt very badly. The study found that every student who takes additional online courses, regardless of demographic, is probably hard to obtain a degree. Online format had a significantly negative relationship with both course perseverance and course grade, shows that usual student had problems adapting to online courses.

In general, there was no significant difference in performance of the online classes enrolled in Principles of Microeconomics at California State University Fullerton. (Gratton-Lavoie and Stanley, 2009). This is supported by Bennett, Padgham, McCarty, and Carter (2007) at Jacksonville State University which controlling for GPA and age. Both researchers argue that there was no significant difference in scores on the final exam. However, Bennett et all did find a significant difference at the 1 percent level in macroeconomics classes where the online students had a better final average (81.2 compared to 71.6 for traditional students).

Daymont and Blau (2008) carry out a study of 64 online students and 181 traditional students enrolled in an undergraduate Organization and Management course during either the fall of 2006 or the spring of 2007 at a large public university in a large eastern city. They found no significant difference in the final grades of students in both delivery format (generally, online students had slightly higher final grades); though, the online students scored much better on quiz scores. This study also has been supported by previous researchers (Friday, Friday-Stroud, Green, and Hill 2006) at a

commuter university in the south eastern United States which controlling for instructor experience and time period.

Data were obtained from 23 students enrolled in F2F class and 24 students in distance education class of business communications course. The instructor, course materials, assignments, course content, homework, research project, and final exam were constant between both delivery formats. Results indicated that the final exam and post-test scores of the distance education students were higher and significantly different at the .05 alpha level; but, final courses grades, research paper grades, homework grades and pre-test scores were not significantly different. (Tucker, 1999)

Driscoll, Jicha, Hunt, Tichavsky, and Thompson, (2012) completed a study of 368 students taken introductory level sociology course which enrolled in three online and three F2F sections. Variables such as instructor, course materials, and assessments were the same for both classes. Driscoll et al (2012) found that when online courses are designed using pedagogically sound practices, they may provide equally effective learning environments. This study make a comparison of students' performance on midterm exams and an integrate data analysis assignment.

However, according to Atchley, Wingenbach, and Akers (2013) indicated that a statistically significant difference did exist in the students' performance in online courses at Texas public universities in attaining a degree. This study also has been supported by previous researchers (Faux and Black-Hughes, 2000; Shoenfeld-Tacher, McConnel, and Graham, 2001; Paden, 2006). Shoenfeld-Tacher et al. found that there was significantly

different and better in academic achievement as measured by a post-test in online science course compared to students' performance in the traditional course. Alsete and Beutell (2004) found a significant positive relationship between undergraduate GPA and grades received in online courses.

A relationship does exist between taking an online class in the past and preference for delivery method. Taking an online class does not directly influence a student to take another online class; however, students who did not take an online class are discouraged from trying the online format. One conclusion may be that students are unfamiliar with the online format and feel uncomfortable trying that delivery method. Thus, the hypothesis of this study is:

H2: There is a relationship between online courses delivery and students' performance.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter illustrates the research methodology on how the study was executed. The objective of this chapter is to collect data for analysis that derive to findings of the problem statement. In doing so, the process of the research encompasses the research design, population and samples, instrumentation, data collection procedure and data analysis. Statistical Package for Social Science (SPSS) version 19.0 software was used to conduct the analysis of study.

3.1 The Research Framework

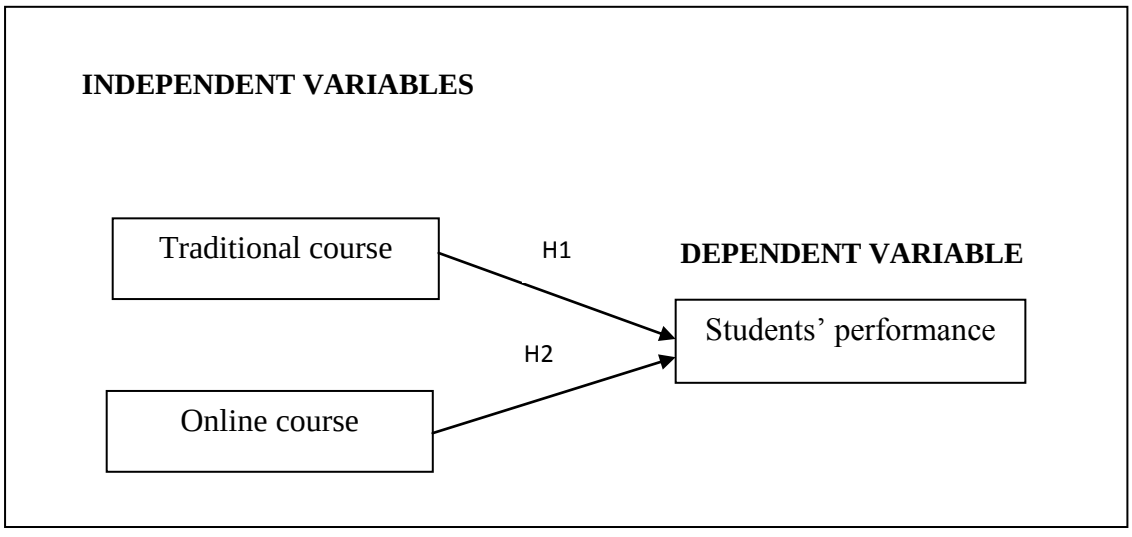

Figure 3.1: Theoretical framework

3.2 Hypothesis

The research hypothesis is to provide a tentative testable statement that will predict the empirical data of this research. It is expected that solutions can be derived to correct the problem statement.

Hypothesis (1):

There is a relationship between traditional course delivery and students' performance

Hypothesis (2):

There is a relationship between online course delivery and students' performance.

Hypothesis (3):

There is no significant difference in the students' performance considering gender factor

3.3 Research Design

This study focuses on quantitative non-experimental research design, i.e. surveys, where the researchers typically attempt to relate one variable to another or associate them rather than manipulating them (Hopkins, 2000). The survey research purposes is to simplify the sample findings to the population as it present a numeric description of trends, attitudes or opinions of a population by studying a sample of population (Creswell, 2003). According to Polgar and Thomas (2000), surveys are commonly used in

research for the purpose of (1) establishing the attitudes, opinions or beliefs of persons concerning certain issues, (2) studying characteristics of population on certain variables, and (3) collecting information about the demographic characteristics (age, gender, ethnicity, etc.) of populations. Reasons for choosing this design is refer to Sekaran (2003), the researcher can gather all the completed responses within a reasonable period of time and cost efficient. The cross-sectional with the data collected at one point in time is the nature of survey.

3.3.1 Type of Study

This survey is conducted by adopting a correlation study among the variables. Correlation study was chosen because the researcher is interested in defining the important variables that is connected with the problem (Sekaran et al., 2010). In this research, the hypothesis and statistical data between two independent variables, and one dependent variable are studied.

The researcher of this study used a quantitative causal-comparative research design. The researcher used pre-existing numerical data in an attempt to determine if there were differences in academic performance between two groups of students, online learning and on-campus students. The independent variable was the program, online learning and traditional on-campus, in which the students received their education. The dependent variable was students' performance, and this was measured by course grades of the students. One other aspect of this study was to determine if there were differences between the two groups on student background characteristics

considering gender factor. The researcher used an independent variable that was measured by categories and it was not manipulated. In addition, numerical data were collected for comparison of groups. For these reason, the researcher determined that a quantitative causal-comparative research design would best answer the research questions.

3.3.2 The Quantitative Analytical Approach

According to Zikmund Babin and Carr Griffin (2010) illustrate quantitative business research as the researcher accesses research objective through the medium of empirical measurements (i.e., numerical measurement and statistical analysis). Greg L. Lowhom (2007) stated quantitative research investigate to confirm a theory by performing an experiment and analyzing the results numerically.

Peter Ashley and Bill Boyd (2006, p. 70) stated that "quantitative methodology is associated with the rational and objective measurement of observable phenomena". The hypotheses are formulated before beginning the study. Quantitative researchers start analysis by mathematical or numeric manipulation (i.e., statistics) after all date have been collected (Neuman, 2003, as cited in Peter Ashley and Bill Boyd, 2006, p.73). According to John W.Creswell (2003, as cited in Greg L. Lowhorn, 2007) stated that “quantitative research found statistically significant conclusions about a population by learning a representative sample of the population”.

In this study, the researcher required to use the questionnaire in order to obtain data from large population. This is because the questionnaire is suitable and preferable approach to collect huge quantitative data. In this

study, quantitative research design was used to investigate the effect of students' performance on the relationship between traditional course and online course.

According to Sekaran (2003) asserted that time horizon divided into two measurements namely cross-sectional studies and longitudinal studies. In present study, the researcher collect the data based on cross-sectional measurement and one short over a period within two months.

3.3.3 Sources of Data

They are two sources of data used in the study which are primary and secondary data. The information obtained firsthand by the researcher on the variables for the purposes of the study is called primary data (Sekaran, 2003). The information was taken from the questionnaire and distributed to the respondents.

The secondary data is the source of data that gathered by the researcher that already exist. The researcher uses secondary data such as previous studies by other scholars as the literature review for this study.

3.3.4 Unit of Analysis

According to Sekaran (2003), unit of analysis refers to the data collected during subsequent data analysis change. The research is to seek the finding to students' performance among undergraduate students in public universities. Therefore the research is done on undergraduate Business Administration (BBA) Finance students who are unit of analysis.

3.3.5 Population and Sampling Frame

Population is defined as the entire group of people, events and things that the researcher needs to investigate. The general population of the study was the undergraduate students of Business Administration (Finance) enrolled at the UiTM Shah Alam. The target population was the students enrolled in the face-to face and online courses. The numbers of students are obtained from Pusat Jaringan Industri, Promosi dan Pemasaran (PJIPP) Institut Pendidikan Neo (iNED) for ePJJ and for on campus. This degree program served a population of 1,272 students.

Sample size is an actual number of subjects chosen a sample to signify the population characteristics or known as subset of the population (Sekaran, 2003). The researcher used Krejcie and Morgan's (1970) table to determined sample size. This scientific guideline provides certain sample size based on certain population size. Since the population size are 1,272, thus the Krejcie and Morgan's table suggested that when the population 1,272, so the targeted sample size should be 297.

Participation in this study was voluntary. Students in the traditional classroom settings completed paper surveys, while those taking online used online questionnaires. Students were asked to participate in the study by their instructor. A total of 304 students filled out the questionnaire.

3.4 Measurement of Variables

3.4.1 Validation of Instruments

Survey questionnaire was distributed to the choose respondents. The survey consists of two sections: demographic and three respective variables included students' performance, traditional course and online course. The questionnaire will collect within two weeks after the respondents finish answering the questionnaires.

The final questionnaire seeks information on the following two sections: (1) demographic of respondents; (2) three respective variables included students' performance, traditional course and online course.

In order to have good total response, data collection procedure must be well administered. The relevant points from these sources that associate with the variables of the study is used in producing the questionnaire. Opinion to questions put forward in the survey is in the form of Likert Scale. This scale is chosen because the researcher wants to see the respondent favouritism of the statement put forward whether they give a positive or negative reaction to the concept that is highlighted (Jupp, 2006).

The following Table 3.1 lists the sources of the instrument:

Table 3.1
Sources of Instruments

Variable	Item	Sources	Scale
Students' performance	11	Voley and Lord (2000), Soong et al. (2001), Selim (2005),	1 = strongly disagree to 6 = strongly agree.
Traditional course	12	Elliot and Mcgregor (2001), IDEA Survey (2005), Richmond, McCroskey and Johnson's (2003), Arbaugh's (2010), and Pratt (1999), Wagner (1997), Swan (2001).	1 = strongly disagree to 6 = strongly agree.
Online course	23	Neumann (2009), Ledbetter and Larson (2008), Carey (1980), Riordan and Kreuz (2010), Ledbetter and Larson (2008), McCalman (2008)	1 = strongly disagree to 6 = strongly agree.

3.4.2 Pilot study

A pilot study is carrying out to evaluate every item in the survey in terms of item quantity and overall reliability. Its purpose is to confirm whether the items are easily understood, to ascertain the time required to manage the survey, and to determine its ease of use. The results of this pilot study and comments received from participants are used to modify any unclear wording in the questionnaire. Pilot study is defined as the pre-testing of a particular research instrument (Baker, 1994). The advantages of conducting pilot study is it will give advance warning about where the main research project could fail, where research procedure may not be followed or whether proposed methods or instruments are inappropriate.

3.4.3 Reverse-scored Item

According to DeCoster (2004), reverse-scored item is a technique where some questions in a survey are worded as that high value of theoretical construct are reflected by high score in item. Whereas other questions are worded as that high value of the same construct are reflected by low score in item. The researcher do this because to encourage respondents to actually pay attention to the questions. Unfortunately, the overall score cannot be determining for the scale simply by averaging the items. Instead the items must first transform so that they are all oriented in the same direction. For example, all items may be scored as that large values indicate more of the construct. To do this, the items must be reverse-scored where small value indicated better amount of construct (DeCoster, 2004).

Thus, if the questions in the scale had values 1 to 6, the reverse-score an item by changing its values in the following way:

Table 3.2
Reverse-score items

Old Value	New Value
1	6
2	5
3	4
4	3
5	2
6	1

3.4.4 Back translation

In order to make sure the respondents answer the survey confidently, the questionnaire had to be translated into Bahasa Malaysia since the Bahasa Malaysia is the national language of Malaysia. There are various techniques in translating a questionnaire; as examples back-translations, bilingual practice, committee approach and pre-test method (Cha et al., 2007, p. 388). For this survey, the suitable translation method to be used by the researcher is back-translation method. It is popular and widely used by cross-cultural researcher using Brislin's back translation model. According to Brislin (1970, p.186), the researcher should use two bilinguals which is translating from the source to target language and translating back from the target to the source. The process for back-translation of this study based on Brislin's (1970) was as below:

1. Participation of two competent translators that familiar with the content involved in the source language questionnaire.
2. They have been given by two weeks to one translator to translate the questionnaire from the sources to the target language.
3. Another bilingual translated was given by the same time period from the target to the source language.
4. To assess the original back-translated versions for any errors in difference meaning the two translators were invited.

5. Some of the English version and the others version of the translation was tested on the target language-speaking respondents.

3.5 Data Collection and Administration

The data collection procedure was conducted in two phases by way of simple random sampling. Phase one involved the Pilot Test and Phase Two is the Main Survey. The data was collected from BBA (Finance) students who are answered the questionnaires and then were collected after two weeks and brought back for analysis. The survey was conducted by email and self administered questionnaires. 340 were administered through personal distribution and email. Even though sample size was 297 the researcher distributed more which were 340 because it may cause low percentages rate of respondent. The objectives of this study were briefly explained to the respondents before the questionnaires were distributed. The researcher also explained to the respondents that information provided in the questionnaire would be used only for the purpose of this study and shall be kept anonymous.

A total of 340 questionnaires were distributed to BBA (Finance) students in UiTM Shah Alam. The fraction of the questionnaires received and rejected was described in Table 3.3 below:

Table 3.3
Data Collection Instruments Responses

Respondents	Frequency	Percentage
Total population	1,272	
Distributed	340	100%
Received	304	89.4%
Rejected	-	
Accepted	304	89.4%

3.6 Sampling Design

Sampling design means that the researcher chooses an appropriate number of elements from the whole population of unit of analysis. Sekaran (2003) explained that the sampling design is important to generalize the total population.

3.6.1 Probability Sampling: Simple Random Sampling

The researcher has selected simple random sampling on this study because the sample size has known. According to Sekaran (2009), they have two types of sampling which are probability sampling and non-probability sampling. The probability sampling is the elements of the population that have known opportunity or probability of being selected as sample subjects. In probability sampling consists of simple random sampling, systematic sampling, stratified random sampling, cluster sampling, area sampling and double sampling.

3.7 Data Analysis Techniques

The data analysis will perform by using the SPSS for Window Version 19.0 which determines the nature and strength of linear relationship among variables (Sekaran et al., 2010). Quantitative data analysis technique is use to measure the data which involves reliability and normality testing. Measurement of Descriptive Statistic is performing to identify the maximum, minimum, mean, variance and standard deviation. A frequency table is also use to present the result. A Pearson Correlations analysis with significance level of 0.05 is used to analyze relationship between variables.

3.7.1 The reliability of Instruments

The Cronbach's Alpha is used to measure the reliability of the instruments in the study and the most common form of internal consistency reliability coefficient is between two scores ranging from 0 to 1.00. In exploratory research, the common lenient cut-off is 0.60 and normally approved upon lower limit for alpha 0.70 (Hair et al., 2010) and most of researcher require cut-off 0.80 for a good scale (Dawson and Trapp 2004). According to Bougie and Sekaran (2010), commonly reliability coefficient that considered poor in the range of 0.60, 0.70 are acceptable and 0.80 are considered good. Therefore, the cut-off alpha for this study during pilot survey is 0.70 and any measures below 0.70 will modify to ensure the questionnaire is clear and understood by participants.

3.7.2 Descriptive Statistic

Descriptive statistic is to explore the data collected and particularly useful if one just wants to make general observation about the data collected. Standard deviation and variance in statistic will give more information about the division of each variable. According to Sekaran (2003), the frequency analysis is to summarize the whole question asked. It is a display of the frequency occurrence of each score value and can be represented in tabular form or in graphical form.

3.7.3 Hypothesis Testing

To test the interrelationships between research variables, multiple regression analysis is utilized. Further analysis included correlation testing to determine the associations between each response in each respective variable.

3.7.4 Inferential Statistic: Pearson Correlation

According to Sekaran (2003), correlation analysis is to measures between two or more variables on their relationship either in positive or negative correlation. It is also to measure the interrelationship between two variables which are mutually inclusive of dependent and independent variable.

It is good provider of information by Pearson Correlation matrix to the nature, direction and significance of the vicariate relationship. In theory, they could be a great positive relationship between two variables shown by 1.0 in the value and symbolically by *r*. The scales which have been outlined

by David (1971) which can be used to interpret the relationship between two variables are in below:

Scales	Relationship
0.80 and above	Very strong relationship
0.50 – 0.79	Strong relationship
0.30 – 0.49	Moderate relationship
0.10 – 0.29	Low relationship
0.01 – 0.09	Very low relationship

3.8 Conclusion

The methodology of this research has been discussed in this chapter. They are research design, data collection methods, quantitative analytical approach, population and sample, sampling design, measurement technique and data analysis methods. The next chapter will discussed the findings of study.

CHAPTER 4

DATA ANALYSIS & FINDINGS

4.0 Introduction

This chapter discussed the research findings from the survey. There were 340 questionnaires distributed to BBA (Hons) Finance students in UiTM Shah Alam. Anyhow only 304 (86.8%) respondents answered the questionnaire and were submitted back to the researcher after 14 days of survey. Result of the data analysis was gathered using two statistical tools. The first is the descriptive statistics where analysis findings of the frequency. The second tool is the inferential statistic which is used to perform regression and correlation to determine the hypothesis. The result of the data analysis is explained in the following categories:

- Demographic analysis of respondents.
- Descriptive analysis of respondents.
- Hypothesis testing – Evaluation on decision to accept or reject the null and research hypothesis.

Besides that, on the basis of the results of this study, several findings can be summarized. The summary of the findings was elaborated in the respective results.

4.1 Normality Test

The data was checked for their normal distribution. It was found that some of the data were negatively skewed. Thus the data was corrected using transformation process.

4.2 Missing Data

Missing data was checked and was replaced using SPSS Missing Data.

4.3 Pilot Survey

The pilot test was conducted among 40 students from various background that have experience taking both courses (traditional and online) to ensure that the survey formats, instructions and questions were clear and understood by the respondents. Next, the researcher performed the reliability analysis on the questions related to Section Two, Section Three, and Section Four which are the dependent and independent variables using Cronbach's Alpha to check the internal consistency of the questionnaire. The Cronbach's Alpha from the pilot study is shown in Table 4.1.

Table 4.1
Cronbanch's Alpha for pilot study

Variables	Cronbach's Alpha	N of Items
Student performance	0.772	11
Traditional courses	0.942	12
Online courses	0.954	23

According to Bougie and Sekaran (2010), a reliability coefficient of 0.60 is considered poor, those in the 0.70 range are acceptable and those over 0.80 considered good. Table 4.1 illustrated Cronbanch's Alpha for the instruments. After data have been analyzed, the Reliability test for dependent variable which is student performance consists of 11 items of reliability coefficient. The result shows Cronbanch's Alpha is 0.772. This

result is more than 0.6 at the range of excellent and considered as having high reliability and can be accepted in this study. For independent variables; traditional courses consist of 12 items of reliability coefficient and Cronbanch's Alpha is 0.942. According to Bougie and Sekaran (2010), the result shows that it can be accepted. Besides that, for online courses, the result shows that the reliability coefficient have consist 23 items and Cronbanch's Alpha is good and can be accepted which is 0.954.

4.4 Frequency Analysis

Frequency distribution analysis was conducted to get a count of the number of the respondents with different values and expressing in percentage value. All tables below show that the analysis of respondents' background included gender, age, ethnicity, students' reported GPA, level of computer skills, education level, a place using a computer to access into the courses, and the "ease use" of the technology in particular courses.

4.4.1 The Demography of Respondents

The analysis was performed on gender, age, ethnicity, students' reported GPA, level of computer skills, education level, a place using a computer to access into the courses, and the "ease use" of the technology in particular courses which is illustrated in Table 4.2. The purpose of the demographic data collection was to determine if there were any significant differences between the various class sections in terms of demographics, and to identify any possible extraneous variables that might threaten the validity of the study. Altogether 304 students (163 face-to-face and 141 online) participated in survey. The gender composition shows that two thirds (70.7%) of the respondents were female. Majority (51%) of the respondents was between 26-30 years old while the lowest (2.0%) is from 40 years old and above. The Malays are ranked as the largest number of respondents at 96.4%, followed by Indian 2.3% and Chinese 1.3%. The data shows that most of the respondents have GPA of 3.1 - 3.5 and around 78.6% rated their computer expertise as intermediate. In relation to academic background, respondents with a Diploma are the most with 82.6%. Most of the respondents frequently used a computer for the course at home with 78.6% compared to respondents that used a computer for the course at work 21.4%. The ratings on the "ease use" of the technology were identical with about 70.1% of the respondents finding it "easy" and about 4.5% finding it "somewhat easy".

Table 4.2
Demographic statistic (N = 304)

Classification		Frequency	Percentage (%)
Gender	Male	89	29.3
	Female	215	70.7
Age	Less than 25 years	168	55.3
	26-30 years	80	26.3
	31-35 years	34	11.2
	36-40 years	16	5.3
	40 years and above	6	2.0
Ethnicity	Malay	293	96.4
	Chinese	4	1.3
	Indian	7	2.3
	Others	0	0.0
Students' reported GPA	Less than 2.0	0	0.0
	2.1-2.5	0	0.0
	2.6-3.0	122	40.1
	3.1-3.5	147	48.4
	3.6-4.0	35	11.5
Level of computer skills	Basic	0	0.0
	Intermediate	239	78.6
	Advanced	65	21.4
Highest level of education	SPM	0	0.0
	STPM	43	14.1
	Diploma	251	82.6
	Others	10	3.3
Place using computer	Home	239	78.6
	Work	65	21.4
	Others	0	0.0
Using technology (easy / difficult)	Easy	213	70.1
	Somewhat easy	45	14.8
	Somewhat difficult	46	15.1
	Difficult	0	0.0

4.5 Descriptive Statistic

Descriptive statistics is a pattern and general trends in a data set. Table 4.3 shows descriptive statistics for all variables. The result shows that mean for traditional courses is 3.99 while online courses with 4.13. For standard deviation, it shows that high standard deviation is traditional courses; 0.958 while lowest standard deviation is student performance with 0.399.

Table 4.3
Descriptive statistics

	N	Mean	Std Deviation
Student performance	304	4.3005	0.39974
Traditional courses	304	3.9907	0.95879
Online courses	304	4.1377	0.70335
Valid N (listwise)	304		

4.6 Hypothesis Testing

4.6.1 Correlation Result Analysis

The hypotheses for this analysis are:

i. Hypothesis 1

H1: There is a relationship between traditional courses delivery and student performance.

This hypothesis was analyzed using correlation. Table 4.4 shows that there was a positive correlation between traditional courses delivery and student performance with $r = 0.971$ and $p = 0.000$; $p<0.05$. Thus the hypothesis for this relationship is accepted. As conclusion, it was found that student performance were increase in traditional courses delivery.

ii. Hypothesis 2

H2: There is a relationship between online courses delivery and student performance.

This hypothesis was analyzed using correlation. Table 4.4 shows that there was a negative correlation between online courses delivery and student performance with r = -0.876 and p = 0.000; p<0.05. Thus the hypothesis for this relationship is accepted. As conclusion, it was found that student performance is not depending on the online courses delivery.

Table 4.4
Correlation analysis

Correlations

		Traditional _mean	Online _mean	Performance_ mean
traditional_mean	Pearson Correlation	1	-.885**	.971**
	Sig. (2-tailed)		.000	.000
	N	304	304	304
online_mean	Pearson Correlation	-.885**	1	-.876**
	Sig. (2-tailed)	.000		.000
	N	304	304	304
Performance_mean	Pearson Correlation	.971**	-.876**	1
	Sig. (2-tailed)	.000	.000	
	N	304	304	304

** Correlation is significant at the level 0.01 level (2-tailed)

4.6.2 T-test Result Analysis

iii. Hypothesis 3

H3: There is no significant difference in the students' performance considering gender factor

This hypothesis was analyzed using t-test. Table 4.5 shows that there was no significant differences between gender and student performance (*r = 0.888 and p = 0.000; p<0.05*). Thus the hypothesis for this relationship is accepted. The findings of the study reveal that gender is not significant predictors of students' performance.

Table 4.5
T-test analysis between Gender and Dependent Variable

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Students' Performance	Male	89	4.2625	.40758	.04320
	Female	215	4.3163	.39634	.02703

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Students' Performance	Equal variances assumed	.020	.888	-1.067	302	.287	-.05377	.05037	-.15289	.04536
	Equal variances not assumed			-1.055	160.279	.293	-.05377	.05096	-.15441	.04688

4.6.3 Multiple Regression Analysis between Independent Variables and Dependent Variable

Multiple regression analysis was used to evaluate the effect of independent variables (traditional and online course) on dependent variable (students' performance). As depicted in Table 4.6, the regression results revealed the R square value of 0.944. This indicates that 94.4% of variance that explained the DV (students' performance) was accounted for by the IVs (traditional and online course) where the F value = 2560.783 at $p<0.05$. Further, of the two dimensions (IVs), traditional course ($\beta = 0.906$, $p < 0.001$) were significant predictors of students' performance but online course ($\beta = -0.74$, $p < 0.001$) are not significant predictors of students' performance.

Table 4.6
Multiple Regression Analysis Result

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.972[a]	.944	.944	.09449

a. Predictors: (Constant), Online course, Traditional course

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.730	2	22.865	2560.783	.000[b]
	Residual	2.688	301	.009		
	Total	48.418	303			

a. Dependent Variable: Students' performance

b. Predictors: (Constant), Online course, Traditional course

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.968	.114		26.055	.000
	Traditional course	.378	.012	.906	31.063	.000
	Online course	-.042	.017	-.074	-2.538	.012

a. Dependent Variable: Students' performance

4.7 Hypothesis Summary

Table 4.7 present the results of the hypothesis testing conducted in this study. A bivariate Pearson's correlation coefficient analysis indicated that two variables (traditional courses and online courses) have shown a significant difference towards the student performance. Thus, all of hypotheses in this study were accepted.

Table 4.7
Hypothesis Summary

Hypothesis	**Supported/ Rejected**
Hypothesis 1 *H1: There is a relationship between traditional courses delivery and student performance.*	Supported
Hypothesis 2 *H2: There is a relationship between online courses delivery and student performance.*	Supported
Hypothesis 3 *H3: There is no significant difference in the students' performance considering gender factor*	Supported

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter elaborates and talk about the recommendation to the related parties, limitation and suggestion for future study. At the end of the chapter, conclusions are also highlighted.

5.1 Discussion

The results obtained were analyzed using statistical analysis in ensuring its reliability. The findings of the study included the demographic information of the respondents such as their gender. The study shown that majority of the respondents were female (70.7%) than male (29.3%). Those respondents were the students that take traditional course and use online learning system at UiTM Shah Alam, Malaysia. The Online Learning System that implement in UiTM is known as i-Class Learning Management System.

This study adds to our knowledge about the relative performance of online and traditional students in an under-investigated area: BBA Finance program students of UiTM Shah Alam. The results are similar to other researchers in this area, in that we found controlling for measures of student academic ability, traditional students performed as well but not better than online students.

In order to succeed in an online course, you need to have high self discipline. This is an obstacle to the widespread use of online learning. It seems absurd to believe that lack of self-discipline would affect worse on the performance of students, especially online courses where students are often attracted by the attraction anytime and anywhere course structure. To reconcile this inconsistency, we may need to take into account the compensating factors which may be offset to the negative impact of the greater the potential lack of self-discipline in the courses online. One potential factor is the difference in academic achievement between students in the online and traditional.

5.1.1 Hypothesis Testing Result

5.1.1.1 Results of Correlation

Objective 1: To investigate if there is a relationship between traditional courses delivery and students' performance

The finding of this study show that traditional courses delivery and student performance have significantly associated each other. The positive correlations in Table 4.4 illustrate that as the level of achievement goes up, those student beliefs that traditional courses are convenient, enjoyable, and provide them independence. Students find it easier to follow the learning in the classroom where they can ask the instructors if they do not understand the lessons taught. These results also supported with findings by Bacon and Bean (2006), Marburger (2001, 2006) and Terry and Diane (2010) initiated

that traditional students has a positive relationship with students' performance. In contrast, John, Marilyn and Jo (2002) in his study found that they have negative association between traditional and students achievement. In addition, this result also agrees with Ury, G (2005), Ury, McDonald, McDonald and Dorn (2006) and Bennett, Padgham, McCarty, and Carter (2007), and there is enough evidence to claim that traditional delivery is positively correlated with students' performance.

Objective 2: To investigate if there is a relationship between online courses delivery and students' performance

The result of this objective indicates that there is a negative significant association between online courses delivery and student performance. The negative correlations found in Table 4.4 also reveal an inverse relationship between students' performance with student perceptions of limited options. That is, when levels of student performance drop, the student's perception that he/she has limited options in course selection increase. These results underscore the importance of student confidence that they can take control of their learning in such a class environment when engaged in distance learning by way of online courses. Lack of motivation appears related to the likelihood of students feeling helpless about selecting an appropriate delivery medium that suits them. In contrast, Sooner (1999) and Cheung and Kan (2002) in his study found that they have positive association between online and students achievement. This result was consistent with previous research by Faux and Black-Hughes (2000) has declared that students did

not feel comfortable learning from the internet in their online course. Several studies investigating the relationship have yielded similar results (McLaren, 2004; Lawrence and Singhania, 2004; Farinella, 2007; Rochelle and Dotterweich, 2007). Students are discouraged from taking an online class if they do familiarized very well with the online environment.

Objective 3: To determine if there is a significant difference in the students' performance, considering gender factor

Most of the finding shows that gender differences on student performance have yielded similar results in the literature (e.g Bridges and Casavant 2002; Halsne and Gatta, 2002; Zirkle, 2003; Arbaugh's, 2000a; 2000b; 2000d). The researchers determined that female out-represented than the male did, but, they found no statistically significantly difference between male and female towards student performance.

5.2 Recommendation, Limitation and Suggestion for Future Research

5.2.1 Recommendation for Traditional Course

Nothing is easy when strengthening and refreshing such a wide and complex institution as our education system, but common ideas for improvement arises. For traditional courses, improvement is necessary from the students', instructors, universities and communities as well. A quality instructor can build traditional classrooms an exhilarating place, and so are

online classroom. The goal of the class or course, and also the best way for the type class and the type of content presented should be decidedly in thought of instructors before starting teaching.

- Collaborate in group project and led by trained instructors, students learn the skills of cooperating, manage emotions, and resolve conflicts within the groups. Each group member is responsible for learning the subject matter and also assists his group mates to learn. Cooperative learning to cultivate social skills and emotional, provide a valuable foundation for their lives as employees, family members, and the people.
- The most important role for instructors is providing guidance to the students through the learning process, giving special concentration to boost the interests of students and self-confidence. Instructors can spend lesser time lecturing the classes and mentoring more students as individuals and tutoring them in areas in which they need hands.
- Resources of time, money, and facilities need to be reorganized. The semester break should allow for deeper project work, including block scheduling (restructuring of the daily schedule to create fewer classes each day, meeting for longer periods of time).
- Universities should not be close for a three month, but must be kept open for student activities, instructors' development, and community use.
- Partnerships with various community organizations, including business, corporate agencies, and government agencies, provide the materials that are needed, technology, and experiences for students

and instructors. Universities should appoint professionals acting as instructors and mentors for students.

5.2.2 Recommendation for Online Course

For the online delivered course, changes are essential from both the perspective of students and instructors. It is proved that the method of course delivery, support from the instructor, and the students' expertness of the Internet contributed to the good performance. Probably upcoming classes will get the benefits from a few lessons learned here, and engender additional students that are satisfied. Among the areas which need improvised are:

- Online program shall be determined clearly and pointed out to evade student misunderstanding upon registration.
- Students shall be notified relating to the course delivery method and the need for participation of students. This is significant because the expectation of students should be formed to suit the limitations of online course delivery.
- Course delivery programs must prepare more fixed and constant delivery of their content. It will also help if this program more flexible which allows the instructor to customize them to meet the needs of the class.

- Support for online delivered classes should be extended. Both students and instructors need support. Student needs and learning may vary, but fewer support lead to low performance in both groups.
- Specification that is clear and specific for student telecommunications, computer software, and hardware should be published earlier before the registration of courses in order for students to register and take part in an online course.
- Any course that is less open structure should be considered to help students avoid delays; and provide ways to persuade students communicate with the instructors.
- Final areas that need improvement are rapid and consistent access to the Internet. Though accesses to high speed Internet slowly become accessible in urban areas, it will take some time before it becomes extensive. This condition limits the instructors to use them during teaching sessions.

5.2.3 Limitation and Suggestion for Future Research

The research could be further extending by included other courses as well. It is recommended for future research to investigate the comparison of other universities on the effectiveness of traditional and online course delivery towards students' performance. It is optional for future research to conduct this type of study and to be extended to numerous public and private universities as participation of more universities would generate further consistent results. Thus, presumption cannot be made for instructors,

courses and other institutions. Even though we see the approach as a restraint, it is obligatory because the main purpose of this research is to make comparison between the two methods of delivery. The traditional and online courses were taught by the same instructor and only vary in delivery method. We find there are significant differences between the two delivery methods. Other course administration procedures and grading was conducted simultaneously in both courses. Thus, we're able to be a reasonable certainty that the dissimilarity examined in particular might be dissimilarity in course delivery method. Or else, different course designs, instructors, course subject matter and universities, could describe for differences discovered. Indeed, additional future research guaranteed at other institutions and in other courses to measure whether the results are equal to that of the study. Additionally, future research must make a comparison between the courses are taught exclusively by using a web-based approach and those who use online learning approach to find out whether online learning approach adds any additional effectiveness.

5.3 Conclusion

This research is to investigate the effect of students' performance on the relationship between traditional and online course delivery among BBA Finance program students. The target population was students in Universiti Teknologi Mara, Shah Alam (UiTM). The result of respondents was 304.

The results of the study revealed that traditional and online course need attention because those factors have contributed equal significance to students' performance. To advocate, the instructors need to play an important role and help students develop learning skills and attitude on online learning. Instructors might require upgrading the clearness of their course contents and syllabus before students can take control of their learning. Students also need full support towards the use of online learning system and able to manage their time for the online class participation.

As we believe that, most of the online students are working. Thus, it is important for them to establish time for working and studying. Besides, they need to be independent, responsible and being motivated during courses. As stated by Hung et al. (2010), online learning instructors need to encourage students to take part more comprehensively in the discussions, to courageously communicate their opinions, to form better friendships, and to ask for help when encounter problem in online learning. Motivation is also one of the main factors. Therefore, instructors will help students remain motivated in online learning.

Other than that, the online learning system also plays an important role. The system should be well implemented and user friendly. In addition, the network technology is also important if we implement such system. The survey has revealed that most of the students gave comments on the implementation of online learning system. If the system server has breakdown, this will cause a problem to student participation in online class. This issue will reduce student motivation on online learning participation. Hence, it will give an impact on students' performance.

Therefore, for future research should be discussed on usability of online learning system and how to improve the implementation of current system in higher institution. As we believe that online learning program give many benefits to the academic institution and same goes to the online students. Thus, it is important to consider on the issues of online learning system's implementation. Nevertheless, it must give priority again that the analysis did not take into consideration a number of issues related to the design based on empirical research, especially maturity, selection, and the impact of outside.

References

Allen, I.E. & Seaman, J. (2006). Making the Grade: Online Education in the United States, 2006. Needham, MA: The Sloan Consortium.

Allen, I. E. & Seaman J. (2010). Class differences: Online education in the United States, 2010. Retrieved from Sloan Consortium website: http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf

Allen, I.E. & Seaman, J. (2013). Changing Course: Ten Years of Tracking Online Education in the United States, 2013. Needham, MA: The Sloan Consortium.

Alstete, J. and Beutell, N. (2004). Performance indicators in online distance learning courses: a study of management education. *Quality Assurance in Education, 12*(1), 6-14.

Althaus, S.L. (1997). Computer-Mediated Communication in the University Classroom: An Experiment on Time Discussions. *Communication Education, 46*(3), 158-174.

Arbaugh, J.B. (2000a). Virtual Classroom Characteristics and Student Satisfaction in Internet-Based MBA Courses. *Journal of Management Education, 24*(1), 32-54.

Arbaugh, J.B. (2000c). Virtual Classrooms versus Physical Classrooms: An Exploratory Study of Class Discussion Patterns and Student Learning in an Asynchronous Internet-Based MBA Course. *Journal of Management, 24*, 213-233

Arbaugh, J.B. (2000d). An Exploratory Study of the Effects of Gender on Student Learning and Class Participation in an Internet-Based MBA Course. *Management Learning, 31*(4), 533-549.

Arbaugh, J.B. & Stelzer, L. (2003). Learning and teaching via the web: what do we know? In C. Wankel & R. DeFillippi (eds.) Educating Managers with Tomorrow's Technologies. Greenwich, CT: Information Age Publishing, (17-51).

Arbaugh, J.B. (2005b). Is there an optimal design for online MBA courses? *Academy of Management Learning & Education, 4*, 135-149.

Arbaugh, J. B., & Benbunan-Fich, R. (2006). An investigation of epistemological and social dimensions of teaching in online learning environments. *Academy of Management Learning & Education, 5*(4), 435-447.

Atchley, W., Wingenbach, G., & Akers, C. (2013). Comparison of Course Completion and Student Performance through Online and Traditional Courses. 14(4).

Barrett, E. & Lally, V. (1999). Gender differences in an online learning environment. *Journal of Computer Assisted Learning, 15,* 48-60.

Bearden, E. B., Robinson, K, & Deis, M. H. (2002, Summer). A statistical analysis of dental hygiene students' grades in online and on-campus course and performance on the National Board Dental Hygiene Exams. *Journal of Dental Hygiene, 76*(3), 213-217. Retrieved January 20, 2014 from the Expanded Academic database.

Beare, P.L. (1989). The comparative effectiveness of videotape, audiotape and telecture. *The American Journal of Distance Education 3,* 57-66.

Bejerano, Arleen R. (2008). Face-to-Face or Online Instruction? Face-to-Face is Better. *A Publication of The National Communication Association. 3(*3). Retrieved from https://www.natcom.org/CommCurrentsArticle.aspx?id=884

Beller, M., & Gafni, N. (2000). Can item format (multiple choice vs. open-ended) account for gender differences in mathematics achievement? *Sex Roles, 42*(1-2), 1-21.

Bengiamin, N., Johnson, A., Zidon, M., Moen, D. and Ludlow, D. (1998) The Development of an Undergraduate Distance Learning Engineering Degree for Industry – A University/Industry Collaboration. *Journal of Engineering Education, 87*(3), 277–282.

Bernard, R. M., Abrami, P.C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Wallet, P.A., Fiest, M., and Huang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research, 74* (3) 379–439.

Bligh, D. A. What's the Use of Lecturing? Devon, England: Teaching Services Centre, University of Exeter, 1971.

Bocchi, J., Eastman, J.K., & Swift, C.O. (2004). Retaining the online learner: profile of students in an online MBA program and implications for teaching them. *Journal of Education for Business,* 245-253.

Byron W. Brown & Carl E. Liedholm, 2002. Can Web Courses Replace the Classroom in Principles of Microeconomics? *American Economic Review, American Economic Association, 92*(2), 444-448.

Campbell, K. (1999). The Promise of Computer-Based Learning: Designing for Inclusivity. *IEEE Technology and Society Magazine, 18*(4), 28-34.

Cheung, L., & Kan , A. (2002). Evaluation of factors related to student performance in a distance-learning business communication course. *Journal of Education for Business, 77* (5), 257–263.

Chickering, A.W. & Ehrmann, S.C. (1994). Implementing the Seven Principles: Technology as Lever. Seven Principles Resource Center, Winona State University.

Craig, A.., Fisher, J., and Dawson, L. (2005). Evaluating Intervention programs for Women in IT. Proceedings of the Qualitative Research in IT and IT in Qualitative Research Conference, Brisbane, Australia, Griffith University.

Daniel, M. and Diane, H. (2006). Factors Affecting Student Performance And Satisfaction: Online Versus Traditional Course Delivery. *Journal of Computer Information Systems*, 25-32

DeLoughry, T. J. (1995). Distance-learning program inflames Maine faculty. *The Chronicle of Higher Education, 41*(30), A24-25.

Donovan, W.J. & Nakhleh, M.B. (2001). Students' Use of Web-Based Tutorial Materials and Their Understanding of Chemistry Concepts. *Journal of Chemical Education, 78*(7), 975-980.

Draves, W. A. (2000). Teaching online. River Falls, WI: LERN Books.

Driscoll, A., Jicha, K., Hunt, A. N., Tichavsky, L., & Thompson, G., (2012). Can Online Courses Deliver In-class Results? A Comparison of Student Performance and Satisfaction in an Online versus a Face-to-face Introductory Sociology Course. *Teaching Sociology, 40*(4), 312-331. doi: 10.1177/0092055X12446624

Dutton, J., Dutton, M. & Perry, J. (2002). How do online students differ from lecture students? *Journal of Asynchronous Learning Networks, 6*(1). Retrieved at www.sloanc.org/publications/jaln/v6n1/v6n1_dutton.asp.

Elliot, A., & McGregor, H. (2001). A 2 x 2 achievement goal framework. Journal of Personality and Social Psychology, 80, 501-519.

Ericksen, S. C. "The Lecture." Memo to the Faculty, no. 60. Ann Arbor: Center for Research on Teaching and Learning, University of Michigan, 1978.

Faux, T. L., & Black-Hughes, C. (2000, July). A comparison of using the internet versus lectures to teach social work history. *Research on Social Work, 10*(4), 454-466.

Felder, R.M., Felder, G.N., and Dietz, E.J. (1998). A Longitudinal Study of Engineering Student Performance and Rentention: v. Comparisons with Traditionally-Taught Students. *Journal of Engineering Education, 87*(4), 469-480.

Flynn, A., Concannon, F., & Bheachain, C. N. (2005). Undergraduate students' perceptions of technology-supported learning: The case of an accounting class. *ELearning*, *4*(4), 427-444.

Fortune, M. F., Shifflett, B., & Sibley, R. E. (2006). A comparison of online (high tech) and traditional (high touch) learning in business communication courses in Silicon Valley. *Journal of Education for Business, 81*(4), 210-214.

Fredda, J.V. (2000). Comparison of selected student outcomes for Internet- versus campus-based instruction. Dissertation: Nova Southeastern University.

Friday, E., Friday-Stroud, S.S, Green, A.L., & Hill, A.Y. (2006). A multi-semester comparison of student performance between multiple traditional and online sections of two management courses. *Journal of Behavioral and Applied Management, 8*, 66-81.

Gefen, D. & Straub, D. W. (1997). Gender Differences in the Perception and Use of E-mail: An Extension to the Technology Acceptance Model. *MIS Quarterly*, *21*(4), 389-400.

Grandzol, C.J. and Grandzol, J.R. (2010). Interaction in Online Courses: More is NOT Always Better. *Online Journal of Distance Learning Administration, XIII*(II).

Gregory, M.Y. (1997). Gender Differences: An Examination of Computer-Mediated Communication. Presented at the Annual Meeting of the Southern States Communication Association, Savannah, GA.

Hacker, R. And Sova, B. (1998), Initial Teacher Education: A Study of the Efficacy of Computer Mediated Courseware Delivery in a Partnership Context. *British Journal of Educational Technology, 29*(4), 3312-41.

Harasim, L., Hiltz, S., Teles, L. and Turoff, M. (1998), Learning Networks: A Field Guide to Teaching and Learning Online, mit Press, Cambridge, MA.

Hartman, J., Dziuban, C., & Moskal, P. (2000). Faculty Satisfaction in ALNs: A Dependent or Independent Variable. *Journal of Asynchronous Learning Networks, 4*(3), http://www.aln.org/alnweb/journal/Vol4_issue3/fs/hartman/fs-hartman.htm.

Hatton, D. (1995). Women and the "L": A Study of the Relationship between Communication Apprehension, Gender, and Bulletin Board. Presented at the Annual Meeting of the Speech Communication Association, San Antonio, TX.

Herman, T., & Banister, S. (2007). Face-to face versus online coursework: A comparison of costs and learning outcomes. *Contemporary Issues in Technology Education, 7*(4), 318-326.

Hiltz, S.R & Shea, P. (2005). The student in the online classroom. In S.R. Hiltz & R. Goldman (Eds.) Learning Together Online: Research on Asynchronous Learning Networks (pp. 145-168). Mahwah, NJ: Lawrence Erlbaum Associates.

IDEA Survey. Kansas State University IDEA Web site. Available at: http://www.idea.ksu.edu/. Retrieved January 25, 2014.

Kim, E. C. and Kelough, R.D. (1987). A Resource Guide for Secondary School Teaching. In W. Havice, A Comparison of College Students' Achievement Following Traditional and Integrated Media Presentations. *Journal of Industrial Teacher Education, 35(*4).

Kleinman, J. and E. Entin. (2002). Comparison of In-Class and Distance Learning Students' Performance and Attitudes in an Introductory Computer Science Course. *Journal of Computing Sciences in Colleges,* 17(6), 206-219.

Kokemuller, N. (2014). Online Learning Vs. Classroom Learning. *Globalpost.* Retrieved from http://everydaylife.globalpost.com/online-learning-vs-classroom-learning-4190.html

Koory, M. A. (2003). Differences in learning outcomes for the online and F2F versions of "An Introduction to Shakespeare". *Journal for Asynchronous Learning Networks, 7*(2), 18-39.

Korporshoek, H., Kuyper, H., van der Werf, G., & Bosker, R. (2011). Who succeeds in advanced mathematics and science courses? *British Educational Research Journal, 37*(3), 357-380.

Lemak, D. J., Shin, S.J., Reed, R. & Montgomery, J.C. (2005). *Academy of Management Learning & Education, 4*, 150-159.

Madden, M.E. (2003). Planning for distance learning: issues and strategies. *Journal of Behavioral and Applied Management, 4*, 254-281.

McEwen, B.C. (2001). Web-assisted and online learning. *Business Communication Quarterly, 64*(2), 98-103.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service Center for Technology in Learning. Retrieved December 2, 2013 from www.ed.gov/about/offices/list/opepd/ppss/reports.html

Moskal, P.D. & Dziuban, C.D. (2001). Present and future directions for assessing cybereducation: the changing research paradigm. In L.R. Vandervert, L.V. Shavinina, & R.A. Cornell (Eds.) Cybereducation: the future of long-distance learning (pp. 157-184). New York: Mary Ann Liebert

Naidu, S. (1997). Collaborative reflective practice: an instructional design architecture for the Internet. *Distance Education, Vol. 18* No. 2, pp. 257-83.

Nellen, A. (2003). Using Technology to Teach Nontraditional Students. *The Tax Advisor, 34*(5), 290-292.

Neuschmidt, O., Barth, J., & Hastedt, D. (2008). Trends in gender differences in mathematics and science (TIMSS 1995-2003). *Studies in Educational Evaluation, 34*, 56-72.

O'Malley, John & Harrison McCraw, (1999) Students Perceptions of Distance Learning, Online Learning and the Traditional Classroom. *Online Journal of Distance Learning Administration*, II(IV).

Paden, R. R. (2006). A comparison of student achievement and retention in an introductory math courses delivered in online, face-to-face, and blended modalities. Retrieved from ProQuest. (UMI 3237076)

Palloff, R. M., & Pratt, K. (2003). The virtual student—A profile and guide to working with online learners. San Francisco: Jossey-Bass.

Pendleton, R. (2005). Student Performance Objectives. *Mozena Publications.*

Petre, D. And Harrington, D. (1996), The Clever Country?Australia's Digital Future, Lansdowne, Sydney,

Phipps, R., and Merisotis, J. (1999). What's the Difference? A review of Contemporary Research on the Effectiveness of Distance education in Higher Education. The institute for Higher Education policy. Retrieved at http://www.ihep.com/Pubs/PDF/Difference.pdf

P. Sharmini (2014). Adult Education: Learn While You Earn. *New Straits Time.*http://www2.nst.com.my/opinion/editorial/adult-education-learn-while-you-earn-1.490583

Proserpio, L. & Gioia, D.A. (2007). Teaching the virtual generation. *Academy of Management Learning & Education*, *6*, 69-80.

Quible, Z.K. (1997). The efficacy of several writing feedback systems. *Business Communication Quarterly, 60,* 109-123.

Russell, T. L. (1999).The no significant difference phenomenon. NC: Office of Instructional Telecommunications, North Carolina State University.

Schrum, L. & Hong, S. (2002). Dimensions and strategies for online success: Voices from experienced educators. *Journal of Asynchrous Learnig Networks, 6* (1). Retrieved at http://www.aln.org/al nweb/journal/jaln-vol6issue1.htm

Selim, H. M. (2005). E-learning Critical Success Factors: An Exploratory Investigation of Student Perceptions. In M. Khosrow-Pour (ed.) Managing Modern Organizations with Information Technology. Proceedings of the 2005 IRMA International Conference, San Diego, 340-346.

Shea, P, Swan, K., Fredericksen, E., & Pickett, A. (2002). Student satisfaction and reported learning in the SUNY learning network. In J. Bourne & J.C. Moore, (Eds.) *Quality Online Education, 3,* 145-155. Needham, MA: Sloan Center for Online Education.

Shneiderman, B., Borkowski, E., Alavi, M. And Norman, K. (1998) Emergent Patterns of Teaching/Learning in Electronic Classrooms. Retrieved from ftp://ftp.cs.umd.edu/pub/hcil/Reports-Abstracts-Bibliography/98-04HTML/98-04.html

Shoenfeld-Tacher, R., McConnel, S., & Graham, M. (2001). Do no harm-A comparison of the effects of on-line vs. traditional delivery media on a science course. *Journal of Science Education and Technology, 10*(3), 257-265.

Smith, L.J. (2001). Content and delivery: a comparison and contrast of electronic and traditional MBA marketing planning courses. *Journal of Marketing Education, 23,* 35-44.

Soong B.M.H., Chan, H.C., Chua, B.C. and Loh, K.F. (2001). Critical Success Factors for on-line Course Resources. *Computers & Education. 36*: 101-120.

Stewart, C.M., Shields, S.F., Monolescu, D., & Taylor, J.C. (1999). Gender and Participation in Synchronous CMC: An IRC Case Study. *Interpersonal Computing and Technology, 7*(1-2), 1-25.

Sullivan, P. (2001). Gender Differences and the Online Classroom: Male and Female College Students Evaluate Their Experiences. *Community College Journal of Research and Practice, 25*, 805-818.

Symanzik, J. & Yukasinovic, N. (2003). Teaching Experiences with a Course on "Web-Based Statistics." *The American Statistician, 57*(1), 46-50.

Tallent-Runnels, M. K., Lan, W., Cooper, S., Ahern, T. C., Shaw, S. M. & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research 76* (1), 93-135.

Terry, L. D., & Diane, E., (2010). Learner-Centered Inquiry in Undergraduate Biology: Positive Relationships with Long-Term Student Achievement. *CBE Life Sci Educ.* 9(4): 462–472. doi: 10.1187/cbe.10-02-0011

Tucker, S.Y. (2000). Assessing the Effectiveness of Distance Education versus Traditional On-Campus Education. Presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Ukueze AC 2007. Learner variable of academic performance and Adjustment of Junior Secondary Student. *The Counsellor, 23*(2): 172-183.

Ury, G. (2005). "A Longitudinal Study Comparing Undergraduate Student Performance in Traditional Courses to the Performance in Online Course Delivery." *The Information Systems Education Journal,3*(20), retrieved from http://isedj.org/3/20/

Ury, McDonald, McDonald and Dorn (2006). "Student Performance Online vs Onground: A Statistical Analysis of IS Courses," *Information Systems Education Journal, 4* (98).

U.S. Department of Education retrieved on Jan 21, 2014 from http://www.ed.gov/race-top/district-competition/definitions

Volery, T. and Lordd, D. (2000). Critical Success Factors in Online Education. *The International Journal of Educational Management. 14*: 216-223.

Wallace, D. and Mutooni, P. (1997). A Comparative Evaluation of World Wide Web-Based and Classroom Teaching, *Journal of Engineering Education*, Vol. 86, No. 3, pp. 211–219.

Warren, L. L. & Holloman, H. L. (2005). On-line instruction: Are the outcomes the same? *Journal of Instructional Psychology, 32*(2), 148-150.

Watkins-Miller, E. (1996). Educational Facilities: A New Season brings Familiar Problems. *Buildings, 90*(1), 24.

Weber, J. M., & Lennon, R. (2007). Multi-course comparison of traditional versus web-based course delivery systems. *The Journal of Educators Online, 4*(2), 1-19.

Weigel, V. B. (2002). Deep learning for a digital age: technology's untapped potential to enrich higher education. San Francisco: Jossey-Bass.

Wolfe, J.L. (1999). Why do Women Feel Ignored? Gender Differences in Computer-Mediated Classroom Interactions. *Computers and Composition, 16*(1), 153-166.

Xu, D. & Jaggars, S. S. (2013). CCRC Working Paper No. 54 Adaptability to Online Learning: Differences Across Types of Students and Academic Subject Areas.

Young, S. and McSporran, M. (2001). Confident Men - Successful Women: Gender Differences in Online Learning. *EdMedia*, pp. 1-8.

Zhang D. (2005). Interactive Multimedia Based E-learning: A study of Effectiveness, *American Journal of Distance Education*; *19*(3), 149-162